

Addressing and Postcode Manual

Editors:

Patricia Vivas and Joe Lubenow



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Published by Universal Postal Union (UPU)
Berne, Switzerland

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ISBN 978-92-95025-42-4

Title: Addressing and Postcode Manual.

Published March, 2009

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Acknowledgements

The editors wish to thank you the following individuals and companies that helped to make this publication possible. Special recognition goes to:

- Deutsche Post Adress GmbH & Co. KG: Mr. Jörg Schneider
- ESRI: Mrs. Agatha Wong, Mr. Emanuele Gennai and Mr. Jim Baumann
- French Telecommunications and Post Regulator (ARCEP): Mrs. Joëlle Toledano
- Graeme Lee & Assoc.: Mr. Graeme Lee
- HongKong Post: Mr. Samuel Cheung
- La Poste France: Mr. Roland Clochard, Mr. Alain Currias and Mr. Bernard Rouille
- La Poste Maroc: Ms. Safia Naim and Mr. Abdellatif Meskine
- LogCon: Mr. Guenter Boehm
- Pitney Bowes: Mr. David J. Robinson and Mr. Jean-Philippe Ducasse
- USPS: Mrs. Ruth Jones
- Saudi Post: Eng. Ali H. Bakheet

We greatly appreciate their invaluable cooperation.

Foreword

This booklet is intended to draw postal operators' attention not only to the benefits of physical addresses, postcodes and national addressing standards, but also to the advantage of including all this information in postal delivery-point databases. Our aim is that, thanks to this guide, every player – be they a business or a government, a community organization or the public at large – will be able to communicate more easily and effectively via the postal services.

In all likelihood, operators that have not yet introduced a postcode system will reap more benefit from this publication than those that already have. In addition to providing an overview of postcode systems and their advantages, it is hoped that this guide will assist those administrations planning to introduce postcodes in their countries. Our approach is intended to be practical and pragmatic. A number of postcode-related methods and tools are therefore described in this publication.

We are aware that creating a postcode system is only one aspect of a comprehensive addressing policy. Consequently, other important issues have also been tackled in this guide.

A key area dealt with in this booklet is the issue of national addressing standards. These standards can be seen as a major factor of any addressing policy and should be introduced while developing physical addresses and the adoption of postcodes. Such a move would lay solid foundations not only for postal services but also for national and local government services as a whole.

Much of this guide dwells on postal information databases, which encompass postcodes, postal localities, post office boxes, and names of thoroughfares and buildings. These are the mainstay of postal databases, forming the bedrock on which delivery-point databases and change-of-address systems can be built.

This emphasis on the benefits of postcodes, national address standards and postal databases is meant to un-

derscore the fact that effective postcodes and addressing systems are every bit as essential to a postal infrastructure as any mail transmission network:

- without a clearly indicated address with which to reach any resident in any country, postal exchanges cannot develop;
- without an addressing system, government departments find it difficult to reach the public, and businesses their customers;
- unless mail arrives at a central location, direct mail cannot be effective because people cannot be able to receive their mailing;
- unless potential mail recipients are accessible, a universal service is unlikely to be achieved.



In this guide, all manner of financing and technical assistance issues – critical to projects of this kind – come under scrutiny. The countries concerned, above all developing countries, can glean useful information for their efforts to improve addressing.

The Universal Postal Union (UPU) International Bureau's Addressing Project Team has developed a number of tools to help them do just that and specifically for developing postcodes. We should remind readers of the main texts on this subject, along with all the work already carried out under UPU auspices. In an annex to this guide is a useful list of local UPU contacts, together with the names of the main focal points at the International Bureau.

In keeping with the UPU's mission to develop social, cultural and commercial communication between peoples of the world, this guide is designed to be part of a comprehensive and pragmatic approach tailored to the needs of nearly every Union member country.

I. Introduction

This guide kicks off with a discussion of postcodes, explaining their importance and listing the different types that exist. One of the issues taken up is that of developing and implementing a postcode system for those member countries that currently lack postcodes altogether. Other topics are covered, too, including ways of disseminating information about postcodes and maintaining a postcode system once it has been established. Finally, the matter of making further improvements to an established postcode system is addressed.

The next section focuses on addressing, beginning with definitions and going on to consider its importance and listing different types of addresses. The significance of a national addressing standard is explained in the context of the UPU's international addressing standards and its rules on presenting letter mail. This is followed by an examination of the issue of changes of address and the validation of addresses.

The third main topic concerns postcode and address databases. After a definition of the terminology, the importance of postal databases is assessed. Ways of establishing and maintaining address databases are explained, including a specific discussion of the technology that is required and the methodology that can be applied.

Delivery performance measurement is the subject of the ensuing section. This includes coverage of the proposed UPU Global Monitoring System, approved at the UPU's 24th Congress, held in 2008. This topical matter is of great importance to Posts and their customers, offering electronic alternatives that allow a quick and reliable service to become increasingly available.

The topic of Geographic Information Systems (GIS) is covered in great detail. The benefits of associating geographical data with postal addresses and postal locations have begun to sink in. Indeed some Posts have gone a long way towards incorporating geographical data into postal databases in order to add value and context to postal data.

Another section examines ways of facilitating commercial direct mail as a way to stimulate greater mail volume. Posts and mailers can benefit mutually from making direct mail easier and more affordable. In addition, direct mail can stimulate the economy while benefiting consumers and the environment alike. The basics of direct mail are also discussed along with a set of steps for getting started.

In the following section, some economic considerations for postal delivery are reviewed, arguing for delivery to a physical address at no charge to the recipient, as opposed to models requiring mail to be picked up and which may involve a charge.

In the final section of the guide, the details of UPU assistance programmes are given. Moreover, a number of possible sources for technical and economic assistance in developing postcode systems, addressing schemes and postal databases are presented. Since some country members will want to seek assistance in order to develop these valuable programmes, this section considers each and every alternative.

Last but not least, there is a set of annexes with additional information, including detailed examples, along with lists of contacts and other relevant data.

II. Postcode systems

1 What is a postcode?

A postcode is an identifier for a given postal delivery point or collection of postal delivery points, normally comprising a string of numerical or alphanumerical characters. In practice, it is the most compact data element capable of specifying with precision the location of a mail addressee. In the absence of a postcode, sufficiently complete sets of other address elements may serve the same purpose.

An important concept in the field of postcodes is “granularity”. The greater the granularity, the smaller the area or number of delivery points covered by a single postcode. With full granularity, a postcode can be used to identify a single delivery point. With less than total granularity, delivery will depend on a postcode together with a set of address elements. When a postcode has total delivery-point granularity, the description of the address is technically redundant, but it may avoid errors or enable addresses to be corroborated, informing human and machine users alike.

A postcode lacking full granularity might be precise only to the level of a regional locality. Even then, it will prove useful for sorting mail, either manually or by machine. In some cases, where regions contain multiple delivery offices, the precision of the postcode may extend to the level of the delivery office. Each delivery office will then have its own postcode and, if an office closes, opens or moves, the postcode list will have to change. All delivery points served by this office use its postcode.

If granularity is taken to a different level of precision, each part of a street or thoroughfare constituting the route of a postal carrier may have its own postcode. Going still further, each delivery point can even have its own postcode. This is the eventual goal that the process of developing postcodes should aim for, regardless of where and how it begins or how long it takes. In reality, however, there exist only a few examples of postcodes with complete granularity, owing mainly to the high level of complexity involved in managing postcodes of that kind.

Where postcodes attain full granularity, they are the functional equivalent of the set of address elements that also define the delivery point. These elements, as defined in UPU standard S42, identify the delivery point, without specifying the addressee or the party that is the mail's legal recipient. This is the difference between geographical and nominative address information. Generally speaking, only geographical information should be included in a postcode. But in a change-of-address system, both kinds of information are used. In a given postal system there might be one postcode for each recipient, which either changes when the party moves or remains constant, though in the latter case it would arguably not be a postcode at all.

To improve efficiency further in a machine-based sorting environment, the postcode could be encoded using some form of automatic identification, e.g. a bar code. This would be equally useful where hand-held bar-code readers are used (a basic method), where optical character recognition (OCR) is applied (a more typical approach) or radio frequency identification (RFID) is employed for passive recognition (an advanced application). All these technologies render tracking and accountability of items possible. They can help to demonstrate the integrity of a postal operating system and to trace departures from correct procedures. In some cases, a bar code can contain more information than a postcode. This helps only when there is machine sorting but, in that case, it sorts mail with greater granularity than would be possible with a postcode alone. This can also allow requests for ancillary postal services, such as address updates, to be met.

It can be concluded that fully specified postcodes representing a given delivery point offer the most compact description of an address. As unique and universal identifiers, postcodes not only enable delivery-point locations to be identified unambiguously but also contain the information needed for mail routing and sorting. But postcodes that are not complete to the delivery-point level do not contain all the information needed for mail processing, which means that a standardized address with a defined set of address elements remains indispensable.

2 The importance of postcodes

2.1 General considerations

The main objective of a postcode is to facilitate the routing and sorting of letters and parcels, and accordingly to improve mail delivery. It also represents the natural first step towards – and is almost a precondition for – the automated sorting of a large proportion of mail. Admittedly, there are systems for reading and sorting addresses without postcodes in mails, but they are less accurate than systems where addresses are accompanied by a postcode.

Postcodes are, moreover, a very useful tool for all the various economic and social stakeholders: i.e. for all customers who generate mail and manage address files, ranging from small businesses to major commercial mailers, such as banks, insurance companies and mail-order firms. Postcodes can help local businesses to distribute information and offers. They also provide a way of gathering statistics and comparing different postcode areas on any number of levels to identify market segments. Postcodes facilitate not only infra-national mail exchanges but also cross-border mail. In doing so, they help to promote the further development of the mail medium.

Thanks to a correctly identified postcode, mail can be



Mail pieces pre-sorted by post-code


sorted and delivered easily and quickly, giving everyone involved in mail exchanges a sense of satisfaction and confidence in the mail medium and, by extension, in a country's postal administration. By reducing the number of returned or undeliverable items, the introduction of postcodes also cuts costs for everyone involved in the mail process, from the mailer to the addressee. Not only that but it also promotes organizational modernization, allowing automated processing at the post office or by database managers in the preparation of mail.

2.2 Postcodes: an asset for any postal administration

Processing mail on the basis of a reliable address is the primary aim of any postal operator. Postcodes are easy to use, are accepted by all mailers and contribute to that aim. A sufficiently detailed postcode can serve as the main address element for the correct sorting, transmission and delivery of mail.

- ☐ Identifying and interpreting the characters that make up a postcode facilitates and speeds up the sorting, routing and delivery – regardless of the degree of complexity involved – of letters and parcels.
- ☐ Postcodes may be designed with significant subdivisions that provide meaningful information. For example, the US ZIP code denotes the region of the country by its first digit, a mail-sorting scheme by its first three digits, and an individual delivery zone by its first five digits. The second and fourth digits in themselves have no special importance.
- ☐ Postcodes facilitate both manual and machine handling and reduce the number of operations, unquestionably speeding up the entire mail delivery process.
- ☐ Postcodes reduce the risk of confusion between destinations with similar names.
- ☐ Postcodes' structure can vary widely from a simple locality code to one containing more information (such as the specification of a delivery point), enabling automated sorting to be expanded in stages to include the preparation of delivery rounds.

- ☐ When postal administrations produce and widely disseminate brochures and files that list postcodes, they help to improve the quality of mail addressing. Everyone should be informed of his or her full address and be able in some way to look up this information for the mail they are sending.
- ☐ The introduction of postcodes provides the postal administration with an opportunity to remind mailers of the basic rules for the correct formatting of addresses on items. A correctly formatted mail item results in unambiguous delivery. A national standard should therefore be developed in each country to formalize all address elements, for the sake of complete and workable automated sorting. By incorporating elements of the UPU standard so as to build a common worldwide vocabulary, this standard may include:
 - ✓ the position of the address field on mail items
 - ✓ the information required in order to locate the addressee properly
 - ✓ the number of lines and number of characters per line
 - ✓ the position and ordering of the elements on each line
 - ✓ specification of optional and required elements
 - ✓ definition of logical address types
 - ✓ preferred fonts and spacing
 - ✓ recommended envelope formats

 **The UPU International Bureau can assist in the development of this standard.**

If all mailers adopted and complied with one addressing standard, significant and lasting improvements could be made to processing operations that are directly dependent on the address: i.e. mail processing, targeting and marketing operations, and the cleaning and updating of address data.

Chapter II is devoted to addressing standards. Other information about international standard S42 can be also found in annex 5.

2.3 Postcodes: an asset for mailers

- ☐ For private customers, the postcode is obviously an asset. It constitutes the basic link between mailer and addressee. Receiving a parcel, letter or any other item becomes a simple, rapid operation. The time between order and delivery is reduced and deliveries become more reliable.

Customers can be sure of supplying an address that complies with commonly accepted and universally known

criteria. They no longer have to “make up” their home address but are aware of the right way to format it. Having an address connects them with the rest of society and turns them into fully fledged citizens with access to all the public and private services available to them.

Aside from its effect on the postal service, a correctly identified address that is easily detectable (thanks to the postcode) and accessible to the whole of society, can help to improve common everyday activities, ranging from the delivery of perishables to the swifter dispatch of emergency services to the correct location.

- ☞ Using postcodes in addresses enables big mailers to target customers more successfully and more quickly. They can avoid situations where mail is lost or cannot be delivered simply because the address is unknown.

Postcodes – a common reference used by everyone – can also enable information to be gathered fast and securely: they represent the first level of address control in customer databases. As soon as a customer’s address is entered, the mailer can check its validity from the postcode and avoid returned mail items.

Comparing addresses in customer files using postcodes can help to identify and eliminate costly duplicate addresses. The more granular a postcode, the better this procedure works.

Businesses can also realise economies of scale thanks to postcodes. With the cooperation of postal operators, they can outsource some of their tasks such as the home delivery of monthly invoices, targeted marketing campaigns, consolidated bill printing and pre-sorting bills. Postcodes lead to significant savings for businesses.

- ☞ Other beneficiaries: government departments and State institutions.

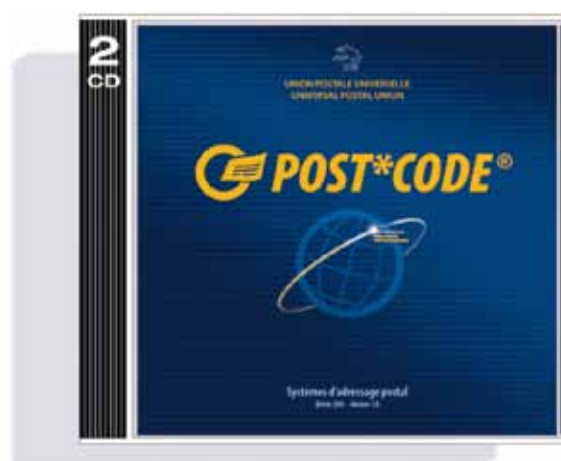
Postcodes help to reinforce a country’s unity and sense of identity. They facilitate addressing – very important for State institutions wishing to keep up-to-date records of citizens or service users and contact them regularly and rapidly.

Moreover, they provide a reliable, lasting frame of reference that can be used for purposes other than mail processing. Postcodes identify the location of a site or place, making them an essential tool for transport departments or health and social services. For example, they can be useful when dividing areas up and can help to target services more accurately.

- ☞ At the international level, the International Bureau compiles all of the world’s postcodes into its Universal

POST*CODE® Database. This tool provides data in a single format for all postcodes, and thus enables businesses and government departments to check the validity of address codes. The transmission of international items whose addresses have been verified is therefore improved. A description of this product is given after the annexes.

2.4 Postcodes: an asset for customs



Postcodes may be useful for customs services when they establish records and perform management functions. For example, if only one of two companies sharing the same name has paid customs duty and the customs service find it difficult to establish which of the two companies did not pay, the company which did not pay could usefully be identified by cross-checking the companies’ postcodes.

Postcodes may also be of use for customs authorities when they carry out risk assessment and anti-smuggling operations. For example, if they wish to identify smuggling patterns in a given area or carry out controlled delivery of a specific item, correct postcodes could be helpful in highlighting areas of particular interest, especially when there may be several locations with the same name within the country.

2.5 Postcodes: an asset for EMS

Each EMS operator has to define its delivery service as a combination of “day of transport arrival” and “time of delivery” in given areas. Using postcodes can make the definition of areas of delivery, or “delivery zones”, more accurate. They can also make those definitions clearer for exporting operators to understand and thus improve the service they offer their customers.

Providing postcodes in item-tracking events can help customer-service functions provide a fuller picture of item

status, while improving operational controls and facilitating performance measurement.

3 Types of postcodes

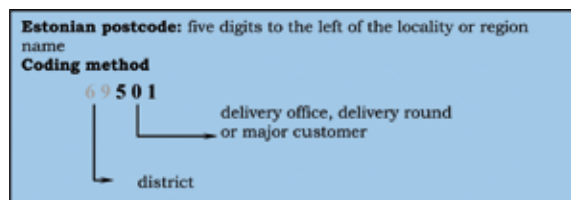
We can identify various types of postcodes:

- numeric postcodes: the postcode is composed of a series of digits, ranging from 0 to 9, which identify administrative and/or postal areas. The length of postcode ranges from three to nine digits. Most people find shorter postcodes easier to remember and use.

Postcodes with five or fewer digits usually have a limited granularity – locality level or delivery post office information level. Postcodes with as many as seven or nine digits normally achieve greater granularity, up to the delivery point information level. When a postcode has more than five digits, it may be divided into two parts with a separation or punctuation. However, punctuation may carry the risk of machine-sorting errors, as punctuation marks might be read as numbers by optical character recognition (OCR) systems.

Numeric postcodes are the most commonly used type of postcode worldwide. Example:

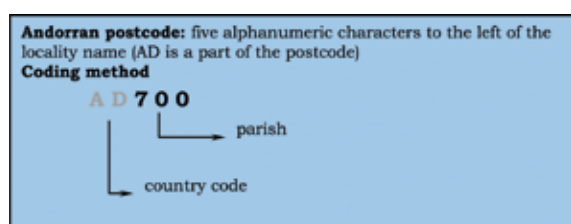
- alphanumeric postcodes: these postcodes are composed of a series of letters (A) and digits (N) identifying



administrative and/or postal areas; the digits range from 0 to 9 and the letters from A to Z. The main reason to choose letters instead of digits is that, using the Latin alphabet, letters allow you to have many more positions (26).

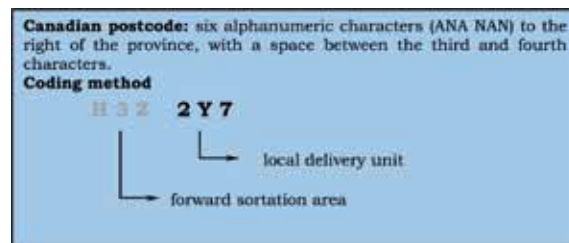
There are two main types of alphanumeric postcode:

- postcodes that include the country code (ISO 3166) BEFORE the numeric code, as an integrated part of the postcode; example:
- postcodes that use letters and numbers as a coding method, such that there are more than 10 alternatives



for each position; example:

In the case of all these types of postcode, once the struc-



ture is known, further information is needed in each case to determine what data are contained in each position of the code. The way in which this assignation is carried out determines the level of granularity of the postcode. We recall that the greater a postcode's granularity, the smaller the area represented.

A rule of thumb is to determine how many delivery points are identified by a single postcode. In many countries a single delivery point may be identified either by the postcode itself or by some additional routing code.

Combining a locality-based address with a sufficiently granular postcode results in a kind of synergy, because one is more suitable for humans and the other for storing in a database. As long as they are consistent with each other, they not only complement but can also corroborate each other. In technical terms, a degree of error detection is provided when a delivery-point description is accompanied by a postcode that is sufficiently granular to enable them to be verified against each other. Accordingly, this can justifiably be considered a best practice for postal and delivery services.

4 Developing a postcode system

4.1 The objective

The decision to introduce a national postcode system is a policy issue rather than a technical matter. In the past, the Post has typically initiated that process, but this does not have to be the case. It could be another part of the government or even other stakeholders. Naturally, the Post should play a major role in the process, but even that is not inevitable. Some Posts are inclined to consider that their knowledge of delivery points and their occupants is a kind of insider knowledge that needs to be protected from competition. But public and private interests may form a coalition to develop a system of place identifiers even if the Post chooses not to take the lead. In such circumstances, postal routing may receive less consideration than

other attributes of a postcode, focusing on administrative rather than postal operational boundaries.

For purposes of clarity, a distinction should therefore be drawn between a postcode proper and a place identifier in a broader sense. E.g. a given locality is in town X, which can be reached most easily by a bridge across a river from an adjacent larger town Y that is closer to major highways and rail lines. In a postcode system with a certain level of limited granularity, both towns X and Y might share the same postcode prefix, where prefixes are assigned for the purpose of gathering all mail to be sent by truck, van or rail. In some cases, the standardized address may also include the name of town Y as part of the address. For both the locality name and the postcode, the result may not be a code assigned on a strictly geographical basis or determined by town X where the delivery point is located. What is natural for a postcode may be not well suited for a property survey or tax roll, which are best described in terms of localities within a designated area rather than an area adjacent to it and linked in a particular way.

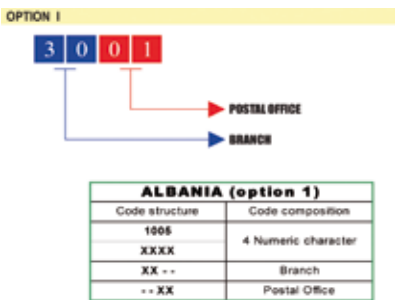
Bearing that in mind, what type of postcoding should be adopted?

In Andorra, where there is no home delivery, postcodes were assigned on the basis of the locations of parish post offices where customers pick up their mail.



Andorra map: postcode distribution

In Albania, where there are deliveries to home and offices, the postcode identifies the post office and branch from which the mail will be delivered.



Albania map: postcode distribution

In order to meet the various needs of the different stakeholders, a postcode should satisfy all the criteria below. It should:

- take account of the country's geography and demography
- be accepted by the country's principal economic and social players
- enable the national postal administration to improve the quality of its organization and, consequently, its mail delivery
- be usable by all mailers, from private customers to the biggest business mail generators
- be neither misleading nor ambiguous, even when used for corollary purposes by persons or bodies other than postal entities
- not put anyone at a disadvantage, and
- not require supplementary identifiers

To ensure that these objectives are achieved, other factors are also critical:

- clearly defined objectives and, if funding is needed to achieve the project objectives, a cost analysis;
- carefully conducted project planning and design for each project phase, during which procedures, methodologies, performance indicators and project team organization are defined and documented;
- continuous monitoring of results, performance indicators and community feedback in order to take any immediate corrective action needed and to fine-tune the project implementation methodology at the end of each phase.

The objectives relating to postcode structure and design are directly linked to the addressing situation in the country, and more specifically with the physical addressing network that is in place. It is a well-known fact that many developing countries lack physical addresses, something that will directly affect any postcode objectives such as the degree of granularity. There are places where physical addresses do not exist, and it is virtually impossible to have postcodes with granularity to delivery point without identifying the thoroughfare names or house numbers where that delivery point is located. A further explanation of physical addresses is given in chapter III.

4.2 Making use of what already exists

Existing territorial divisions may serve as the basis for a postcode system. Referring to an existing system of divisions also reduces the risk that the planned postcodes might be rejected. If a postcode system is based on an existing geographical structure, corresponding to geographical or historical concepts that are known to and accepted by all, users will not only grasp the system more quickly, but they will also cooperate more enthusiastically and use the codes more readily.

Some early postcode systems were built upon earlier distinctions of zones within cities. For example, in the United States, an address that was in zone 18, in the city of Milwaukee, Wisconsin, would have been rendered in the 1950s as Milwaukee 18, Wisconsin. After the advent of the ZIP (Zone Improvement Plan) code in the early 1960s, the code 5 was assigned to a region including Wisconsin and 532 was assigned as the code for Milwaukee. The same address was then rendered as Milwaukee, Wisconsin 53218. So the existing zone 18 was preserved within the new ZIP code programme.

It is preferable to create postcodes that follow existing administrative divisions rather than conflict with them. At the same time, if there is an existing manual sorting system for mail, it makes sense to follow the existing

operational areas rather than redefining them when introducing a postcode. Unfortunately these two concepts may conflict, e.g. when a town straddles two provinces and mail is sorted according to the town's name and delivered in both provinces from an office located in one or the other. In this case having the postcodes follow operational lines regardless of administrative divisions may have some drawbacks. For example, totalling mail volume by province may become harder. If some operations follow province boundaries while others do not, the overlapping areas may experience service irregularities. A compromise solution might be to ensure that no postcodes overlap provinces, even if postcode prefixes do so in order to reflect operational procedures. It might be better to make postcode prefixes match the provinces and treat a few postcodes as exceptions during processing.

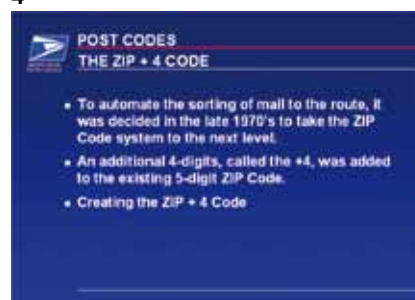
The following illustrations show the structure of the ZIP code programme in the United States as developed by the USPS.

1



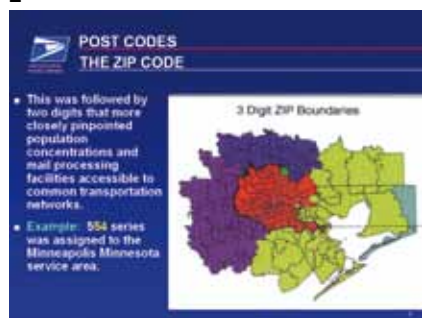
USA: postcode assignment of first digit

4



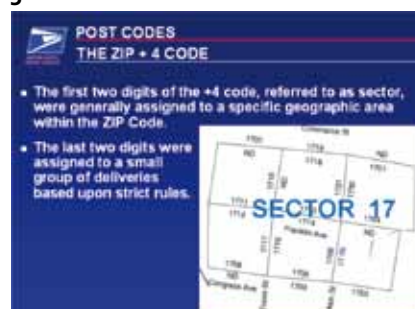
In the late 1970s the new generation of postcode was developed.

2



USA: postcode assignment of the second and third digits

5



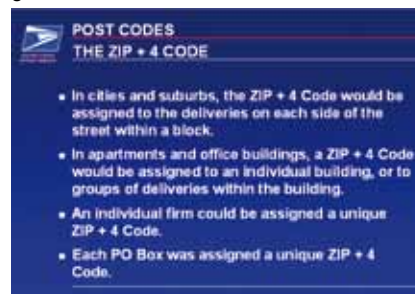
Four new digits were added to the previous ones to identify sectors and segments

3



USA: postcode assignment of the fourth and fifth digits

6



Purpose of the new postcode generation

Almost two decades after the five-digit ZIP code system was introduced in the United States, four more digits, two per sector and two per segment, were added. A further two digits were added at the end, bringing codes to the delivery-point level, but they are not expected to be shown in the address itself. They are part of a delivery-point bar code, which is being transformed and expanded to include the sender's identity and any ancillary services that may be requested.

Certain factors must be balanced when assigning postcodes that follow existing territories and addressing practices. For example, districts may vary widely in terms of population or the amount of mail received. It is possible to set up a postcode system that strikes a balance of mail volume among districts. This might result in some districts having several postcodes while others have only one. Accordingly, the coding system can take account of the population distribution and the location of the country's principal economic centres. However, room should be left for expansion, which may be greater in certain areas while other areas do not expand or may even lose population. Mail volumes, too, can increase or decrease. Increases may be difficult to cope with if too many recipients share a single postcode that may have been sufficient for the population when the system was initially created.

A general rule for postcode structures is that the first digit or two are assigned to identify administrative divisions while the following digits reflect the postal organization structure. There has been a recent trend, however, towards applying "geographical postcodes" rather than "postal postcodes". This could be explained by developments in GPS technology and the widespread use of database management tools or by the fact that geographical structures are more stable than postal ones.

4.3 Optimizing organizational structures

Postcodes should be structured in such a way that enables the postal administration to optimize its organizational structure. The mere fact of adopting postcodes has a positive impact on a postal administration's organization, enabling its work, organization and methods to be modernized throughout the mail-handling process, from collection through to delivery. Thanks to postcodes, both the sorting and forwarding of postal items are simplified, as the number of operations needed to handle each postal item is reduced. Postcodes therefore allow mail to be sorted more efficiently and accurately. They bring down the number of sorting errors, improve the quality of services and cut operational costs.

Many countries sort items by postcode. Opting for a postcode system implies defining the level of sorting en-

visaged for the medium to long term, so that even when a coding system is being selected, plans are laid for the future. When a postcode structure is being developed, it is therefore crucial to choose a structure with built-in flexibility to allow for any future changes.

The most stable coding system possible should be sought: if the geographical method is not used, it is preferable to base codes on the most stable operational units of the postal network. Changes to postcodes undermine the system's efficiency and productivity.

If deliveries in large towns are carried out by several different delivery offices, it is best to assign a different postcode to each of these offices. A specific postcode may also be assigned to particular mail flows, large customers, post office boxes, the poste restante, counter deliveries and so forth.

4.4 The successful introduction of postcodes

If the postcode system is to be successful, postcodes must be adopted by all mail users. It is vital that postcodes should be easy to remember and publicized as widely as possible. The mail itself can be used as a means of notification.

At the same time, other promotional activities should be carried out by the postal administration, both internally, in terms of postal employee awareness, and externally, for current users and young people who will use the system in the future.

Another important factor of successful postcode implementation is the stability of postcode assignment. Once a postal administration has assigned a postcode to an area, that postcode should remain the same over the years. That said, in some countries population shifts have eventually led to postcode re-assignment. Changes to postcodes do not only have a negative effect on the efficiency of the sorting and forwarding but also on customer acceptance of postcodes. Some postal administrations, such as the French administration, have opted for a postcode stability policy; i.e. no more postcodes will be created and no customers will have their assigned code changed, while any change in postcode will be done internally.

5 Implementing a postcode system

5.1 Essential stages

Postcodes are introduced or further developed in a series of essential stages:

- 1 first, the national context is analyzed;
- 2 the country is then divided into geographical zones;
- 3 a national coding system is selected and developed;
- 4 a database with a lasting updating system is created;
- 5 where possible, the postcodes are initially introduced by means of a pilot project;
- 6 postcodes are promoted and made known to all mailers;
- 7 the adoption of postcodes and the accuracy of their use are monitored and corrective steps are taken where needed;
- 8 where there are plans to expand the postcode in stages, work is begun on implementing the next phase.

5.2 The phases of implementation

The first phase of implementation should be to build a coalition of stakeholders to start the project. These may include government departments, NGOs, the private sector and, possibly, international technical advisers. The Post should play an active role in initiating the creation of this coalition but does not necessarily have to assume sole leadership. The group might meet periodically to monitor the plan's progress. The deliverables and time frames must be made clear from the outset, along with who is responsible for each task.

The phases themselves need some careful consideration. The tried and tested method is to set modest goals while a more readable (by human or machine) equivalent to the geographical designations in current use is gradually adopted. It may be assumed that more detail can be added to the codes at a later date.


The public cannot be expected to remember too many digits in a postcode. Although most people cope with telephone numbers, they tend to use postcodes less frequently. By introducing simple codes at first, the risk of forgetting can be kept to the minimum – after all, failure is to be avoided at all costs. Slow but sure improvements are advisable. In view of budgetary and other constraints, this is prudent but in fact it may be the only reasonable course.

An alternative approach to be considered, if not adopted, involves a speedier development of an advanced capability. This means compressing several phases of increasing postcode precision into a single project. The Post in each country is likely to be one of the best known and often one of the most appreciated branches of government. Whereas in more developed countries it may have been placed on a more businesslike footing, it is still responsible for delivering goods and fostering communications across society as a whole. Using the collective knowledge of employees and stakeholders, an informal way of contacting the bulk of the population may be found. That knowledge must be garnered, revised, formatted and matched to a

precise postcode that both incorporates earlier phases in the process and adds postal-station and delivery-point identification. As soon as this is done, a key foundation for validating delivery introducing automation and achieving accountability will have been laid. Provisions may be made for sharing access to this data with other categories of stakeholders, both inside and outside government, so as to build a modern communications infrastructure. This obviously depends on the applicable laws and the extent to which the data includes information subject to regulation.

A more detailed description of the following technical phases is given in annexes 3, 4 and 6. They include the methodology for introducing postcodes, examples of existing postcode systems and a Quality Service Fund project model.

Regardless of the approach chosen or the methodology adopted, an action plan should be developed to help turn the objectives into reality. That plan should include a description of the objectives, processes and time frames and identify those responsible for the action.

 **The UPU International Bureau can assist in the development of this approach**

Alternatively, a postcode project can be incorporated into a global national addressing project, as a subproject. The objectives and action plan would then need to be part of the larger project and consistent with it. Depending on the scope and size of the addressing and postcode project, different subprojects could overlap in terms of tasks and over time. This may, however, make it difficult to deal with the outcome of each phase of the global project on time. As mentioned earlier, it is vital to define the objectives and plan and to design each phase of the global project if it is to succeed. An example is given in annex 10.

6 Disseminating and promoting postcodes

6.1 Disseminating postcodes

Disseminating postcodes is the first, essential step towards promoting them.

The aim is for customers to know the postcodes and include them in the address on every mail item. This can be done by sending the information directly to the recipients. It is also necessary to reach mailers, businesses and other entities that are potential mailers. Postcode awareness campaigns will vary from mailer to mailer: the needs of a company that handles large numbers of addresses will dif-

fer from those of a private individual who generally writes only to a small number of correspondents.

Nevertheless, appropriate materials for each target group should be prepared and disseminated:

- for private customers: a brochure listing all postcodes and localities, with a summary of the addressing rules in the introduction;
- for other mailers, e.g. businesses and government departments: postcode and locality data in electronic media, flat files, etc.;
- for everyone: web services making it possible to access, match and validate addressing information.

To promote the dissemination of postcodes and addressing rules, it is preferable not to sell the materials, at least during the initial promotional stage. At a later date, these or other more sophisticated materials could be put on sale, albeit at the lowest possible cost, e.g. at cost price. Some think that reductions in physical operational costs justify, to some extent, subsidizing the investment made in disseminating and promoting postcodes. E.g. the costs of mail forwarding might be high enough to justify providing the information needed, so as to avoid the need for mail forwarding.

In any case, access to these addressing tools should be equal to all customers, big or small, commercial or private, national or international. It is recommended that the same price policy apply for the same product, even if the price depends on the use that the client makes of it.

6.2 Promoting postcodes

Promoting postcodes and addressing rules is the essential complement to their dissemination. Promotion, like dissemination, will cover private customers and big mailers alike, and can apply to all stakeholders.

Promotional campaigns must be accompanied by internal postal administration communications, in particular on the organizational aspects of using postcodes and standardized address structures.

Promotion among private customers

The main objective is to make customers aware that postcodes exist and explain the system. Different techniques can be used for larger and smaller mailers, for the public and for students at different educational levels.

Subsequently, private customers need to be encouraged to use the new codes until including them on each mail item becomes automatic. In other words, the public needs to be educated in “good postcode practice”. With the postcode as part of the address, the opportunity of pro-

moting a standardized address structure at the same time and at no additional cost should not be missed.

In view of the large number of people who need to be convinced of the benefits of using a standardized addresses and the right postcode, the campaign must be national in scope and capable of reaching every individual. The choice of media will, therefore, be essential to the project’s success: radio and television commercials with a relevant, catchy slogan, mass-circulation newspapers and magazines, communication through delivery personnel, posters in post offices, stickers on the mail boxes, and so forth.

This promotion could also be furthered by concluding contracts in partnership with major customers that have a stake in improving delivery. See the example of the Moroccan Post, in annex 9.

Promotion among big mailers

Promotion should focus on the benefits for big mailers of using postcodes and standardized addresses: better identification of customers, easier contacts, improved delivery times, fewer returned letters and increased profits, to mention only a few.

In order to achieve its goal, the postal administration should use the most appropriate communication and information media: articles in the trade press, direct awareness-raising forums with big mailers, brochures, and so forth.

In countries where there is no home delivery, one of the best ways to promote correct addressing and postcodes is by proposing new door-to-door delivery services, at least in the major cities. This can be developed at first for big mailers, on the basis of a particular profitable agreement to extend this service to the general public over time. The postal administration should provide a postal database within the service, to be incorporated into the large mailer operation with the aim of improving or completing their customer databases.

On the other hand, it has been proven in many cases that adopting a different rate for using a complete and correct addresses with postcode, where this can be validated, offers business mailers a powerful incentive to maintain address quality even during a period of transition.

Methods of disseminating postcodes

Urging customers to indicate the addressee’s postcode on their mail items can be problematic. Consulting a postcode directory to find the postcode for a given address is not always easy and can even be a source of frustration

and annoyance. When the Japanese Post switched from a five-digit to a seven-digit postcode in 1998, it asked customers to indicate their own postcode in the return address rather than the addressee's postcode in the destination address. It is relatively easy to have senders disseminate their own postcode.

If postcodes are not being widely disseminated, checks should be carried out to see whether they appear on business cards and in company literature, as well as in return addresses. If they do, they will be gradually disseminated in due course.

The situation is entirely different, however, for large quantities of computer-generated items. The postal operator should give direct mail companies access to a database of addresses and postcodes for computer printing on mail items. Even when the quantity of computer-generated mail is relatively small, access to such a database should be provided as soon as possible. This will ensure a smooth and gradual transition to the printing of postcodes on large quantities of computer-generated mail.

At the international level, the UPU can help postal administrations to promote the new postcode system through a range of tools, including circulars to member countries, the UPU website and the Universal POST*CODE Database.

7 Maintaining a postcode system

7.1 New, changed and obsolete addresses

In different UPU member countries, new postal addresses are assigned in different ways. In many cases local municipalities play a role but this may be a cause for concern if local authorities fail to do so for new areas (e.g. they fail to name streets or number houses); if they do so partially (e.g. they name streets but do not number houses); or if they re-use many popular street names with variants, which may disrupt delivery efforts. In other cases postcodes are an element to be assigned by postal administrations. As a result, coordination between the Post and local governments is needed to avoid inefficiency, where it is not the Post that assigns the addresses.

In some cases, postcode numbering systems must be coordinated with multiple localities. For example, in the case of a new residential area built in municipality A near an administrative boundary, the municipality may seek to assign it the same postcode used in the rest of its territory. For postal delivery reasons, however, the postcode assigned may be the same as that in locality B. Moreover, a long thoroughfare crossing several municipalities may

need to be divided into multiple postcodes. Should the street numbers start over again in each municipality? Albeit logical, the application of this concept could result in addressing ambiguities.

Consideration should also be given to instigating a procedure among the stakeholders to prevent such occurrences where possible or to resolve them where necessary.

Another issue concerns unused addresses on a database. Unused addresses can be temporary, e.g. when a residence is being remodelled or rebuilt, or when a lease ends and a new tenant has not arrived; or they can be more permanent, e.g. when a flood-prone area is abandoned, or a property is converted to a different use. To ensure that a database is accurate, a periodic review should be carried out to prevent obsolete information from being disseminated and ascertain whether the current allocation of postcodes remains relevant or needs revising. Delivery personnel are the logical choice for gathering the information on both new and outdated addresses. Address changes should also be recorded, e.g. when a street is renamed to honour an esteemed figure or to remove a reference to a personage who is no longer officially honoured. More information about the maintenance of the information stored in the databases is given in Chapter IV.

Postcodes themselves may or may not be subject to change, depending on how they are structured. Codes based on geographic information tend to change less often, which is an advantage. On the other hand, in the case of an existing system in need of modification, it can be quite costly to change a postcode that has been designed to help the Post function, in terms of routing the mail or evening out population among different postcode areas.

Most countries with postal databases make an arrangement with the UPU to provide data on acceptable terms for use by subscribers in other countries, to improve their accuracy in preparing mail. This often leads to discussions about the best practices for organizing, sending and updating these postal databases. Updates cannot, of course, be sent out more frequently than they are issued. The need for updates may vary with changes in population, expansion of urban areas, frequency of relocation among the population and collection of data from the field.

7.2 Methodology for measuring postcode penetration

A Post with automated-sorting equipment can quantify the prevalence and correctness of postcodes on machine-sorted mail, and then compare with those figures the number of pieces processed manually, so as to obtain an index of postcode penetration. If there is no sorting equipment, a sampling procedure of some kind will be sufficient

for an estimate of postcode penetration, provided care is taken not to introduce sources of bias. Measurements of this sort can be repeated at intervals for the purpose of trend analyses.

The ability to gather statistics and measure how often and how accurately postcodes are being used helps to ensure that postcodes are introduced successfully. It also lays the groundwork for the future ability to carry out wide-scale service performance measurements using automatic identification techniques, such as bar codes. It is important not to limit the consideration of automatic identification technology to conventional bar codes alone, as new technologies are emerging. For instance, RFID-based delivery-point identification might become possible once the already dwindling costs are further reduced and standards have been adopted across the board.

7.3 Service performance measurement

When automatic mail identification is used in combination with a delivery-point database applying accepted international standards, countries can gain access to an array of advanced services. These range from mail tracking and automated address correction to the ability to manage address changes both within and across borders. But the most important criterion for improving each Post is its ability to carry out service performance measurement on a per piece basis. In this scenario, the physical movement of mail pieces is represented by an electronic cross reference to each of the major events in a mail's life-cycle, e.g. induction, sorting, transport, processing and delivery. This is a substantially different approach to managing the provision of postal services, but in the end it is both more informative and more scientific and, in all likelihood, it will eventually become a universal practice. Provided that there is as much openness as possible in the distribution of service performance measurement information, the other stakeholders can work with the data in a realistic manner to discern patterns and obtain good results albeit with slower modes of service, as long as the service is reliable. Partnership among stakeholders is and will remain a key factor for making optimal outcomes possible in the postal and delivery services sector.

Service performance measurement data should include, in some form, a measurement of the moment when an item enters the post, major stages along the way, and some reasonable approximation to delivery. For example, a reasonable approximation to delivery might be based on the time of last recorded processing plus a factor of one day or whatever is appropriate to allow for final delivery. Advanced technology now makes it possible for delivery-point notification regarding some mails. A more passive approach would extend this capability to any mail that required it. Where there are different product lines or

classes of mail with different characteristics, it is helpful to measure them separately, in particular if there is a distinct operational flow in comparison with other products.

8 Improving a postcode system

8.1 Second- and third-generation postcodes

Over the past 20 years, a number of countries, including Germany, Japan and the United States, have extended their existing postcodes; other nations, like Malta and New Zealand, have revised the assignation of postcode digits, but the number of digits has remained the same. The intention lying behind these postcode changes, which may be called second-generation postcodes, was to create a more granular postcode and identify smaller territorial areas within the territory delineated by a first-generation postcode, to delivery-point level or very close.

It is claimed that longer second-generation codes (7-9 characters) are harder for the public to remember. Yet it has been proven that, for mailers using delivery-point databases, these new codes can greatly improve customer targeting and reduce the number of operations needed for delivery, in comparison with the old code format.

Another type of second-generation code is the GPS code, which is primarily based on geographical information. Only a few countries have already implemented this type of code, one of them being Saudi Arabia. The main difference between the GPS code and other postcodes is that it uses coordinates to localize delivery points. This implies an initial groundwork to determine the coordinates of each delivery point and enter this information in the database. It also requires the acquisition of the GPS devices, the specific database and management tools to work with the resulting data.

One weakness of a geographically-based code is in handling post office boxes, an almost universal type of delivery point. If a postal station moves, and alters its geographical code, designations such as P.O. Box 101 will remain. The station's physical relocation may cause a change in a geographically-based postal code but, for sorting or routing codes, including P.O. Box 101, the change is not in the delivery point description, but in the data associated with the postcode. Given the different kinds of delivery points utilized by Posts, no code in current use or under consideration can eliminate the potential need for downstream modifications.

Phases as discussed earlier in connection with routing and sorting codes are also possible for geographically-

based postal codes. One example is the addition of a third-dimension coordinate to a two-dimensional representation, so that an apartment on the 10th floor can be distinguished from one on the ninth floor. In some cases, a two-dimensional representation is introduced first, according to the benefits that it may proffer. Again, it is possible to collapse two phases into one by introducing a delivery-point-specific geographically-based code from the outset.

Another weakness of geographically-based codes is that the technology needed (GPS/GIS) is not always available or well developed in developing countries. Moreover, it can be expensive to acquire and maintain, although it may become cheaper in time, and it also requires considerable database management knowledge and skills. However, it could be an asset to develop and implement this technology for describing the address location in a way that allows for comparison and measurement. More information about geographical information systems is given in Chapter VI.

Some countries, such as France and Switzerland, decided to maintain their first-generation postcodes despite their lower granularity, but at the same time to introduce another code system to reach the delivery point, namely barcodes. This code comprises the various address elements in a coding method created by and for machines. The postcode and other elements of the address appear on the mail, as the human readable address. The human-readable code may identify a series of delivery points along one side of a street, but the bar code allows the mail to be sorted in order of recipients, i.e. in delivery-point sequence. The cost advantages are clear since mail volumes often make it impractical for carriers to perform final hand sorts while walking the route. According to estimates, such systems mean that employees spend up to one hour a day in the office sorting letters into boxes organized by delivery point, instead of having to spend at least the same amount of time sorting mail while walking the route, which is obviously less efficient.

8.2 Delivery-point codes

The advantages of delivery-point codes are numerous, regardless of whether this level of granularity is reached in one go or more gradually. The first advantage is that the delivery-point code represents the address in every detail and needs only to be supplemented by addressee identification. Conversely, a sorting or routing code represents only part of the address and does not serve as a double check against the address details. Moreover, delivery-point verification is made easier and more secure if the postcode specifies the delivery point. Address hygiene activities, including standardized addressing and change of address systems, require that the addressee and delivery point be uniquely specified. Another advantage is that sorting mail into carrier walk sequence depends on a delivery-point bar code or equivalent address data. Finally, mail tracking and tracing can be built upon the combination of a delivery-point code and a means of identifying the sender.

All of these situations lead to difficulties during the switch-over period. People must be prevailed upon to use the extended code, and in some cases with financial incentives. Several countries offer some form of reduced rates in return for helping to ensure that mail carries complete and correct addresses together with current addressees. This is economically viable because the cost of developing databases and the matching software is more than offset by the resulting improvements in the physical mail stream, which lead to reduced forwarding, fewer returns, less wasted mail, more direct paths through the postal network to delivery, and the achievement of consistent and reliable postal services. It is to be expected that, as labour costs increase and computing costs diminish, the cost ratios will help to reward address accuracy achieved before as well as after mailing, both domestically and across borders.

III Addressing

1 Definition of an address

1.1 Commonsense view

If any group of people taken at random were asked to define the word “address”, they would probably come up with as many definitions as there were people in the group. However, for most people, the word “**address**” signifies **a means of identifying a location that allows goods and messages to be delivered to it.**

Further reflection on that commonsense definition reveals that it comprises two parts. One function of an address, as it is generally conceived, is to identify a place as a geographical point. Its other function is to enable goods and communications to reach a person, family, enterprise or institution, through a specific channel. It is that unique combination of party and place that defines the domain of postal addressing.

Let us consider, first of all, the segment of the above definition that involves spatial identification. There is unquestionably more than one way of identifying any given location. Geographical elements, such as localities, neighbourhoods and thoroughfares, may be used to indicate where a point is located in space, typically on a map. But that does not mean that that point can be regarded as a delivery point. One of many examples would be the maps situated around many large towns and cities, featuring a red dot and the legend: “You are here”. Taking the first part of our definition, we could consider that point to be an address, because it identifies an exact location, with its own thoroughfare name, possibly a neighbourhood, plus a locality name, a country name, and perhaps even a postcode. Nevertheless, this place might be nothing more than an underground station entrance or a place of interest, where postal deliveries would not be possible.

This map shows a much visited location in the city of Berne, the Bärengaben or “Bear Pit”. This physical point even has its own address:

Bärengaben
Grosser Muristalden 4
3000 BERN



But that does not mean that goods and messages can be delivered to it. Many other examples of physical locations of this kind could be found.

A physical address could be defined as a collection of geographical elements used to identify and describe a specific geographical location.

This type of address should be taken into account when developing an addressing strategy at the national level.

In the postal sector, a place is often identified by describing a delivery point along with a series of localities. An individual locality serves more often for routing than for locating purposes, such as when a delivery point is not actually in a given locality but is addressed with reference to it.

Often but not always, these series of localities are set out in increasing order, ending with a country name in the case of cross-border mail, or with a country's region or province in the case of domestic mail.

Locality-based addresses can be useful for postal purposes up to a certain level, but may be considered incomplete or imprecise if a unique delivery point has to be defined. Although postcodes can be helpful, they are often too imprecise to describe a unique delivery point. This difficult task is therefore left to the other components of the address.

There may be other, more artificial, ways to create a place identifier, with advantages and disadvantages of their own. Let us imagine a fifteen-digit random number. It could identify a place very precisely, might be easy to store in a computer and will possibly be suitable for use in automated identification. But humans, including carriers and consumers, would find it hard to remember. Moreover, if random identifiers were used, neighbours' addresses would probably be quite dissimilar. These series of numbers should be regarded as codes than actual addresses. Yet, owing to the characteristics mentioned, they would not even make very good postcodes.

A coordinate-based system could be used instead: i.e. a series of digits, or somewhat fewer characters, that identify a place in relation to its neighbours, both near and far. This is a considerable improvement over the previous example, because distances can be calculated with some precision, whereas some, if not all, errors are local. It would still be hard to remember, although special devices could be used to overcome that drawback. If it co-existed with a physical address, it could add significant value to the combination.

We recommend that national and/or local governments intending to develop a national physical addressing policy should contact urban planners at one of the specialized UN agencies, such as UN-HABITAT. They could also contact urban planners at the World Bank, as they have already produced materials¹ that could help with planning and implementing a policy of such size and complexity.

But we have yet to consider the second function of an address, viz. its ability to ensure that goods and communications reach a given person, family, enterprise or institution. This part of the definition calls for both geographical and nominative information to be consolidated.

For the purpose of this guide, only addresses that use both parts of this definition will be described in detail in rest of this chapter. In other words, we have now entered the domain of “postal addressing”.

Typical change of address programmes involve linking a given addressee's old and new addresses. Although the delivery-point database remains unchanged, change of address databases (where they exist) will have to be updated. Forwarding mail depends on such information being entered into the system, whether it is done manually or automatically, and whether it is done before or after mailing takes place. Returning a mail is a different matter, as it requires a second address to be carried or calls for another means of making it identifiable. In some cases, the ability to improve an address – i.e. to make it complete and correct – also depends upon the identity of the addressee, which may serve as a “tiebreaker” among two or more possible address descriptions. For example, an address given as “Fourth and Main” may describe four delivery points, but knowing the identity of the addressee may narrow that down to one. But if this is to work, the identity of the current occupant must be known. We can see that the commonsense view of an address tallies quite closely with the requirements of a “complete, correct and current” postal address.

1.2 UPU S42 definition of an address

Since 2000, the UPU international addressing standards working group of the Postal Operation Council (POC) has been working on postal addressing standards and addressing terminology. They are responsible for maintaining and developing international addressing standards to improve delivery efficiency for countries' inbound and outbound international mail.

In November 2002, the UPU S42 standard “International Postal Address Components and Templates” was ap-

proved. It is currently in its sixth version, as more country templates are continually added.

The UPU S42 standard defines an international list of common name and address elements, together with general terms related to postal addresses. UPU S42 defines a postal address as follows:

Postal address

A set of information which, for a postal item, allows the unambiguous determination of an actual or potential delivery point, usually combined with the specification of an addressee and/or a mailee

According to S42, this set of information can be expressed as a set of name and address elements, in the context of the actual (or potential) delivery of a postal item. For optimal delivery, the delivery point should be complete, correct and current, i.e. currently associated with the addressee. The addressee, if present, is the item's intended ultimate recipient. The word “usually” in the definition implies that an addressee is not invariably necessary. After all, if there is no addressee, the item can be opened by any party once it reaches the delivery point.

If there is an addressee, there may also be a “mailee”, to whom the item is delivered in order that it may ultimately reach the addressee (i.e. via the mailee). Though the definition may not explicitly rule it out, according to S42 there can be no mailee without an addressee, technically speaking. The mailee may be indicated explicitly by a role descriptor, such as “care of” or “c/o”, or implicitly, as is the case of company or institutional addresses.

These definitions were agreed upon following a series of analyses of actual cases in Europe and other countries around the world, conducted while S42 was being developed. They imply that postal addresses are not a subset of physical addresses, but rather a separate domain altogether. Physical addresses may supplement postal addresses with further layers of information, thereby meeting additional needs and serving other purposes. At the same time, postal addresses contain more information and serve broader purposes in some respects than physical addresses. These broader purposes are of critical importance to international commerce, and will remain so as e-commerce and postal services evolve.

Examples of addresses

Ålands Museum	addressee
Stadshusparken	street name
AX-22100 MARIEHAMN	«AX», postcode, TOWN
ÅLAND	ISLAND
FINLAND	COUNTRY NAME

¹ See “Street Addressing and the Management of Cities”, *Directions in Development*, World Bank, 2005.

Sr. Juan López	addressee
Casilla de Correos 432	P.O. Box
Correo Central	post office name
C1000WAE CAPITAL FEDERAL	postcode, LOCALITY
ARGENTINA	COUNTRY NAME
Stables Flat	part of building
The Manor	building name
Norwood Hill	dependent locality
HORLEY	post town
RH6 0HP	postcode
UNITED KINGDOM	COUNTRY NAME
Les Marchands de Venise SA	company name
A l'attention de M. Montaigu	addressee name
Boîte postale 10 Bruxelles 1	P.O. Box mention and No., No.
1000 BRUSSELS	of post office
BELGIUM	Postcode, LOCALITY
	COUNTRY NAME

1.3 Comparison with other definitions

There have been many attempts to establish a definition of addresses that encompasses not only postal addresses but also other forms of place identifiers. These definitions may be useful for purposes other than the delivery of goods and messages. For example, an undeveloped piece of property may require an address in order to distinguish it from other properties on the tax rolls. Municipal services may benefit from a database of items relating to the provision of services, such as lamp posts. Health authorities may want to know the location of water wells. An address that is well suited for such purposes need not identify an addressee or mailee. However, it is essential that the address be sufficiently detailed so that a place can be identified unambiguously. It is also preferable not to use postal or transportation routing information in place identifiers, if that implies that a place is located in a nearby town or city rather than the one where it is actually located. In general, place identifiers for addresses may make reference to coordinate systems of a geographical nature, or use descriptive terms referring to localities or administrative units, or both.

In terms of standards, an interesting set of comparisons may be made between standards for postal addresses, general addresses and place identifiers. Some observers take the view that general address standards may include both postal and non-postal addresses. In their opinion, place identifiers include both addresses and other forms of identifiers. For these observers, postal address standards appear excessively narrow in scope, but that is not really the case. Postal addresses may appear to be a subset of addresses, but they require a broader set of information. This is because they must represent both an addressee and a mailee, which is not necessary for non-postal addresses or even for abstract place identifiers. Conceptually speak-

ing, the addressee and the mailee, representing persons or families, firms or institutions, can generally be separated from the physical address itself, with the exception of cases where the name of the party, such as a company name, is sufficient for identifying a delivery point. For postal purposes, however, both categories of information are essential for postal operations. Final delivery cannot be correctly performed without both kinds of information, aside from other specifically postal concerns, such as minimizing the costs of forwarding, returns and wasted items.

2 The importance of addresses

2.1 The key to consistent and reliable delivery

Although the theory seems to be clearly defined, practice shows that in many countries, especially developing countries, geographical addresses effectively do not exist. The reasons are many. People living in rural or less developed societies seem not to need addresses, although this can be disputed. Vast urban growth in formal and informal settlements alike has led to situations where nobody knows who is located at what potential delivery point. Moreover, many countries lack the resources needed for such a major project.

Physical addresses are essential if individuals are to be connected to the rest of society and, in turn, if society is to be connected to individuals. Addresses make it easier to provide a whole range of services in a country while boosting its economic development. Government departments, businesses and distribution companies have to develop systems that cope with ambiguous addresses. Most postal operators pride themselves on their staff's ability to deliver postal items despite incomplete or unorthodox address information. In developed economies, on the other hand, such situations are the exception rather than the norm. In developing economies, providing clear address information is at the discretion of the sender.

From a postal perspective, postal addresses and address standards are essential for automation, which in turn facilitates the provision of more efficient and economical services. The addressing standard includes details of the address's contents, order and position on an envelope. These standards are essential for automated processes but they are also important for improving manual sorting and increasing delivery efficiency.

Regardless of their form, addresses are important because they are essential for consistent and reliable delivery, be it to homes, building clusters, kiosks or post office boxes. Where there are no addresses, the only possible form of delivery is poste restante or general delivery, both of which



Sorting centre (France)

are impractical for long-term regular use by significant numbers of customers.

2.2 The need for unambiguous addresses – complete, correct and current

Addresses must be both complete, i.e. they include all the required elements, and correct, i.e. their content matches the approved description of a delivery point. A delivery-point database can be helpful for verifying both criteria. The additional benefit of addresses with postcodes that are granular enough to identify the delivery point is that they make it possible to carry out cross-checks for reliability. Addresses should not be ambiguous – where “ambiguous” means that the address can be matched to more than one delivery point. However, a postal address might be ambiguous, incorrect or even not exist at all. This could occur if a secondary number, such as a flat number in a multiple-flat building, is omitted. It might also occur if an element that distinguishes between two thoroughfares with the same name, such as avenida (avenue) or calle (street), is left off an envelope. Ambiguous addresses could also be described as incomplete.

An incorrect address is one with an erroneous element – a misspelled thoroughfare name, a postcode with the numbers transposed or the wrong street number. These defects are surmountable. The thoroughfare name may be matched with a similar name on a database as the likeliest choice among the alternatives. The postcode may be wrong but, thanks to the other elements, it might be possible to retrieve the correct one. This shows the advantages of a certain degree of redundancy in address renditions. Whereas one error can sometimes be managed, two independent errors are likely to result in non-delivery. Regardless of the number of distinct defects, an incorrect address that cannot be fixed effectively does not exist and either the mail will be delivered erroneously or it is undeliverable.

Taking address defects and addressee-related errors together, the overall frequency of undeliverable-as-addressed (UAA) mail is very high in all countries. Efforts to deliver mail may sometimes result in the mail being delivered, but only with additional effort, such as an educated guess or by asking someone. Although this mail is eventually delivered, it incurs a cost – in the United States this phenomenon has been measured and costed as a separate category from UAA, known as personal-knowledge-required (PKR) mail. Recent figures from the United States showed an annual cost of 1.8 billion USD for UAA mail and a further 160 million USD for PKR mail.

That said, the commonest cause of undeliverable mail is a defect not in the address, but in the named addressee. The person or firm named on the mail may formerly have been at the address given but has since moved. In that case, it may or may not be possible to forward the mail. If it is not possible, the mail may be returned or destroyed, but in either case it is considered to be “undeliverable” and a cost is incurred. If the person or firm was never at the address on the mail, it is quite likely that it will be undeliverable. Ways of reducing these types of undeliverable mail are discussed separately in the Change of address, point 7 of this section.

2.3 Mail without an address (or with an address but no addressee)

Unaddressed mail can be delivered accurately to all recipients (or recipients selected by district or station), but only in the case of generic messages appealing to groups. Mail that carries an address but no addressee name can be processed automatically and targeted with more precision than unaddressed mail. Mail with an addressee can be targeted quite precisely, processed automatically and be included in change of address systems, i.e. it can be linked to customers or correspondents even if they have moved. However, when mail features an addressee it must be the current addressee if delivery is to be consistent and reliable.



3 Types of addresses

3.1 Descriptive addresses

One of the most favoured types of address is known as a “descriptive address”. Some descriptive addresses do not even fully meet the definition of an address, but they are widely used on mail. Descriptive addresses normally contain local knowledge or use practical geographical information to describe how to reach a given point. When official names are unknown, people use informal descriptors to denote given delivery points.

Example:

Mr. Martínez Veloso
The white house with red windows between the
national bank and the water board headquarters
Matagalpa
NICARAGUA

3.2 Postal addresses

According to presentations given at a recent ISO conference on addressing standards, addressing schemes can be developed from a variety of government or business functions. Postal addresses are undoubtedly a major function and may vary from one country to another, each of which has a different approach to address ordering and requisites. These different address types include thoroughfare or street-type addresses, building and site-based addresses, post office boxes (with or without localities), rural formats (including road-based and village-based), landmark addresses containing directions from a salient point, intersection cross-reference addresses, military addresses (which may refer to a mobile unit), and poste restante or general delivery.

There are two main types of postal address, with different elements:

- geographical addresses: correspondents receive mail at home or at their workplace; geographical information constitutes the main source of information for localizing the delivery point; this type of address may appear in various forms, with different elements and orderings thereof.

Examples:

1. Street address 2. Block of flats address

Sven Nilsson Storgatan 14 123 46 LILLSTAD SWEDEN	Sz. Pan Czesław Gzegzółka Ul. Kreta 15 M10 00-950 WARSZAWA POLAND
---	--

3. Street
with district address

Maria Silva de Andrade
Rua Principal VV Andrade
Quinta da Provença
Casais Novos
2580-347 ALENQUER
PORTUGAL

4. Rural address

Ms Priscilla Prunely
RR 3 Box 624A
PROVO UT 84604-9658
USA

- postal administrative addresses: correspondents receive mail at a post office box or through any other delivery service provided by the postal administration; the information contained in this type of address is mainly postal and does not identify the exact location of the addressee.

Examples:

1. P.O. Box address

Stadt Bretten
Bürgermeister Metzger
Postfach 10 01 62
75015 BRETTEN
GERMANY

2. Poste Restante address

Arja Visakko
Poste restante
01600 VANTAA
FINLAND

3. Locked Bag address

Ms Elizabeth Chan
Angelis Corporate Training Pty
Ltd
Locked Bag 711
HEIDELBERG VIC 3084
AUSTRALIA

4. Private Bag address

Attn: Mr John Smith
AAA Carpet Cleaners Pty Ltd
Private Bag 3021
MOUNT MOLLOY QLD 4871
AUSTRALIA

3.3 Non-postal addresses

Non-postal addresses include municipal records for deeds and surveys, taxable entities including undeveloped land, and fixed assets such as water wells and lamp posts. All of these may be referenced using a variety of geographical coordinates. In these addresses, the use of postal routing information may be omitted. For example, the name of an adjacent town does not belong in the address simply because that is how mail items are usually delivered. Obviously, names of persons, families, firms and institutions may be required in some kinds of non-postal addresses, but other such addresses are complete without reference to an addressee. What is useful in a postal address may be misleading in a taxation context. For instance, the owner of an undeveloped parcel of land may be recorded, but any tax bills should be mailed to an address associated with the owner. Lamp posts, on the other hand, might be adequately identified by means of geographical coordinates alone.

3.4 Geographical coordinate addresses

This type of address, which may be postal or non-postal, or simply a means of providing extra information,

invariably includes some form of geographical coordinate in its structure. Sometimes this information is part of the postcode structure and does not appear as a separate element in the address.

Some, but not all, geographical coordinate systems are three-dimensional. This enables Apartment 701 to be distinguished from Apartment 801 directly above it. Geographical information may be specified for post office boxes, but the Post may open a new station to replace an existing station, in which case the postcode and post office box number may not change, but the geographical coordinates will be out of alignment.

In the case of military addresses, geographical coordinates may frequently change. For security reasons, it is unlikely, however, that this information would be made available in any case.

4 Defining a national addressing standard

4.1 Why wait to establish a national addressing standard?

The aim of this part of the guide is to help postal services that have yet to do so:

- to consider creating an addressing standard in their administration;
- to define a structure and presentation for addresses;
- to adopt some basic principles and techniques for formulating the rules applicable to mechanized mail sorting.

Addresses link the sender of a message with its addressee. The quality of a postal service will depend on the accuracy and clarity of those addresses. Accordingly, the aim of address standards is to help Posts achieve their aim of delivering mail items to postal addresses within defined service times, and in an accurate and cost-effective manner. Posts can more quickly and accurately interpret addresses when their presentation adheres to certain standards.

Adherence to address standards increases:

- addressing accuracy;
- mail delivery efficiency; and
- customer satisfaction.

Addressing standards serve to outline the correct form for presenting addresses on mail items and provide background information on the subject.

If outward and inward postal items comply with these addressing rules, the quality of the international mail service

will improve – to the great satisfaction of customers – because it will be easier:

- to machine process outward international mail, where possible, throughout the transmission process up to final delivery;
- to incorporate inward international mail into the domestic mail processing stream.

If mailers – individuals and, more so, businesses – are encouraged to adhere to these addressing rules, the quality of the postal service will be improved both internationally and domestically.

Another reason for starting to consider ways of standardizing addresses in postal services is that it will allow you to prepare for mechanized mail sorting at a later date. It can be introduced more quickly and easily when the time comes, without the need for any additional major re-organization or any of the problems that can be caused by non-compliance with these basic rules.



Plan ahead:

Start preparing the future of your mail services now.

Promote the adoption of a standardized national addressing system.

4.2 Domestic mail

This part of the guide and its annexes explain how addresses and their contents are defined, while outlining the rules for writing addresses. It also contains a description of the different elements that may appear in an address. The standard recommended elements are applicable for both creating and managing address databases. They are intended to help you to formalize the rules for transcribing addresses on mail items in Roman characters.

The recommendations provided in this part of the guide, together with numerous examples, are based on data supplied by the French postal administration. These examples are based on:

- the rules appearing in articles RL 123, RL 127 and RL 128 of the Letter Post Regulations (see relevant texts in annex 2);
- the UPU S42 international addressing standard, available at www.upu.int.

4.3 International mail

With regard to the wording of addresses on items to be sent abroad, reference should be made to the standards or practices in effect in the country that will be handling the inward mail.

On outward international items, the name of the country of destination must always be printed on the last line of the address, in full and preferably in block capital letters. The name of the destination country should preferably be written in one of the languages used in the country in which the postal item is being posted; if this language is not an internationally known language, the destination country name should be added in such a language.

The International Bureau publication “POST*Code® Postal Addressing Systems”² provides useful information in the connection.

4.4 Content of the addressing standard

When postal services deliver letters, packets and parcels, the recipients do not have to sign specific contracts for that service. Postal addresses, combining private information about the recipient and public information about the delivery point, enable senders to specify the desired recipient and help postal operators to discharge their responsibility to deliver mail.

Postal operators have traditionally been very flexible about the way in which postal items may be addressed: any form or content was acceptable provided that the delivery point was indicated clearly enough. Even today, many Posts are proud of their ability, thanks to the intelligence and geographical knowledge of their staff, to deliver mail items bearing incomplete or non-standard addresses.

For many postal services, however, increasing mail volumes and rising staff costs have long since made automation not only an economic necessity but also a crucial issue.

It is therefore becoming increasingly important to ensure that most postal items are correctly addressed and that they can be machine-processed.

Addressing standards are essential for establishing the rules and elements for formatting addresses and describing the elements needed for building postal address databases, while facilitating mail delivery.

The following information should assist postal administrations and operators when preparing national standards concerning:

- the definition of types of addresses and their structural components;
- the presentation of addresses on postal items;
- standard abbreviations;
- the electronic exchange and validation of address data;
- the mechanized sorting of postal items.

Addressing standards should contain the information needed for processing addresses, including:

- the information needed to identify the natural or legal person for whom the item is intended:
 - surname and first name, and optionally their title, qualification, function or profession;
 - company name or official abbreviation, corporate or establishment name;
 - department, section, etc., if necessary;
 - role descriptors such as Attn: (for the attention of) and “c/o” (care of).
- delivery instructions:
 - information needed to identify the delivery point (door, apartment or letter-box number, floor, corridor, staircase, etc.);
 - identification of occupant (Mr. X’s place of residence, place of work, etc.);
 - additional information about delivery point (entrance, tower, construction, building, block, floor, stairwell, residence, etc.);
 - thoroughfare number and extension (if applicable) and thoroughfare (type and name), along with qualifiers;
 - specific information concerning the delivery point (P.O. box, poste restante, post office bag, etc.) or postal town.
- information enabling transmission of the item:
 - neighbourhood name, zone name or number, etc.
 - name of locality of destination, followed by
 - postcode.

Combinations of the above address lines are used to create different addresses, depending on the address type (urban, rural or postal administrative).

The UPU S42 addressing standard is the source of these elements, and each country can match the elements it uses to those defined in the standard.

The addressing standard should describe the type of the existing addresses in the country, e.g. urban, rural, postal administrative, for private individual or for businesses, etc.

4.5 Rules on the structure and formatting of addresses

Annex 5 contains the terms and definitions used in an addressing standard.

It also contains standard definitions of postal address elements (based on the most recent international work on standardization), which should make it far easier to describe examples of actual addresses and to define ways of making these examples correspond.

In practice, many examples of addresses, whether in the form of databases or electronic messages, or in printed or written form, may contain several address elements, defined here as separate “fields” or “lines”. It is vital to

² Postal administrations and private individuals alike may order this reference work from the International Bureau.

have local knowledge or use computer-based parsing that uses logic and tables to map the data vis-à-vis the roster of elements. If lines are used, it is best to follow line-name conventions rather than resorting to “Address Line #1” and its siblings, which are relatively uninformative.

Address standards are intended to define the structure and content of addresses and the rules to be applied when writing them. They describe the various elements that may appear in an address and formalize the rules for transcribing the address for postal purposes by:

- defining an address structure (number of lines, number of characters per line);
- arranging the various elements to form the different lines of the address;
- shortening certain elements when the maximum number of characters per line is exceeded;
- complying with the rules of form.

For user reference, annex 5 contains definitions of additional terms, together with a glossary of the terms used in this part of the guide.

The S42 standard does not take into account the question of data protection. Users of this standard are nevertheless reminded that the storage and exchange of personal data are subject to the national legislation of the country concerned. This standard may be applied only as far as it complies with national legislation, so as to avoid any violation of the law. This point is reviewed in Chapter IV, on Databases of Postcodes and Addresses. Nevertheless, it is worth mentioning in passing the work currently being done at the International Bureau on a new standard called Name and Address Data Sets. This project focuses on international electronic name and address presentation exchange. The IB is working closely with the CEN, ISO and other international, regional and national organizations. More information on this topic is given in the following section.

5 UPU International Addressing Standards

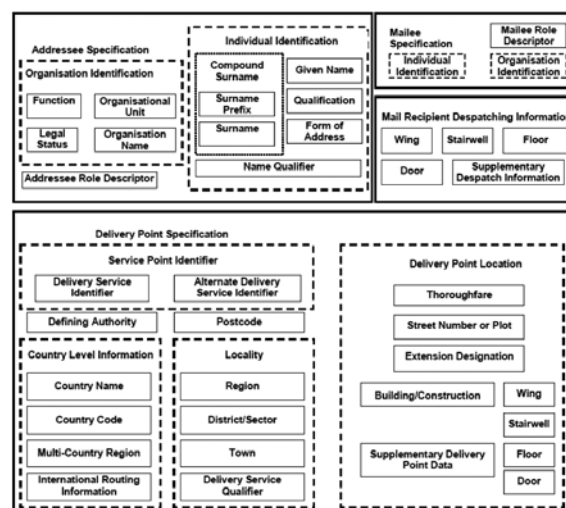
5.1 Explanation of S42, a joint UPU/CEN standard

UPU S42 standard “International Postal Address Components and Templates” defines a common list of international name and address elements and provides two template languages (natural language for humans and XML for computers) for defining each UPU member’s country-based template. Expressed in both human and computer-readable languages, these templates are ready to be integrated into address-formatting computer systems.

This international list of standardized definitions of the different elements is the fruit of a national element study, carried out internationally. In the UPU logo five continents are represented by five women linking hands. Accordingly, UPU S42 covers every region of the postal world, using multiple languages, alphabets and scripts based on the postal needs in each country. Countries from each region are currently working towards developing templates, to become part of S42. While it is also possible to develop templates that are based on subsets of collected addresses, the resultant template is empirical rather than normative.

The idea is that a country-based template should define all the logical address lines and components drawn from the common subset of international name and address elements described in S42. The postal address is composed of segments, divided into constructs and formed by elements. Addressing elements are the smallest independently meaningful units which may, optionally, be further broken down into element sub-types. Template granularity must be at the element level, at least, and uses sub-types where necessary to match a member database, or to facilitate rendition on a mail, or to clarify logical address types. Two or more database address types, such as a rural route and thoroughfare address, may at times be represented by one logical type, particularly if this is indicated by database storage conventions in the country. If the database stores composites rather than elements, either parsing will be needed to map the composites into their constituent elements, or the composites may be used through supplementary data constructs from the new standard on Name and Address Data Sets.

Conditional logic is used to allow for branching among multiple logical address types. A “PO BOX” and a “PRIVATE BAG” with different syntaxes may therefore be handled differently. Decisions such as whether to allow an



S42 elements

address to have both a post office box and a thoroughfare or street-type address in the same rendition are therefore quite significant when determining template structures. International mail can be rendered with the name of the receiving country as the last line. This tends not to be done in the case of domestic mail as it is the default assumption that the sending country is the receiving country. Many variations of addressee and mailer can be accommodated, while other possible combinations not used in the country in question can be excluded. It would be possible to use collected addresses to generate a national template in something approaching a systematic way, but the Post's expertise is required for indicating which alternatives in actual use should be accepted or rejected. An even more important decision to be made by the Post is which language or languages should be used for the templates, and how. Morocco, for example, uses both French and Arabic with two different templates, while Canada uses French and English in one template. No two templates for different UPU members have yet been found to be alike, though this could happen and would not be surprising in the case of neighbouring countries with similar characteristics.

S42 DB FORMAT	ADDRESS LABEL
GIVEN NAME: MARIO	MARIO ROSSI
SURNAME: ROSSI	PIANO 4 INTERNO 12
STREET NO: 300	VIALE EUROPA 300
STREET NAME:	00144 ROMA RM
EUROPA	
STREET TYPE: VIALE	
FLOOR: PIANO 4	
DOOR: INTERNO 12	
TOWN : ROMA	
REGION : RM	
POSTCODE: 00144	
<i>...templates transform address elements into an accurately formatted label...</i>	

S42 has also been approved by CEN, the European Committee for Standardization, as a CEN standard. Many members of CEN are therefore interested in participating both in CEN and, as UPU members, in the template development process. The standard's adoption by CEN falls within the provisions of the Memorandum of Understanding between the UPU and CEN, which governs procedures for joint standards.

Benefits to postal administrations:

- greater postal efficiency for both domestic and international mail;
- lower operational costs of processing mail;
- greater postal revenue accruing from the newfound ability to process a higher volume of international business mail;
- simpler database management, since both domestic and foreign addresses can be stored in one database with a single data dictionary; and

- better data quality affording an opportunity for validation on the fly.

Benefits to mailers:

- higher mail deliverability rate;
- faster mail delivery;
- address logic that can be built into existing mailing software; and
- improved data quality.

5.2 New standard on Name and Address Data Sets

A companion standard to S42, the proposed standard on Name and Address Data Sets, will provide an XML format for transmitting name and address data, including elements, lines and blocks, along with templates and other name and address-related data. The intended scenarios include data sent from one Post to another, from Post to mailer, from mailer to Post, and from mailer to mailer.

While S42 is fairly rigorous in defining elements and templates, and requiring more granularity in the parsing of name and address data, the Name and Address Data Sets standard will be adaptable to all stages of an address life cycle, and can work with both elements and composites. It will also support the maintenance of address lists and the documentation of address hygiene.

5.3 How to take part in the process

Countries wishing to participate in the S42 process can send an initial inquiry to the IB, at the following e-mail address: s42@upu.int.

A set of sample addresses should be submitted, using the spreadsheet already developed for the purpose, including various examples of different address types, with names that are culturally feasible but do not identify any real addressee for the address concerned.

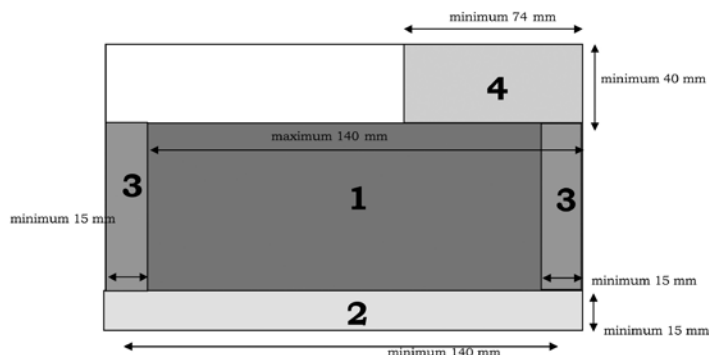
Thanks to an analysis of these address examples, a provisional template is created and then tested at the UPU, using specially designed software that supports S42 template rendition. Following revision and often after considering further cases and sub-cases, the country is invited to approve the template for publication in S42. The process can be completed in a few months, especially if the best qualified in-country subject matter experts are made available to participate in the work and review the results. Commercial rendition engines supporting S42 are expected to become available soon. These can be integrated into software that manages mailings both domestically and internationally.

6. UPU rules for presenting letter mail

These rules appear in the Letter Post Regulations (see annex 2) and are currently in effect for UPU members. They are fairly simple since they do no more than set limits, namely:

- (a) the area reserved for the delivery address is on the front of the item:
 - at least 15 mm from the right-hand edge;
 - at least 15 mm from the bottom edge;
 - at least 40 mm (tolerance 2 mm) from the top edge;
 - at most 140 mm from the right-hand edge.
- (b) no wording or extraneous matter is to appear:
 - to the right of the address;
 - below the address;
 - to the left of the address, within at least 15 mm of the start;
 - in an area 15 mm high starting from the bottom edge of the item and 140 mm long starting from the right-hand edge of the item; this area may be partly identical with those defined above.

These rules can be represented graphically as follows:



Where:

- 1 = area for addressee's address;
- 2 = coding area (to be left blank);
- 3 = address detection area (to be left blank);
- 4 = area reserved for prepayment and cancellation.

These limits allow addresses to be correctly positioned on envelopes so as to:

- enable rapid optical reading of the address;
- facilitate manual sorting and delivery.

All approaches are permissible provided the basic rules contained in the Letter Post Regulations are followed. Each country may adapt these values, taking care not to exceed the limits. As an example, the criteria adopted by France can be found in annex 8.

These criteria relate to:

- common presentation and make-up rules for all items (envelopes, window envelopes and cards) and special rules for envelopes and window envelopes;
- examples of addresses based on the rules in effect in the administration;
- possible abbreviations in addresses and their form;
- recommendations offered to businesses to ensure the proper collection of addresses by post with the aid of coupons.

There are several important points to remember for the mechanized sorting of letter-post items with automatic address reading.

The following factors are important:

- the optical and mechanical properties of the paper used for postal items;
- the characteristics of the fonts used to write addresses that are readable (or not) by OCR (optical character recognition) systems;
- the optical and mechanical characteristics of the address, including the overall make-up of the item, i.e. the packaging of the item or the material used for the transparent panel showing the address, and the background colours possible.

Implementing these recommendations will increase the legibility of addresses.

7. Changes of address

7.1 The address (and addressee) life cycle

Postal addresses need to be updated for a simple reason: both the address itself and the addressee can change. Addresses and the associated addressees have a particular life cycle, which explains the dynamics of addresses.

For example:

- addresses are "born", often as a function of government;
- addresses are registered in different systems with variations;
- addresses change when areas are renamed or postcodes are realigned;
- addressees change when a person, family, firm or institution moves;
- addressees also change as a result of marriage, divorce, birth or death;
- moves can be individual, family or business-related; family moves carry less information than individual moves;
- business moves can be moves proper or simply the renaming of a business or employee transfers;

- parts of address changes are initiated by the Post or municipality;
- address records “split”: many people have a home address and a company address;
- addresses “die” when an area loses population, though they may be “reborn”.

The change rate of addresses in address databases depends on different facts. These include:

- the country and cultural mobility ratio of a population;
- regional variations in climate and population density: urban vs. rural; and
- the age of people in the databases.

The best response to these changes is a “change of address system”. The main objective of such a system is to register and consolidate both the “from” and “to” information in an address database that will be used to update a central database. Regulations in each country will determine how that information may be used at a later date. Can mailers look up the registered moves and update their own mailing database? Can mailing lists be purchased and, if so, under what conditions?

The postal operator is best placed to act as the liaison and report these changes to all those making a request, be they businesses, customers, state players or the general public.

In some Scandinavian countries, such as Sweden, governments create and maintain a database of all persons living in the country, including their addresses and address histories. They also take responsibility for developing and maintaining this information. However, the government might be less keen to grant access to this information than a postal operator. One possible reason is that they may store sensitive, protected information other than names and addresses.

Many countries have data protection legislation that prohibits or restricts access to centralized databases of all inhabitants and their address histories. In some cases, private firms have built up historical records of this kind. Their use is also likely to be regulated.

Most people are interested in being allowed to gain access to a change of address service, so they can continue to receive their current mail at their new address. On the other hand, some individuals prefer to ask the Post to take responsibility for informing public administrations and major businesses of their new address. Furthermore, all businesses need to inform their clients and suppliers of their new addresses. These three cases alone show that, despite the legal protection in force, this service requires further development to meet the public’s needs.

7.2 The bridge – links to a street file or delivery-point database

Street files and delivery-point databases form the important first step towards having correct addresses. They are also the precondition for the second step, a change of address system.

Why is a street file or delivery-point database a precondition? Because address databases are normally updated by comparing addresses with the change of address system, using special software. A high-quality level allows for addresses to be corrected by a street file or using the delivery-point database, while properly formatted addresses in the change of address systems allow for automatic updating.

NB: it is worthwhile doing further work on address formatting (i.e. having correct titles – Mr. Henry Jones and not Mrs. Henry Jones). The addressee is an important element in its own right, and it may be worthwhile recording honorifics and role descriptors. Matching the names of firms can be particularly challenging, mainly because company names can appear in different versions – e.g. the German company: BMW or Bayerische Motorenwerke AG or BMW Group. Updating business addresses poses a challenge to any postal addressing software.

7.3 A change of address system

There are three basic data constructs in a change of address system, though multiple data elements are needed to ensure that cases are accurately clarified. The three basic constructs are:

- old address;
- new address; and
- date of change.

Further information can be added, such as birth dates or the source of the information (i.e. change of address form, personal correspondence, e-mail or a telephone number). These practices may be restricted by data protection laws, which differ from country to country. Change of address forms are usually valid for six months, but this may vary from three to twelve months. Sometimes clients have to pay for them, while in other cases the service is free of charge. However this information is obtained, it should be verified as far as possible. Confirming the address change through a notification to both the new and the old address can be an effective deterrent to fraud and, particularly on the new address side, a valuable commercial opportunity, whether or not it is outsourced.

What is the coverage of change of address forms or other methods of direct notification to the Post? In theory, it would make sense if everybody (or almost everyone) indicated address changes at or through the post office. In

practice coverage rates of 60% to 90% are the reality in developed countries. Furthermore, in some countries the postal operator offers a change of address service that hardly anyone uses. Other countries have no change of address service whatsoever. Where coverage rates are low, the change of address service must be promoted, and the advantages for postal clients need to be emphasized.

7.4 Gathering this information and entering it on a change of address database

Most of this information comes from postal operators' change of address forms, duly filled out (and signed) by people when they change their address, in some cases via the Internet or even by telephone. The Internet should be encouraged for this purpose as it allows new addresses to be validated while the person is on line. The mailing industry can also add information to the change of address system by pooling related data, i.e. by creating a network of partners that exchange information obtained from their own customers, provided they give permission for it to be shared. This may be done where the coverage of change of address forms is low. The third source of information will be postal field operations. This may result in no more than a notice that a person has moved, without their new address necessarily being notified, but even this information may be crucial. Some postal operators include data relating to the deceased in the change of address process – postal items are redirected to the beneficiary.

Traditionally, albeit with variations from country to country, change of address data were not stored in a central

database but added to the postal delivery base linked to the old address. The postal employee responsible for sorting mail items could then indicate the new address on the letter, usually by hand. Even where machine-written labels were used, the methodology and outcome were similar: letters took longer to reach their destination.

The letter, complete with its new address, was then processed and delivered to the new address by the postal operator. That meant a delay of at least a day, but mail eventually arrived at the recipient's new address. Additional labour costs were incurred, that could be reduced or eliminated if information was made available to mailers before mailing, i.e. thanks to an electronic change of address (COA) function.

Nowadays, automated postal operations enable mail to be redirected at an earlier stage in the production process. The faster a mail item is redirected to a new address, thanks to change of address information, the greater the savings in terms of money and time, and the more efficient the production process becomes. The letter sorting centre closest to the point of entry is best placed for redirecting items to new addresses. Better still, addresses should be changed before the item enters the postal system.

In practice, change of address processes are much more complex, with different options for mail items, parcels and magazines. Other options include requesting change of address during holidays and having mail items stored at post offices for a given period.



Swiss Post website: notifying a change of address on line

Request for a permanent change of address:

Nachsendeauftrag / Wohnungswechsel
Demande de réexpédition / Changement de domicile
Ordine di rispedizione / Cambiamento di domicilio

Bitte Ausweispapiere mitbringen
Prendre avec soi une pièce de légitimation
Non dimenticare i documenti d'identità

Dieser Auftrag gilt für die folgenden Personen oder Firmen (alle Personen inkl. Kinder jeden Alters eines Haushaltes sind einzeln aufzuführen)

Cette demande est valable pour les personnes ou entreprises suivantes (indiquez séparément le nom de chaque personne qui vit en ménage commun, enfants de tout âge inclus)

Il presente ordine è valevole per le seguenti persone o ditte (vanno indicate singolarmente tutte le persone, compresi i bambini di qualsiasi età, di un nucleo familiare)

Gültig ab Tag Monat Jahr
Valable dès le Jour Mois Année
Valevole dal Giorno Mese Anno

01

Kontaktperson bei Privathaushalt / Personne de contact en cas de ménage privé / Persona di contatto nel caso di economia domestica privata

Deutsch Français Italiano

männl. Name / Nom / Cognome
männl. weibl. Vorname / Prénom / Nome
Beruf / Profession / Professione
Jahrg. / Année / Anno

männl. weibl. Vorname / Prénom / Nome
Beruf / Profession / Professione
Jahrg. / Année / Anno

männl. weibl. Vorname / Prénom / Nome
Beruf / Profession / Professione
Jahrg. / Année / Anno

männl. weibl. Vorname / Prénom / Nome
Beruf / Profession / Professione
Jahrg. / Année / Anno

männl. weibl. Vorname / Prénom / Nome
Beruf / Profession / Professione
Jahrg. / Année / Anno

Bisherige Adresse / Ancienne adresse / Vecchio indirizzo
Strasse / Rue / Via Hausnr. / N° / N. civico

Adressergänzung / Complément à l'adresse / Indirizzo complementare

PLZ / NPA / NPA Ort / Localité / Località

Telefon / Téléphone / Telefono Fax-Nr. / N° fax / N. fax

wenn Postfach / si case postale / se casella postale
Nr. / N° / N.
PLZ / NPA PLZ-Filiale / NPA succursale

Neue Adresse / Nouvelle adresse / Nuovo indirizzo
Strasse / Rue / Via Hausnr. / N° / N. civico

Adressergänzung / Complément à l'adresse / Indirizzo complementare

PLZ / NPA / NPA Ort / Localité / Località

Telefon / Téléphone / Telefono Fax-Nr. / N° fax / N. fax

wenn Postfach / si case postale / se casella postale
Nr. / N° / N.
PLZ / NPA PLZ-Filiale / NPA succursale

Darf Ihre neue Postadresse einem Dritten, der bereits im Besitz Ihrer alten Adresse ist, zur Verfügung gestellt werden (Adressaktualisierung)?
Votre nouvelle adresse postale peut-elle être communiquée à des tiers qui sont déjà en possession de votre ancienne adresse (actualisation de l'adresse)?
Autorizza la Posta a comunicare il suo nuovo indirizzo postale a terzi che dovessero già essere in possesso del suo precedente indirizzo (aggiornamento dell'indirizzo)?

Nein, ich möchte nicht von den kostenlosen Umzugsdienstleistungen der Post profitieren:
Non, je ne souhaite pas profiter des prestations de déménagement gratuites de la Poste:
No, non desidero approfittare delle prestazioni di trasloco gratuite della Posta:

Bemerkungen
Remarques
Osservazioni

Datum
Date
Date

Unterschrift
Signature
Firma

PLZ Annahmestelle
NPA office de poste de dépôt
NPA ufficio di accettazione

Abgerechneter Preis in CHF
Montant en CHF
Importo in CHF

DIE POST LA POSTE LA POSTA

7.5 Entering relocation information in a database

Before a change of address system can be created, the information contained in change of address forms must be entered in a database.

This can be done in a number of ways, including:

- copies of the change of address forms can be sent to a "change of address centre";
- change of address forms can be scanned and processed on line; and
- information can be entered on line at the post office.

This information is then stored in a database that is updated every day, week or month. Few customers update their databases daily, but major clients in larger countries do so as often as every week. For smaller clients, a monthly update should be enough. Consideration should be given to storing this information at the earliest moment before mailing as possible. Annual move rates vary widely from country to country, but in some countries 1% of the file changes every month.

Change of address information is stored for periods that may also vary from country to country; in some countries, such as Switzerland, it has been stored without a time limit since 1996, when the service was introduced. On average the storage period ranges from 24 to 48 months. There is also a quality issue: out-of-date data needs to be detected. Moreover, if an address changes again, it may be helpful to route mail directly from the first address to the third address in succession.

As far as quality is concerned, it is wise not to rely entirely on the information contained in change of address forms. For various reasons, further work may be needed before a high-quality service can be provided. This concerns, for example:

- missing information – i.e. parts of the old or new address, or the signature;
- incorrect addresses according to the street file or database;
- mistakes made when people fill in change of address forms – e.g. transposed digits, wrong house number or postcode;
- illegible information;
- information in change of address forms entered more than once;
- cancellation of change of address forms;
- corrections to change of address forms;
- people moving again, within the change of address period or later on;
- people moving back to the address they had left;
- the possible misconstruction of family and individual moves; and
- data entry errors.

High-quality data is only one element of the process; address-matching software is another. Address-matching software, now available worldwide, can be tailored to the country-specific structures of addresses. International address-matching software is also available, but it generally consists of collections of national data structures rather than a product mapped directly according to an international standard, such as S42. Address-relocation software can be used to compare addresses (e.g. the customer address of an insurance company compared with the old addresses in the change of address system) on an identical and phonetic search, which may optionally allow for slightly different addressees (e.g. Peter Mueller or Peter M. Mueller) to be updated.

Strict criteria are sometimes applied to publicizing new addresses while laxer criteria are used when old addresses are being deleted. The matching process enables old addresses to be identified, new addresses to be determined, where they are available, and the old address to be replaced by the new address. In some countries, the old address may be stored in an "address history".

These processes are so complex that technical consulting may be required to set up and implement a change of address system.

To sum up, postal operators need three things to establish an address change service:

1. change of address data
2. software
3. consulting

A Post can create a new product of this kind in a number of ways. Address change is part not only of direct marketing, but also of production and organization. Posts can create a specific department, a business unit, a new spin-off company or enter into a partnership. The business development sector of the postal operator must determine which approach is best suited to its purposes.

7.6 The benefits of a change of address system

According to statistics from developed countries, personal information concerning individuals may be stored in over 50 address databases along with their addresses. The change rate – including every slight alteration – can be as high as one third of all addresses in each database every year.

There are no international statistics on how many people change address every year and nor are there any country-by-country analyses. In Europe, about one tenth of the population is estimated to move every year, although

national figures vary from 5% to 15%. In the United States, the number is believed to be around 14%. In databases subject to the greatest number of changes, name and address lists are valid for no more than four years.

“Address hygiene” costs the companies that own address databases large sums of money. Address changes are often notified only as a result of personal contacts, such as when a person calls an insurance agent. Somebody then has to update the database by typing in a new address to replace the old one, a process that can take several minutes each time. In addition to these personnel costs, there is the cost of address research and that of resending letters that prove undeliverable.

For any company involved in direct marketing by mail, failure to reach target addresses results in lower sales and profits. Those companies have a vested interest in being able to contact anyone who has recently moved, thanks to an updated mailing list. Yet the data protection regulations in force in some countries forbid the rental of address lists that are compiled with the help of change of address forms. A change of address system offers new business opportunities for postal operators that promote direct marketing. Moreover, a fast developing direct marketing sector relies on top-quality address data. There is no doubt that change of address services and systems are some of the most important products that postal operators can offer. Thanks to them, people receive the mail they were waiting for, even if they have changed their address and forgot to tell the relevant customer services.

7.7 Updating address databases: national versus international

Address databases have so far tended to be national in scope, e.g. the database of a German insurance company with German customers. Yet more and more companies are moving towards globalization. Some experts still argue that direct marketing is a local or, at most, national business. Nonetheless, increasing numbers of databases contain international address lists and information technology is being increasingly centralized, partly to save money.

Currently, there are no international change of address databases available. However, in Europe, in particular, there are networks of companies providing this service to customers in two or more countries. The UPU is discussing initiatives to establish an international change of address (ICOA) service at some point in the future.

One possibility is to create an ICOA system that uses secure electronic communications with the new “.post” top-level domain, instead of “.int” or “.com”, as the host.

How could this work? Each country could store its own data and respond to data requests from known senders in other countries, using standard formats and filtered through the UPU, which would act as a hub. The Post could either provide the new address in full – in the case of a business or another party that has signed up to the process – or reply that the old address was inactive, so as to discourage people from sending mail to old addresses. Anyone making such a request would need to have the old name and/or address in order to obtain the new one(s). That would limit unsolicited prospecting. At the same time, someone who has only the old address could still enquire whether the recipient is willing to provide the new address, but would have to desist if the new data were not forthcoming. This approach strikes a balance between consumer choice and the need for international businesses to stay in touch with customers, provided the latter want their addresses to be made known. In other words, individual privacy is protected, while UAA mail is reduced significantly.

This ICOA system could also be adapted for use by developing countries as a national change of address system (NCOA). The UPU can offer assistance if the member countries who wish to set up an NCOA are first willing to develop postcodes, addressing systems and databases, a sine qua non for introducing such a system. With a common system in place, the standardization of addresses could be advanced, taking full account of national differences.

The challenge is to update all the information stored in customer databases relating to communication channels and dealing with customers or service recipients. Postal addresses are a central element but it would also be useful to update all geographical codes, mobile and fixed-line telephone numbers, fax numbers and e-mail addresses. The more information people include in a change of address form, the more data a change of address system can incorporate. Designing change of address forms in accordance with data protection laws is therefore crucial and will help to ensure that mail continues to be a valid means of communication in the future.

8 Validating addresses

8.1 Using the UPU S42 standard for validation

The UPU S42 standard may help to develop a practice of international address validation, thanks to four main benefits:

1. it is element-based, avoiding the need for customized parsing of address elements for every country, language and script;

2. it enables a comprehensive, international list of address elements to be drawn up, whereas many existing software providers use differing national lists of elements, which limits their ability to achieve broad coverage;
3. country-based templates enable the standard to be tested systematically, using data supplied by each UPU member country – using templates for assembly can help to ensure that the structures of addresses are valid but not necessarily their content, which reflects the advantages and disadvantages of XML; and
4. its building blocks can be used to validate the addresses themselves, both domestically and internationally, using (as far as possible) the data made available by the universal service providers, which will make UPU S42 particularly useful for international commerce.

8.2 The importance of delivery-point databases

Even without delivery-point databases, users of UPU S42 templates can still distinguish between addresses that are invalid, because they are incomplete or wrongly structured, and those that may be valid. When used in conjunction with delivery-point databases, however, valid addresses – in terms of the current databases – can be more easily identified and separated from those that are incorrect in terms of syntax or semantics. This is a strategic UPU goal, whose achievement is supported by Quality of Service (QSF) funding in many cases. Members are offered help to establish postal information databases including, where feasible, delivery-point databases, an approach that more and more countries have been taking.

IV. Databases of postcodes and addresses

1 Terms and definitions

A database (DB) is a collection of records systematically stored in rows in a computer, with defined fields or columns for each record. It can be consulted for the purpose of answering queries by means of a computer program.

What is the primary benefit of storing data in a database? Databases allow for efficient data management (e.g. facilitating de-duplication) while internal mechanisms ensure data integrity (e.g. uniform spelling of repeated names, data format constraints). It is also easier to prepare customized reports using a database.

Postcode/addressing databases store postcode and addressing data in rows and columns, often using multiple tables in a relational model so that redundancy is limited. All the benefits that can be expected of a good addressing system can then be enjoyed.

2 Using postal databases

Postal databases exist in various forms, ranging from locality lists to postcode tables, together with area and street names, house numbers and delivery points. How can these be used?

This guide focuses on the special role that delivery-point databases can play in validating postal addresses. But does that mean that address validation is impossible when there is only a street-level database, even if it contains a wide range of numbered data? The answer is that the validation feature exists, but is limited. For example, the street names themselves can still be matched, but an error could occur in the house numbers. In cases of long thoroughfares spanning many postcodes, a simple mistake in the street number (or plot) that serves as a primary identifier for certain premises could lead not only to a local error but to a city-wide one, if the wrong postcode is assigned as a result.

Even when locality databases alone exist, some degree of validation may still be possible – and useful. Generally, since a locality list has a substantial degree of specificity and only some of the names on it will also be applicable in other areas, the act of matching by locality name can often determine at least part of the postcode and confirm that the address is a plausible delivery point. The smaller the area covered by the locality, the more likely it is that a mail can be delivered thanks to local knowledge.

However deep its coverage, a postal database could be used as a basis for providing services, but its value will be maximized if there is greater detail in the descriptions.

In order to make it possible to link up with a range of other

databases, on subjects as varied as transport alternatives, shopping guides and tourist attractions, the database needs to be quite detailed. Correlation with GIS data is certainly advantageous, but that too requires considerable precision in the input address: it must be both complete and correct. For some applications of this kind, the addressee, i.e. the party receiving the mail, need not enter the picture. However, if someone is interested in obtaining both an address and a phone number, it is very likely that the name of the party will also need to be associated with the address. Knowing both details might facilitate the return of a telephone number, even in the case of mobile telephones, as many people may share the same or similar names.

For example, if all that can be validated is a locality and there are multiple postcodes in that locality, the database cannot provide the service of returning the correct postcode to a customer making an inquiry. Yet people look up addresses not only to find out postcodes but also to know exactly where the delivery point is located and perhaps even learn how to get there.

A Post with an address database can enter into partnerships with its own mailers both to raise address quality and cut costs. It can allow mailer files to be matched against the database, an activity that may be carried out by the Post, its partners or private firms, depending on the regulations in force in the member country.

It is vital to allow users to clean up their files if address quality is to be raised in a sustainable manner. Although mail carriers could review lists manually in the office, this activity makes sense only at a local level. For regional and national lists, a process using computers and databases is far more effective. This can benefit both the Post and the mailers, as each party can lower its costs and, as a result, participate in mailing more often than they otherwise could.

Nowadays, many items bear addresses that are printed from computerized databases. These databases must be kept up to date, taking into account factors such as demographic mobility, the creation or suppression of delivery points, and changes in street names and property numbers.

Other phenomena include a growing trend among businesses to swap or market their address data. Moreover, with the globalization of trade, companies in one country may have address data concerning companies or individuals residing in other countries with a different system of formatting printed addresses. In such cases, account should be taken of the address formatting standards in the country of destination.

3 Setting up a database

The following are the stages involved in setting up a postal addressing database:

Stage number	Objectives
1	Identifying the purposes of the DB
2	Pinpointing the information to be stored in the DB
3	Choice of DB structure and format
4	Estimating implementation and maintenance costs
5	Acquiring existing data and converting data to desired format
6	Creating the DB and DB-related software
7	Setting up services using the DB

4 Maintaining a database

The following issues should be taken into consideration during the design phase:

- 1 availability of database – customers need access to the data:
 - printed/electronic version
 - availability on the Internet
- 2 periodic updates
- 3 data correction – maintaining data quality

Although the Posts are best placed to maintain address databases that cover their service areas, more often than not local governments generate new addresses. Postal field personnel may be instrumental when it comes to dates of occupancy and departure, names of inhabitants and occupants, and so forth. How will they have to be equipped in order to convey the necessary updates? Is there an electronic method of achieving this? When streets are renamed or renumbered, a period of transition must be expected before such changes are accepted.

All these activities incur costs, which should be estimated before the project is implemented. A budget should be established.

5 Database technology

This section describes database technology. It is strongly recommended, however, that direct consultations be held with qualified technical staff before any commitment is made to a specific design. The UPU International Bureau (IB) is willing to review and comment on any plans that have been developed by qualified technical staff, provided it is allowed sufficient time to respond.

At the most basic level, involving only a few thousand records, there are many cost-free or inexpensive tools that can be used at the outset. The table below compares a number of different methods. It is preferable to use related tables in an affordable, expandable database system.

Design	Major advantage	Major disadvantage	Recommended for
One table (file)	Easy viewing and updating	Suitable only for simplest applications	Post office delivery systems
Several unrelated tables (files)	Reduced data errors	Limited flexibility	Simple mixed systems with some thoroughfare or street deliveries
Related tables (files)	Very flexible structure	Software needed to view and update the data	Mixed delivery systems

A basic spreadsheet is NOT a database tool although it may be used for temporary data storage or as a data exchange format. For a member country's postal database, it is recommended that a relational database (RDBMS) is used instead. Three types worth considering are SQL Server, MySQL and Oracle, but thorough investigations should be conducted before a choice is made. Advanced versions of the tools discussed in this section are available

at little or no charge, but they require trained personnel and reliable computing resources.

The following table shows that there are some advantages in using a relational database system as opposed to a spreadsheet. Alternatives worth considering, but less likely to be selected, include non-relational databases, native XML databases and sets of flat files.

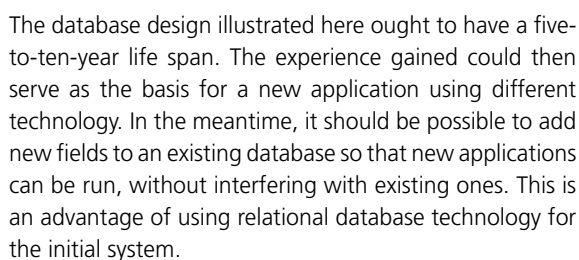
Feature	Relational database	Spreadsheet
Data stored in tabular form	OK	OK
Separate table for post delivery and home delivery	OK	OK
Constraints on data format	OK	Limited
Links between tables	OK	NO
Easy de-duplication of data	OK	NO
Internal mechanisms to keep data clean (no repetitions, uniform spelling, etc.)	OK	NO
Customizable reports	OK	Limited
Easy expansion (scalability)	OK	NO

Below are the steps involved in implementing a project for acquiring software and hardware, and for developing a postal database in a member country, using the kinds of tools and resources discussed above. Note that the costliest stage concerns the need to develop a software application that can act as an interface with a database. If the concept garners enough support, the IB may develop

a joint system based on UPU international addressing standards and try to make it available, on the best possible terms, to those member countries that still lack such a capability. The costliest item on the chart would then drop into a lower cost category (and a different coloured box).

	Cost	Workload	Comment
Acquiring hardware	medium	low	Medium class PC as DB server
Acquiring a database management system	low	low	Free of charge SQL Server or Oracle RDBMS licence
Designing data model (tables and links, integrity rules)	low	medium	PAU may assist in data model creation
Data acquisition and conversion to desired format	low/ medium	medium	National statistics bureaux often possess valuable data
Developing software interface with DB	high/ medium	high/ medium	If same tool used by several Posts, costs fall (potential AAU project)
Setting up services based on DB	medium	medium	Same as above
DB maintenance after implementation (security, distribution, data backup)	low	low	Same as above
Data updating	low	medium	Depends on frequency of changes

The diagram below conveys an idea of the resulting architecture, once the database is up and running. Note that the postal database is central to a wide range of applications. With a combination of multiple databases linked up to other government databases, even more services can be developed.



The diagram illustrates a data flow graph with the following components and connections:

- LOGADD (AAA, B(24))**: Receives inputs from **LOC_ID** and **EAX_ADD_ID**. Its output flows into **STOREP (AAA, B(24))**.
- LOC_ID**: A node that receives input from **LOGADD (AAA, B(24))** and provides input to **EAX_ADD_ID**.
- EAX_ADD_ID**: A node that receives input from **LOC_ID** and provides input to **STOREP (AAA, B(24))**.
- STOREP (AAA, B(24))**: A node that receives inputs from **LOGADD (AAA, B(24))** and **EAX_ADD_ID**. Its output flows into **IIR_ID**.
- IIR_ID**: A node that receives input from **STOREP (AAA, B(24))** and provides input to **IIR_ADD_ID**.
- IIR_ADD_ID**: A node that receives input from **IIR_ID** and provides input to **LOGSUB (AAA, B(24))**.
- LOGSUB (AAA, B(24))**: A node that receives input from **IIR_ADD_ID** and provides input to **IIR_ID**.
- IIR_ADD_ID**: A node that receives input from **IIR_ID** and provides input to **LOGSUB (AAA, B(24))**.
- LOGSUB (AAA, B(24))**: A node that receives input from **IIR_ADD_ID** and provides input to **IIR_ID**.
- IIR_ID**: A node that receives input from **LOGSUB (AAA, B(24))** and provides input to **IIR_ADD_ID**.
- IIR_ADD_ID**: A node that receives input from **IIR_ID** and provides input to **LOGSUB (AAA, B(24))**.
- LOGSUB (AAA, B(24))**: A node that receives input from **IIR_ADD_ID** and provides input to **IIR_ID**.
- IIR_ID**: A node that receives input from **LOGSUB (AAA, B(24))** and provides input to **IIR_ADD_ID**.
- IIR_ADD_ID**: A node that receives input from **IIR_ID** and provides input to **LOGSUB (AAA, B(24))**.
- LOGSUB (AAA, B(24))**: A node that receives input from **IIR_ADD_ID** and provides input to **IIR_ID**.

6.1 General considerations

letter. It should be adapted to meet the particular circumstances of each country.

1 home deliveries; and
2 post office deliveries (i.e. P.O. boxes, key customers,
counter and "poste restante" services).

While most of the countries interested in developing a postcode system tend to deliver mail at post offices rather than to homes, a mixed delivery solution must be offered – i.e. the database structure should provide for both home and post office deliveries, in separate files.

While in many countries home delivery either does not yet exist or is still in an embryonic stage, it certainly should be a medium-term aim, as it tends to go hand-in-hand with the introduction of new technologies.

When an office is used for home delivery and post office delivery services, the same postcode can be shared by all the customers served by that particular office. Alternatively, the database may be set up to provide for both delivery modes.

When dealing mainly with post office deliveries, a single code can be assigned to each delivery office while certain postcode number ranges could be reserved for the future postcode. The P.O. boxes attached to each office can be identified and pre-sorted at a later date. The delivery mode to be used for each item can then be identified at a glance.

In any case, the database structure should allow for one or more files containing data relating to both the post office and home delivery segments. The basic database structure is discussed below.

The database structure must take account of the addressing standards that accompany all postcode creation processes. It should reflect all the elements selected in the national standard to represent the address types found in the country concerned.

Introduction

This project is aimed at designing and implementing an IT tool for storing addressing data and related information. The aim is to create a postal database that can house comprehensive national postal data. It should be adapted to the objectives set by national postal stakeholders, with a view to extending the postal services available to the public and improving those services in line with the needs of increasingly demanding customers.

As mentioned above, an information system should be set up that provides for both the post office and home delivery segments. To this end, it is necessary to:

- develop a database table for each segment;
- input the data relating to each segment; and
- create links, as required, within the information system.

Second phase:

- study and formalize the data-processing procedures; and
- operate and manage the database for each segment.

Objectives

Improve the reliability of the postal service by:

- rationalizing the sorting and delivery procedures;
- facilitating postcode searches;
- identifying and deleting address duplicates;
- drawing up statistics;
- carrying out analyses and establishing delivery round typologies.

Develop postal services by:

- validating and correcting addresses;
- automating mail sorting;
- developing new direct marketing or call centre services;
- improving quality of service;
- etc.

Technical specifications of database

The database must:

- guarantee the inclusion of all the postal elements needed to achieve the objectives set;
- have a structure that is adapted to the data to be stored;
- be modular, to allow additions and enhancements (in line with needs);
- comply with existing, established IT standards;
- provide for accurate data storage, avoiding errors and duplicates as far as possible;
- ensure access security;
- contain data that is structured by region, locality and town, or by post office or delivery round; and
- be able to receive data entered in either upper or mixed case.

Home delivery segment:

The address database lists all addresses and all the address elements linked to a given postcode. Consequently, when the address database is being designed, account should be taken of the components of the various postcode categories to be found in the national territory.

Three postcode structures can be identified, namely:

- 1 at LOCALITY level;
- 2 at DISTRICT level; and
- 3 at THOROUGHFARE level.

Internal usage	Marketable services
<ul style="list-style-type: none"> • Improves reliability of the delivery network and assists with optimization and planning • Helps to automate sorting • Helps to standardize addresses 	<ul style="list-style-type: none"> • Address cleaning • Correction and updating of addresses • Provision of address files. • Canvassing and targeting potential customers

The database records concern only those localities that provide a home delivery service.

The application should enable identification of every thoroughfare in each locality.

The application should also provide for the identification of all localities and their attachment to their office of delivery.

It should take into account (as a minimum requirement):

- the name of the locality in which the office is situated;
- the name of the locality in which the “synonym” office is situated;
- the locality reference number (statistics directorate).

Post office delivery segment:

The post office database lists all post offices and all types of delivery.

Internal usage	Marketable services
<ul style="list-style-type: none"> • Improves the reliability of the postcode system • Incorporation in the address database • Feeding of automatic sorting machines 	<ul style="list-style-type: none"> • Sale of street files in electronic format • Sale of postcode files in electronic format • Addressing assistance for large mailers

This database can also provide for all P.O. box subscribers. If so, it is important to incorporate their professions and P.O. box numbers in the database containing their names and first names. Legal entity subscribers should be classified by sector of activity.

Internal usage	Marketable services
<ul style="list-style-type: none"> • Improves reliability of P.O. box data 	<ul style="list-style-type: none"> • Provision of P.O. box files • Printing of standardized address labels

Possible database fields to be considered include:

- postal name of office

- office ID number
- office category
- province to which the office is attached
- name of the locality where the office is situated
- name of the locality to which the P.O. box is attached
- locality reference number (statistics directorate)
- home delivery
- P.O. box delivery
- delivery area (urban or rural)
- postcode(s) of the post offices attached to the office
- postcode status (G: general, S: specific (P.O. box only)).

NB: there are three possible scenarios for the two “delivery” fields:

Home delivery	P.O. box delivery (BP)	Information
D		For this office, home delivery only
D	BP	For this office, home delivery and P.O. box delivery
	BP	For this office, P.O. box delivery only

It should take into account (as a minimum requirement):

- the thoroughfare name;
- the thoroughfare qualifier;
- thoroughfare synonyms (when thoroughfares change name, the synonym may be the former name);
- the thoroughfare type (avenue, boulevard, etc.);
- the abbreviation of thoroughfare type (AV: avenue, BD: boulevard, etc.) – set up an abbreviation table;
- the sector (which may be a delivery unit, provided for in the sorting machine file);
- the district (which also may be a delivery unit, provided for in the sorting machine file);
- the land registry code, registered in conjunction with the Ministry of the Interior’s cartographic services;
- thoroughfares with several postcodes – several postcodes can be attached to the same thoroughfare, in which case the thoroughfare reference number should be incorporated into the various postcodes attached to it; and
- the thoroughfare reference number.

DELIVERY ROUND: a postal delivery round can be attached to only one delivery office. It should take into account (as a minimum requirement):

- the postal ID number of the office to which the round is attached;
- the postal name of the office to which the round is attached;

- the delivery round number;
- the type of delivery round (urban or rural);
- the means of delivery (foot, bicycle, motorbike, car, etc.);
- the distance in kilometres;
- the type of housing on the delivery round;
- the type of business on the delivery round; and
- the housing and business codes.

Home delivery procedures

There are three ways of delivering mail to thoroughfares:

- 1 The “U” delivery mode: the postman delivers from 1 to 5, then from 6 to 2;
- 2 in parallel: the postman delivers from 1 to 5, then from 2 to 6 (two different postmen may deliver on each side of the thoroughfare); and
- 3 criss-cross: alternate delivery, i.e. from one side to the other (e.g.: 1-3-2-2 B-4-6-5).

When reorganizing delivery rounds, care should be taken to avoid having to re-input data.

In general, whole streets or street segments migrate from one round to another. In carrying out this migration, the delivery schedule can:

- remain unchanged;
- be reversed; or
- be restructured.

Delivery round parameters should be established.

Customer data

- type of customer
- customer activity
- activity code (commercial registry)
- legal status
- company file number at the Post
- date of company file
- does the customer have a service contract (Yes/No)?
- if so, what is the service contract number?

Products and services

- does the customer use the postal parcels service (Yes/No)?
- does the customer use a national express service (Yes/No)?
- does the customer use an international express service (Yes/No)?
- does the customer use a franking machine (Yes/No)?
- does the customer hold a giro account (Yes/No)?
- does the customer hold a savings account (Yes/No)?
- provide for the extension of this “products and services” list.

V. Delivery performance measurement

At the 24th UPU Congress, it was decided that the UPU would focus its efforts on finalizing a new global quality of service monitoring system, expected to become operational in 2010. According to the press release:

“Member countries today unanimously adopted a proposal to develop and implement a global monitoring system to evaluate the quality of service for incoming priority letter-post items and the quality of service link to terminal dues (what countries pay each other for processing each other's incoming international mail). The system will also be used to evaluate how successful postal operators are in improving their quality of service through projects financed by the UPU's Quality of Service Fund. Independent external auditors will measure the quality of service by sending priority letter-post test items through the network of participating postal operators. Using RFID technology, the system will measure the time an operator takes to deliver test items from the time these items are handed over. The system will then compare the results with the designated UPU body's delivery standards for incoming international letter post, which will be compatible with each designated postal operator's published domestic delivery standards. A pilot project to evaluate possible RFID technical solutions was conducted with three Gulf-region countries, namely Qatar, the United Arab Emirates and Saudi Arabia, from March to June this year. The UPU has now launched a request for information so that a call for tender can be launched to identify the solution that will be used for the global monitoring system.”

The GMS Development Group (GMS DG) was set up and given the task of finalizing the technical specifications for a future Global Monitoring System. The key events and milestones envisaged are as follows:

- presentation of a full proposal to the POC following the Congress;
- development of a tender process for selecting the monitoring system provider;
- launch of a pilot system in 2009; followed by
- phased-in implementation starting in 2010, with members participating on a voluntary basis.

The objective of the measurement system is to provide, for each participating designated postal operator (DPO), precise diagnostic quality-of-service performance results for inbound mail to be linked to terminal dues remuneration. These measurements will include the time required by the destination DPO from the arrival (handover point) of the test items to their final delivery.

To calculate a DPO's performance, the system will compare the measurement results with delivery standards duly accepted by the designated UPU body. These standards must be compatible with each DPO's published domestic delivery standards.

The system is designed to meet the fundamental requirements of the terminal dues system. To minimize measurement costs, another basic principle needs to be applied: only first-class letter mail will be measured. Under the system, temporal control of statistical design should be better than when using non-priority letter mail.

The GMS will be based on external measurements, meaning that external panellists will receive the test items and their addresses will remain unknown to the given DPO. It will also be based on the use of RFID diagnostic technology. This technology identifies the arrival of test items that are prepared without any external marks that could be identified by postal employees.

VI. Geographic information systems

1 Introduction

Addresses are the commonest type of identifier for locating people, features and businesses and for managing human activities. Postcodes have been developed to facilitate mailing, routing, planning, economic development and administration. When closely linked, addresses and postcodes form the most valuable information available in this field.

Governments and the private sector can make use of this information to provide better services, reduce costs for developing and managing activities that are associated with addresses and, not least, more effectively support decision-making for space-related problems.

As computer and information technology advances, hard-copy information has been replaced and entered instead in databases using relational database software. A database consists of tables, cells, values, relationships and queries. Thanks to databases, information can be updated and retrieved more efficiently. The process of storing and maintaining information, including addresses and postcode data, in a database has now been widely adopted. That said, a tabular database is limited because it does not show the spatial relationship between records in different tables or generate results based on geographical factors and analysis. Queries on tables can be complex and results cannot be visualized or associated with features in the real world. All of these problems can be resolved using a geographic information system (GIS).

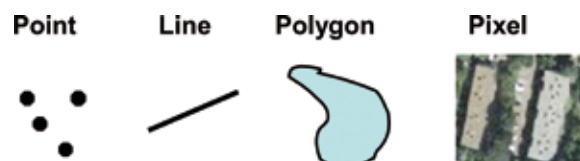
GIS adds spatial operations to a database along with the capability of associating information with geographical entities that can be visualized on maps or images. Addresses and postcodes can be best managed and maintained using GIS. As the database integrates with spatial information and relationships, GIS helps detect and correct errors on addresses and postcodes, and supports editing and analysis using spatial operations.



This chapter discusses the basic concepts of GIS and the benefits of using it. To illustrate the usefulness of GIS there is an overview of the process of building an address and postcode database using GIS and what it can do using the spatially enabled address database. Examples and references are provided for further study.

2 GIS in a nutshell

GIS is a computer software system that can be used to view and manage information about geographical places, analyze spatial relationships and model spatial processes. GIS provides a framework for gathering and organizing spatial data and related information so that they can be displayed and analyzed.¹ GIS can deal with different kinds of spatial data and associated data that can be combined and compared to gain further insights into situations. Geographical features in the real world, such as buildings, roads, rivers and water bodies, are represented as geometric objects with associated topological relations and attributes in GIS. Simple features can be depicted in the form of a point, line, polygon or pixel.



Each geometrical object consists of one or more coordinates, x, y and optionally z. Features are captured in digital form and stored in a database, so that they can be drawn in simple graphic form on a computer map. By means of GIS, cartographic objects on a map can be linked to records in tables so that the database is spatially enabled. Records in the table usually contain information about or non-spatial attributes of the features, for instance, the population of a city or the address of an ownership parcel.

FID	Shape *	PARCEL	ADDRESS
3266	Polygon	R5983770140	1847 N COURTNEY PL
3267	Polygon	R7789010317	8117 W QUEEN ST
3268	Polygon	R7789010330	8111 W QUEEN ST
3269	Polygon	R7789010340	1815 N REGAL DR
3270	Polygon	R0432240160	11477 W OLYMPUS CT
3271	Polygon	R2733050155	8450 W STONEHAVEN ST
3272	Polygon	R2733060125	8370 W STONEHAVEN ST
3273	Polygon	R2733050160	1855 N FAIRMEDOWN DR

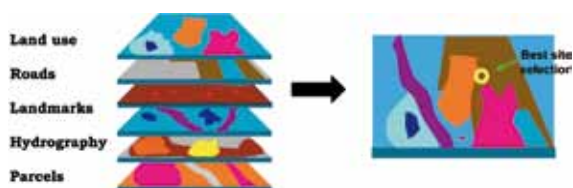
Cartographic objects linked to records in table

In accordance with certain selected criteria, features can be classified, symbolized, coloured and labelled according to the specific values in the table. GIS also provides tools to generate summaries and statistics for a set of selected features. Attributes associated with features on a map can be queried and retrieved interactively. Editing tools for the feature geometry and its associated values are also available in GIS. A single record or cell can be updated in-

³ A to Z GIS: An Illustrated Dictionary of Geographic Information Systems. ESRI Press, Redlands, CA, 2006.

teractively while a group of records can be modified using SQL Query and calculating tools. All these functions make working with the database more efficient and effective.

In GIS, geographical features in the real world are collected and represented digitally in separate layers according to their categories or themes. A “theme” is a collection of features of the same kind, such as ownership parcels (that is, pieces of land owned by individuals or entities) and is represented by a geometrical type such as a polygon, line or point. A theme is associated with one or more attribute tables with values describing the features, for example, parcel IDs, owners’ name, tax identities, addresses and property values. Using GIS, multiple layers (such as land use, roads, landmarks, hydrography, parcels and zoning) of a given area of interest can be combined or overlaid to perform analysis and generate results to support decision-making. When two layers of thematic data are overlaid, GIS will compute information using some spatial operations such as union, intersect and buffer. “Union” is a method for combining selected features from different layers into one new feature. For instance, areas with low humidity and high temperature form a new feature indicating high risk of fire hazard. “Intersect” can be used to create a new feature from the common areas of two selected features, where the new feature may represent an overlapping sale territory. “Buffer” is very useful for generating a ring or zone around a selected feature at a specific distance and can be used, for example, to show the flood zone of a river or the distance at which schools and hospitals are located from a housing settlement.



Sometimes, more spatial operations and modelling of the process are applied to complex problems, such as finding the best site location for a landfill with the minimum environmental impact. Given certain quantitative factors, requirements and parameters, a spatial study can be modelled systematically using GIS. As the input values change over time, the model can be run repeatedly. For example, areas of soil loss due to changes in precipitation, temperature, land use, population and other factors, can be identified within specific time periods. The result data from the spatial analysis may then be used to make prompt critical decisions in order to prevent or correct the soil loss problem.

GIS offers many benefits that a traditional database cannot. It supports the visualization of data represented by

geographical features on maps, managing and editing data interactively and modelling of processes for spatial analysis. Accordingly, it supports efficient decision-making. Using GIS, a truck routing firm may generate more revenue by providing more services to customers, and telephone companies can mail monthly statements and bills to clients using accurate address data. At the same time, operational costs can be reduced in organizations such as public works departments, as work orders can be handled in a less labour-intensive manner while enterprise workflow tasks may be executed more efficiently.

3 GIS and addresses

There is no doubt that addresses are important. Everyday activities involve addresses and locations. Addresses are one of the most common data elements used by local governments and service-based organizations such as telephone, power and water companies. Geographical or postal addresses are essential for mail, bills, notifications and package deliveries. Location or service-based addresses, also known as “situ addresses”, are critical for emergency dispatch, service delivery, work orders, property or land record management, tax and finance management, and planning for healthcare, school systems, voting districts and crime analysis.

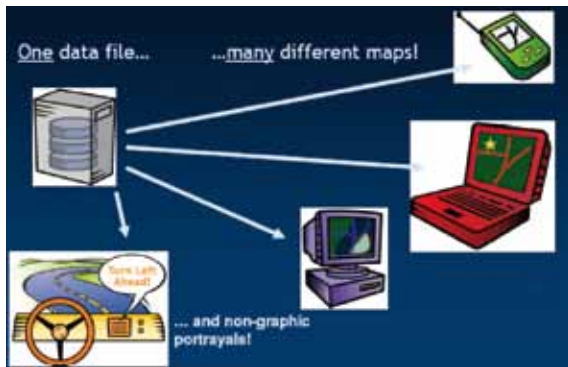
Collecting and managing these addresses are difficult, and in some cases challenging, procedures. Address and postcode data stored in traditional databases are of limited use as it is difficult to detect and correct errors and duplications. Queries on the databases are limited to searches based on attribute values. Since there is no spatial association of the data with the geography, data cannot be visualized and analyzed on the basis of geographical relationships. It is often impossible to share and exchange address data among different organizations and applications without processing or reformatting the data.

Using GIS, an address database can become spatially enabled by associating the geographic coordinates to the features. Address points can be displayed on a map showing the physical roof-top location of the addresses, access points to building structures, or particular locations assigned by post offices to deliver mail to areas such as rural villages, boat docks or mobile homes. Ownership parcel data are represented as areas or polygons indicating the legal boundaries of properties.

Sometimes, addresses may be displayed on the centroid of the polygons or at the front-door entrances of houses. A street feature in a GIS database is usually called a “centreline”, as the feature is digitized along the centre of the street. Centreline addresses are represented in a range

of numbers, with a low number at one end and a high number at the other end of the street segment. Theoretically, each number along the street is a potential address.

As we learn about the capability of representing addresses and their associated features in GIS and the benefits of

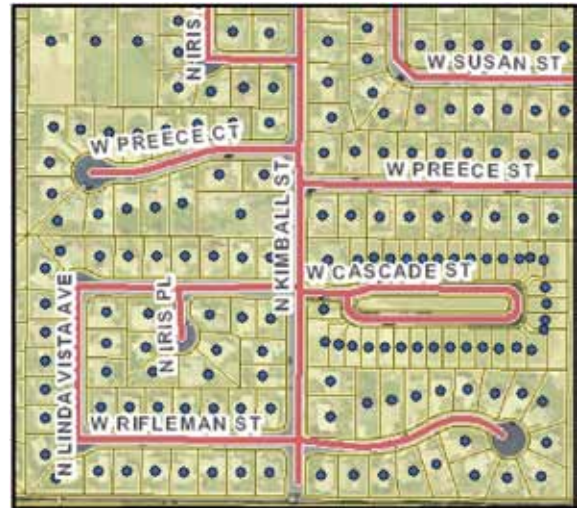


4 Adopting an address data standard

One of the major problems in managing addresses is that an address may contain different information or is presented in different formats depending on the user of the address, when it is used and what application the address is referring to. For a single residence home, the owner Mr Jones may refer to his address as “763 Silver Creek Road NW” while his grandmother still uses the old address “11690 Route 54” as it was a farmhouse in the middle of a hundred acres of farmland. Since “Silver Creek Road NW” is about two miles down from the town hall, the Post Office deliveries Mr. Jones’ mail to “23 Town hall, Box 763”. Also, there are a few barns in Mr Jones’ farm, the power company lists each barn in their address database as “763 Silver Creek Road NW, Barn A” and “763 Silver Creek Road NW, Barn B” so that they know where to go when they need to deliver services to each of the locations. A few years ago, the town where Mr Jones lived was annexed to the adjacent town so that the towns can pull more resources (such as police and fire departments) together to serve the community. As a result, Mr Jones was given another address “5788 Lower Anza Road” that conforms to the new town’s addressing scheme. Although this example is not common, especially in urban areas, situations like this need to be handled and recorded correctly in the address database.

To manage address situations similar to the previous example, an address data standard is needed to clearly define the types of addresses, components in an address and format of the address. In the United States, many local governments have established their own address guidelines or

using addresses, the value of building and maintaining an address database will be realized. The following sections discuss what is involved in building a spatially enabled address and postcode database using GIS.



ordinances to determine how to name public and private roads, assign address numbers to dwellings, business, public buildings and structures, and provide guidelines for signage. Such local standards allow efficient service delivery, city planning and emergency dispatch management as addresses can be better managed and correctly located. Examples can be found in numerous county governments such as Douglas County in Colorado, Montcalm County and Jackson County in Michigan, Wayne County in North Carolina and the Town of Cumberland in Maine.

A national address data standard is essential for ensuring data exchange and sharing. It also encourages adoption of the standard by regional and local governments, and private agencies. In the United States, the Federal Geographic Data Committee (FGDC) issued a draft address data standard that is currently under revision. The data standard specifies the content of an address including address number, street names, occupancy or house units, and attributes such as geographic coordinates and data lineage. The standard also describes address classification (i.e. classes of address including thoroughfare, occupancy and postal addresses), data quality, and exchange of address data. In addition, the standard defines attributes indicating the authority that assigns the address and the status of the address if it is a potential, proposed, active or retired address. The benefit of having this information is that multiple addresses for a single location can be managed and maintained.

Many countries, such as Australia, Canada, New Zealand and the United Kingdom, have been developing their national address data standard and street gazetteer. Postal authorities in other countries are also involved in creating

a standard for their own country. Establishing a national address data standard can be a lengthy process. But it is the key to success for developing an address database.

5 Standardizing and scrubbing address and postcode data using GIS

Address data are collected from many different sources and in different formats. Standardizing and cleaning up the address and postcode data are the primary steps towards creating a manageable address database. Address standardization is a process of parsing and dividing an address text into a number of components defined in

an address standard. The number of components in an address, the structure and order of the components, the standard words and abbreviations used in an address and the postcode format will differ according to the country, the language or dialect spoken, the culture and the history of how houses were built and numbered. In general, as shown in the table below, a situ address will consist of a house number, street name, street type, house unit, city, province and postcode. A postal address may also contain a P.O. box number. In some places, the order of the address components can be different. A house number appearing after a street name, such as “Calle Santa Engracia 93”, or a distance unit and measurement value used in an address, such as “Camino de Madrid km²”, are common types of addresses in Spain.

Address Standardization		
Address Components	Example – USA	Example – Kenya
House number prefix		
House number	24	137
House number suffix	A	
Prefix street direction	West	
Prefix street type		
Base street name	First	Kilimanjaro
Street type	Street	Avenue
Suffix street direction		
House unit or occupancy	Apartment 201	
Building		Kuscoo Centre
Floor		3rd
P.O. Box		5573
Measurement unit/value		
Postcode	28226-3342	002000
City name/administrative unit	Charlotte	Nairobi
State/province	NC	
Country name	USA	Kenya

⁴ See www.fgdc.gov/standards/projects/FGDC-standards-projects/street-address/

GIS provides powerful tools to assist with the standardization of addresses. Given a set of rules that capture the keywords and semantics of addresses on the basis of a specific address style, addresses can be parsed and converted into the right format and columns, as shown in the following table. The rules also guide what standard values should be used so that errors can be minimized.

PRE_TYPE	NAME_PRE	STREETNAME	HOUSE_NUM	POSTCODE	ADDRESS
C		ORISTA	91 08033	C ORISTA 91	
C		ORISTA	5111 08033	C ORISTA 5111	
P	DEL	CIMAL	6009 08033	P DEL CIMAL 6009	
CTRA	A	GRANOLLERS	6019 08033	CTRA A GRANOLLERS 60	
C		ARTES	9 08033	C ARTES 9	
C		SN68	6009 08033	SN68 6009	
CTRA	A	GRANOLLERS	9 08033	CTRA A GRANOLLERS 9	
C		ARTES	4017 08033	C ARTES 4017	
C		ORISTA	81 08033	C ORISTA 81	
C		ORISTA	9999 08033	C ORISTA 9999	
AV		PUJO DE JORBA	5 08033	AV PUJO DE JORBA 5	
PL		PRIMER DE MAIG	6009 08033	PL PRIMER DE MAIG 6009	
		SN67	6009 08033	SN67 6009	
P		PINEDA	5 08033	P PINEDA 5	
P		PINEDA	4015 08033	P PINEDA 4015	
AV		PUJO DE JORBA	6014 08033	AV PUJO DE JORBA 6014	

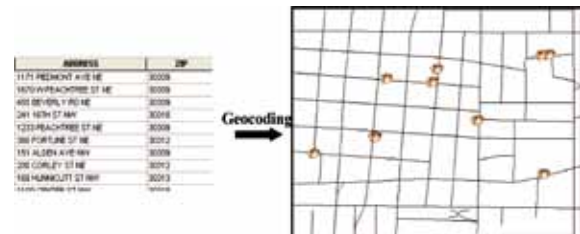
Validating and cleaning up address databases are labour-intensive tasks but GIS can make them a lot easier. For example, if the address database consists of attributes for geographical coordinates, i.e. latitude and longitude for each address, GIS can read the coordinates and display the addresses as points on a map. Incorrect coordinates can be identified quickly if the values are out of bounds. After the data are edited and corrected manually, the result will become an address point layer.

If the address layer is overlaid with a postcode layer, incorrect postcodes in the address database can be selected using point-in-polygon query and attribute evaluation. Postcode information can also be added to address records with missing postcodes using a GIS function such as an attribute calculator. Validating and testing other attributes in the address database, such as checking values in fields with date as the data type, can be accomplished using simple SQL queries. This process of address cleaning and scrubbing enables a reliable address database to be developed.

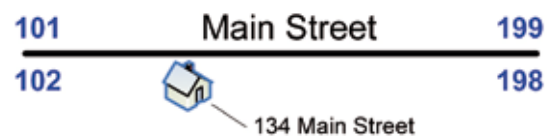
6 Geocoding addresses

Collecting addresses with their associated geographic coordinates is an expensive process, which requires site visits to record land surveying information or GPS (Global Positioning System) points for every single location. An efficient method to convert an address record into a point feature with the associated geographic coordinates is geocoding. Geocoding is a GIS operation that converts addresses or textual descriptions of locations into spatial data that can be displayed as features on a map, by referencing the address attributes from a street centreline, point or polygon reference layers. The reference layers may be obtained from data companies or government offices if available. Using GIS, a table of addresses can be geocoded in a

batch process to create a layer that contains the addresses and their associated coordinates. The addresses can then be displayed on a map as shown in the following picture.



The geocoding process creates special indexes on the reference layers, then searches and compares the address with the reference data. If a match is found, geographic coordinates based on the reference feature are assigned to the address. Depending on the accuracy and positional precision of the reference data, the geocoding result location may be calculated by interpolation of a street segment if the segment is modelled on the basis of ranges of address numbers. For instance, for a street segment named “Main Street” with 101 to 199 number range for houses on the left hand side and 102 to 198 on the right hand side of the street, an address “134 Main Street” may be located at about one-third distance from the beginning of the street and on its right hand side.



The method of capturing a left and a right address range on each street segment was developed by the United States Census Bureau and is called Dual Independent Map Encoding (DIME). It was integrated into the Topologically Integrated Geographic Encoding and Referencing (TIGER)⁵ format for handling spatial data and its attributes. If this method of modelling street features and the address attributes is used, more addresses can be geocoded. It is also less expensive to develop the address database and associate spatial information with the data.

However, this approach using street centreline reference data cannot apply to areas or countries where actual addresses are not associated with any streets nor located consecutively along a street segment. Sometimes, houses or buildings are randomly placed in an area for cultural or historical reasons. Addresses, in particular in rural areas, are described by referencing to landmarks or geographic features such as a river or mountain. In these cases, addresses have to be located precisely and manually on the basis of other data sources, such as aerial imagery or GPS point data provided by the government or data companies. Using GIS, geographic coordinates can be assigned to the address by reviewing an aerial imagery, zooming

⁵ See www.census.gov/geo/www/tiger for more details.

to the area to identify the building or structure and then interactively selecting the point location on the image. The returned coordinates are then assigned to the address.



7 Building an address data model

In the real world, a building or a location can be referred to by multiple addresses, depending on the users of the address or applications. Examples were given above in the “Adopting an Address Data Standard” section. A street can have more than one name. For example, “Main Street” may also be called “Route 32” and every building associated with the street has two street names.

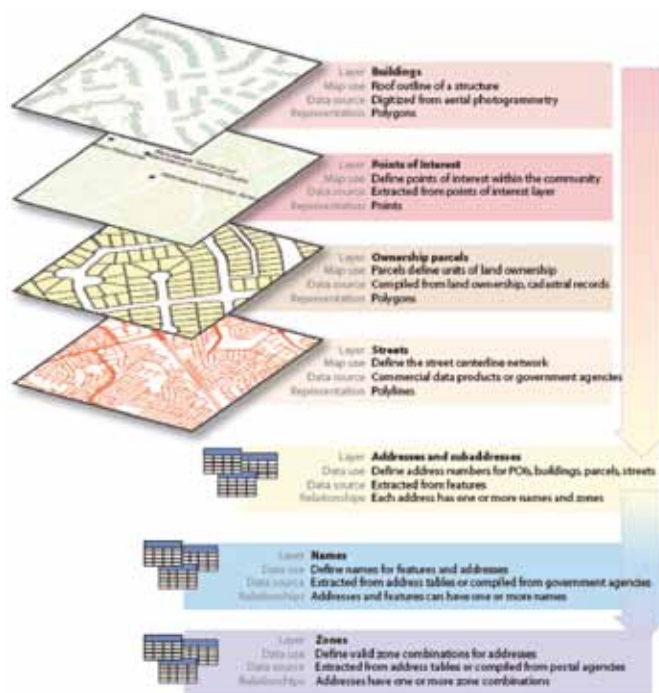


A parcel or building may have multiple addresses and the address accessing the building in the ownership parcel may be different from the official address of the parcel. A single address may also be assigned to multiple units in a building. Moreover, an address may have different city names as the city administrative agent and post office may refer to the area with different names.

In a simple address database, addresses are generally managed as attributes of the features, and it is difficult to model the complexity of addresses associated to the features. One may duplicate the features or add a new set of address attributes to each feature in order to specify features with multiple addresses. However, by means of GIS and a standard relational database, addresses can be linked to different features based on a defined address data model.

Although this chapter features no standard address data model, the design of an address data model is based on the type of addresses, relationship of features and their associated addresses of the model that it applies to. Basic concepts and major components and relationships of the components in an address data model are introduced in the following discussion. The goal is to provide the principles of creating a suitable address data model for a normalized relational database. Further extending the components, attributes and relationships is recommended to suit a specific application.

First, we need to identify the categories of addressable features that have addresses. In the diagram⁶ shown below, buildings, points of interest, ownership parcels and streets are the addressable features that share addresses. These features are stored in different layers and they can be represented as points, polygons or lines.

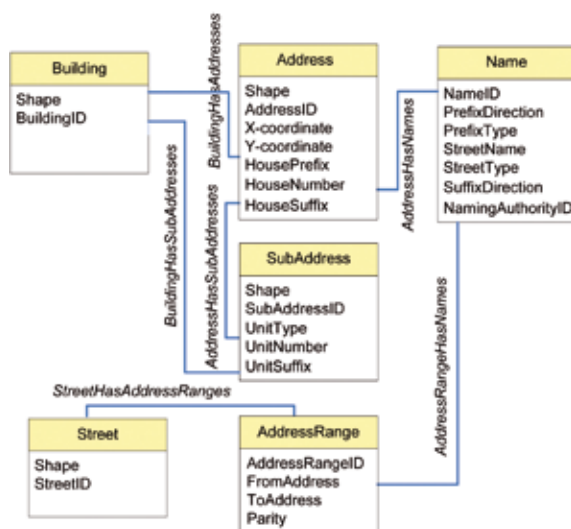


In the same location, each category may contain different address attributes and information owing to street name changes or the use of different zones. Therefore, an address can have multiple names and zones such as city names. In the data model, addresses associated with buildings, ownership parcels and points of interest usually contain a house number that denotes the building entrance, a street name, street type, optional prefix direction or suffix direction. These addresses may also contain house unit, suite or apartment numbers. In the data model, this information is referred to as subaddresses. Addresses and subaddresses are different entities because an address can have many subaddresses. Addresses for

⁶ An ArcGIS Streets and Address Data Model for the City of Calgary Poster and ESRI Technical Paper, ESRI 2003. Available at <http://support.esri.com/datamodels> (navigate to Address).

streets are modelled with two address ranges (a left range and a right range), street name, street type, optional prefix direction or suffix direction. An address also contains zone information. It can be a city name, State or Province and a postcode. Addresses and street range addresses are linked to the zones.

Second, we need to translate the concepts of addresses and addressable features and how they are linked into domains, object classes and relationships between addresses and features. A domain defines a set of permissible values for an attribute in a database. For example, a domain for the street type attribute can be AVENUE, ROAD, STREET, LANE, BOULEVARD, etc. Addresses, Names and Zones are the three major entities or classes in the data model for capturing address information. As illustrated in the diagram below, an Address class contains attributes of an Address ID, X/Y coordinates, House Number, House Prefix, and House Suffix if applicable. The Address class can link to a SubAddress class for apartments or suite units using the *AddressHasSubAddresses* relationship.



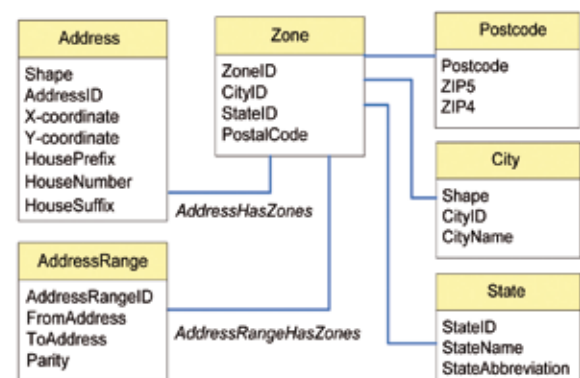
A Name class contains a set of unique names and types that are assigned to addresses and addressable features. Depending on the address format and styles, the Name class can have attributes of NameID, PrefixDirection, PrefixType, StreetName, StreetType, SuffixDirection and NamingAuthorityID. Besides NameID and StreetName, all the other attributes can be derived from the domains respectively. For instance, StreetDirection domain contains values of directional, and StreetType domain maintains values of thoroughfare types. Domains can be used to validate the contents of the attributes.

The Address class is linked to the Name class using the *AddressHasNames* relationship since one address can have multiple names. Addressable features such as buildings refer to Addresses and *SubAddresses* using the *Buildings*

HaveAddresses and *BuildingsHaveSubAddresses* relationships.

Address ranges are assigned to streets features. The AddressRange class contains *FromAddress*, *ToAddress* and *Parity*. Parity indicates if the address range is an odd, even or mixed range. These values are stored in a domain table. A street segment may relate to multiple address ranges for both left and right sides of the street, using the *StreetHasAddressRanges* relationship and each AddressRange also links to the Name class using *AddressRangeHasNames*.

A Zone class includes information of City, State, and Postcode. Depending on the area or country, attributes in the Zone may be different, but usually includes City, State or Province and Postcode. A Zone class contains a set of zone combinations that can be assigned to Address using the *AddressHasZones* relationship, and to the AddressRange using the *AddressRangeHasZones* relationship.



The object class relationships described above show how the objects are related. They can be represented as one-to-one, one-to-many and many-to-many relationships in a relational database system.

8 Summary

Although each country or area may have different issues in dealing with addresses and postcodes, GIS provides useful tools and solutions to capture and manage the data efficiently. Some GISs also support building custom tools for locale-specific applications and integration of the system into a larger scale enterprise environment. To build an address and postcode database, one may want to evaluate what resources including existing geographic data and imagery are available and make plans to access the resources. The selection of the suitable software and hardware and the evaluation of their scalability to suit different requirements are essential for developing a successful process. Establishing an address and postcode data standard or adopting one if it exists provides the

foundation for data maintenance and sharing. Standardizing and validating the address data using GIS and other software are the primary steps to ensure data accuracy and usefulness. More GIS functions, such as spatial overlay, geocoding and editing, can assist with creating and correcting the data. Once an address database has been created and spatially enabled, it can be used to provide services that employ addresses and support applications that use spatial analysis.

Finally, designing an address data model that can handle specific addressing issues and maintain data integrity can be achieved by means of a thorough understanding of the address and postcode components and their relationships. The data model can then be implemented by creating a database schema for the model in a GIS that is fully integrated with a standard relational database. The GIS or database software product results in more discussions on database design and implementation.

VII. Facilitating direct mail

1 Introduction

Direct marketers employ many means to convey their messages, including television and radio, the Internet, hand-bills, outdoor billboards and human signs. Nevertheless, direct mail is still the channel that they most frequently choose. Direct mail has maintained this pole position despite the development of other media, such as e-mail and the Internet. Yet, in some countries, direct mail does not even exist and the direct marketing industry has not developed at all. The development and growth of direct mail are a huge opportunity for postal operators in these countries. By providing their customers with new tools to advertise and sell their products, postal operators can increase their mail business.

2 What is direct mail?

Direct mail is a means of communication that typically involves sending individualized information by mail with the goal of eliciting a response from (potential) customers. The response can be measured and the interaction between sender and recipient can be tracked and stored in a database for future use. Direct mail can be successfully combined and integrated with the Internet and other media in promotional campaigns.

The development of direct mail in any country, be it industrialized or developing, benefits that country's entire economy and contributes to both domestic and international commerce. The resulting exchanges naturally spawn new types of suppliers, products and services, which leads to job creation and new skills, while providing marketers with another sales channel.

In addition to promoting and advertising, direct mail serves to inform the recipient. It can communicate vital data that recipients may want or need. It can provide instructions on actions that a recipient must take. Direct mail is a very versatile medium for the sender. It comes in many forms:

FORMS OF DIRECT MAIL	EXAMPLES
Unaddressed printed matter	Newspapers, catalogues
Addressed printed matter	Newspapers, publications, catalogues, pamphlets
Unaddressed letters	Flyers, circulars
Addressed letters	Enveloped letters

From the point of view of the recipient of direct mail, variations come in the form of many kinds of messages. It can come from distant places. It is personal and can be opened when the recipient chooses. Thanks to direct mail, it is possible to gain access to goods and services that cannot otherwise be acquired or secured.

3 The Posts are important to direct mail

The role of the Posts in direct mail is unique. The ability to deliver mail to individuals at their place of residence is the distinguishing feature of direct mail. Moreover, the development of direct mail has been vital for direct marketing's growth. This is especially true because other parts of the message-response cycle also depend on the mail, such as the response vehicle itself or the ability to meet orders.

The partnership between the Post, the sender and the supplier of goods and services has fostered and nurtured the growth of direct mail and, by extension, direct marketing.

4 Direct mail is important to the Posts

Direct mail generates both volume and revenue for Posts as it provides many new uses for the mail and identifies new users. Direct mail provides Posts with a way of "re-purposing" mail for their current customers and reaching new clients. As a general rule, Posts with active direct mail products have a higher per capita letter volume than those that do not. The highest per-capita-volume Posts run very successful direct mail programmes. Other countries' programmes either are still in their infancy or are non-existent. For example, the Russian Federation has recognized this fact and is actively building a national direct mail industry.

The increased use and volume of mail result in greater revenue, which can have a multiplier effect. More mail leads to more revenue, which in turn leads to improved services. The growth in volume can lead to increases in investment expenditures to improve the efficiency of the mail. Such efficiency is achieved when the volume is great enough to spur the mechanization and automation of mail processing. These investment decisions are only reasonable at certain volume levels.

One purpose of direct mail is to generate a response from recipients, in the form of an order, reply envelope or coupon. Responses are very important since they offer mailers a means of building their businesses and selling their products. Posts can play their part by developing new services that reach into the sender's value chain.

5 Direct mail is valuable for the economy

As defined by Robert Wientzen in *The World Guide to Direct Mail*, p. 17, direct mail

"... is truly one of the business world's most powerful tools to generate sales, business leads, and store traffic; to communicate with customers; to foster customer loyalty; to build corporate brand recognition; and to raise funds for charitable organizations. In short, direct mail works."

Direct mail essentially transforms the mail box into a shopping mall where an unlimited variety of goods and services are on offer. The results are impressive: according to Wientzen direct marketing general sales topped 2 trillion USD in 2002, of which over 600 billion USD was generated by direct mail.

In the United States and European Union countries, where mail volume has steadily grown, direct mail has proved to be a strong component of that growth.

6 Starting up: the basics

Building an effective direct mail programme requires a logical nine-step regime that will facilitate the systematic organization of research and lay plans for launching the programme. Where a direct mail programme already exists, this guide will help with programme re-evaluation and show ways of improving it. These steps will also assist with mapping out a development programme that may be multi-layered and extend over several years.

7 The nine steps

The nine steps are arranged in sequential order, starting at the very beginning. In cases where some steps have already been completed, the timetable will be shorter. In many instances the work can be done simultaneously, if a team has been formed for implementation.

The nine steps include the following:

- 1 Acquiring market knowledge – Knowing the market is the critical first step. It is vital to learn about the critical players in the market, discover the kind of information that can be gathered and find out how to analyze that information.
- 2 Determining the requirements for a direct mail service – Once you know how the market uses direct marketing and what it requires, you will be able to create a product requirements document to suit your particular situation. The market demands the possibility of sending many items at once, at attractive prices. The product requirements document will lead to the creation of the services and infrastructure needed for a successful direct mail programme.
- 3 Designing a direct mail service – Once you have a product requirements document, you are ready to design your service. This section helps you to balance the needs of the senders against your Post's current capability to provide the necessary service. You will need to systematically distinguish direct mail from the regular letter post service. You will want to compare the various choices and tradeoffs that you can make to achieve a bulk service at a reduced cost.
- 4 The operations infrastructure – Once you have a product requirements document and a product design, you can evaluate your postal infrastructure to effect the necessary changes. This can include the handling of bundled or containerized mail, and other methods for cutting internal operation costs.
- 5 Developing the address management system – Addresses are central to the postal delivery system and a requisite for an automated sorting system. Incremental steps are involved in developing an outstanding postcode scheme and a system of addresses at the street level. An address database must then be developed along with a management system for maintaining the database and making it available to users.
- 6 Implementing the Quality of Service programme – Consistently providing a good service by meeting service commitment goals is very important for the growth of direct mail. The issues at stake include how to measure that performance and implement a Quality of Service programme.
- 7 Promoting the direct mail industry – Building the direct mail industry and making it grow will depend on the joint effort of the Post, the senders, the recipients and the companies that supply products and services. Not only must all the parties be made aware of the service, but also senders and recipients should be taught how to use the product. The postal employees might be involved in the promotion activity.
- 8 Training – If direct mail is new to the country, the staff and service users may need to be trained in its use. Among the training resources available are the UPU's TRAINPOST programme and private programmes offered by the Direct Marketing Association (DMA) and the Federation of European Direct and Interactive Marketing (FEDMA).
- 9 Evaluating the development strategy – It is possible to seek help and obtain resources for developing a direct mail service from many sources. These include the Post's own funds, the UPU resources as described in the Technical Cooperation Manual, the UPU's Quality of Service Fund, the United Nations, the World Bank, regional development funding agencies (listed on the UPU website), bilateral agreements between countries and private funding.

8 Addressing and direct mail

Many of the best address hygiene practices for any type of mail discussed in this guide also apply to direct mail. These include: a sufficiently detailed postcode system to allow marketers to identify the best areas for prospecting for new customers; delivery point databases that allow for validating addresses; and change of address systems that ensure that mail reaches the party for whom it is intended, without detours. But certain kinds of address hygiene practices play a specialized role in direct marketing and may go beyond what is needed for successful mailing to established customers.

8.1 Techniques applicable to unaddressed mail

With regard to the possible techniques for effective direct mail, unaddressed mail may be the main concern. This usually entails using “counts” in each route or distribution segment. To cover a given area of a town or a given postal code, the number of recipients must be known if the right number of mails is to be prepared.

The conditions of unaddressed direct mail limit the possibility of using more advanced techniques, such as targeting and personalization. A form of targeting may still be possible if postcodes have distinct profiles with respect to a characteristic that affects recipients’ desires.

Entire postcodes can be either included in or excluded from a mailing, to accomplish a rough form of targeting. Moreover, mails may be customized by a different postcode for different offers. This falls short of full personalization but offers a form of postcode customization.

The types of goods that can be marketed using unaddressed mailing are also limited. In the case of tools used for a particular occupation practised by few people, sending unaddressed direct mail to the entire postcode population is likely to be wasteful. A restaurant that serves a kind of food that nearly everybody eats could distribute its flyers to everyone, without specific addresses, whereas a restaurant catering for people with special dietary needs or food preferences might have to choose another method of advertising its services.

8.2 Techniques for addressed mail with no named addressee

Another case concerns addressed mail without a specific addressee: i.e. it mentions a generic addressee, such as “Current Occupant”. In this situation, incomplete or incorrect addresses are admissible, but changes of address are not a concern, since there is no named party.

That said, targeting and personalization are possible. Only customers whose address has been recorded on an earlier visit to a given restaurant should be mailed special offers. Apartment dwellers can be eliminated from mailings for gardening supplies – or may receive a special mailing for window boxes. Data on the recency, frequency, and monetary value of an address can be accumulated. If a given number of delivery points have been the source of many orders, the mailing frequency to those delivery points could be greater than for other addresses.

8.3 Techniques for mail with an address and a named addressee

Making use of available information is even more useful when each mail has a named addressee. In that case, the mailer is more likely to know whether the addressee is an individual, male or female, a family or a business. This allows for targeting and customization, including the possibility of sending multiple mails to different persons at the same address. If it is a business-oriented mail, specific functions (such as the purchasing department) can be indicated.

This makes change of address information more meaningful. A customer can be followed through several moves; not only the date of the move but also its source may be stored in the database. Customers who directly notify companies of their new address may turn out to be more loyal than those who merely allow themselves to be found at their new address via the postal relocation service.

8.4 Combining names and addresses from multiple lists

Let us take a scenario where multiple mailing lists can be made available from different sources and rented for use in a mailing or even purchased to enlarge a file; that file would then include new customers with something in common with the existing names and addresses. New factors are involved: the same name may be found at different addresses. This might be two different people, especially if the name is a common one in the area under consideration. Or it could be the result of not applying a change of address in one case and having done so in the other. Or there may be two versions of the same name and address, one carrying more information than the other. In that case the more complete version can be used.

If more than one list has been obtained, it is quite likely that the same name will be found at the same address in a number of cases. It is important to attempt a deduplication of the lists, to avoid redundant mailings. After all, duplicate mailings are costly for the mailer, and may

make a bad impression on the recipient because it seems like a careless waste of resources. But some duplicates are hard to detect and may slip through the process despite efforts to remove them.

8.5 Making use of demographic information

If more information can be gathered about recipients, such as demographic information on age and gender, the holding of various licences, known interests (as reflected in subscriptions to publications), or a purchase history, the number of permutations that can be tried to set up a mailing campaign are endless. For example, is someone known to own a musical instrument likely to want to buy tickets for a classical music concert? That may depend on the kind of instrument they own.

Customer records may show that some people in a mailing file have changed surnames. Depending on the country's culture, this could identify married women, the likeliest prospective recipients of certain types of mailing. Customers known to respond to offers only when the price is reduced, might appreciate a special mailing of sale items.

The most important rule of thumb for direct mailers is to keep testing alternatives in their package: the offer itself, along with guarantees, the timing of the mailing and any other variable that may affect responses. Sending very large quantities of mailings without prior testing is generally regarded as unwise for a professional operation.

8.6 Profiling customers to assist with prospecting for new customers

If demographic information is available for much of the population, more can be done to identify potential customers who have not yet taken advantage of the products or services on offer. The first step towards this process is to profile existing customers and determine their characteristics. This is valuable in its own right, as many marketers do not know every characteristic of their existing customers, although they may have a general idea.

The second step is to identify people who are not yet customers but share the characteristics of the existing customers. The third step is to secure the right to send mail to them. If the prospecting technique has been carried out correctly, a significant number of new customers may be expected as a result of the process.

8.7 Measuring the effects of address quality on the overall campaign

What effect do good addressing practices have on the success of direct mail? This can be calculated in economic terms if the response rate of a direct mail and the average value of the response are taken into consideration. Of course, the undeliverable-as-addressed (UAA) rate must also be known or factored into the calculation, together with the cost of manufacturing the mail. Postage rates are another element to be considered in the model.

In the case of a mailing to 100,000 people, each costing one dollar in postage, while it costs 75 cents to produce each piece, where the UAA rate is 5%, 5,000 pieces will not be delivered, costing 8,750 USD. If the response rate is 2%, 100 potential orders will then be lost; if the average order is worth 50 USD that makes an additional 5,000 USD, making a total cost of 13,750 USD for address quality deficiencies. The cost of address hygiene services, where available, would easily be offset by this amount.

Postal employees tend to take a short-term view of the effects of defective addresses. After all, mailers pay the postage regardless. Moreover, the Post does not have to deliver the mail if the address does not exist or it may discard wrongly-address items. But such practices do not contribute to the long-term success of the mailer, nor will the Post receive the extra business that it would have had the mailer followed best practices.

9 The Post should help to inform mailers

Direct mailers should also endeavour to find out what postal rates apply to different types of mail and how the mail should be prepared and containerized. Failing that they should employ someone with experience in these areas. They should also know when postal rates are to be increased, so they can tailor their quantities to the expected return, and find out about any new postal requirements that are introduced. All this is difficult enough for domestic mailers, and needs even greater attention in the case of a cross-border mailing programme. Whether for domestic or cross-border direct mail, contact the UPU Direct Mail Advisory Board (raquel.ferrari@upu.int or abby.bossart@upu.int) for further information.

VIII. Economic considerations for postal delivery

A recent survey of postal delivery in Sub-Saharan Africa by José Ansón and Joëlle Toledano (Ansón and Toledano, 2007) offers an important insight into the organization of postal markets in the region.

1 Summary of survey facts

P.O. boxes – which are not free of charge for the recipient – are the main means of delivery in Sub-Saharan Africa yet many potential addressees cannot afford to rent them. Most people can, however, afford to send a first weight-step letter. On average, the annual P.O. box rental fee is equivalent to sending 56.3 letters.

Customers without access to a P.O. box receive their letters, flats, packets and parcels through the competitors of designated postal operators or use other, more informal, delivery channels,

In addition, access to postal delivery is geographically imbalanced, as P.O. boxes are not distributed in proportion to the population. More than half of all P.O. boxes in most countries are concentrated in the most populated city at the median.

Large mailers, such as utility companies, are often dissatisfied with the service offered by the existing designated postal operators and tend to organize their own delivery networks. Firms delivering their own mail to customers never charge the addressee for delivery items, but the sender is charged much more than is the case with the designated postal operator.

Seven out of ten utility companies deliver their own mail in Sub-Saharan Africa. As far as the financial sector is concerned, only 24 per cent of banks do not contract the designated postal operators to deliver their mail.

Businesses, and in particular utilities, need to be able to communicate with an increasing number of customers. They need to reach more people in order to help their markets grow. When these customers are not reachable through the designated postal operators, they do not hesitate to organize their own delivery networks to reach them. The fact that these businesses are prepared to bear extra costs for organizing delivery is also probably indicative of a low sensitivity to price variations for sending letter-post items to their customers, provided the quality of service is high enough. This is probably not true of the business-to-business (B2B) postal market segment: B2B is less likely to be sharply impacted by inter-group externalities, owing to “closed club” communication between businesses.

Addressees are covered by postal delivery services in the

developed world. Access to delivery to a potential addressee is taken for granted in industrialized countries. This is not the case in Sub-Saharan Africa, where a limited share of potential addressees is reachable by the letter-post, making the postal network less attractive to use. While renting a P.O. Box and receiving mail at it is a choice in industrialized countries, it is not in Sub-Saharan Africa. Renting a P.O. box is effectively an obligation if people are to receive any letter-post items at all.

The end result is the current state of competition in Sub-Saharan Africa postal markets, where much of the population is excluded from mail communication markets, either because they cannot afford the P.O. boxes supplied by the designated postal operator, or because of the very high tariff the sender must pay competitors. Unlike in industrialized countries, universal service cannot be supplied in the current market conditions of Sub-Saharan Africa countries, with a very few exceptions.

2 Survey conclusion

The paper suggests that any reform should consist in implementing delivery free of charge for the recipient. Interestingly, this approach was already apparent in Sir Rowland Hill's famous reform pamphlet of 1837, as discussed in Crew and Kleindorfer (1991). Before Sir Rowland's proposal, both senders and recipients were charged for any exchange of mail, usually according to the distance covered from the origin to the destination. Significantly, Sir Rowland also noted that significant costs would be associated with final free delivery in certain areas. He argued, therefore, that his original Penny Post proposal should apply only for “post town to post town”, i.e. free delivery to a central location (e.g. the post office) in each town. Final distribution (which he referred to as “secondary distribution”) was to be left in the hands of local districts.

Sir Rowland's proposal was nevertheless progressively extended beyond its original scope, and free home delivery for the recipient gradually became universal over the years in Great Britain and other industrializing countries.

Like Sir Rowland Hill's proposal made in nineteenth-century Great Britain, a postal delivery reform in Sub-Saharan Africa aimed at free delivery for the recipient could dramatically affect the evolution of that region's postal markets. Just as Sir Rowland justified his reform proposal in terms of costs, this paper shows that postal services can be viewed as a club asset, where externalities suggest cross-subsidization of recipients by senders, namely free delivery. Once a postal network with adequate dimensions and offering a good quality of service is provided, the value of postal services will increase, despite the lack of recipient charges.

Poor quality and high recipient costs in Sub-Saharan Africa result in a number of problems, including a low-quality postal service (as shown in this paper). Any approach consistent with Sir Rowland's reform proposal should include the introduction of free delivery, although its detailed implementation must first be worked out and may vary according to geographical area. In this regard, little can be learned from the Sir Rowland Hill experience in terms of detailed reform implementation in Great Britain, since the geography and organization of the economy in nineteenth-century Great Britain probably differ greatly from those of Sub-Saharan Africa countries today. Yet the value of today's postal service seems to increase the closer it is to the final recipient, owing to business-to-consumer postal delivery demand, such as billing.

Adapting Sir Rowland Hill's revolution to Sub-Saharan African conditions today may mean allowing for controlled expansion of free delivery. This should go hand-in-hand with quality checks, to ensure that congestion does not undermine the value of the service, as volume increases

in response to price cuts for recipients. The biggest challenge to adapting Sir Rowland's proposal is probably the choice of delivery points. While a more centralized delivery system, such as delivery into free satellite P.O. boxes (e.g. the recent experience in Israel), could dramatically lower delivery costs, this might also represent a step backwards for large business-to-consumer mailers and for recipients in most of the largest Sub-Saharan African cities who already enjoy home bill delivery. There will have to be a trade-off between the cost saved by centralized delivery points and the value of postal services in terms of delivery proximity. This trade-off calls for further local studies aimed at hitting upon a balanced solution: maintaining the value of postal services should not trigger excessive costs, but controlling costs should not jeopardize the present and future value of postal services, where business-to-consumer senders' needs must also be met. It would be worth assessing mixed solutions, with free home delivery in the largest cities and low-cost areas, and free satellite P.O. box delivery in high-cost and rural areas.

IX. Universal Postal Union (UPU) assistance programmes

1 UPU development cooperation

1.1 Action principles

The UPU's development cooperation policy adopted at the 24th Congress stipulates that the regional approach shall form the bedrock of cooperation actions, to focus on the following three priority areas:

- postal sector reform and governance;
- modernization of designated operators; and
- development of human resources.

The regional development plan (RDP) is the tool that gives the regional approach its operational dimension as part of the roll-out of the Nairobi Postal Strategy (NPS) at a regional level.

Cooperation actions take the form of national, regional and interregional multi-year integrated projects (MIPs), and involve the provision of expertise, the organization of training programmes and the purchase of equipment.

These projects are financed from the UPU's own resources, as well as from contributions by beneficiary countries and other partners. MIPs should focus, as a priority, on areas not covered by the Quality of Service Fund (QSF), so as to make better use of resources.

1.2 National MIPs

National MIPs are implemented as a priority in the least developed countries (LDCs) and in other countries facing special situations.

In principle, they are formulated by the UPU Regional Coordinator, in close cooperation with the beneficiary countries. In this context, countries eligible for national MIPs may include their addressing and postcode needs in their national MIPs.

1.3 Training

In the field, training constitutes a means of accompanying operational projects.

Training programmes are systematically made available as distance learning courses, via the UPU's platform, in order to cater for widely varying needs and to reach as many learners as possible.

The training plan for 2009 provides for the development of an e-learning course on addressing and postcodes.

2 Regional Coordinators and Restricted Unions

The UPU's role is to represent all its members and assist them wherever necessary. The Restricted Unions similarly group their member countries together in order to increase the efficiency of the Post. The presence of the UPU in the field is provided by Regional Coordinators, who help implement International Bureau actions.

The Restricted Unions and the Regional Coordinators can provide invaluable work and assistance in connection with an addressing project.

The Restricted Unions will play a key role through their presence in the field by:

- participating in the sectoral analysis and the setting of regional development plan objectives;
- contributing to the programming, implementation and coordination of joint projects associated with the regional development plans;
- providing the resources needed for the execution of joint projects;
- participating in the evaluation of activities carried out within the framework of joint projects.

The Regional Coordinators will report to the International Bureau and will:

- submit the findings of the analysis of the data gathered for the formulation of the regional development plan for their region/sub-region;
- identify and provide information with a view to facilitating the formulation of projects;
- provide information on the possibility of implementing future projects;
- identify and assess risks and opportunities in the region;
- submit project implementation timetables;
- submit project mission requests;
- use indicators to monitor implementation of the activities associated with their region's projects and propose any corrective measures needed.

The Regional Coordinators will also work closely with the Restricted Unions throughout the implementation of projects.

Moreover, the Regional Coordinators will foster relations with other partners (UNDP, regional economic organizations, etc.) with regard to the implementation of projects (management of fellowships, organization of workshops, etc.).

3 Reminder of resolutions and decisions

The UPU has produced a wide range of documents that countries wishing to introduce or improve postcode systems may find useful. These include:

- Beijing Congress resolution C 78/1999;
- Beijing Congress resolution C 87/1999 (Updating POST*Code, the Universal Postal List of Localities);
- Bucharest Congress resolution C 49/2004;
- Nairobi Congress resolution C 32/2008.

These documents are available in the UPU document database. If you are unable to access this database, send your requests to:

- postcode@upu.int or
- telephone the IB at: (+41 31) 350 31 11.

4 UPU regulations regarding addressing

Letter Post Regulations article RL 123 (Conditions of acceptance of items) and RL 128 (Standardized items) are texts which regulate the addressing of international mail (see annex 2), and in addition providing a good basis for a national addressing policy.

At the same time, the UPU Addressing Group works under the head of the “Addressing” Group of the Postal Operational Council (POC) to advance these regulations and their application.

This extract from the UPU website summarizes the role of the Addressing Group and its work:

«Postal Addressing Systems outlines the elements that form the basis for proper postal addressing. These elements ensure the correct wording of addresses for world-wide destinations and guarantee the quick and efficient handling of letter-post items. Among other things, the information enables you to:

- *prepare addresses in the manner requested by the postal administration of the country of destination;*
- *obtain additional information on a country's addressing system and any other aspect of postal operations;*
- *determine whether or not a postcode is plausible by checking the number and nature of its components;*
- *know the structure of a country's postcode and what each component means.»*

5 Technical assistance contacts

5.1 UPU contacts

Through its Addressing Group the International Bureau can assist with the drafting, development and imple-

mentation of an addressing and postcode project. If you are interested in this assistance, you should address your request to:

Address:	Contact person:
International Bureau of the UPU Addressing Group P.O. Box 3000 BERNE 15 SWITZERLAND	Ms. Patricia Vivas patricia.vivas@upu.int tel.: +41 31 350 35 83 fax: +41 31 350 31 10

5.2 UPU website

The most important information described or cited in this guide can be found on the user-friendly UPU website: www.upu.int.

5.3 Experts from other Posts

Posts in the most advanced countries have frequently contributed to postcode development and implementation missions. They provide experts involved in addressing in their own country.

Their missions may be carried out within the framework of UPU assistance (see chapter on financial assistance below), or through the Posts' own consultancy firms. This means missions can be carried out, combining technical addressing expertise with consultancy and project management expertise.

The UPU International Bureau's Addressing Group maintains an up-to-date list of countries requesting assistance, and is continuously seeking countries offering assistance. Whether you would like to develop a project or help countries to develop them, please contact us with your request.

5.4 A few postal consultancy firms

The International Bureau will supply an up-to-date list of the most relevant consultancy firms on request.

5.5 Experts' area of assistance

Experts may assist in the areas listed below. In addition to assistance relating to actual postcode launches, this list also includes possible follow-up activities. This is because countries that already have a postcode system can still expand their address database and implement a proper addressing policy.

Beyond the organizational aspects, this work may lead to a commercial policy and/or partnership with the principal customers, exploiting the Post's data to the full. Countries that have already undergone this type of process can offer useful advice to countries starting out on the same process in the following areas:

- project feasibility study;
- establishment of a postcode system;
- organizational assistance;
- assistance for local experts in applicant country;
- help with creation of databases;
- design of standardized addresses;
- assistance with mechanization (mail sorting by machine);
- forecasting future developments;
- road/street files;
- marketing of files; and
- coding of delivery points.

A detailed methodology for assistance appears in annex 4.

6 Financial assistance

6.1 Preliminary considerations

As we have seen, the introduction of postcodes and, more generally, of an addressing policy faces a number of obstacles. Foremost among these is the financial obstacle, as the reorganization of postal routes and dissemination of postcodes to the whole population cannot be achieved overnight.

Member countries may, under certain circumstances, apply for assistance. This consultancy work may be funded through various financial assistance formulae. A postcode system is sufficiently important and structural – beyond the specific interests of a national Post – for international, bilateral or national aid to be justified.

The complexity of this kind of project requires strong political support in every phase of the project and in every area, including funding. It is important to underline that the addressing and postcode project is closely linked with numerous other projects (especially with urban upgrading projects which have to be led by local governments) and initiatives led by other institutions (with potential overlaps between project goals). Secondly, implementation of the addressing system depends on the funds of donors outside of the Designated Postal Operator and even the Regulator, who often employ formal criteria that a project needs to fulfil in order to qualify for funding. Finally, external consultants should be involved where expertise outside of the postal domain is required (e.g. urban planning know-how, GIS technology implementation), at least until the project team builds its internal capacity to handle such issues. These consultants might be funded by international organizations such as the World Bank, UN-HABITAT and United Nations Economic Commissions. Taking this into account, a project management methodology that is adequate for large-scale projects needs to be

adopted and detailed project documents should be developed. This should be done on the basis of a master plan that increases chances of external funding and facilitates cooperation with external partners.

In general stakeholders (mainly national but also international) will agree that the project addresses real needs and proposed solutions will lead to measurable benefits. This acknowledgement, once obtained, may facilitate project funding.

Willingness to cooperate and interest in the project will be the result of a continuous communication effort made by the project co-coordinator, motivating stakeholders to participate (even if they are hesitant at the beginning). Crucial stakeholders shall be invited to participate in the project within a targeted vision of their expected contributions.

Implementation of a new addressing system should obtain a high-priority status or be declared a national project by the government in order to ensure availability of necessary funding and facilitate the acquisition of additional funds from external donors. Government support is also needed for effective functioning of the steering committee.

6.2 Seeking financial assistance

• General

For a member country wishing to obtain financial assistance, different types of aid may be available:

- through the UPU, in the form of cooperation: a country offers free assistance – for example by making its experts available – within the framework of a mission organized by the UPU;
- bilateral aid with a country providing assistance: this may take the form of aid financed by a ministry, an association or other sponsors;
- multinational, international or regional funding agencies.

For countries wishing to implement a specific activity, it is best to seek clearly defined financial resources.

Obviously, UPU assistance is limited by the contributions given by its members. A number of projects in the postal operations field are already running. The UPU's role as a driving force and coordinator of projects of benefit to many countries is clear: this guide is just one example.

• Preparing a project proposal

Any funding agency, whether multilateral or national, will have to decide between a number of projects competing for funds. This means the quality of the project proposal is all important.

There are a few simple rules which will assist in the presentation of quality proposals and help to win over the funding agency:

- present a sufficiently detailed project describing a series of coordinated actions;
- quantify the budget and resources needed (materials allocated);
- provide a fairly precise timetable;
- present the advantages of the project for the Post;
- present the advantages for the country in general;
- indicate the spin-off or indirect improvements;
- in the case of a bilateral agreement, indicate the advantages for the donor country.

How the case is presented and argued is at least as important as the quality of the written proposal:

- ensure that you have the support of the supervisory authorities and involve them at every stage; funding agencies want to be sure the project has political backing;
- first contact the local representatives of the funding agencies, if any, and win their support;
- do not overlook the headquarters of a funding agency in another country; an approach at a very early stage by a consultant able to lobby the funding agencies may be useful;
- follow up the application frequently;
- the Directorate General of Posts should be the promoter of this project and be perceived as such;
- include this project as a priority element of the supervisory authority's action plans (budget, etc.).

• Choosing a consultant

Several consultancy firms are available to Posts for addressing projects. They charge for their services, but their contacts with funding agencies or the UPU and their experience can help to move a funding request file forward. It may therefore be useful to contact such firms.

There are numerous possibilities. For example, a consultant may help the applicant country to draw up the specifications and choose the consultant who will produce the postcodes. This second consultant is then different and may be able to call upon more operational skills than the first one.

6.3 Technical assistance using the UPU's own resources

As stated in the UPU Development Cooperation Guide (Part I), UPU technical assistance is provided in the form of a multi-year programme funded by the Union's own resources.

The biannual amount, as set by the Council of Administration (CA), is earmarked in the UPU's regular budget. During the 2009–2012 programming cycle, the UPU provides assistance through national, regional or interregional

multi-year integrated projects (MIPs) in accordance with clearly determined criteria and with reference to priority BWPS objectives. Thus, only the 50 least developed countries (LDCs) and countries in special situations (as a result of natural disaster or armed conflict) can benefit from national MIPs.

Multi-year integrated projects (MIPs) are the tool to be used to integrate Addressing and Postcode Projects in the technical assistance provided by the UPU.

Generally, the MIP project document is formulated in the course of a Regional Coordinator's mission, in close cooperation with the relevant national authorities. In urgent cases, it may be prepared by the relevant DCDEV regional programme or directly by the competent authorities of the beneficiary country (supervisory ministry, regulatory body or public postal operator). A model MIP project can be found in the "Development Cooperation Manual" published by UPU.

6.4 Quality of Service Fund (QSF)

The Quality of Service Fund was created to assist in the implementation of quality of service improvement projects in developing countries. QSF only applies to improvements of letter-post service quality. It is worth recalling the background to the creation of the QSF and its main objectives, as described on the UPU website:

As part of the new terminal dues system (system of compensatory payments between member countries), the 22nd Universal Postal Congress (Beijing 1999) approved the creation of a Quality of Service Fund (QSF). The QSF will be maintained by a 7.5% increase in terminal dues payments made by industrialized countries and will be paid out to developing countries in the form of specific quality of service improvement projects. The mechanism for payment into the QSF is described in the relevant articles of the Convention.

In reconstituting the QSF, the Bucharest Congress amended the country classification system and allocated more resources to the least developed countries.

The sole aim of the Fund is to improve quality of the letter-post quality of service by financing projects for improving quality of service in developing countries.

The quality of service approved by Congress applies to the following six fields:

- access to services;
- speed and reliability;
- security;
- liability and treatment of postal inquiries;
- customer satisfaction;

- design and implementation of costing and pricing systems;
- quality development plans.

So the introduction or improvement of a postcode system falls very much within the QSF terms of reference. Applicant countries wishing to benefit from this Fund should present the UPU with a project file prepared for one of the fields described above.

QSF project proposals have to be prepared according to the rules specified in the Project Management Manual, particularly the project request form annexed to the Manual. The QSF national coordinator, appointed by all beneficiary countries, is responsible for preparing, submitting and monitoring his/her country's QSF projects.

The UPU Regional Coordinator is familiar with the QSF rules and can provide valuable assistance in formulating and reviewing QSF proposals before they are submitted to the International Bureau. Information on the QSF rules can be found in the QSF Practical Guide.

To help member countries with the formulation and presentation of their QSF projects, Addressing Group has developed a model project that was approved by the Board of Trustees. This model is available on the UPU website at: http://www.upu.int/faqs/en/projects/project_postcodes-addressing_en.pdf

In addition to establishing contact with a QSF correspondent, the UPU website <http://www.upu.int/faqs/fr> (or/en) contains useful information on:

- QSF Statutes (Deed of Trust).
- Project Management Manual.
- Financial Management Manual.
- QSF Board of Trustees.
- QSF: useful contacts.
- Operating procedure and billing information.
- Development and submission of QSF Project Proposals.

All correspondence, requests for information, project proposal submissions and questions about QSF-funded projects (except for financial and accounting issues) should be sent to the following address:

Address:	Contact:
International Bureau of the UPU QSF Secretariat P.O. Box 3000 BERNE 15 SWITZERLAND	Tel.: +41 31 350 32 17 or +41 31 350 31 11 Fax: +41 31 350 35 98 or +41 31 350 31 10 E-mail: faqs-projects@upu.int

Correspondence and requests for information about financial and accounting matters must be sent to the following address:

Address: Contact:

International Bureau of the UPU Director or Finance P.O. Box 3000 BERNE 15 SWITZERLAND	Tel.: +41 31 350 33 98 or +41 31 350 31 11 Fax: +41 31 350 35 98 or +41 31 350 31 10 E-mail: faqs-finances@upu.int
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6.5 Other possible financial assistance

A number of international organizations have contributed to the funding of postal projects, including postcode projects. Other national bodies offer bilateral assistance to partner countries.

In all cases, these funding agencies will expect to see a sound project, prepared using the methodology set out above, before awarding funds.

The main organizations are listed below, along with their website addresses:

- World Bank: www.worldbank.org
- Inter-American Development Bank (IDB): www.iadb.org
- Islamic Development Bank (IsDB) (Muslim countries): www.isdb.org
- Asian Development Bank (AsDB): www.adb.org
- African Development Bank (AfDB): www.afdb.org
- African, Caribbean and Pacific Group of States (ACP): www.acpsec.org
- European Union (EU):
 - TACIS Programme: www.tacisreform.org
 - European Investment Bank (EIB): www.bei.org
- European Bank for Reconstruction and Development (EBRD): www.ebrd.com
- Nordic Investment Bank (NIB): www.nib.int
- Nordic Development Fund (NDF): www.ndf.fi
- West African Development Bank (WADB): www.boad.org
- East African Development Bank (EADB): www.eadb.org
- Arab Bank for Economic Development in Africa (BADEA): www.badea.org
- OPEC Fund for International Development: www.opecfund.org
- Arab Fund for Economic and Social Development (AFESD): www.arabfund.org
- Caribbean Development Bank (CDB): www.caribank.org
- Central American Bank for Economic Integration (CBEI): www.bcie.org
- Andean Development Corporation (CAF): www.caf.com
- European Agency for Reconstruction (Balkans): www.ear.europa.eu
- United Nations Development Programme (UNDP): www.undp.org

All these organizations have local offices in many countries within their areas of operation.

When an applicant country wishes to benefit from another Post's expertise – or that of its consultancy branch – it can establish the case for its project with the authorities or semi-public agencies in the consultant's home country. So it is worth contacting the commercial services of the consultant's embassy.

For example, a country using a French firm for its postcode mission could contact:

- the Economic Expansion Unit at the local French Embassy; this Unit would pass details of the project on to the External Economic Affairs Directorate of the French Ministry of Economics and Finance, which has a number of funding programmes: www.dree.org;
- the French Development Agency (AFD), which has several offices in Africa, Asia, the Middle East, the Balkans and the Caribbean: www.afd.fr.

Similar requests to the commercial services of certain other industrialized countries may also be worthwhile.

X. Conclusion

Postcodes and addressing systems using databases are critical tools for postal organization and, consequently, for quality of service and postal development. The aim of this guide is to summarize the principal approaches to launching or improving a postcode and addressing policy and to developing the appropriate systems.

More and more member countries are adopting postcodes and addressing systems. For other countries that would

like to receive assistance in this area, the UPU can provide tools, advice and, in certain cases, financial and human resources to see projects of this kind through.

The annexes contain details of methodological tools and success stories that may help applicant countries.

Annex 1 – Congress Resolution C 32/2008

List of decisions other than those amending the acts

This CONGRÈS–Doc contains the decisions considered by Committee 9 (Drafting) up to 7 August 2008. They are numbered in the order in which they were examined in plenary or in Committee. Decisions considered after that date will be listed in CONGRÈS–Doc 40.2.

Part I – Numerical list of decisions

Number	Type	Title and references
C 32	Res	Address quality strategy, products and services

Part II – Texts of decisions

Resolution C 32/2008

Address quality strategy, products and services

Congress,

Considering that establishing a quality addressing and postcode system is an essential part of the socio-economic infrastructure of member countries, which contributes not only to improving the efficiency and quality of postal services but also to facilitating business and trade activities and, consequently, national development,

Noting

that, based on Bucharest Congress resolution C 49, considerable efforts have been made by the Union in this area, including:

- helping developing countries to develop a quality addressing and/or postcode system, by encouraging them to draw up national or regional projects;
- raising the profile of improved address quality, particularly through designing, improving and promoting addressing products and services (POST*CODE) with a view to improving the quality of service of international mail by enabling the senders of postal items to format addresses as accurately as possible and in accordance with the rules laid down by the Union;
- developing and promoting addressing standards, such as S42 on international address components and formats and P14 on international electronic name and address presentation exchange, working closely with the ISO and the other international, regional and national organizations,

Considering

that many member countries, particularly developing countries, have not yet established a quality addressing and/or postcode system, or have not used them accordingly,

Considering also

the need to include the technical assistance activities regarding the promotion of a quality addressing and/or postcode system for developing countries within the framework of the regional development plan as a means of implementing the Nairobi World Postal Strategy,

Considering further

that profile raising of improved address quality and further development and promotion of addressing standards are vital to improving the efficiency and quality of postal services, to facilitating trade by growing mail, small packets and parcels circulation, to reducing costs for customers, designated operators and other delivery operators as well as transaction costs in a broader economic sense for the provision of public and private services, to contributing to environmental protection by reducing the number of undeliverable postal items, and to facilitating the introduction of more reliable identity verification systems for electronic and online financial transactions,

Convinced

that the further promotion of quality addressing and postcode systems and the profile raising of improved address quality, including the development of addressing standards should be considered as strategically important Union activities,

Urges

the governments of member countries which have not yet established and made effective use of a quality addressing and/or postcode system:

- to take necessary measures to develop a quality addressing and/or postcode system by creating a working structure composed of relevant national authorities, designated operators and any other important stakeholders;
- to allocate the funds necessary to achieving this goal wherever possible and seek necessary funding from international, regional and national aid organizations;
- to cooperate with the Union towards this end, wherever necessary drawing up national projects or taking part in regional technical assistance projects,

Urges also

the designated operators of member countries:

- to actively promote, in cooperation with the relevant national organizations, better quality addressing among customers, particularly by making national postcode files available to them;

- to actively equip themselves, through the increased use of addressing techniques by customers, which includes setting up and maintaining postcode databases to locality and street level and, if possible, to delivery point level, providing the data in both Latin and national characters where necessary;
- to continue to cooperate with the Union's profile-raising activity of improved address quality, particularly by further developing and promoting addressing products and services, including the provision to the International Bureau of postcode data and files and other relevant data, wherever possible free of charge;
- to actively participate and implement the S42 and P14 addressing standards, as well as other standards where possible;
- to share, where possible through the Union, with other designated operators practical information on international changes of address, domestic changes of address, mail redirection (moved, not known) data, if possible using a secure Internet domain,

Charges

the Postal Operations Council, in conjunction with the International Bureau, to:

- establish clear policy guidelines for implementing sound addressing systems through a national or regional approach;
- foster continuous dialogue with relevant international donor agencies and other intergovernmental organizations for pursuing consistent, coherent and coordinated addressing system policies;
- seek partnerships with relevant international donor agencies and other intergovernmental organizations in relevant projects aimed at implementing and improving addressing systems at the national or regional level;
- take necessary measures to provide technical assistance to the governments of Union member countries towards the establishment and effective use of a quality addressing and/or postcode system, particularly by developing a national project or participating in a specific regional project;

- take necessary measures to raise the profile of improved addressing quality, enabling the continued development and technological evolution of addressing products and services;
- further develop and promote standards on addressing, with particular attention to the postal sector needs for physical and electronic aspects of addressing, in cooperation with the ISO and other international, regional and national organizations;
- promote, where possible, the practical exchange of information on address changes and any other relevant information, in close cooperation with the Consultative Committee and other appropriate bodies;
- inform and consult the Council of Administration and the Consultative Committee on developments with respect to addressing-related activities,

Charges further

the Council of Administration:

- to assess the economic and social benefits of improved addressing systems;
- to examine the report from the Postal Operations Council to formulate guidelines for achieving the goals set out in this resolution and fund-raising actions, particularly in order to assist developing countries in developing a quality addressing and/or postcode system,

Invites

the Consultative Committee:

- to contribute actively to the achievement of the goals set out in this resolution, including the provision of knowledge and expertise from the perspective of customers and mailers;
- to propose solutions for the funding of projects carried out in this field.

(Proposal 15, Committee 7, 3rd meeting)

Annex 2 – Important texts of the Letter Post Regulations

Article RL 123

Conditions of acceptance of items. Make-up. Packing

1 Items shall be made up securely and in such a way that there is no risk of other items getting trapped in them. The packing shall be adapted to the shape and nature of the item and the conditions of transport. In the case of letters and small packets, it must ensure the integrity of the contents during transport. Every item shall be made up in such a way as not to affect the health of officials. The makeup shall prevent any danger if the item contains articles of a kind likely to injure officials called upon to handle it or soil or damage other items or postal equipment. Metal fasteners used for closing items shall not have sharp edges, nor shall they hamper the execution of the postal service.

1.1 Postal administrations may agree to exchange bulk items, which have not been wrapped or packed. The dispatching postal administration and the administration of destination shall set by mutual agreement the conditions of posting of such items.

2 The UPU ID-tag, as defined in Standard S18 in the Technical Standards Manual, may be applied to letter-post items to facilitate mail processing in both origin and destination countries and to support the exchange of processing information between the postal administrations involved. The Id-tag shall be applied, under the authority of the postal administration, in accordance with the specifications adopted by the Postal Operations Council and the provisions of Standards S18 and S19 in the UPU Technical Standards Manual. To maximize the readability of the Id-tag, administrations:

2.1 may encode information in area R1, as defined in Standard S19, only in accordance with the technical provisions of Standards S18 and S19;

2.2 are encouraged to advise against using area R1 for purposes which might interfere with, or be interfered with by, its intended use for Id-tag encoding.

3 Administrations shall strongly recommend that their customers comply with the following rules:

3.1 The right-hand half at least of the address side shall be reserved for the address of the addressee and for postage stamps, franking marks and impressions or indications in lieu thereof. The latter shall be applied, as far as possible, in the top right-hand corner. It shall be up to the administration of origin to treat items whose payment does not conform to this condition according to its internal legislation.

3.2 The addressee's address shall be written on the item lengthwise and, if the item is an envelope, on the plain side which is not provided with the closing flap. For items exceeding the size limits for standardized items as defined in article RL 128, the address may be written parallel to the width of the item.

3.3 The addressee's address shall be worded in a precise and complete manner. It shall be written very legibly in roman letters and arabic numerals. If other letters and numerals are used in the country of destination, it shall be recommended that the address be given also in these letters and numerals. The name of the place of destination and the name of the country of destination shall be written in capital letters together with the correct postcode number or delivery zone number, if any. The name of the country of destination shall be written preferably in the language of the country of origin. To avoid any difficulty in the countries of transit, it is desirable for the name of the country of destination to be added in an internationally known language. Administrations may recommend that, on items addressed to countries where the recommended position of the postcode is in front of the name of the location of destination, the postcode should be preceded by the EN ISO 3166-1 Alpha 2 country code followed by a hyphen. This shall in no way detract from the requirement for the name of the destination country to be printed in full.

3.4 The envelope paper shall be made of a material that can be processed mechanically.

3.5 In order to facilitate automatic reading, the addressee's address shall be written in compact form, without leaving a space between the letters of the words and without a blank line between the line containing the place of destination and the other elements of the address. The place and country of destination and the postcode number, if any, shall not be underlined.

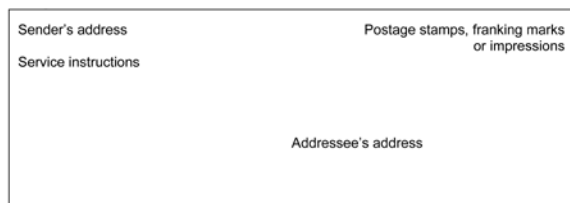
Example: Monsieur
Pierre Noir
Rue du Midi 26
1009 PULLY
SWITZERLAND

3.6 The name and address of the sender shall be shown on the item with the postcode number or delivery zone number, if any. When they appear on the address side of the envelope, these indications shall be placed in the top left-hand corner and should be sufficiently separated from the addressee's address to avoid any misunderstanding.

- 3.7 The addresses of the sender and the addressee shall be shown in an appropriate manner inside the item and as far as possible on the contents. This applies particularly to unsealed items.
- 3.8 Customers posting items in bulk of the same shape and weight may be requested to bundle them by postcode or delivery zone number so that they can be processed as speedily as possible in the country of destination. The administration of destination may request this degree of sortation subject to agreement by the administration of origin.

4 Except as otherwise provided in these Regulations, service instructions and labels shall be placed on the address side of the item. They shall be positioned in so far as possible in the top left-hand corner, beneath the sender's name and address where these are given. The service instructions shall be written in French or in some other language generally known in the country of destination. A translation of the instructions in the language of the country of origin may also be given.

Example:



5 Non-postal stamps and charity or other labels as well as designs, likely to be mistaken for postage stamps or service labels, may not be affixed to or printed on the address side. This shall also apply to stamp impressions which could be mistaken for franking impressions.

6 In all cases in which the item is under wrapper, the addressee's address shall be written on the latter.

7 Envelopes whose edges are provided with coloured bars shall be reserved exclusively for airmail items.

8 The address of items sent *poste restante* shall show the name of the addressee, the town, the country of destination and, if possible, the post office at which the item is to be collected. The indication "*Poste restante*" shall be written in bold letters on the address side. The use of initials, figures, forenames only, fictitious names or code marks of any kind shall not be permitted for these items.

Example: Mademoiselle
 Louise Bertholet
Poste restante
 1211 GENÈVE 13
 SWITZERLAND

9 On printed papers, the addressee's name may, exceptionally, be followed by the indication "or occupant", in French or a language accepted by the country of destination.

Example: Monsieur
 Pierre Sansonnens
 or occupant
 Rue Pépinet 10
 1001 LAUSANNE
 SWITZERLAND

10 The envelope or wrapping may bear only one sender's address, and one addressee's address. In the case of bulk postings, the sender's address must be located in the country of posting of the item.

11 No manner of item shall be admitted of which the whole or part of the address side has been marked off into several divisions intended to provide for successive addresses.

■ Commentaries

123.1 The Hamburg Congress invited adms to inform users employing the packs sold by postal services of the need to use appropriate interior packing as well and to make sure that the outside wrapping is properly closed so that the items concerned can be processed and conveyed satisfactorily (recommendation C 20/Hamburg 1984).

123.3.1 The application of postage stamps or franking impressions on the address side is obligatory for all categories of items.

Postage stamps stuck on in such a way that they overlap on to both sides of an item are considered null and void.

123.3.3 Adms are recommended to inform the IB what address presentation they want and what postcode system they have adopted.

123.8 The name of the town of destination should be mentioned since *poste restante* is generally provided by only one post office – the main office – even in big cities which have several delivery offices.

123.9 This provision is designed to permit the address of a printed item to be written so that delivery is made to the occupier of the premises when the addressee given in the address has moved. This practice is aimed specifically at printed advertising items.

Article RL127

Items in panel envelopes

1 Items in envelopes with a transparent address panel shall be admissible on the following conditions:

- 1.1 The panel shall be situated on the plain side of the envelope which is not provided with the closing flap.

- 1.2 The panel shall be made of such a material and in such a way that the address can be easily read through it.
- 1.3 The panel shall be rectangular. Its greatest dimension shall be parallel to the length of the envelope. The address of the addressee shall appear in the same direction. However, concerning C 4 format (229 x 324 mm) items or similar formats, administrations may allow the transparent panel to be placed transversely in such a way that its greatest dimension is parallel to the width of the envelope.

Example:



- 1.4 All the edges of the panel shall be precisely stuck down on the inside edges of the opening in the envelope. For this purpose there shall be an adequate space between the side and bottom edges of the envelope and those of the panel.
- 1.5 The addressee's address shall be the only thing visible through the panel or, at the very least, shall stand out clearly from any other indications visible through the panel.
- 1.6 The panel shall be placed so as to leave enough room for the application of the date-stamp.
- 1.7 The contents of the item shall be folded in such a way that the address remains fully visible through the panel even if the contents shift inside the envelope.
- 2 Items in envelopes which are wholly transparent may be admitted if the surface of the envelope is constructed in such a way as to create no difficulties in mail handling. A label having sufficient space for showing the address of the addressee, prepayment and service instructions must be firmly attached to the outer surface of the item. Items in envelopes which have an open panel shall not be admitted.
- 3 Administrations of origin may admit envelopes which have two or more transparent panels. The panel

reserved for the address of the addressee shall conform to the conditions laid down under 1. For the other panels, the conditions laid down under 1.2, 1.4, 1.6 and 1.7 shall apply by analogy.

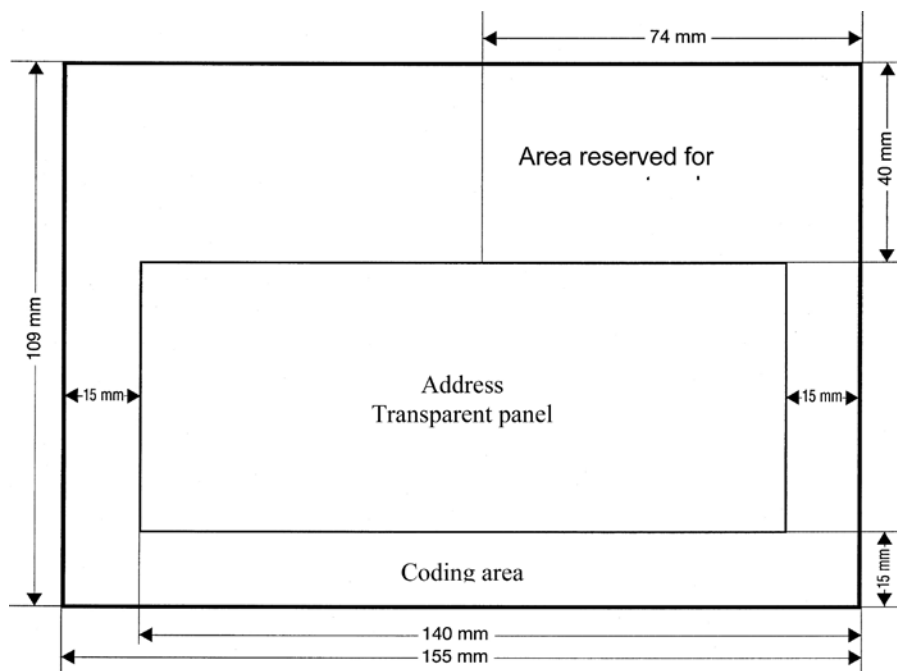
■ Commentary

127.2 Manufacturers sell completely transparent envelopes with an address label firmly affixed and big enough for the addresses of sender and addressee, postage stamps, service instructions, etc. These envelopes have been admitted in the domestic service of some countries without causing any special handling problems. If the envelope undergoes prior antistatic treatment, it will not pose any sticking problems to mechanical handling systems such as culler-facer-cancellers or automatic sorters.

Article RL 128

Standardized items

- 1 Rectangular items shall be considered standardized if their length is not less than their width multiplied by $\sqrt{2}$ (approximate value 1.4). These items shall satisfy the following conditions.
 - 1.1 Minimum dimensions: 90 x 140 mm, with a tolerance of 2 mm.
 - 1.2 Maximum dimensions: 120 x 235 mm, with a tolerance of 2 mm. The following maximum dimensions shall be admitted when the envelopes concerned are widely used in a given country:
 - 150 x 245 mm, with a tolerance of 2 mm;
 - 165 x 235 mm, with a tolerance of 2 mm.
 - 1.3 Maximum weight: 20 g
 - 1.4 Maximum thickness: 5 mm
 - 1.5 Letters shall be closed by completely sticking down the sealing flap of the envelope and the address shall be written on the plain side of the envelope which is not provided with the sealing flap.
 - 1.6 The address shall be written in a rectangular area situated at least:
 - 40 mm from the top edge of the envelope (tolerance 2 mm);
 - 15 mm from the right-hand edge;
 - 15 mm from the bottom edge; and not more than 140 mm from the right-hand edge.
 - 1.7 On the address side, a rectangular area 40 mm (–2 mm) in depth from the upper edge and 74 mm in width from the right-hand edge shall be reserved for affixing the postage stamp or stamps and the cancellation impression. Inside this area the postage stamps or franking impression shall be applied in the top right-hand corner.



2 The provisions under 1 shall also apply to items in envelopes with transparent panels whose general conditions of admission are set out in article RL 127. The transparent panel for the address of the addressee shall in addition be at least:

- 40 mm from the top edge of the envelope (tolerance 2 mm);
- 15 mm from the right-hand edge;
- 15 mm from the left-hand edge;
- 15 mm from the bottom edge.

2.1 The panel may not be bordered by a coloured band or frame. Service indications may be placed just above the addressee's address.

3 No wording or extraneous matter whatsoever may appear:

- 3.1 below the address;
- 3.2 to the right of the address, from the franking and cancelling area to the bottom edge of the item;
- 3.3 to the left of the address, in an area at least 15 mm wide and running from the first line of the address to the bottom edge of the item;
- 3.4 in an area 15 mm high starting from the bottom edge of the item and 140 mm long starting from the right-hand edge of the item; this area may be partly identical with those defined above.

4 Administrations which admit items in envelopes whose width does not exceed 162 mm, with a tolerance of 2 mm, as standardized items in their domestic service may also admit such items as standardized items in the international service.

5 Items in card form up to 120 x 235 mm in size may be accepted as standardized items provided they are made of cardboard heavy enough to be sufficiently stiff to withstand processing without difficulty.

6 The following items shall not be considered standardized:

- 6.1 folded cards;
- 6.2 items closed by means of staples, metal eyelets or hook fastenings;
- 6.3 punched cards sent unenclosed (without an envelope);
- 6.4 items whose envelopes are made of material which has fundamentally different physical properties from paper (except from the material used for making the panel of window envelopes);
- 6.5 items containing articles causing protrusions;
- 6.6 folded items sent unenclosed (without an envelope) which are not closed on all sides and which are not rigid enough for mechanical processing.

■ Commentaries

128.1 The mathematical formula of 1.4 (approximate value of 1.4142) sets out the mandatory ratio between the length and the width. One of the features of the formats obtained in this way is that the ratio between the two sides is always the classical ratio between the side of a square and its diagonal, ie $1:\sqrt{2} = 1.4142$. It is important to keep this ratio in mind since it enables almost square formats to be eliminated, such formats being awkward for both mechanical and manual treatment of items. The range from the min dimensions of 90 x 140 mm and the max dimensions of 120 x 235 mm covers formats C 6

(114 x 162 mm) and DL (110 x 220 mm) contained in ISO recommendation ISO/R 269.

128.3 An area should be reserved around the addressee's address in which no wording or extraneous matter should appear so as to facilitate automatic reading of characters of the address on standardized items and to enable coding marks to be applied.

128.4 In view of the advances in technology, the processing of C 5 format items can be mechanized.

128.6 The results of tests with standardized letter-post items which were not of uniform thickness showed that incorrectly filled items could not be processed mechanically. Sufficient stiffness of items is essential for ensuring the smooth operation and reliability of letter-facing machines.

Prot. Article RL III Standardized items

1 The administrations of Canada, Kenya, Tanzania (United Rep.), Uganda and the United States of America shall not be obliged to discourage the use of envelopes whose format exceeds the dimensions recommended in article RL 128 when those envelopes are widely used in their countries.

2 The administration of Afghanistan and India shall not be obliged to discourage the use of envelopes whose format is larger or smaller than the dimensions recommended in article RL 128 when those envelopes are widely used in their country.

Annex 3 – Examples of existing postcode systems

Many countries currently have postcode systems, most of which are nationwide. In a few countries, however, only the main cities have postcodes. Unfortunately many of these postcodes are not used regularly by large mailers or the general public.

Here are a few examples of postcode structures (where n = number and a = letter):

Australia	
Code structure	Code composition
2060	4 numeric characters
n---	state or territory
- nnn	delivery area

Austria	
Code structure	Code composition
1010	4 numeric characters
1.1.1 n---	region
-n--	zone
--n-	route
---n	post office

Bermuda	
Code structure	Code composition
FL 07	4 alphanumeric characters
aa --	post office
-- nn	postal route

Brazil	
Code structure	Code composition
70002-900	8 numeric characters
1.1.1 n---- - - -	region
-n--- - - -	sub-region
--n- - - -	sector
---n- - - -	sub-sector
----n - - -	sub-sector divider
----- nnn	delivery point

Canada	
Code structure	Code composition
H3Z 2Y7	4 alphanumeric characters
ana ---	forward sortation area
--- nan	local delivery unit

Chile	
Code structure	Code composition
834 0457	7 numeric characters
nnn ----	postal distribution area
--- nnnn	block face

France	
Code structure	Code composition
33500	5 numeric characters
nn---	department
--nnn	delivery zone

Kenya	
Code structure	Code composition
20100	5 numeric characters
n----	postal region
-nn--	regional delivery centre
---nn	delivery office

Annex 4 – Methodology for the introduction of postcodes

If your country does not currently have a postcode system, or is planning to reorganize an existing system, the International Bureau of the Universal Postal Union can help your country obtain assistance from countries with relevant expertise in the introduction of a postcode system and its use in postal processes.

Preparation

This stage involves conducting a background study of the country in question, focusing on its geography, administration and economy, as well as on the present organizational structure of its Post.

The data and information collected will then have to be verified and validated and a comprehensive action plan proposed.

The preparation phase itself will be the subject of a formal document making it possible to go on to phase 2.

National context

A study of the country from a geographic, economic and organizational standpoint is important in the process of selecting both the appropriate type of postcode system to be put in place and the method of publicizing it and ensuring its widespread use.

- Geography (typology, natural restrictions, etc.).
- Population and demographic profile, significant population movements.
- Education (literacy rate, etc.).
- Economy (typology, concentration of economic zones and trends, use of mail services, etc.).
- Projects in progress and planned (regional and/or national), development, etc.
- Political system.

Administrative organization

- Identify the persons responsible for the applicant country's administrative organization.
- Existing situation and any planned developments.
- Division(s), how and why.
- Coding system or similar (is there a more or less developed database of geographical localities and if so, how it is used and by whom?).

Postal organization

- Identify the person(s) responsible for postal coding systems within the applicant country's Post.
- Identify the activities of the applicant country's Post.
- Analyze its organization (organizational charts, structures, zones, workforce, etc.).

- Analyze the mail circulation system (methodology and system).
- Analyze the mail sorting system (methodology and system).
- Analyze the mail delivery system (methodology, system, types of delivery, customers, etc.).
- Analyze the types of items, flows and volumes; proportions of mail handwritten and typewritten, etc.
- Describe the address: how is the address written in the country, what is its structure, how is it used? (public, businesses, government departments, the Post, etc.).
- Does the applicant country's Post have any projects? More specifically, do these projects involve addressing and the use of postcodes, or could they?

Contacts in the applicant country

- Get all players concerned involved in the project as soon as possible.
- Identify the persons responsible within the bodies:
 - the Post;
 - other bodies or representatives of the State concerned;
 - business representatives;
 - consumer representatives, etc.

Presentation and approval

Presentation of the study, discussion and approval enable the project to be developed by involving the applicant country's Post closely in the proposals, taking account of the limitations and objectives of the Post.

Meeting representatives of the applicant country's Post

(+ other contacts or contacts to be met later on together with representatives of the applicant country's Post).

- Reminder and acknowledgment of need expressed.
- Presentation, with comments, of study on national context.
- Discussion and establishment of initial main policy lines.
- Presentation of types of postcode systems used in other countries and comments on advantages and disadvantages, etc.
- Proposal for a comprehensive action plan for introducing a postcode system.
- Confirmation of feasibility with the applicant country's Post (and other parties?).

Decision making

Decide how the project will proceed, with whom, etc., based on a complete, detailed action plan.

Action plan and implementation

These proposals will be formalized in a concrete action plan that will make postal coding possible and lay down the conditions for the widespread use of postcodes in the country (dissemination to businesses and the general public + likely adaptation of the Post's organizational structure), within a reasonable time.

The action plan will be accompanied by a realistic timetable of tasks to be carried out and a clear breakdown of responsibilities for each phase of the project. The following main phases of the project will be included in the action plan.

Module 1 – Geographical divisions

- Existing divisions in the applicant country.
- Geographical, economic and administrative data collected.
- Choice based on analysis of advantages/disadvantages.
- Major criterion: must be based on stable structures (and especially not on an excessively complex postal organization).
- Discussion and adoption of decisions.

Module 2 – Choice of postcode system and its implementation

- Coding = X characters?
Study based on divisions (population, mail flows, economic players, etc.), and especially on how the system will be used and of the prospects for changes and development in the future.
The type of system can range from the very simple (for mail routing) to the more complex, containing address elements down to the street number (delivery), like CEA, the extended address code system (coding of all streets and street numbers).
If there is no coding system in the applicant country, a three-phase study can be envisaged, bearing in mind that the priority here is to design a postcode system based on localities and then to create a computerized base containing these data:
- defining a postcode based on X characters and listing or creating the postcodes;
- creating a national computerized postcode + locality database, with conditions for its continuous updating;

- providing for a code extension for adding information on streets and street numbers in the relatively distant future (requiring further, more ambitious efforts to survey and standardize the country's addresses).
- Reasoned discussion, selection criteria and approval by the parties concerned (a very crucial point in the project).
- Choice based on analysis of advantages/disadvantages.

Module 3 – Creation of a postcode database

- Structure and media.
- Collection of data.
- Management and updating.
- Dissemination and use by the Post and the biggest mailers.

Module 4 – Impact on postal organisation

- Existing (e.g. organization of sorting, etc.).
- Organizational developments.

Module 5 – Communication on dissemination of postcode data

- (Communication, media, etc. and training plan).
- Inside the Post (including organizational impact).
 - Businesses and government bodies.
 - The general public.

Module 6 – Planning

- 1 Preparation = 1.5 months.
- 2 Presentation and approval = 8 days.
- 3 With a good local infrastructure, it takes a year to introduce a postcode system, from the initial decision to final implementation, including the associated work (creation of database, organization of postal structure, communication and dissemination.)

Module 7 – Expert assistance in preparing and implementing the action plan

This phase is, by definition, much longer and requires a preliminary study. In general, the involvement of an external consultant is essential at this stage.

Annex 5 – Terms and definitions. Address components.

Supplementary terminology and glossary

Terms and definitions used in an address standard

For the purposes of this suggested address standard, the following terms and definitions apply.

address

specific indication of a person's place of residence (natural or legal person) See "postal address»

addressee

party who is the intended ultimate recipient of a postal item

component

See "postal address component»

construct

see "postal address construct»

delivery

postal process in which a postal item leaves the responsibility of the postal operator through being handed over to, or left for collection by, the addressee, the mailee or an authorised representative, or deposited in a private letter box accessible to one or other of these.

delivery address

postal address specified by the mailer to which the postal operator is requested to deliver the postal item

delivery point

physical location recognised by a postal operator as a valid location at which delivery of a postal item may occur

element

see "postal address element»

forwarding address

postal address, specified by the addressee or mailee of a postal item, to which the postal operator is requested to deliver the postal item, in place of delivering it to the delivery address

mail originator

party responsible for originating the content of a postal item

mail recipient

individual who actually receives a postal item at delivery, or who first accesses the postal item if it is left for collection

mail submitter

party responsible for induction of a postal item into the postal system

mailee

party designated in a postal address as having responsibility for ensuring that postal items, delivered or handed over by the postal operator at the delivery address, reach their addressee

mailer

party who carries out one or more of the processes involved in creating, producing, finishing, inducing and paying the postage due for a postal item

party

one or more natural and/or legal persons and/or organisations without legal personality that act(s) as a single entity for the purpose of participation in a transaction associated with a postal item

payer

party responsible for payment to the postal operator of the postage due in respect of a postal item

postal address

set of information which, for a postal item, allows the unambiguous determination of an actual or potential delivery point, usually combined with the specification of an addressee and/or a mailee

postal address component

collective term for postal address elements, postal address constructs and postal address segments, as defined in this standard

postal address construct

combination of postal address elements which together form a logical portion of a postal address

postal address element

basic entity of a postal address that has a well-defined conceptual meaning and representation and has significance for customer or postal processing purposes

postal address element and element sub-type code

alternate representation for a postal address element or element sub-type which uses a condensed notation that conforms to specified conventions, is suitable for use in templates, and is relatively language independent when compared with the element and element sub-type names

postal address element sub-type

sub-division of a postal address element representing parts or instances of the root element, used to facilitate template design, address rendition, address database storage and related technical needs

postal address segment

named group of related postal address constructs and/or postal address elements with a specific defined function

postal address structure

manner in which postal address components are or can be combined to form a postal address

postal address template

specification of how a postal address is to be written; in particular, of the order in which postal address elements are to appear, of which postal address elements are mandatory and which are optional and of rendition instructions

poste restante

delivery service indicator specifying that a postal item is to be held at a designated postal establishment or agency for collection by the addressee or his/her authorised representative

recipient

see “mail recipient»

rendition instruction

specification of how address elements shall be rendered, or in some cases optionally may be rendered, when printed on a mail piece

return address

postal address to which the postal operator should deliver a postal item if it is unable to effect normal delivery to the delivery address or, if specified, a forwarding address

segment

see “postal address segment»

syntactically correct postal address

postal address in which the combination of postal address components is fully in accord with this standard and with relevant national or regional rules which define restrictions on allowed combinations and internal structures of such components

valid postal address

postal address in which the combination of postal address components corresponds to, and provides for unambiguous identification of, a single delivery point and of an addressee and/or mailee

Address components**1 Postal address segments**

This section defines the segments which may occur in a postal address.

addressee specification

postal address segment which specifies the addressee

delivery point specification

postal address segment which designates the delivery point for a postal item

mail recipient despatching information

postal address segment providing information intended for the routing and dispatch of mail by the mail recipient, when this is not the addressee

mailee specification

postal address segment which specifies the mailee

2 Postal address constructs

This section defines the constructs which may occur in postal address segments.

compound surname

postal address construct which identifies a family or provides indication of parentage

country level information

postal address construct encompassing the postal address elements applying to countries or groupings of countries

delivery point location

postal address construct identifying a delivery point, or a group of delivery points from which the postal operator may choose one, by reference to geographical and, where necessary, other spatial data expressed in human intelligible form

individual identification

postal address construct identifying, for the purpose of establishing the addressee or mailee of a postal item, either a single individual or a group of individuals, from which the postal operator may select one

locality

postal address construct identifying the geographical area in or adjacent to which a delivery point is located

organisation identification

postal address construct identifying, for the purpose of establishing the addressee or mailee of a postal item, either a single individual or a group of individuals within an organisation, from which the postal operator may select one

service point identifier

postal address construct identifying a delivery point served by a postal or alternate delivery service, and which, combined if necessary with other address elements, shall

uniquely identify a delivery point within a country, and do so without requiring reference to its physical location

3 Postal address elements

This section defines the elements which may occur in postal address segments and constructs.

addressee role descriptor

postal address element indicating that the role of the identified individual or organisation is that of addressee

alternate delivery service identifier

postal address element which designates a delivery point, or a group of delivery points from which an alternate delivery service may choose one, by reference to a defined identifier, rather than by reference to its physical location

building/construction

postal address element identifying the number or name and type of the building or construction in or adjacent to which a delivery point is located.

country code

postal address element designating the ISO 3166-1 code for the country, territory or area of geopolitical interest, in which a delivery point is located or via which the delivery point is accessed

country name

postal address element designating the country, dependency or area of geopolitical interest, in which a delivery point is located or via which the delivery point is accessed

defining authority

postal address element designating the postal operator or other authority responsible for the definition and maintenance of the delivery point specification concerned

delivery service identifier

postal address element which designates a delivery point, or a group of delivery points from which the postal operator may choose one, by reference to a defined identifier, rather than by reference to its physical location

delivery service qualifier

postal address element designating the name of the distribution office used for delivery services

district/sector

postal address element giving the name of the hamlet, estate, or area within or adjacent to town, in which a delivery point is located, or via which it is accessed for postal delivery purposes

door

postal address element indicating the apartment, room or office in, at or adjacent to which a delivery point which is situated within a building is located

extension designation

postal address element designating the specific delivery point where this is not uniquely identified, within country and locality, by other components of delivery point location

floor

postal address element indicating the floor or level on which a delivery point is located in a multi-story construction

form of address

postal address element indicating, through a word, group of words, acronyms or abbreviations, an individual or group's civil status or condition

function

postal address element designating role or responsibility within an organisation

given name

postal address element specifying the name used to distinguish between persons having the same compound surname(s) and who may have access to a particular delivery point

international routing information

postal address element indicating how a country, territory or area of geopolitical interest may be reached.

legal status

postal address element indicating the legal status of an organisation

mailee role descriptor

postal address element indicating, in association with an individual or organisation identification, that the role of the identified individual or group is that of mailee

multi-country region

postal address element indicating a region in which the country, territory, or area of geopolitical interest is located and by which it may be more effectively recognized

name qualifier

postal address element used to distinguish between persons with the same compound surname(s) which have similar given names or initials

organisation name

postal address element giving the official name, the registered business name or other official designation of an organisation

organisational unit

postal address element identifying a subdivision of an organisation

postcode

postal address element designating the code used for the sorting of mail

qualification

postal address element indicating an individual's professional or academic qualification or rank in a professional group or society

region

postal address element specifying the geographic or administrative area of the country in which town is situated

stairwell

postal address element indicating access to floor or door within a building/construction.

street number or plot

postal address element designating the area, or the object on an area, adjacent to thoroughfare, in which the delivery point or delivery point access is located

supplementary delivery point data

postal address element providing additional data or instructions intended to facilitate access to, or designation of, a delivery point

supplementary despatch information

postal address element providing additional data or instructions intended to assist the mail recipient in the processing of a postal item

surname prefix

postal address element consisting of the prefix or part of a compound surname which is not significant for sorting purposes

surname

postal address element consisting of the root or part of a compound surname which has sorting significance

thoroughfare

postal address element which identifies the road or part of a road or other access route along which a delivery point can be accessed, either directly or via a secondary or tertiary road or access route

town

postal address element indicating the name of the village, town or city in which a delivery point is located, or near to or via which the delivery point is accessed for postal delivery purposes

wing

postal address element identifying, for a delivery point, the building/construction section in which it is housed and/or the main entry door through which it is accessed

Additional terms. Glossary**1 Additional terms used**

For the purposes of this document, the following terms and definitions apply.

additional security area

area in which the sender is free to place any logo or similar image other than his/her address.

See summary diagram in figure A.

addressee

natural or legal person for whom a postal item is intended and whose address must appear on that item

address area

rectangular area on the front of the item which must contain the elements that make up the addressee's address. It applies to any "addressee" address appearing on a postal item (whether written directly on the item or on a label affixed to it, or appearing through the transparent panel of an envelope

address block

rectangular block formed by the postal address

back of the item

the side of an item provided with the closing flap

coding area

also called the "code marking area». It is located in the lower right-hand corner of the front

delivery

set of operations aimed at delivering postal items

envelope format

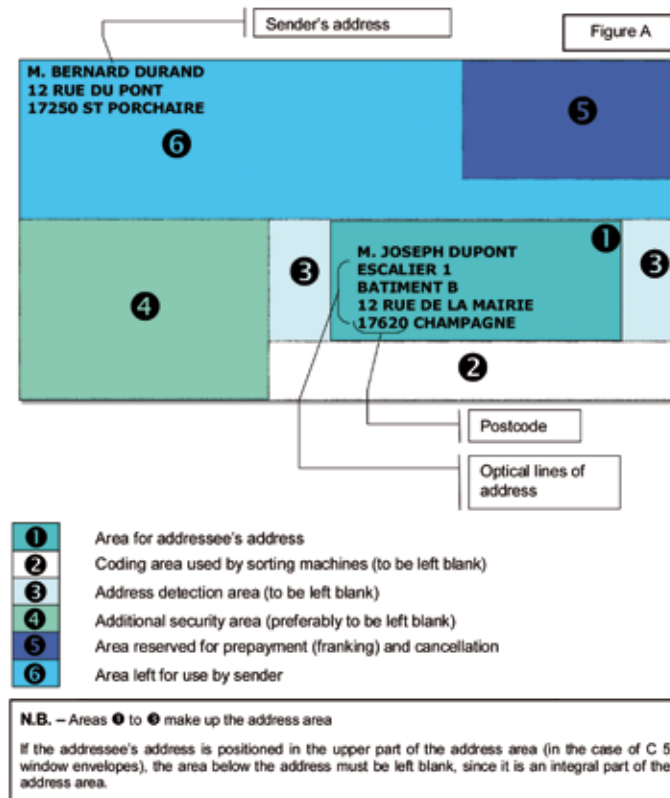
dimensions expressed in terms of length and width

franking

mark affixed to a piece of mail to indicate payment of postage (postage stamp, franking impression, etc.)

franking or cancellation area

part of the front of the item reserved for postage stamps, franking marks or impressions and service instructions



front of the item

the plain side of an item which is not provided with the closing flap

item

item of postal correspondence

optical lines

lines of characters printed by an office typewriter or most often by a computer printer or any other specialized printing means. These lines are read automatically by sorting machines

postcode

Code used for the routing and/or delivery of mail. It identifies a delivery area in the mail processing chain. Each locality has a specific postcode

sender

natural or legal person who sends an item to another person

transmission

set of operations involved in conveying a postal item from its point of posting to the post office serving the addressee's address

sender information area

area in which the sender is free to indicate his/her address or any advertising (logo, initials, acronym, etc.).

2 Glossary

addressing area

this area comprises the area reserved for the addressee's address plus the blank areas to the right and left plus the coding area, also called the code marking area. Maximum: 120 x 160 mm

alignment of address block or address label

the address block or address label should be less than 5 degrees out of alignment with the bottom edge of the item

alignment of address lines

the beginning of each line should be justified or "flush" left

area reserved for addressee's address

area containing the addressee's address. It must be located on the front of the envelope, in the lower right-hand portion (at least 20 mm from the bottom and right-hand edges of the envelope). Minimum: 40 x 100 mm; maximum: 100 x 120 mm

back of envelope

the side provided with the closing flap

background reflectance

the background should preferably be white to ensure a maximum acceptance rate. Reflectance should be greater than 40% on white and greater than 65% on colour

body of a character

height of a typographical character.

character size

uppercase characters should be between 2.4 and 5 mm. The recommended size is 10 to 12 points, or 8 to 12 characters per inch. Lowercase characters should be between 1.6 and 3.7 mm. Spaces between characters should be from 0.4 to 2 mm. This applies to all lines

character spacing

the vertical space separating the characters of a word should be between 0.4 and 2 mm wide

character typeface (font)

use only one font (style, size, line thickness) per line. Avoid artistic or graphic character fonts, fonts that imitate handwriting, fonts that are too narrow or too wide, and decorative or negative fonts.

Do not use fonts whose characters touch or whose serifs are excessively long. Do not use italics. Do not use a logo for the addressee's name. No more than 0.13 mm should separate the pins used in dot-matrix printing. These recommendations apply to all lines

coding area (or code marking area)

Space located in the lower right-hand corner of the envelope, at least 140 mm long and 20 mm wide. This area is reserved for the fluorescent barcode markings

colours

the use of colours is limited by the PCR (print contrast ratio) and the reflectance

dimensions

L = length, W = width and H = height

front of envelope

the side not provided with the closing flap

line spacing

at least 30% of the height of the tallest character. More than 1 mm and less than 5 mm

print contrast ratio (PCR)

a character is acceptable when the reflectance factor is greater than 40% over all points forming the character image. Negative printing is not to be used.

print quality

printed characters should be complete, clean, sharp, dark and uniform. Blurs, fillings, gaps (ink missing inside characters) and barbules (excess ink outside character edges) are to be avoided

size of address block

confined to the address area

space between words

between one and three spaces between each word on the same line. The space between words must be less than 10 mm

thickness of character lines

uniform for all characters. Between 8 and 16% of the height of the characters. Greater than 0.25 mm and less than 8 mm

underlining

underlining should be avoided

window

there are two types of window:

- the address window, reserved for the addressee's address;
- the supplementary window.

Annex 6 – Quality of Service Fund (QSF)

Project application form

Cover sheet

Project title: **Development of a postcode and addressing system**

Type of project: global ☐ regional ☐ joint ☐ national ☒

Postal administration: _____

UPU/Restricted Union: _____

Global/Regional/National Coordinator: _____

Address: _____

Telephone: _____ Fax: _____

E-mail: _____

This project proposal applies to the following:

QSF field ¹	Speed and reliability
------------------------	------------------------------

Support in the preparation of the project proposal ²	UPU-PAU
---	---------

1 QSF budget (USD)	43,400.00
2 Total budget (USD)	66,600.00
3 Duration of the project as planned (months)	12 months

Postal
administration's
stamp

Place: _____ Date: _____

Postmaster/Director General Global/Regional/National Coordinator:

Name: _____ Name: _____

Signature: _____ Signature: _____

¹ Only one field should be included (see Project Management Manual (PMM) art. 3.2).

² Please indicate whether the International Bureau/Restricted Union/Regional Adviser helped in the preparation of this project proposal.

1 Aims, objectives and expected results

Aims, objectives and expected results

Aims

At national level: rationalization of postal sorting, transmission and delivery activities through the creation and implementation of a postcode and addressing system and contribution toward social and economic development of the country.

At international level: reduction in missent item problems (errors in sorting or transmission) due to incorrect addressing or the omission of an essential address element.

Objectives

The objectives of this project are the following:

- 1 Creation and implementation of a postcode system;
- 2 Creation and implementation of an addressing standard;
- 3 Development and maintenance of a postal database:

- 4 Dissemination and promotion of the postcode (objective 1), the addressing standard (objective 2) and the database (objective 3).

The expected results thought the achievement of the objectives are:

- simplify the process by rationalizing sorting, transmission and delivery;
- reduce postal costs;
- reduce incorrect addressing and delivery problems;
- reduce in-transit mail errors;
- identify the delivery offices and their delivery areas;
- enable access to new technologies and automated sorting;
- improve the quality of service;
- increase the handling capacity;
- develop new services.

The expected results are also expressed as measurable indicators in the following table

Related projects

Addressing and postcode project proposal – RDP: Regional Development Plan

Quality indicators				
Proposed quality of service indicators	Current level of performance for each of these indicators	Achievement of the level(s) of performance targeted on completion of the project	Objectives to be met by the following date(s)	Monitoring method(s) envisaged
Improvement in the processing and delivery of domestic mail	J+5	J+1	Twelve months after completion of the project	Quarterly report
Reduction in the number of missent or non-deliverable items	00%	70% reduction	Twelve months after completion of the project	Quarterly report
Increase in the volume of mail delivered to homes (capital)	20%	60%	Six months after completion of the project	Monthly report
Identification of each delivery office	0% of territory	100% of territory	At the presentation of the final project	Addressing and postcode project analysis
Identification of delivery zones for towns with 25,000+ inhabitants	0% of territory	100% of territory	At the presentation of the final project	Addressing and postcode project analysis
Usage of the addressing standards on the envelopes	0% of the total volume of the mail	60% of the total volume of the mail	Twelve months after completion of the project	Quarterly report
Usage of the postcodes in the addresses	0% of the total volume of the mail	60% of the total volume of the mail	Twelve months after completion of the project	Quarterly report

2 Current situation (see PMM art. 7.6)

The postal services have no systematically-applied rationalized procedures and no access to postal technology. The results are unsatisfactory and the services are inefficient. It is very difficult to determine the daily volume of traffic, because the Post has no computerized system for carrying out this operation.

Delivery is mainly via post office boxes. Addresses are often incomplete and part of the population has no access to the postal services provided by the nearest post offices. Home delivery is often rudimentary and badly organized. This situation makes sorting, transmission and delivery difficult.

At present, the volume of mail handled can be broken down as follows:

- 1 total number of items per day;
- 2 percentage of items per post office box per day;
- 3 percentage of items delivered to homes per day;
- 4 number of postmen;
- 5 number of items delivered per postman;
- 6 percentage of international items per year;
- 7 percentage of items classed as missent or undeliverable.

The highest volume of items is concentrated around the capital, which has xx% of the total number of items per day.

The majority of domestic mail is made up of items sent monthly by high-volume mailers (banks, water, electricity and telephone companies, public administrations, etc.). This creates activity peaks, frequently leading to traffic disruption and even delays in mail delivery. These high-volume mailers are demanding ever more reliable mail delivery and, in some cases, are organizing their own delivery networks, thus adding to the list of postal competitors.

The average delivery time in the capital is J+x (x days after posting) for xx% of the total volume of items. There is no system for accurately measuring delivery times, and no other performance or productivity indicator is used.

No digital mapping exists to facilitate postal reorganization and there is no reliable standardized addressing database for checking addresses and improving the quality of the postal service.

Finally, given the national context, in which demographic and social changes are increasing the pressure for home delivery, guaranteed delivery, improved quality and a wider range of postal services, the Post needs to react in order to avoid losing further market shares to the ever-increasing number of national and international private companies.

3 Methodology (see PMM art. 7.7)

Description of the approach

The project should involve all major parties with interest in its successful execution as well as all major parties which will be impacted by its development. It is crucial that both the designated Postal Operator and the Postal Regulator co-operate in the project. Also other Ministries, local governments as well as big volume mailers and direct marketing companies should be involved to the extent they are concerned. Each party should have their representative in a Steering Committee which will approve work of the Project Team and make critical decisions at the end of each phase. Some parties may have a representative in a Consultative Committee instead of the Steering Committee. It is important for efficient execution of the project that the Steering Committee will not change during the project.

During the phase a number of workshops should be held involving all parties concerned to inform about the needs, benefits and estimated costs of introducing postcode and addressing standards. Responsibilities and timeframes for tasks to be done should also be clearly specified.

At the end of the phase a decision should be made by the Steering Committee if the project should proceed. Lists of responsibilities and deadlines should be prepared and approved and all parties involved should commit to the tasks they are responsible for.

To ensure the success of the project some considerations should be done at the beginning. We highlight among this considerations the following major factors:

- determination of clear objectives;
- organisation of the project adapted to the objectives;
- raising resources planned;
- regular follow up;
- regular and stable communication.

The project will be divided into four objectives:

- 1 creation of the postcode system;
- 2 creation of the addressing standard;
- 3 development of a postal database;
- 4 dissemination and promotion of objectives one, two and three.

Each objective can be the subject of a separate project. However, the success of the project lies in developing the objectives as a series of interdependent phases. Details of these phases are given below.

The project work will be carried out in two main phases:

Phase one – around four months – will include:

- 1 an analysis of the postal and geopolitical context, followed by the choice of postcode model and the development of coding once the model has been accepted;
- 2 the development and approval of the addressing standard, according to the phases described below.

Phase two – a minimum of seven months – will include:

- 3 the development, implementation and maintenance of the postal database, by means of the tasks described below;
- 4 the dissemination and promotion of the postcode, addressing standard and database in accordance with the national dissemination plan and the training of postal employees and staff responsible for developing and maintaining the database.

Description of tasks and work plan (if necessary, please attach the project schedule)

The tasks included within the framework of the project for the four objectives specified in the methodology comprise:

Phase one:

- 1 Objective: Creation of the postcode system;** choice of postcode model and development of coding: phase one (four months) – tasks to take approximately the first two months:

analysis of the postal and geopolitical context and proposal of a postcode system model; The postal administration will be able to request, if necessary, the support of an UPU expert or an external consultant for the accomplishment of the analysis of the postal and geopolitical context and the proposal of the postcode system model in order to assist the Project Manager and his team.

- presentation and validation;
- development of coding throughout the territory.

- 2 Objective: Creation of the addressing standard:** phase one (four months) – tasks to take approximately the last two months:

- analysis of the existing normative framework at national and international level;
- creation of a typology of existing addresses, with provision for future developments;
- identification of address elements (obligatory and optional) and their position in the address line;
- development of address formatting standards;
- development of the standard based on the above elements and the customs and conventions;
- approval of the standard.

Phase two:

- 3 Objective: Development of the postal database:** phase two (seven months) – tasks to take approximately the first three months:

- analysis of the elements of the postal delivery and transmission structure;
- identification of the elements to be included in the postal database;
- technical modelling of the structure of the postal database and data entry;
- coherence tests;
- finalization and validation;
- development of computer applications tailored to the various services that may be interested;
- maintenance of the postal database.

- 4 Objective: Dissemination and promotion of the postcode, the addressing standard and the database:** phase two (seven months) – tasks to take a minimum of two months:

- develop a national plan for disseminating the postcode, addressing standard and database to the general public, including, inter alia, the following tasks:
 - designing a stamp to commemorate the postcode;
 - printing a directory of postcodes;
 - issuing an information leaflet on addressing;
 - recording electronic versions of postcode files;
 - creating web pages containing information on the postcode and addressing system;
 - dispatching unaddressed promotional mail explaining the advantages of using the postcode;
 - promoting the use of the postcode and addressing system through radio and/or television advertising;
 - producing advertising material designed to encourage the use of the postcode (e.g. badges, biros, etc.);
 - others;
- postal staff training on the advantages of the postcode and addressing system, provided by a UPU expert or a consultant;
- training in the use of the database for technical staff responsible for operating and maintaining the postal database, provided by a UPU expert or a consultant;
- information sessions for major customers;
- evaluation of the use of the postcode, the addressing standard and the database.

In order to implement the project, the postal administration may need to recruit qualified staff to set up a postal database or web pages.

Description of the project monitoring process (see PMM art. 7.7)

To carry out the project monitoring, the project team manager will prepare a detailed timetable of activities and the expected results on completion of each phase. A monthly activity report will be prepared by the Project Team and submitted by the Project Manager to the Steering Committee, of which the International Bureau is a member.

A time limit not exceeding one month will be set for each task, thus ensuring monthly monitoring.

A minimum number of four reports will need to be prepared:

- 1 initial report;
- 2 first interim report after the first phase (three months);
- 3 second interim report after the second phase (seven months);
- 4 final report.

The reports will be submitted to the Steering Committee during the 15 days following the end of the month in question.

Project organization (Please attach the organization chart if necessary)

The Project Team:

The project will be developed by a technical team made up of members of the postal operations, IT and logistics staff, led by a Project Manager who will be responsible for monitoring each phase of the project and its implementation. The Project Manager will report to the General

Management on all matters arising in the course of project implementation.

Further to that the Project Team might be composed by:

- Project Manager, responsible for monitoring the phases and the implementation of the project;
- Project Team members: from the Postal Administration and/or from the Ministry, responsible for harvesting and analysing the information;
- Project Team members: from the IT and logistics staff, responsible for the IT proposals and work;

The Project Team will be formed on a case by case basis, in line with each country's specific characteristics; consequently, the composition and membership will vary from one country to another. Changes will be reflected in Table C1, which should be referred to for each specific case.

The Steering Committee:

A Steering Committee should be created at the beginning of the project to take decisions at the end of each phase. They will represent the main stakeholders. They could participate in providing useful information related to the project. They take the decision of going ahead with the next phase and play the role of jury for solutions. It will be composed by 5-7 persons. Its members are not members of the project team

The Consultative Committee:

A Consultative Committee could be created to respond to specific strategic or technical needs.

More specifications about the framework are done in Annex 1 "Terms of reference".

4 Financial proposal (see PMM art. 7.8)

4.1 Overall project financing

A. Cost summary

No.	Cost element	Amount (in USD)
1	Labour	16,000.00
2	Allowances	750.00
3	Travel costs	950.00
4	Office and communication	9,200.00
5	Services	30,700.00
6	Equipment	6,500.00
7	Training	5,500.00
8	Others	
Total		69,600.00

B. Sources of funding

No.	Source	Amount (in USD)
1	QSF	46,400.00
2	Own resources	23,200.00
3	Others	
Total		69,600.00

C. Cost breakdown

C.1 Labour

No.	Function (specify function)	Man/month (M/M)	M/M rate (in USD)	Total (in USD)	Source
1.1	Project Manager (half-time)	4/12	2,500.00	5,000.00	A
1.2	Project Team member (half-time)	4/12	1,500.00	3,000.00	A
1.3	IT expert	4/12	2,000.00	8,000.00	A
1.4					
1.5					
Carry over to A.1				16,000.00	

C.2 Allowances (Daily subsistence allowance (DSA), etc.)

No.	Function (specify function)	Number of days	DSA/Day (in USD)	Total (in USD)	Source
2.1	Project Manager	5	150.00	750.00	A
2.2					
2.3					
2.4					
2.5					
Carry over to A.2				750.00	

C.3 Travel costs

No.	Function (specify function)	Nature of travel	Total (in USD)	Source
3.1	Project Manager	Study of postal context in the field	750.00	A
3.2	Members of the project team	Monitoring of project at sorting centres	200.00	A
3.3				
3.4				
3.5				
Carry over to A.3			950.00	

C.4 Office and communication

No.	Cost element	Total (in USD)	Source
4.1	Advertising campaigns	5,500.00	A
4.2	Publicity material (e.g. postcode directory in hard-copy and electronic formats, addressing leaflets, etc.)	2,500.00	B
4.3	Printing costs – addressing and postcode user's guide	1,200.00	B
4.4			
4.5			
Carry over to A.4		9,200.00	

C.5 Services

No.	Cost element	Total (in USD)	Source
5.1	Consultancy (external consultant for the creation of the postcode or database)		
	– consultancy fees	3,000.00	B
	– allowances	1,200.00	B
	– travel costs	1,500.00	B
5.2	Development of an application for using the database information	25,000.00	B
Carry over to A.5		30,700.00	

C.6 Equipment

No.	Item (specify the equipment)	Units	Unit price (in USD)	Total (in USD)	Source
6.1	PC	2	1,500.00	3,000.00	B
6.2	Server	1	3,500.00	3,500.00	B
6.3					
6.4					
6.5					
Carry over to A.6				6,500.00	

C.7 Training

No.	Cost element (specify the training course)	Total (in USD)	Source
7.1	Basic staff training on the importance of the postcode and its use (cost of work-shop)	4,000.00	B
7.2	Training on the database and its applications for staff involved (cost of instructor)	1,500.00	B
7.3			
7.4			
7.5			
Carry over to A.7		5,500.00	

No.	Cost element (specify the cost element)	Total (in USD)	Source
8.1			
8.2			
8.3			
8.4			
8.5			
Carry over to A.8			

If your project provides for equipment procurement, do you want all or part of this procurement to be carried out through the United Nations Development Programme (UNDP)?

If so, specify which item should be procured

No.	Project activity (per sub-activity)	Estimated follow-up costs (describe and quantify in USD)
1	Update of information on postmen in delivery zones	2,500.00/year (1 person – half-time)
2	Update of database and application	2,500.00/year (1 person – half-time)

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[illegible]

	Labour	Allowances	Travel costs	Office and communication	Services	Equipment	Training	Others	TOTAL
Month 4									
Month 5				3,700	25,000				
Month 6							4,000		
Month 7									
Month 8									
Month 9									
Month 10									
Month 11									
Month 12									
TOTAL				3,700	30,700	6,500	5,500		46,400

5 Staff

The project team will consist of four (4) people.

The following functions are required:

No.	Function	Internal staff	Staff to be recruited			CV attached
			Other postal administration	Consultancy	UPU	
1	Project Manager	1				N/A
2	Project Assistant	1				N/A
3	Technical staff	1				N/A
4	Consultant	1				Not yet identified at this stage

6 Risk assessment

Risk category	Risk	Control action
Staff	Resistance to use of the new code Lack of interest in participating in the implementation process	Strengthen communication Staff participation in the implementation process; staff training
Finance	–	–
Management	Lack of management and basic data sorting capacity Inability to work with the new IT tools	On-site data management and sorting assistance from a consultant Provide training adapted to the type of data to be stored and to the staff being trained
Political	Lack of support during phases 2 and 4 Loss of government interest	Inform the government of the project's importance, providing regular progress updates Experienced Project Manager with decision-making ability

Terms of reference for introducing an addressing and postcode system

The aim of these terms of reference is to:

- i. define the framework within which the project should be carried out;
- ii. catalogue the tasks to be completed for each objective mentioned in the Methodology (point 3) of the QSF addressing and postcode project proposal, in accordance with a specific timetable;
- iii. give some bibliographic references for addressing and postcodes.

I. Definition of the framework

Some initial statements should be fixed as a general framework:

A. Step 1: Decision on introduction of addressing and postcode system at the highest level. Make sure that the project can count on the support of all the parties involved. The latter will generally include: the designated postal operator; the ministry and other political bodies (e.g. municipality, etc.); and big mailers. This step is essential to creating the basis for the project, and in order to guarantee the implementation of the addressing and postcode project as part of a long-term vision.

B. Step 2: Constitution of a Steering Committee responsible for the approval for each phase. The Steering Committee is essential to the project's success. All the parties involved in each phase should be represented on the Committee. They need to validate the Project Team's activities and agree on the results obtained in respect of each objective (at each phase). This validation and approval process is essential to the project and should be considered as a key aspect. The Steering Committee should meet either every time that a report is submitted (once a month) or at the end of each phase. The commitment of all the groups involved is crucial, as they are not only taking part in the evaluation of the choices or the solutions proposed by the Project Team, but they are also going to directly contribute to project's successful implementation by accomplishing various tasks throughout the process (e.g. the Government will approve the addressing standard; the municipality will name and number streets and new neighbourhoods; big mailers will incorporate new databases into their operating systems and inform customers about the new postcode; and the Post will train staff, showing them the benefits of using postcodes, etc.).

C. Step 3: Constitution of the Project Team. The Project Manager: is designated by the Steering Committee to analyze and phase the project; appoints the Project Team members; is responsible for ensuring that the project is implemented successfully; reports to the Steering Committee; and appoints internal and external suppliers, as required. His main function is to lead the project within the time and budget allotted, and to achieve the targeted levels of performance. He is responsible for monitoring each phase of the project, including its implementation. The Project Team will be formed on a case by case basis, in line with each country's specific characteristics. Consequently, the composition and membership will vary from one country to another. Changes will be reflected in Table C1, which should be referred to for each specific case.

D. Step 4: Preliminary work This is essential to the project, as it establishes the basis for the project's development. It consists of gathering the country's current geopolitical and postal information, and projecting the future development of the postal sector. The Project Team Manager is responsible for carry out this work.

E. Step 5: Formulation of addressing standard and postcode proposal

Make sure that:

- the addressing standard proposed takes account of the customs and current rules of the country, international rules and local practices;
- the postcode chosen reflects the current system and provides for future development;
- the database is designed so as to simplify sorting, improve delivery and offer the possibility of developing the postal market and improving quality of service;
- the database is updated on a regular basis. The development and implementation of an addressing and postcode project requires the sorting, forwarding and delivery practices within the country to be reviewed. When this review indicates a weakness in the postal operating system, the Project Team manager should notify this to the Steering Committee before continuing his work. At this stage, the Steering Committee should take a decision as to whether or not the postal operating system should be improved before the addressing and postcode project is developed and implemented.

F. Step 6: Evaluation of the results by the Steering Committee and/or UPU experts

In order to measure the partial achievements of the objectives, it is suggested that measurable indicators be established so as to reflect the current and the expected situation with figures. This evaluation could

be based on the quality indications mentioned in the Quality of Service Fund project application form retained or supplemented with other important national indications that are specific to the area.

II. List of tasks per objective

The list of tasks per objective mentioned below is not exhaustive. On the basis of our experience, we have tried to include the most common tasks in developing an addressing and postcode project. Other possible tasks could be included, in accordance with the country's actual situation.

Description of tasks per objective

A. Preliminary work

- list the administrative organization from the highest to the lowest level;
- notice special cases, including administrative or geographical limitations;
- foresee possible changes in the administrative structure;
- determinate the location of post offices within the administrative organization,
- identify the type of post offices and ranging within,
- identify the different types of delivery in each post office;
- foresee future developments in the postal structure;
- draw up a mail flow chart;
- identify the various stakeholders.

B. Postcode model and coding method:

- clarify the final objectives of the postcode for each interested party;
- confirm the sorting method for the next years (if automation is planned);
- find out possible previous encoding;
- number the biggest administrative level;
- number the post offices responsible for general distribution; ensure that more detailed numbering is not required, including, for example, districts, post office boxes, large mailers, commercial replies or games, etc;
- reserve ranges of numbers for each numbering mentioned before to be able to extend and adapt the encoding to future changes;
- develop the coding throughout the territory, not only for the capital;
- compare the result of the numbering before with other existing postcode types;
- make sure that the result of the numbering is easy to use and to remind;
- present the results to the Steering Committee for validation.

C. Addressing standard:

- analyze the existing legal framework at national and international level;
- create a typology of existing addresses, with provision for future development;
- identify the address elements (obligatory and optional) and their position in the address line;
- identify maximum number of lines and number of characters per line in the addresses;
- agree about the usage of punctuation and accented characters in the addresses;
- standardize the formatting of the address lines;
- standardize the position of the address on the envelope;
- list the recommended abbreviations used in the addresses;
- develop the standard based on the above elements and the customs and conventions;
- approve the standard;
- publish the standard.

D. Development of the postal database

- prepare a list of intended purposes of the database (DB);
- prepare a list of services which will be set up in the near future with the DB as the source of data;
- identify the information to be stored in the DB so it may serve the intended purpose and be used for the services;
- identify the information to be stored in the DB, in accordance with the accepted standard;
- make a list of existing databases and other electronic sources of information which may be used to import the partial data required;
- ensure that the information actually exists or can be obtained;
- identify the future direction of the DB development;
- assess volume of a fully operational database and future growth ratio;
- make a logical entity diagram;
- identify the resources needed to gather and input information in the DB;
- choose hardware and software solutions for the DB;
- if not available, buy the hardware (server) and software needed to set up the DB;
- prepare a maintenance plan: backup procedures, update procedures and restore procedures in case of failure;
- create the DB, develop a software tool for data input, consistency verification procedures, scripts for data migration from existing sources, reporting tool;
- input data into the DB;

- run consistency checks and correct any errors;
- prepare procedures for distribution of the database to sorting centres;
- prepare procedures for distribution of the database to big-volume mailers and direct mailers;
- prepare procedure to print a postcode directory based on the DB;
- start separate projects to set up services and develop products using the DB: a) a Web-based service for postcode look-up; b) a stand-alone product for postcode look-up and address verification etc.
- prepare a report for the Steering Committee after completion of all tasks.

E. Dissemination and promotion of project

- develop a national plan for disseminating the postcode, addressing standard and database to the general public, including, inter alia, the following tasks:
 - designing a stamp to commemorate the postcode;
 - printing a directory of postcodes;
 - issuing an information leaflet on addressing;
 - recording electronic versions of postcode files;
 - creating web pages containing information on the postcode and addressing system;
 - dispatching unaddressed promotional mail explaining the advantages of using the postcode;
 - promoting the use of the postcode and addressing system through radio and/or television advertising;
 - producing advertising material designed to encourage the use of the postcode (e.g. badges, biros, etc.);
 - other initiatives.

- training of postal staff on the advantages of the postcode and addressing system, provided by a UPU expert or a consultant;
- training on the use of the database for the technical staff responsible for operating and maintaining the postal database, provided by a UPU expert or a consultant;
- information sessions for major customers;
- evaluation of the use of the postcode, the addressing standard and the database.

II. BIBLIOGRAPHY

The PAU-UPU put at your disposal the guide called “Addressing and Postcode Manual” in two versions, paper version and electronic version. You can have access to the guide by different means:

- By web. You can download the electronic version directly from the UPU website at the following address:
http://www.upu.int/post_code/en/assistance_guide.shtml
- By e-mail: You order the guide by sending us an e-mail to the following address: postcode@upu.int
 Please do not forget to indicate the selected version paper or electronic one;
- By post: to our address
 Universal Postal Union
 To the attention of Ms. Vivas
 PO Box
 3000 BERN 15
 SWITZERLAND

Annex 7 – Case study: Public-private partnerships in Uganda

Clarifications and recommendations

(Taken from the “Study on the methodology to develop and disseminate physical addresses and postcodes in Uganda”, March 2008)

General information

Public-private partnerships (PPPs) are mostly used to mobilize private capital and expertise for the execution of public works. In a wider sense the term is used for any kind of cooperation between government authorities and commercial enterprises.

Owing to the wide variety of its applications, the term still lacks a generally accepted definition. In an economic context, however, it is widely acknowledged that the term PPP – in both meaning and perception – is pertinent only where partners belonging to different legal structures combine forces. Purely financially-based partnerships, for example, are not regarded as PPPs. According to the current terminology, a PPP is understood to be a form of long-term contractual cooperation between a public authority and a private sector enterprise, in which both partners provide the required resources under a common umbrella for their mutual benefit and distribute project risks between them in the best possible way.

Types of PPP

There are at least five different types, or models, of PPP:

- (a) the cooperation model;
- (b) the operators model;
- (c) the concession model;
- (d) the business-transfer model; and
- (e) the build-operate-transfer (BOT) model.

The “cooperation model” is the most widespread form of PPP: a mixed enterprise operated by public and private partners. According to the above definition, however, solely financially-oriented partnerships are not considered to be PPPs.

Under the “operators model” the private partner runs the business (most often an infrastructure project) after a public call for tenders. The private operator plans, sets up, finances and operates the project, bearing the entire economic risk.

According to the “concession model”, on the other hand, the public authority remains the owner and operator of a facility, but the concession includes a private operation carried out on a contractual basis.

The “business-transfer model” lies somewhere between the operators model and the concession model. The public partner increasingly transfers business elements to the private partner.

The “BOT model” is a specific type of operators model. The private partner makes the investment and provides both comprehensive project management and operational management during the start-up. This model is mostly used to build infrastructure facilities such as power plants and airports. Subsequently, the agreed time frame usually exceeds 25 years.

Contents of a postcode and address management PPP

If they are to maintain their validity and economic value, addresses (i.e. street name, house number, postcode and town/city) must be constantly kept up to date. This requires ceaseless updating, with the incorporation of all new houses and streets. Addresses must also be made accessible through all the IT channels on offer.

All private and commercial users must use addresses properly if these are to deliver their full benefit. Consequently addresses must be accessible and the IT platform must be open and transparent to all users. Regardless of the required transparency levels, certain conditions must be considered, for example, when awarding licences, concessions and contracts.

The UPU’s Addressing Assistance Unit (formerly PAU) is of the opinion that address information should be made available to society as a whole, free of charge, at least during the initial stages of implementation. This requires specific know-how, above all in running GIS and the IT platform. This know-how and practical experience are plentiful in private enterprises, and are certainly easier to find and of greater calibre than is the case in public authorities. In this respect Uganda and Uganda Post Limited (UPL) are no exceptions. Accordingly, a PPP should be considered as an option for heading and operating Uganda’s address management system¹.

In addition to having IT know-how and expertise, one of the partners should be in the position, or be entitled, to collect address data and receive new addresses from the relevant public authorities, e.g. local government.

¹ Nonetheless a PPP is only one option; another would be to set up a subsidiary of UPL. Since the legal possibilities could not be clarified during the mission, the Ugandan Ministry of Information and Communications Technology should consider both options.

The tasks² of the PPP include:

- (a) operating existing addresses, including postcodes;
- (b) monitoring construction sites countrywide, collecting addresses³ and allocating postcodes according to the postcode structure;
- (c) incorporating addresses by GIS and making new addresses available through the IT platform;
- (d) advertising the use of postcodes and correct addresses;
- (e) facilitating the commercial use of postcodes and addresses through adequate services (address data updating on a contractual basis, transmission of address data to eligible users, etc.);
- (f) helping private and commercial users to apply correct addresses; and
- (g) operating and maintaining GIS and the IT platform.

Recommended model

Assuming that UPL remains the public authority responsible for postcode and address management in Uganda, and that it does not build additional capacities and competences in GIS and IT development and management, we therefore propose a cooperation model of PPP. The private partner should be a financially sound and technically experienced company in the IT sector. We do not recommend cooperation with a private enterprise with a commercial interest in address commercialization.

This cooperation should be prepared by a public authority that is not commercially involved in the postcode and addressing project itself. It seems reasonable to consider UCC for such a task. We also recommend a pre-qualification process. Once a number of companies have been shortlisted, the partnership can be negotiated.

² These depend on the selected partner and the legal and financial conditions being applied.

³ Invariably street names, house numbers and localities

Annex 8 – Case study: Examples of French standardization rules

Address structure based on rules adopted by the French postal administration

The six basic rules of a standardized address

- a Information printed in order, starting with the nominative (name and/or company name) and ending with the place of destination.
- b Maximum of six lines (seven lines for international mail). Blank lines must be deleted.
- c Each line contains a maximum of 38 characters or spaces. (Each space, which must separate each word, counts as one character).
- d No punctuation marks, underlining or italics from line 4 “Thoroughfare number and name».
- e The LAST LINE always in capital letters (it is recommended that the last three lines be written in capital letters).
- f The address block must be justified to the left.

Presentation of address

- a The address represents the link between the sender of a message and the addressee. The quality of service provided (automated mail processing, search not needed for delivery, etc.) depends on the accuracy and clarity of the address.
- b A quality address is an address:
 - that is complete and includes all elements needed to locate and identify the addressee precisely and unambiguously;
 - whose structure consists of at most six lines, with a maximum of 38 characters or spaces per line;
 - whose components are ordered on lines from left to right, from top to bottom and from the specific to the general;
 - that is optically readable.

Content of the address

The address must contain all the information needed for its processing, i.e.:

- a The information needed to identify the natural or legal person for whom the item is intended;
 - surname and first name, and possibly title, qualification, function or profession;
 - company name or official abbreviation, corporate or establishment name;
 - department, section, etc., if necessary.
- b Delivery instructions:
 - information needed to identify the delivery point (door, apartment or letter box number, floor, corridor, staircase, etc.);
 - identification of occupant (Mr. X’s place of residence, place of work, etc.);

- additional information about delivery point (entrance, tower, construction, building, block, residence, etc.);
 - thoroughfare number and extension (if applicable) and thoroughfare (type and name);
 - specific information concerning delivery point (P.O. Box, poste restante, AUTHORIZATION, etc.) or named locality.
- c Information enabling transmission of item:
 - POSTCODE, followed by
 - name of locality of destination.

Address structure

- a General rules
 - The address is written in a maximum of six lines (seven for international mail) and each line must contain no more than 38 characters or spaces.
 - *The lines of the address are justified to the left. Any unused line must be deleted when the address is printed. An address may therefore be written on three to six lines (lines 1, 4 and 6 are obligatory).*
 - b Arrangement of information on lines of address
 - The lines may be numbered (for guidance). Certain lines may contain no information.
 - Moreover, one or two reference lines (subscriber or customer number, barcodes, etc.) may appear above the addressee’s address, provided that the lines used are separated from the address by a blank line and are justified to the left along with those of the address.
 - c Three types of address are possible: geographical address, geopostal address, postal address
 - An address is “geographical” when the correspondent receives mail at home or at his/her place of work and does not subscribe to a post office box service or any other delivery service provided by the postal administration.
 - *An address is “geopostal” when the correspondent receives mail at a post office box or through any other delivery service provided by the postal administration. A geopostal address consists of geographical and postal elements and indicates in a single and unique address:*
 - the customer’s geographical particulars (needed for visiting the customer in person);
 - the postal information (post office box or other) needed for proper delivery
- N.B.** – It is therefore necessary to indicate all of the address elements (geographical and postal) when they have been communicated to you and appear in your database.
- An address is “postal” when it is composed of only postal elements, without any geographical reference.

- d Two types of address depending on whether the addressee is a “private individual” or “company”
- *As indicated in the examples below, the structure of address lines 1 and 2 may vary, depending on whether the addressee is a private individual or a company:*
 - *For a private individual, the address type is as follows:*

Line 1 Form of address, surname, given name and possibly a title or profession

Line 2 Letter box or apartment number, staircase, floor, etc.

Line 3 Entrance, tower, construction, building, residence, industrial park, etc.

Line 4 NUMBER in thoroughfare + TYPE and NAME OF THOROUGHFARE

Line 5 DELIVERY INFORMATION (P.O. Box, poste restante), NAMED LOCALITY or HAMLET

Line 6 POSTCODE and LOCALITY of DESTINATION
 - *For a company or business, the address type is as follows:*

Line 1 Company name or trading name

Line 2 Identity of addressee, directorate, service and, if necessary, floor number, office number, etc.

Line 3 Entrance, tower, construction, building, residence, industrial park, etc.

Line 4 NUMBER in thoroughfare + TYPE and NAME OF THOROUGHFARE

Line 5 DELIVERY INFORMATION (P.O. Box, poste restante), NAMED LOCALITY or HAMLET

Line 6 POSTCODE and LOCALITY of DESTINATION
- Examples of complete addresses:

	For a private individual	For a company
Line 1	MONSIEUR JEAN DELHOURME	SOCIÉTÉ DUPONT
Line 2	CHEZ M COPEAU APP 2158	SERVICE COMMANDÉS
Line 3	ENTRÉE A BÂTIMENT LES JONQUILLES	CITÉ DESCARTES
Line 4	25 RUE ÉMILE ZOLA	5 RUE DE LA MAIRIE
Line 5	CAUDOS	BP 22
Line 6	33380 MIOS	17620 CHAMPAGNE

N.B. – The private individual or company may receive mail at a geographical, gepostal or postal address. It all depends on the method of delivery.

Composing international addresses

- a General rule: on outward international items, the name of the country of destination must always be printed:
- on the last line of the address, called “line 7” (line 7 is allowed for international items only);
 - in CAPITAL LETTERS;
 - preferably in the language of the dispatching country or in an internationally recognized language.
- b Writing an address on an international item intended for a country where the postcode comes before the locality (beginning of line 6)
- EXAMPLE: for an item intended for Switzerland (country where the postcode is placed at the beginning of the line), there are two possibilities:
- Line 6: 3015 BERNE
Line 7: SWITZERLAND
or
Line 6: CH–3015 BERNE
Line 7: SWITZERLAND
- NOTE: printing the address only with the country code (CH–3015 BERNE), and no country name, is to be avoided.
- N.B.**– ISO II country codes are available from the International Bureau or on the UPU website at <http://www.iso.ch/iso/en/prods-services/iso3166ma/index.html>.
- c Writing the address on an international item intended for a country where the postcode comes after the locality (end of line 6), appears by itself on line 6 or does not exist
- EXAMPLE: for countries whose postcode comes after the locality or appears by itself on the last line (e.g. United Kingdom), indicate country name only on line 7.
- Line 5: FAREHAM
Line 6: PO16 8BQ
Line 7: UNITED KINGDOM
- EXAMPLE: for countries that do not have postcodes (e.g. Ireland), indicate country name only on line 7.
- Line 6: DUBLIN 1
Line 7: IRELAND

Examples of addresses based on rules adopted by the French administration

Geographical addresses

Locality of destination contains the only delivery office.	Postcode is followed by the name of the delivery office.	MONSIEUR JEAN LAFFONT ROUTE DE VILLENAVE 65120 LUZ ST SAUVEUR
Locality of destination contains no delivery office.	Postcode is followed by the name of the locality of destination.	MONSIEUR LE MAIRE 2 PLACE DE LA MAIRIE 33330 ST LAURENT DES COMBES
Place of destination (hamlet, named locality) contains no delivery office.	Place of destination should appear by itself on the next to last line in example (LE POUEY), with last line indicating locality of destination.	MONSIEUR ROGER HAURINE AGRICULTEUR LE POUEY 65120 ESQUIEZE SERE
Locality of destination contains several delivery offices (called "decentralized delivery" town).	Postal area served by each of these offices is identified by last three digits of postcode.	MONSIEUR DUPUYS GEOMETRE 12 RUE DU MIDI 31400 TOULOUSE
	Example of city divided into districts (Paris, Lyon, Marseille) As each district is considered an administrative unit, the district No. is included in the code, here Marseille 7: 13007.	MONSIEUR JULES JACQUES 12 BOULEVARD DE LA CORDERIE 13007 MARSEILLE
Item addressed poste restante.	Code to be used is that of the delivery office in the area covered by the postal establishment of the place of delivery (Paris Auteuil office in example being the place of delivery located in the 16th arrondissement).	MONSIEUR DUVAL POSTE RESTANTE PARIS AUTEUIL 75016 PARIS
Addressee residing in a building complex. Additional delivery information (apartment No., staircase, entrance, tower, building) must appear in address if needed for locating addressee.	Complex consisting of one or more buildings with a specific geographical location (thoroughfare number and name) (line 4).	MONSIEUR YVES LE FORT INGENIEUR ESCALIER 1 BATIMENT A 4 ALLEE DES JONQUILLES 94260 FRESNES
	Complex with a specific name and a specific geographical location.	MONSIEUR GIRARD APPARTEMENT B LE BARCELEAU 1 ALLEE LIMOUSINE 91940 LES ULIS

Geopostal addresses

Addressee is served by special motorized route and/or the CEDEX code number is shared by several customers.	Customers without P.O. box service receiving at least 50 items per day. In this case, the traditional geographical address information should be retained.	JACQUES PHENIX ET FILS ELECTRICITE GENERALE 22 RUE LOUIS CONDORCET 59045 LILLE CEDEX
The delivery office is located in the same locality as the CEDEX customer.		MONSIEUR BERTRAND SOCIETE DUPONT SA 1 RUE JEAN JAURES BP 27 51050 REIMS CEDEX
The company and the delivery office are located in two different localities: this is the case with new towns, business centres and technology parks, urban areas.		MONSIEUR MERLIN SOCIETE DUPONT SA 1 RUE VICTOR HUGO BP 72 ST OUEN L AUMONE 95050 CERGY PONTOISE CEDEX

Examples of postal addresses

The addressee has a POSTRÉPONSE (reply coupon) contract.	The particular delivery information is sufficient. The traditional geographical address information should not appear.	MONSIEUR DUMONT AUTORISATION 73612 55021 BAR LE DUC
The addressee is an individual code holder and receives only business mail or subscriptions.	The geographical address information is not essential here either.	SOCIETE GEO 91911 EVRY

Possible abbreviations in addresses and how they are written

The rules adopted in France regarding the use of abbreviations are as follows:

- Abbreviated words in an address line should be used only when the number of characters and spaces in that line exceeds 38.
- Abbreviations are made word by word and by type of word (type of thoroughfare, titles, first name, articles, name).

Important: once the total number of characters and spaces on a line is 38 or less, stop abbreviating.

Only official, AFNOR-approved abbreviations are to be used (as indicated at the end of the annex).

Lines 1 and 2

The identity of the addressee and resident.

In the case of a natural person, the following may be abbreviated:

- forms of address (e.g. Mr. for Mister, Ms. for Madam or Miss);
- religious or professional title or military rank (e.g. Dr. for Doctor).

The addressee's surname and given name must not be abbreviated.

In the case of a legal person, the following may be abbreviated in the order shown:

- elements relating to the type or legal form of company;
- elements relating to the addressee's profession or function;
- terms used for subdivisions within the company (director, service, etc.);
- If need be, articles may be omitted.

Line 3

Abbreviations are used if necessary (e.g. ZI for "Zone industrielle" (Industrial Park)).

Line 4

Line 4 consists of the thoroughfare number (no more than five characters) and the thoroughfare name (no more than 32 characters).

The thoroughfare number contains no more than five characters.

- For numbering without extension, the thoroughfare number consists of 0 to 4 numbers.
- *For numbering with extension, it consists of 1 to 3 numbers followed by a space and one letter, the latter corresponding to the abbreviation for BIS (B), TER (T) and QUARTER (Q) or A, B, C, D, etc. when these letters are contained in the thoroughfare number.*

Where the thoroughfare number consists of a series of numbers (e.g. 15/17 or 17 to 19), only the first number should be used: **15/17** is written as **15** and **17 to 19** is written as **17**.

The thoroughfare name should contain no more than 32 characters

If the name exceeds 32 characters, the various address elements should be abbreviated on the basis of the AFNOR list of abbreviations (page 9) in the following order until there are 32 characters or less, at which time no further abbreviation is needed.

- First abbreviate the type of thoroughfare if listed on page 9; otherwise go to next step.
- Abbreviate religious or professional titles or military ranks.
- Use initials for given names.
- Omit articles (remember that particles (de, von, etc.) are not articles, but an integral part of the name).
- Use the first four characters of the type of thoroughfare if not already abbreviated in step 1. If the type of thoroughfare consists of two or more words, only the first word is abbreviated.
- Abbreviate names only as a last resort.

Line 5

The named locality is never abbreviated.

Line 6 (last line of address)

Name of locality. The postcode contains five characters and there must be a space between the code and the locality of destination.

Numbers included in the names of thoroughfares

Kings and popes

The names of kings and popes generally consist of a first name followed by a number. This number is always written in roman numerals, except for “the First», which may be abbreviated as 1ER or 1ERE.

Examples:

RUE DU PAPE JEAN XXIII

RUE ALBERT 1ER DE BELGIQUE

Dates

Days of the month and the year are written in Arabic numerals, while months are written out in full.

Example: RUE DU 11 NOVEMBRE 1918

Ordinal numbers

Ordinal numbers should always be written in arabic numerals, followed by ER for PREMIER, ERE for PREMIERE and E for all other numbers. There are no spaces between the characters used for ordinal numbers.

Example: AVENUE DU 140E RIA

This does not apply where the thoroughfare name consists

of only one ordinal number, in which case IEME, IER or IERE must be written:

Example: PLACE DU 77IEME

Cardinal numbers

In general, cardinal numbers must always be written in Arabic numerals, regardless of where they are found in the thoroughfare name.

Example: RUE DES 4 VENTS

However, when the number is neither preceded nor followed by a word, it is written in full.

Example: PLACE DES QUATRE VINGTS

N.B.– If municipal by-laws, street signs or customs allow the writing of numbers in full, then this reference should be applied.

Alphabetical list of abbreviations allowed for type of thoroughfare*

* The examples of abbreviations provided here have not been translated from French. Countries interested in examples in another UPU language should contact postcode@upu.int for similar lists prepared by other countries in that language.

Abbreviations based on AFNOR standard XP Z 10–011

Word	Abbreviation
Allée	ALL
Avenue	AV
Boulevard	BD
Centre	CTRE
Centre commercial	CCAL
Immeuble(s)	IMM
Impasse	IMP
Lieu-dit	LD
Lotissement	LOT
Passage	PAS
Place	PL
Résidence	RES
Rond-Point	RPT
Route	RTE
Square	SQ
Village	VLGE
Zone d'activité	ZA
Zone d'aménagement concerté	ZAC
Zone d'aménagement différé	ZAD
Zone industrielle	ZI

For types of thoroughfare not listed, the first four letters are used.

Example:

CHEM**IN** = CHEM

SENT**IER** = SENT

Alphabetical list of abbreviations allowed for words other than type of thoroughfare

Word	Abbreviation
Adjudant	ADJ
Aérodrome	AERD
Aérogare	AERG
Aéronautique	AERN
Aéroport	AERP
Agence	AGCE
Agricole	AGRIC
Ancien(nement)	ANC
Appartement(s)	APP
Armement	ARMT
Arrondissement	ARR
Aspirant	ASP
Association	ASSOC
Assurance	ASSUR
Atelier	AT
Baraquement	BRQ
Bas(se, ses)	BAS
Bataillon(s)	BTN
Bâtiment(s)	BAT
Bis	B
Boîte Postale	BP
Cabinet	CAB
Canton(al)	CANT
Cardinal	CDL
Case Postale	CP
Chambre	CHBR
Citadelle	CTD
Collège	COLL
Colonel	CNL
Colonie	COLO
Comité	CTE
Commandant	CDT
Commercial	CIAL

Word	Abbreviation
Commune(al)(aux)	COM
Compagnie	CIE
Compagnon(s)	COMP
Coopérative	COOP
Croix	CRX
Délégation	DELEG
Départemental(aux)	DEP
Directeur(tion)	DIR
Division	DIV
Docteur	DR
Economie(que)	ECO
Ecrivain(s)	ECRIV
Enseignement	ENST
Ensemble	ENS
Entrée(s)	ENT
Entreprise	ENTR
Epoux(se)	EP
Etablissement	ETS
Etage	ETG
Etat Major	EM
Evêque	EVQ
Faculté	FAC
Forêt (Forestier)	FOR
Français(e)	FR
Fusilier	FUS
Gendarmerie	GEND
Général	GAL
Gouvernement(al)	GOUV
Gouverneur	GOU
Grand	GD
Grande	GDE
Grandes	GDES
Grands	GDS
Haut	HT
Haute	HTE
Hautes	HTES
Hauts	HTS
Hôpital(aux)	HOP
Hospice (Hospitalier)	HOSP

Word	Abbreviation
Hôtel	HOT
Infanterie	INFANT
Inférieure	INF
Ingénieur	ING
Inspecteur	INSP
Institut	INST
International(e)	INTERN
Laboratoire	LABO
Lieutenant	LT
Lieutenant de vaisseau	LTDV
Madame	MME
Mademoiselle	MLLE
Magasin	MAG
Maison	MAIS
Maître	ME
Maréchal	MAL
Maritime	MAR
Médecin (Médical)	MED
Mesdames	MMES
Mesdemoiselles	MLLES
Messieurs	MM
Militaire	MIL
Ministère	MIN
Monseigneur	MGR
Monsieur	M
Municipal	MUN
Mutuel	MUT
National	NAL
Notre Dame	ND
Nouveau(elle)	NOUV
Observatoire	OBS
Pasteur	PAST
Petit	PT
Petite	PTE
Petites	PTES
Petits	PTS
Police	POL

Word	Abbreviation
Préfet (Préfecture)	PREF
Président	PDT
Professeur	PR
Professionnel(le)	PROF
Prolongé(e)	PROL
Propriété	PROP
Quater	Q
Quinquies	C
Recteur	RECT
Régiment	RGT
Région(al)	REG
République	REP
Restaurant	REST
Saint	ST
Sainte	STE
Saintes	STES
Saints	STS
Sanatorium	SANA
Sergent	SGT
Service	SCE
Société	SOC
Sous Couvert	SC
Sous-Préfet (préfecture)	SPREF
Supérieur(e)	SUP
Syndicat	SYND
Technicien(que)	TECH
Ter	T
Tri Service Arrivée	TSA
Tunnel	TUN
Universitaire	UNVT
Université	UNIV
Vélodrome	VELOD
Veuve	VVE
Vieille(s)	VIEL
Vieux	VX
Ref. AFNOR standard XP Z 10-011	

1.1.9 Alphabetical list of authorized abbreviations based on legal form of companies

Legal form	Abbreviation
Coopérative d'Utilisation de Matériel Agricole en commun	CUMA
Etablissement Public à caractère Industriel et Commercial	EPIC
Etablissement Public Administratif	EPA
Groupement Agricole d'Exploitation en Commun	GAEC
Groupement d'Intérêt Economique	GIE
Groupement d'Intérêt Public	GIP
Groupement Européen d'Intérêt Economique	GEIE
Office Public d'Habitation à Loyer Modéré	OPHLM
Société A Responsabilité Limitée	SARL
Société Anonyme	SA
Société Civile de Placement collectif Immobilier	SCPI
Société Civile Professionnelle	SCP
Société Coopérative Ouvrière de Production et de crédit	SCOP
Société d'Aménagement Foncier et d'Equipement Rural	SAFER
Société d'Economie Mixte	SEM
Société d'Intérêt Collectif Agricole	SICA
Société d'Investissement à Capital Variable	SICAV
Société en Nom Collectif	SNC
Société Immobilière pour le COMmerce et l'Industrie	SICOMI
Société Mixte d'Intérêt Agricole	SMIA
Syndicat Intercommunal à Vocation Multiple	SIVOM
Syndicat Intercommunal à Vocation Unique	SIVU

Advice for businesses to ensure the accurate collection of address data by post (using coupons)

To encourage businesses to collect accurate address data from their customers, emphasize the fact that

“A wrong address is one sure way to lose a potential customer”

An address must be complete and accurate.

The collection of data by means of reply coupons must conform to certain principles:

- A reply coupon with fewer than six lines of 38 characters each is an incomplete coupon. While some customers are able indicate their correct address on

the coupon, many cannot include their floor, building, etc., which renders their address incomplete.

- We therefore recommend one of the two pre-formatted presentations given below (six lines of 38 characters each) for collecting address data.

Presentation of “open-box” data entry coupons

This format guides the customer in writing his/her address. With the lines pre-formatted and the location of the

address elements indicated below each line, the customer is able to enter each element in its proper location. This facilitates the manual entry or OCR (optical character recognition) capture of the address data.

The diagram shows a series of horizontal lines with vertical tick marks indicating where to enter specific address information. The labels for each line are as follows:

- LAST NAME and FIRST NAME or COMPANY NAME
- APARTMENT or LETTER-BOX No. – FLOOR – CORRIDOR – STAIRWAY or SERVICE – IDENTITY of ADDRESSEE
- ENTRANCE – TOWER – BLOCK – BUILDING – RESIDENCE – INDUSTRIAL PARK
- EXTENSION No. THOROUGHFARE TYPE and NAME (e.g. AVENUE DES FLEURS)
- SPECIAL DELIVERY INFORMATION and No. (e.g. P.O. BOX, INWARD SORTING, etc.) or NAMED LOCALITY
- POSTCODE PLACE OF DESTINATION
- TEL. FAX
- E-MAIL (with an @ symbol icon)

Presentation of “closed-box” coupons

This format works better than the “open-box” format since the closed boxes make it easier for the customer to

write each character of the address clearly and legibly. It is therefore ideal for OCR data capture.

The diagram shows a similar layout to the 'open-box' coupon, but each address element is contained within a distinct rectangular box. The labels for each box are:

- LAST NAME and FIRST NAME or COMPANY NAME
- APARTMENT or LETTER BOX No. – FLOOR – CORRIDOR – STAIRWAY or SERVICE – IDENTITY of ADDRESSEE
- ENTRANCE – TOWER – BLOCK – BUILDING – RESIDENCE – INDUSTRIAL PARK
- EXTENSION No. THOROUGHFARE TYPE and NAME (e.g. AVENUE DES FLEURS)
- SPECIAL DELIVERY INFORMATION and No. (e.g. P.O. BOX, INWARD SORTING, etc.) or NAMED LOCALITY
- POSTCODE PLACE OF DESTINATION
- TEL. FAX
- E-MAIL (with an @ symbol icon)

Optical and mechanical properties of paper used to contain postal items

Optical properties of paper

The optical quality of the paper should conform to ISO standard 1831 – Printing specifications for optical character recognition (see <http://www.iso.ch/iso/fr/Catalogue-DetailPage.CatalogueDetail?CSNUMBER=6480&ICS1=35&ICS2=40&ICS3=>).

a Print quality of the address

For the addressee's address, a character is acceptable when the reflectance on white is greater than 40% over all

points forming the character image. This figure should be 65% for characters printed on colour. In the address field, characters may be printed only on a matte (non-reflective) background.

b Opacity

Opacity must be greater than 85% over the entire surface of the envelope.

No graphic element with a contrast greater than 10% should show through in the addressing area (e.g. an impression on the inner wall of the envelope or on the sheets underneath).

c Colour of paper

The only colours allowed in the addressing area are white or a solid pastel colour. In the latter case, there should be sufficient contrast between the pastel colour and the printed characters (reflectance > 40% on white, > 65% on colour; opacity > 85%).

The colour of the franking and cancellation area should allow all impressions to be legible.

Any colour may be used outside the addressing, franking and cancellation areas.

d Quality of the transparent window panels

The transparent window panels are normally made of glazed transparent paper (glassine) or matte polyethylene film and must be sufficiently transparent to allow optical reading. Shiny or glossy transparent panels must not be used.

Mechanical properties of paper*a Resistance*

Papers used to make correspondence envelopes or packets and items in card form must be sufficiently resistant to permit the proper printing of addresses and automatic sorting.

Correspondence envelopes or packets may not be made of paper containing striations.

Envelopes made of kraft paper cannot be processed by machine.

Required grammage:

- for envelopes: > 80 g/m²;
- for items in card form: > 200 g/m²;

b Stiffness

Stiffness or resistance to bending is an important parameter allowing the item to enter and pass through the sorting machine.

An insufficiently rigid envelope may, for example, fold in on itself, causing items to jam inside the machine. Jamming can destroy all or part of the item.

Envelopes made of translucent or “glazed” paper cannot be processed by machine.

Stiffness is measured along the length of the item.

- Stiffness is based on many factors: size and weight of the envelope, number and nature of the inserts, nature of the paper used, shape of the flaps, presence of windows, length of glued surfaces, etc.
- Stiffness is measured in milli-newtons per meter and must be:
 - for an envelope, > 0.35 mN/m;
 - for a card, > 0.72 mN/m.

c Air permeance

To avoid sorting errors resulting from improper processing on machines equipped with air-suction systems, the paper used for postal items should not be too permeable.

The permeance of an item is determined by the permeance of each of its constituents (e.g. envelope + contents). Air permeance must always be less than 1 cm³ of air/m² Pa.s.

d Static friction coefficient (SFC)

This parameter comes into play at numerous points along the mail processing chain, particularly when items are sorted or when they are stacked in pigeonholes.

This coefficient, which is measured lengthwise along the outside faces of the item only, should be < 0.4.

Characteristics of fonts used for writing addresses and read by optical character recognition systems

N.B. – In this document, the address lines are as follows:

- line 4: THOROUGHFARE NO. and NAME;
- line 5: DELIVERY INFORMATION (P.O. BOX, etc.) or NAMED LOCALITY;
- line 6: POSTCODE and LOCALITY

Shape of characters

Although devices that read/code postal addresses can accept a good many fonts used in France, tilted, italicized or connected characters, characters with exaggerated serifs or which imitate handwriting cannot be sorted by machine. Nor can logos be used in place of the addressee's name. In order to ensure a good read rate, it is recommended to comply with the detailed descriptions given below. Examples of character fonts not to be used

*Monsieur et Madame HARDY
98 AVENUE DE VERDUN
75008 PARIS*

characters in italics

or

Monsieur et Madame HARDY
98 AVENUE DE VERDUN
75008 PARIS

characters with serif

or

*Monsieur et Madame HARDY
98 AVENUE DE VERDUN
75008 PARIS*

characters connected

Height of characters

The height of the characters should measure:

- for upper case, between at least 2.4 mm and at most 5 mm;
- for lower case, between two thirds and three quarters of the maximum height of upper case characters appearing on the same address line, or at least 1.6 mm and at most 3.7 mm.

All characters in the same address line must be the same size.

Height of upper case characters

MIN _____ 2.4 mm MAX _____ 5 mm

Height of lower case characters

min _____ 1.6 mm max _____ 3.7 mm

N.B.– Upper case characters are required on line 6 (postcode and place of destination) and recommended on lines 4 and 5 (place of delivery and related information) in order to ensure a better read rate.

Thickness of character lines

Line thickness should be consistent and range from 8 to 16% of the height of the character (0.25 to 0.8 mm). The character line must be continuous.



Different character fonts

For printing the address, character fonts with equal pitch are preferred; those with variable pitch are acceptable, but may result in optical reader rejections.



Number of characters per inch

The number of characters or spaces per inch must be between 8 and 12 (1 inch = 2.54 cm). The characters should not be connected and should comply with the character spacing rules recommended below.

Number of characters per inch: between 8 and 12 – 1 inch = 2.54 cm

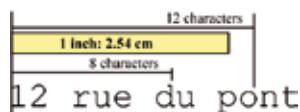
Because of its serifs and flat and thin portions, the Times New Roman font gives a poor OCR read rate.

In the office automation field, the following fonts are preferred:

**VERDANA, LUCIDA
CONSOLE and COURIER
NEW** in 12 or 10 point.

However, a “test print”

should be made to determine whether the reproduction complies with the requirements (certain printers do not recognize all character fonts).



Character spacing

In order to clearly identify each character of a word, the optical reader requires a vertical space between each character.

This vertical band, called “character spacing” is indispensable for optical reading. This spacing must range in width between 0.4 and 2 mm (and should not be confused with character pitch).

Reminder: serif or connected characters are not allowed since they do not enable the optical reader to identify each character.



Print colour of characters

For a good read rate, black or dark colours are recommended (reflectance > 40% on white, > 65% on colour; opacity > 85%).

Optical and mechanical characteristics of the address

In addition to the provisions regarding the composition and wording of addresses, there are also recommendations on how to print addresses on items.

Formulating these recommendations, however, is not possible without an overall assessment of how the item is made up, i.e. how it is packaged and what material is used to make the address window panel. Implementing these recommendations will ensure greater legibility of addresses.

Printing methods

The address characters may be printed by the following means:

- PC printer;
- industrial printing means (offset, laser, matrix or other).

Optical lines

Optical readers are able to identify certain address elements, provided these elements are positioned in accordance with the rules defined in part I.

This information, contained in the last three lines of the address (called “optical lines») is as follows:

- number, type and name of thoroughfare (line 4);
- specific delivery information (line 5);
- postcode and place of destination (line 6).

Printing rules

- No address line is to be underlined or written in italics and no punctuation marks (brackets, oblique stroke, dash, etc.) are to be used. Apostrophes are allowed only on lower cases characters.
- Remember: to increase the read rate for lines 4 and 5 (place of delivery and related information), it is strongly recommended to print these lines in upper case characters.
- Line 6 (postcode and place of destination) must always be printed in upper case characters.
- Upper case letters should not include any accents and the letter "I" should not be dotted.

Spaces between lines

The height of the space between two lines should be at least 30% of the height of the tallest character contained in that line.

Example:

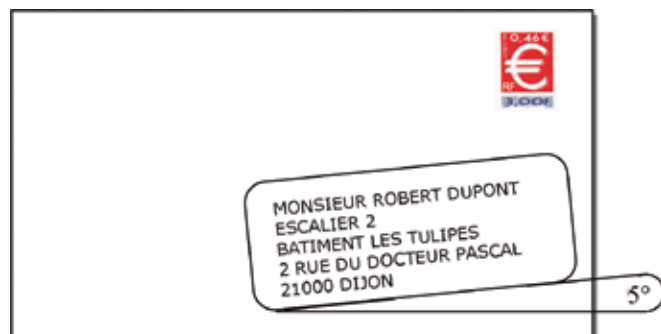
Monsieur Robert DUPONT _____
2 RUE DU DOCTEUR PASCAL
21000 DIJON

Space between lines

Slant of the address lines or the address label

The slant of address lines or the address label should not exceed 5°.

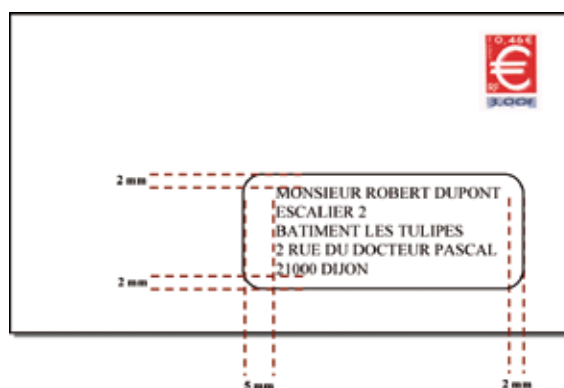
Example:



Position of address in window

When a transparent panel is used, no character should appear less than 5 mm from the left edge or less than 2 mm from the other edges.

Example:



Common rules for the presentation and make-up of all items (envelopes, window envelopes and cards) and special rules for envelopes and window envelopes

Presentation of items

Presentation of items in envelopes or packets

Items should be rectangular, closed, evenly flat and of uniform thickness. They should not contain paper clips, staples, rigid or metallic objects.

Sizes accepted:

- at least: 90 x 140 mm (tolerance + 2 mm);
- at most: 162 x 235 mm (tolerance + 2 mm);
- thickness: < 5 mm;
- weight: < 35 g.

The ratio of the side dimensions (L/l) should be 1.4 or greater.

The most common formats used¹ are:

- DL format: 110 x 220 mm;
- C 6 format: 114 x 162 mm;
- C 5 format: 162 x 229 mm.

The recommended paper grammage for the manufacture of envelopes and packets is 80 g/m², but should not be lower than 72 g/m².

Presentation of items in card form

Items in card form must be rectangular and made of cardboard or fairly stiff non-reflective paper allowing automated mail sorting. They should not have any projecting or raised relief parts.

Sizes accepted:

- at least: 90 x 140 mm (tolerance + 2 mm);
- at most: 110 x 220 mm (tolerance + 2 mm);
- thickness: < 5 mm;
- weight: < 35 g.

The ratio of the side dimensions (L/l) should be 1.4 or greater. The minimum grammage of the cardboard/paper used for the manufacture of the item in card form is 200 g/m².

“All-in-one” items

“All-in-one” or “self-sealable” items (envelopes consisting of paper sheets folded and sealed edge-to-edge with or without detachable strips) are not acceptable for machine processing (risk of machine jamming during sorting).

Definition and description of the front of the item

The front corresponds to the side of the item not provided with the closing flap.

The areas on the front should be arranged as shown on standard formats.

The area reserved for the addressee’s address should be located on the front.

The front includes the following areas:

- the addressing area, consisting of:
 - the area reserved for addressee’s address;
 - the two blank areas located to the right and left of the addressing area;
 - the blank area below the addressing area, reserved for coding¹;
- the franking and cancellation area;
- the area for use by the sender; this area is used to indicate the sender’s name and address in the upper left-hand corner.

NOTE: Indication of the sender’s address on all items is **strongly recommended**.

Definition and description of the back of the item

The back of the item is the plain side provided with the closing flap, which must be perfectly sealed in order for the item to be processed by machine.

The closing flap must be located:

- for an envelope:
 - either above, behind the franking area;
 - or below, behind the coding area;
- for a packet:
 - on the right side, behind the addressing area.

The back of the item is for use by the sender, who may have graphic elements or advertisements printed there. The sender may also include an advertising window, provided that the envelope already includes an “addressee address” window on the front.

Blank area on the back of items intended for abroad

In accordance with international standards for items intended for abroad, an area 20 mm high on the bottom of the back should be left blank.

Rules for all items in envelopes or packets or in card form**Position and description of address area**

The address area has to be positioned properly in order to:

- enable rapid optical reading of the addressee’s address;
- facilitate manual sorting and delivery.

The area reserved for the addressee’s address is on the front of the item:

- at least 15 mm from the right-hand edge;
- at least 20 mm from the bottom edge;
- within the address area (see diagrams on pages xx and xx).

No wording or extraneous matter is to appear:

- to the right of the address;
- below the address;
- to the left of the address, within at least 20 mm of the start.

The address may also appear in a window (see rules for window envelopes).

Position and description of the franking and cancellation area

The franking and cancellation area must be parallel to the longer side and located in the upper right-hand corner of the item.

It must be at least:

- 74 mm long;
- 40 mm wide.

For certain franking machines, the franking and cancellation area may require a blank area longer than 74 mm (120 or even 160 mm).

All franking information must be clearly printed so that all marks or impressions can be read and prepayment verified.

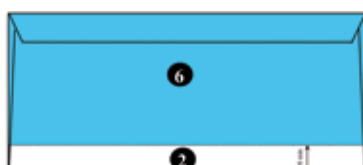
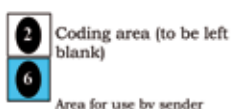
Position of coding area

On the front of the item, extending from the right edge, the area located below the address parallel to the longer side must remain free of any wording or extraneous matter to enable coding marks to be applied.

This area must be at least 20 mm high and 140 mm long, extending from the right side of the item. Nevertheless, a blank area at least 20 mm high along the entire bottom length of the item is recommended.

Position of the area for use by the sender

The sender has a free area in the left-hand corner of the front of the item (pages 26 and 27), which can be used for advertising messages, visual images or an advertising window. The sender must leave a space of 20 mm between the messages, images or advertising window and the start of the address.



Additional security area

Area located between the addressing area and the left edge of the envelope opposite the addressing area (area ④, in diagrams).

Although this area may be used by the sender for visual images, it is preferable to leave it blank. Any impressions in this area may interfere with the machine's optical reader and result in missorted or rejected items.

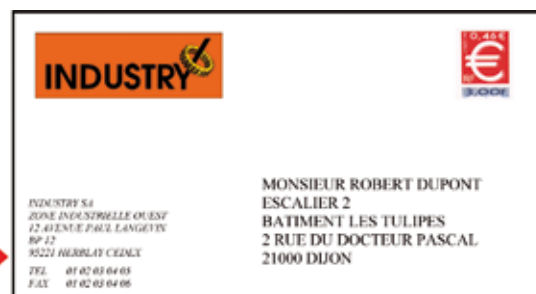
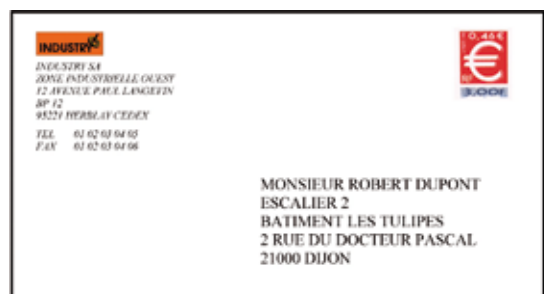
Indication of the sender's name and address

It is strongly recommended to indicate the sender's name and address on all items specifically on the front in the area

reserved for use by the sender or in the impression of the removable block if a franking machine is used.

The sender's name and address must be:

- unique; items should indicate only one address for the sender; this is the address to which the item will be returned if undeliverable (sender or service provider);
- indicated on the same side of the item as the addressee's address;
- indicated in the upper left-hand corner, parallel to the longer side of the item, or in the impression of the franking machine's removable block;
- complete and perfectly legible to make the item easier to return if undeliverable;
- located in France.



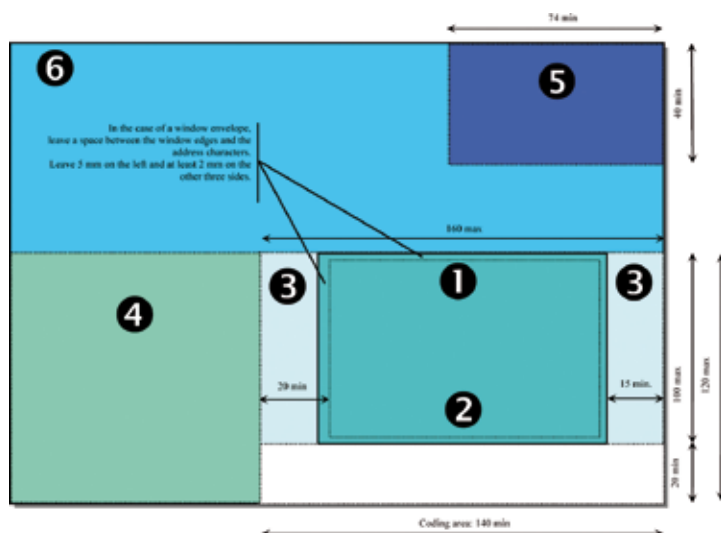
General case for any format (front):

Minimum: 90 x 140 mm

Maximum: 162 x 235 mm

L/I ratio: > 1.4

Sides given in mm



- ① Area for addressee's address
- ② Coding area (to be left blank)
- ③ Address detection area (to be left blank).
- ④ Additional security area (preferably to be left blank)
- ⑤ Area reserved for prepayment (franking) and cancellation
- ⑥ Area left for use by sender

To determine the dimensions of the reference areas, start in the lower right-hand portion of the item.

First establish areas ① to ③,

next area ⑤,

then possibly area ④.

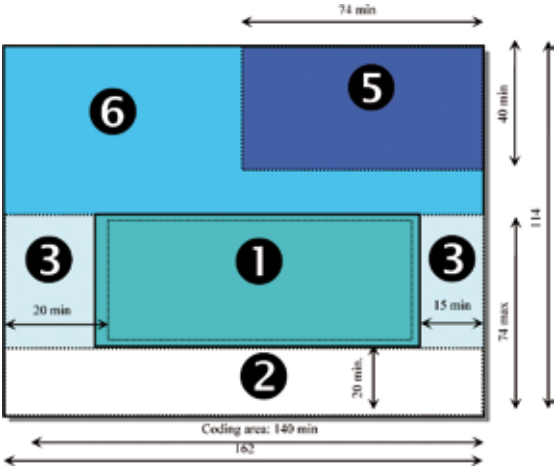
Area ⑥ remaining is for use by the sender.

N.B.– Areas ① to ③ make up the address area.

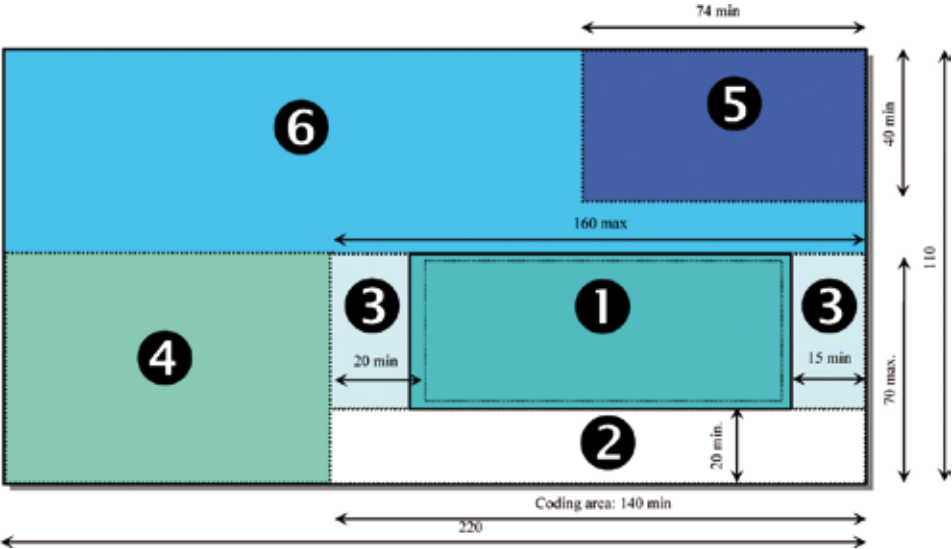
If the addressee's address is positioned in the upper part of the address area (in the case of C 5 window envelopes), the area below the address must be left

Standard formats

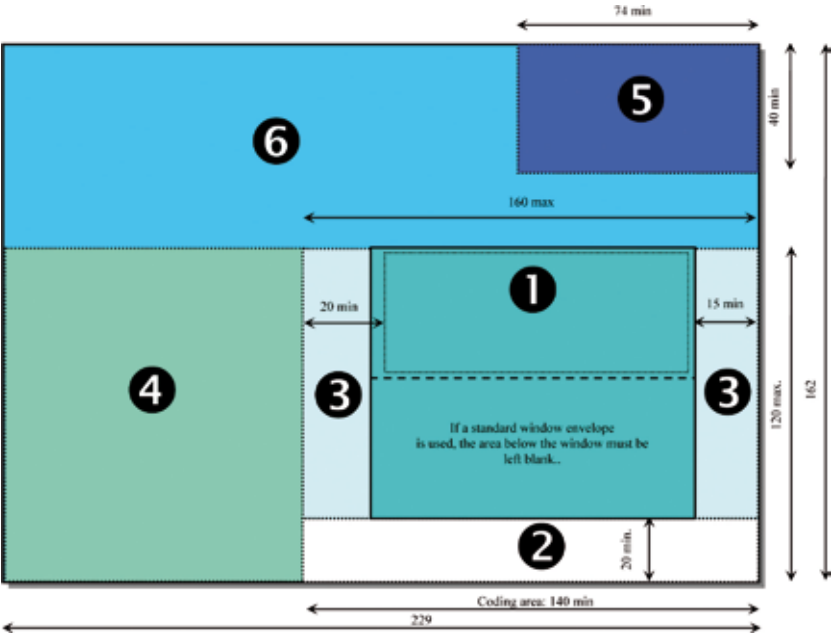
C 6: 114 x 162 mm



DL: 110 x 220 mm



C 5: 162 x 229 mm



Sides given in mm

Rules for windows envelopes or packets

Position of the window for the addressee's address

The address window is located:

- on the front of the envelope, in the area reserved for the addressee's address;
- at least 15 mm from the right edge of the envelope;
- at least 20 mm from the bottom edge of the envelope;
- at least 40 mm from the top edge of the envelope.

Dimensions of the window for the addressee's address

The size of the address window should enable the address to be written on a maximum of six lines, with 38 characters or spaces per line, in accordance with the optical and mechanical characteristics of addresses.

The dimensions of the window should no more than 100 x 120 mm.

For guidance, it is recommended to use windows that are at least 40 x 100 mm.

If the sender wishes to have references or barcodes appear in the upper part of the window, the size of that window should enable this information to be printed without affecting the readability of the address.

Other conditions of acceptance:

- The address window must be rectangular.
- It must be located at least 20 mm from the bottom and right edges of the envelope.
- It must be oriented lengthwise, i.e. parallel to the longer side of the envelope.
- It must not be bordered by a band or coloured line.
- No extraneous information should appear in the window to the left or right of or below the address, regardless of any movement of the insert inside the envelope.
- Only the addressee's address should appear in the window. Specific reference information (subscription number, barcode, etc.) may appear above the address as long as a blank line separates this information from the address.
- The contents of the envelope must be folded or cut in such a way that, even if the contents move inside the envelope, the entire address remains visible through the panel and no characters appear less than 5 mm from the left edge of the window and less than 2 mm from the other three edges after tapping the envelope on its bottom and left edges.
- The use of a transparent panel is obligatory and the

panel's edges must be perfectly glued to the inside edges of the window cut-out of the envelope or packet.

Additional window

Envelopes may include a second window, in addition to the one used for the addressee's address.

Only envelopes or packets with a window on the front for the addressee's address may include this additional window, on either the front or the back.

Even with this additional window, the envelope or packet should be sufficiently rigid so as to avoid folding in on itself, causing blockages, etc.

Only one additional window is allowed:

- either an advertisement.

Window for the sender's address

This window must be located on the front, in the area for use by the sender at least 20 mm from the upper and left edges of the envelope, and may be used for all formats.

Advertisement window

The use of a transparent panel in the advertisement window is obligatory and the panel's edges must be perfectly glued to the inside edges of the window cut-out of the envelope or packet.

- Advertisement window on the front
 - An advertisement window on the front must be located in the area for use by the sender and must not extend into the part between the cancellation area and addressing area.
 - It may not be used for the addressee's address.
 - It must be located at least 20 mm from the edges of the envelope and at least 20 mm from the address window.
- Advertisement window on the back
 - An advertisement window on the back is acceptable only for envelopes or packets between 229 and 235 mm long and between 120 and 162 mm wide.
 - The edges of the window must be located at least 20 mm from the edges of the envelope.
 - The advertisement window must not contain any address.

Transparent envelope

Entirely transparent envelopes, even if provided with an address label, as well as envelopes which have an open panel (no glazed paper or film) or envelopes made of translucent paper, cannot be processed by machine.

Possible background colours in the addressing area

The Pantone colour chart references below may be used to determine whether a specific colour is acceptable in the addressing area. This applies to non-reflective paper only. In this case, the reflectance factor between the printed characters and the paper used must be greater than 65% and the opacity factor must be greater than 85%.

Colour chart page number	COLOURS ACCEPTED		
2 U	100 U	101 U	102 U
3 U	106 U	107 U	108 U
4 U	113 U	114 U	115 U
5 U	120 U	121 U	122 U
6 U	127 U	128 U	129 U
7 U	134 U	135 U	136 U
7.5 U	1345 U	1355 U	1365 U
8 U	141 U	142 U	143 U
9 U	148 U	149 U	150 U
10 U	155 U	156 U	157 U
10.5 U	1555 U	1565 U	1575 U
11 U	162 U	163 U	164 U
11.5 U	1625 U	1635 U	1645 U
12 U	169 U	170 U	171 U
13 U	176 U	177 U	178 U
13.5 U	1765 U	1775 U	1785 U
14 U	182 U	183 U	184 U
15 U	189 U	190 U	191 U
16 U	196 U	197 U	
17 U	203 U	204 U	
18 U	210 U	211 U	
19 U	217 U	218 U	
20 U	223 U	224 U	
21 U	230 U	231 U	
22 U	236 U	237 U	
23 U	243 U	244 U	
24 U	250 U		
25 U	256 U		
25.3 U	2563 U		
25.7 U	2567 U		
26 U	263 U		
26.5 U	2635 U		
28 U	277 U		
29 U	283 U		
30 U	290 U		
31 U	297 U		
31.5 U	2975 U		
32 U	304 U		
34 U	317 U		
35 U	324 U		
35.2 U	3242 U		
35.5 U	3245 U		
35.8 U	3248 U		
36 U	331 U		

Colour chart page number	COLOURS ACCEPTED		
38 U	344 U		
39 U	351 U		
41 U	365 U	366 U	
42 U	372 U	373 U	
43 U	379 U	380 U	
44 U	386 U	387 U	
45 U	393 U	394 U	395 U
45.5 U	3935 U	3945 U	3955 U
46 U	400 U		
48 U	413 U		
49 U	420 U		
50 U	427 U	428 U	
51 U	434 U		
52 U	441 U		
52.1 U	WG1 U		
52.3 U	CG1 U		
53 U	453 U	454 U	
53.5 U	4535 U	4545 U	
54 U	459 U	460 U	461 U
55 U	468 U		
55.5 U	4685 U		
56 U	474 U	475 U	
56.5 U	4745 U	4755 U	
57 U	481 U	482 U	
58 U	487 U	488 U	489 U
59 U	495 U	496 U	
60 U	502 U	503 U	
60.5 U	5025 U	5035 U	
61 U	509 U	510 U	
62 U	516 U	517 U	
62.5 U	5165 U	5175 U	
63 U	524 U		
63.5 U	5245 U		
64 U	530 U	531 U	
64.5 U	5305 U	5315 U	
65 U	537 U	538 U	
66 U	545 U		
66.5 U	5455 U		
67 U	552 U		
67.3 U	5523 U		
67.7 U	5527 U		
68 U	559 U		
68.5 U	5595 U		
69 U	566 U		
69.5 U	5665 U		
70 U	573 U		
71 U	579 U	580 U	
71.3 U	5793 U	5803 U	
71.7 U	5797 U	5807 U	
72 U	585 U	586 U	587 U
72.5 U	5855 U	5865 U	5875 U

Annex 9 – Case study: Morocco

Example of a country involved in the introduction of postcodes

Barid Al-Maghrib, the Moroccan designated operator, has upgraded its postcodes as part of an effort to improve the quality of its mail service and modernize the processing chain, so as to respond better to the requirements of its private, professional and corporate customers.

Morocco's administrative set-up

Morocco is divided into 16 administrative regions. Each region is divided into provinces and prefectures. Each province and prefecture is divided into districts (1,504 in all).

Postal organization

Barid Al-Maghrib's operations are structured around five sorting centres that centralize and distribute mail between nine postal routing zones.

Administrative divisions



Postal divisions



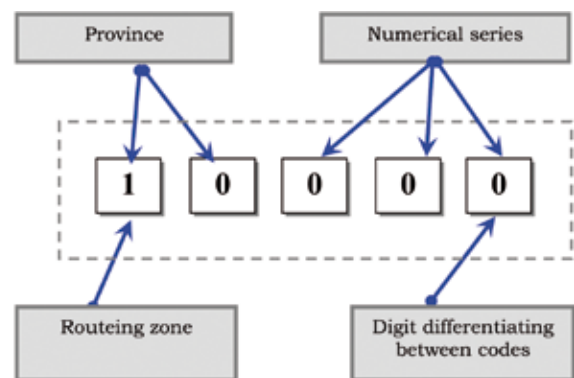
Usefulness of postcodes for the country

Thanks to postcodes, significant improvements can be made to processing operations that are directly dependent on addresses, namely:

- ☐ mail processing;
- ☐ targeting and marketing operations;
- ☐ automated sorting;
- ☐ cleaning and updating of address data.

Structure of postcodes in Morocco

Morocco chose a five-digit postcode.



Composition of the postcode in Morocco

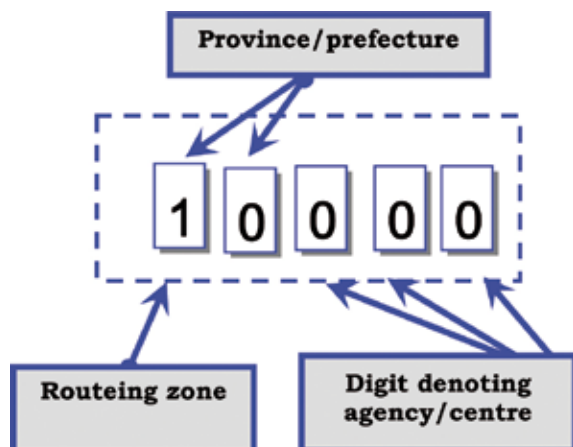
1 – the first digit denotes the routing zone;
 2 – the first two digits denote the province;
 3 – the last three digits denote a sector, an agency/centre or a customer, according to the code ending;
 4 – a sector may be a whole locality (e.g. town) or a district or group of districts in a large town or city;
 5 – codes are differentiated by the following endings (fifth digit):

- 0, 1, 7 and 8 for sector codes (home delivery);
- 2, 3, 4, 5 and 6 for codes of Barid Al-Maghrib agencies/centres (delivery to P.O. boxes and counters), regardless of the type of agency or centre;
- 9 for codes of large-volume mail recipients.

Mounting a successful campaign to disseminate/promote postcodes

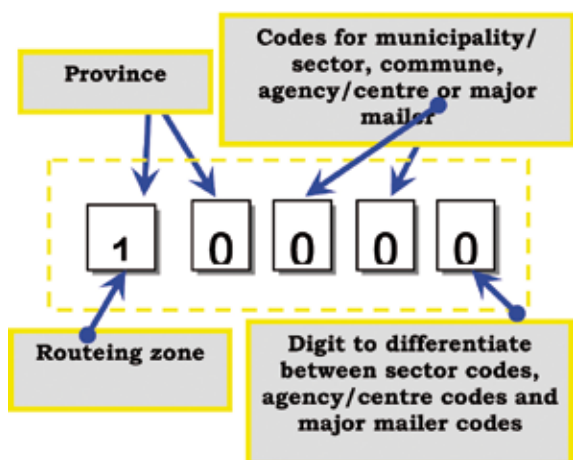
As part of its efforts to improve the quality of its mail service and to prepare for automated sorting, Barid Al-Maghrib has modernized its postcodes by upgrading the whole coding system. Whereas the old postcodes allowed for only two delivery options (urban and P.O. boxes), the new five-digit codes are structured in a way that allows for several options:

- geographical or sectoral delivery (by district or group of districts);
- delivery by agency (counter/P.O. box);
- delivery by large-volume mail recipient
- etc.

Illustrations:**1 – Old postcode structure**

Two delivery options:

- urban delivery
- P.O. box delivery

2 – New postcode structure

Several delivery options:

- sectoral delivery: district or group of districts
- P.O. box or counter delivery
- delivery to large-volume mail recipients

In terms of mail production management, thanks to the new postcodes Barid Al-Maghrib staff can properly manage processing, efficiently carry out sorting, better organize distribution operations and significantly reduce the number of inquiries.

At the same time, the new postcodes markedly improve Barid Al-Maghrib's external image, because all its customers' expectations are now met: major mailers benefit from standardized address files, shorter processing times and the option of geographical targeting; and private customers can see better, more reliable and faster mail delivery.

The aim: to achieve a postcode penetration rate of 89% by end 2010.

→ Postcode penetration rates for key account mail (KA)

Postcode accuracy – first half 2009 (1)	80 %
Postcode accuracy – end 2009	90 %
Postcode accuracy – end 2010	95 %

→ Postcode penetration rates for general public mail (GP)

Postcode accuracy – first half 2009	40 %
Postcode accuracy – end 2009	60 %
Postcode accuracy – end 2010	70 %

(1) Weighting (GP:KA = 20:80)

Integrated postcode promotion programme

In order to ensure that postcodes are successfully disseminated and promoted, training and (internal and external) communication campaigns are being conducted, with the assistance of communication professionals.

Internal activity programme

- One-day training sessions for sorters, postmen and other operational staff in every region. Staff members are taught the advantages of the new postcodes and encouraged to make the general public constantly aware of the need to use postcodes.
- Barid Al-Maghrib staff members are provided with a range of communication materials: a personalized letter signed by the Director General, posters, leaflets and brochures (models annexed).

External activity programme

- A large-scale media campaign on television and radio and in the press. The aim is to inform the general public and business world of the importance of postcodes and encourage people to use them, while emphasizing the close link between including postcodes in addresses and guaranteeing the quality of mail delivery.
- Meetings aimed at all key accounts generate large amounts of mail, to inform them of the new postcodes and Barid Al-Maghrib's approach to coding address databases.
- Meetings with every branch of the national media to present the postcode project, including its background, challenges, aims and prospects.
- Creation of a special postcode website (www.code-postal.ma).
- Design and distribution of various communication materials, such as directories and stickers, and establishment of a Barid Al-Maghrib call centre.

2. Ongoing coding and addressing activities

- Design of a “moulinette” (database converter) that can update and upgrade major mailers’ databases (for switching from old to new postcodes).
- A study into the impact of the communication campaign to see how far its aims were met and gauge the cost efficiency of the publicity events.
- Creation of a system of indicators to measure postcode penetration in general public mail and that of major mailers; this follow-up will make it possible to reformulate the measures aimed at each category of customer.
- Offer to assist major mailers with postcodes and postal addressing. This consists in:
 - coding their databases so that their mail makes sorting, processing and delivery easier;
 - supplying companies with postcode directories;
 - cleaning up customer address files;
 - making Barid Al-Maghrib’s postcode expertise available to companies: offering advice and follow-up on postcodes and addressing.

Annex 10 – Case study: “Addressing Malawi”

Guidelines for developing and implementing an addressing project in Malawi

(Taken from the “Study on the methodology to develop and disseminate physical addresses and postcodes in Malawi”, August 2008)

Introduction

Nowhere in Malawi does there exist a comprehensive system of street names and property numbers. This not only has a detrimental impact on the provision of services but it also affects businesses’ ability to operate efficiently. Whereas in developed economies a physical address is a given, in many developing countries physical addresses do not even exist away from major city centres. Addresses should, however, be seen as vital. Thanks to them:

- tax collection is improved;
- the collection of census information becomes more effective;
- birth, marriage and death registrations can be better measured;
- the democratic process reaches a larger proportion of the electorate;
- the delivery of emergency services becomes more effective;
- healthcare planning and delivery become more efficient;
- public policies are more easily implemented in rural and urban areas;
- informal settlements are formalized;
- businesses are able to realize their full potential;
- tourism is boosted; and
- the provision of essential services is better targeted.

Individuals need a physical address if they are to apply for many basic services, such as connection to mains water or electricity, or access to a bank account. Without addresses, utilities and banks must rely on a complex alternative system for identifying individuals, often involving third-party references. Banks are now coming under growing pressure to keep detailed address information on all their clients, to prevent fraud and money laundering. Together with other service industries, they have also developed their own distribution networks for delivering bills and statements, but these could be improved. Addressing provides an opportunity for developing efficient postal systems that reach the right customer at the right time.

Addressing can also be a powerful tool for fighting disease. In the event of an outbreak of an infectious disease in Malawi, it would be difficult to track its source. In other countries, the existence of addresses has enabled health authorities to map the outbreak and identify contaminated water, for example, as the source. In those cases,

addressing saved both lives and valuable resources, as it was possible to tackle the cause as well as treat the illness.

In countries with nationwide addressing, it is easier to share the provision of services equitably not only between urban and rural areas but also between formal and informal settlements. With comprehensive coverage, the power and water utilities find it easier to meet their goals for connecting people to the grid. For example, ESCOM has set itself the target of connecting 15,000 customers to the network during the current financial year. Addressing and GIS data might make it easier to specify more exactly where those connections should occur.

In Malawi, street naming and numbering are the responsibility of the four city assemblies of Lilongwe, Blantyre, Mzuzu and Zomba, and the physical planning department for the rest of the country. A project of this importance, however, needs to be supervised at the national level, so that each planning authority follows the same standards and procedures for street naming and numbering. National planning includes framing policies for defining street names and appropriate numbering systems, taking into account both current needs and future demands.

Although it is hard to quantify its benefits, there is no doubt that addressing forms the very basis on which a society can function, as it is the first step towards connecting people to public services. Moreover, addressing enables children to be registered, which in turn enables them to go to school. It connects people to health services, provides access to utilities and banking services, and enables people and communities to function as part of the economy. Addresses give governments the power to tax, the ability to provide essential services and the opportunity to reach the whole population.

For all the reasons mentioned above, Malawi should undertake the project **“Addressing Malawi”** so that all Malawians can be connected with the rest of their society. Since many government departments, international organizations and businesses are already working on various aspects of **“Addressing Malawi”**, it is more a matter of overseeing its coordination and bringing about its central ownership than of taking a new initiative.

Below is a proposal setting forth the ways in which the project would work and which government departments would be involved, along with an activity plan for implementing and completing the project.

Framework

“Addressing Malawi” must acquire ownership at the highest level of government. In the talks held on the project, both the Ministry of Information and Civic

Education and the Ministry of Local Government made it clear that they saw their ministries at the heart of the project. They also shared the view that the project was a vital one that met the objectives of the Malawi Growth and Development Strategy for 2006-2011. This is important in terms of gaining government support and backing from the main international development organizations working in Malawi.

The project framework should contain the following elements:

- an agreement to introduce a national addressing system via the **“Addressing Malawi”** project, to be overseen at the highest level;
- a plan to disseminate physical addresses within a given time scale, according to an agreed national addressing standard;
- the setting up of a steering committee responsible for approving each project phase with representatives of all the main public players;
- the definition of the project’s scope (level of precision, coverage, cost estimates, etc.) by the steering committee;
- the forming of a national project team and regional project teams responsible for work in the field;
- the establishment of working groups made up of experts from different government departments (Department of Surveys, National Statistical Office, Ministry of Health, etc.), who would add their input to the work done by the project teams;
- the creation of a discussion group, comprising private and public stakeholders (utilities, banks and other major businesses);
- preliminary research to establish the extent of addressing and house numbering and to determine how to collate this information;
- the formulation of a national addressing standard (based on the UPU/MPC standard developed in July 2008) and a project plan;
- the development of standards for street addressing “furniture” (name plates and numbering), including location, size and materials as well as the responsibility of property owners to display building numbers;
- the approval of the project plan by the working steering committee;
- the launch of the **“Addressing Malawi”** project and its implementation;
- monthly progress reports on implementation;
- an agreement on how to promote the project at every stage of the plan;
- an assessment of the social and economic impact of the street addressing project.















Objectives

The various committees, groups and stakeholders that will be involved in **“Addressing Malawi”** are defined below along with the main tasks entailed in the implementation a nationwide addressing project in Malawi. These are the main objectives to be taken into account when organizing the project’s structure and the various working groups:

- individual and common objectives should be clearly identified and made known to all participants;
- while each working group may have individual objectives, the success of the project lies in the development of a common framework and a strong communication policy;
- the project should be organized in phases, linked to a specific timetable;
- the resources needed for a successful project should be calculated and secured at the outset, revised at the end of each phase and re-approved at the beginning of each new phase;
- the follow-up should be conducted and progress reports produced every month and at the end of each phase (or sub-phase).

Project planning

“Addressing Malawi” must be properly planned so that all deliverables are met on time and within budget.

	Year 1				Year 2				Year 3	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
I. Project set-up										
II. Information gathering										
III. Addressing standards										
IV. Mapping										
V. Postcodes										
VI. Addressing and numbering										
VII. GIS solutions										
VIII. IT databank										
IX. Marketing										
X. Project evaluation										

According to this plan, the project will be delivered within two and a half years. Specific time scales will, of course, be determined by the project team and depend on detailed objectives and available budgets. Each project phase will be subject to more detailed planning.

Project phases

Each of the 10 phases in the project plan will involve a significant number of steps, for which a more detailed plan would be required. The principal issues involved in each phase are highlighted below:

I. Project set-up – This phase involves establishing the project groups and the detailed project plan; agreeing upon the project’s framework, ownership and management team; and determining the key stakeholders.

II. Information gathering – Since a number of mapping and addressing projects are already under way, it is important to identify all the information available to avoid duplication. In particular, this phase will involve identifying the coverage of addressing achieved by the city assemblies and the physical planning department across Malawi. Any information made available by utilities and other organizations will also need to be collected. Government ministry, department and agency projects that might have an impact on “Addressing Malawi” should be pinpointed.

III. Addressing standards – Establishing addressing standards is important for ensuring that a standard format is used to describe every address. It must contain the essential elements (name, number, street, village, district and postcode) along with the non-essential features (job title, department, etc.) of an address, in the order determined by the national standard.

IV. Mapping – Mapping is already being carried out by city assemblies and the physical planning department. The first step towards establishing addresses is to ensure that all streets and houses are mapped in detail. Mapping should be carried out in each location to a common standard, so that all resulting information can be collated in a single database.

V. Postcodes – An essential element of addresses in more developed countries is a postcode. Postcodes are used not only by Posts and other operators as an aid for processing mail but also by marketing and insurance companies and other organizations for targeting their customers. MACRA and Malawi Posts Corporation will take responsibility for defining a postcode system, which could be implemented more quickly than the addressing and numbering element.

VI. Addressing and numbering – This phase comprises two sub-phases: the desktop naming of streets and numbering of buildings; and the physical deployment of street signs. It will consume the largest amount of resources and involve project teams from each city assembly and, nationally, from the physical planning department.

VII. GIS solutions – A number of government ministries and departments (Ministry of Health and Department of Surveys) are already using geographical information systems (GIS) to map information. GIS is a very powerful tool but a standard system ought to be used for this project. The Department of Surveys already has Malawi mapped on GIS to a scale of 1:50,000; the Ministry of Health has mapped a significant number of its locations on GIS; and the recent population census identified information on key locations (police stations, post offices and schools) that will also be mapped.

VIII. IT databank – One of the key outputs of the “Addressing Malawi” project will be personal data collection. A central element of the project will be to develop a databank that identifies people by their address and establishes rules for its use.

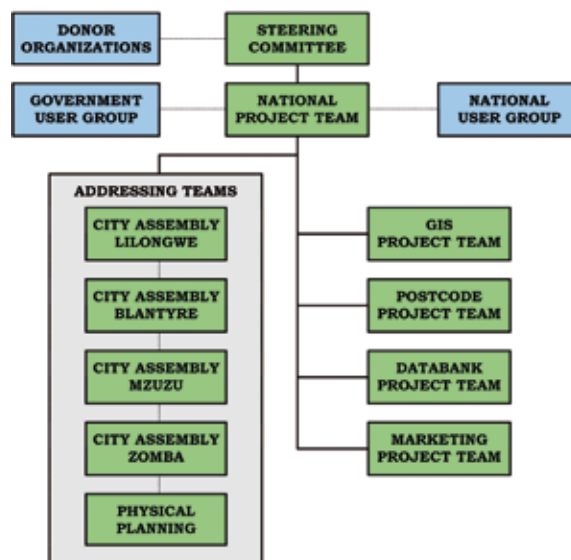
IX. Marketing – Since Malawians are accustomed to not having a physical address, “Addressing Malawi” must be adequately marketed if it is to realize its full potential. A marketing plan will have to be developed to encourage people to employ the new address system. A key to its success will be finding a way to urge utilities and banks to use the address system when corresponding with their clients. National and city maps will need to be produced in both physical and digitized format. “You are here” maps (plans with a “⊙” showing the person’s location) should be placed around towns and cities. Media campaigns will need to be mounted to highlight the importance of addresses.

X. Project evaluation – Once completed, the project will be evaluated to ensure its objectives are met and to identify lessons to be learned for other projects. The ongoing maintenance required to ensure that addressing remains up to date will also be determined.

As the project develops further, new phases may be identified or some of the phases could be combined, as necessary.

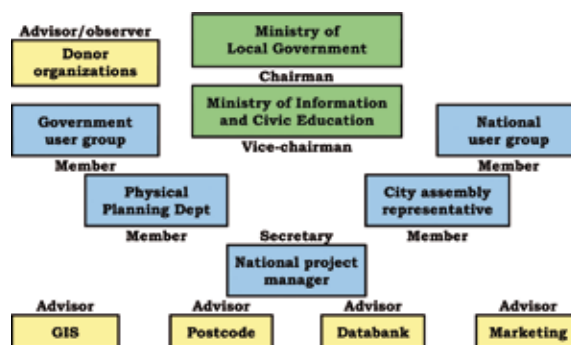
Action groups and tasks

The project should be overseen by a high-level steering committee, headed by a national project team, while other groups will be responsible for different aspects of the project (see the diagram below):



Steering committee

The steering committee will be an executive group responsible for the delivery of the “Addressing Malawi” project. It should be composed of major stakeholders with an interest in developing addresses. The committee should be made up of the following members:



The steering committee should comprise policy-makers and users as well as those implementing the project. The permanent secretaries at the Ministry of Local Government and Ministry of Information and Civic Education could be its chairman and vice-chairman. Members will be chosen from their respective project teams; the national project manager will serve as committee secretary. In addition to the core members, representatives of the other four project teams should be represented as advisors, to ensure that all committee decisions are accurately reported back to each project team.

The steering committee will have the following responsibilities:

- setting the policy direction for “Addressing Malawi”, including the project reach;
- framing a policy for addressing informal settlements;
- agreeing on the addressing standard for Malawi;
- framing the policy for naming streets (valid and invalid names);
- framing the policy for numbering properties;
- determining the implementation plan and prioritizing addressing plans;
- agreeing on the style of street name-plates and their frequency;
- monitoring and controlling progress by means of key performance indicators;
- raising human and financial resources for implementing the project;
- agreeing on the marketing plan;
- regularly evaluating the results of each project phase.

Donor organizations

“Addressing Malawi” will probably be of interest to the many international development organizations and NGOs currently working in Malawi. In addition to providing ex-

pertise, the donor organizations could also offer funding for the delivery of different aspects of the project. Accordingly, all donors working in Malawi should be contacted at the outset to secure their funding and expertise. The organizations to be contacted include:

- World Bank Urban Planning Africa
- United Nations Development Programme (UNDP)
- United Nations Economic Commission for Africa (UNECA)
- United Nations Benefit
- UK Department for International Development (DfID)
- Japanese International Cooperation Agency
- African Development Bank

Organizations willing to contribute expertise or resources to the project should be given a place on the steering committee in an advisor/observer capacity.

User groups

Two user groups will be set up to facilitate project delivery: a government user group representing relevant government ministries, departments and agencies; and a national user group representing utilities, large businesses and individuals.

Government user group	National user group
Possible participants	
<ul style="list-style-type: none"> • Ministry of Health • Ministry of Education • Department of Surveys • National Statistical Office • Tax departments • MACRA • Local government • Ministry of Tourism 	<ul style="list-style-type: none"> • ESCOM • National Bank • Chamber of Commerce • Standard Bank • Water boards • Malawi Posts Corporation • Distribution companies • Malawi Telecommunications Ltd
Responsibilities	
<ul style="list-style-type: none"> • Identifying the needs of address users • Providing mapping information available to them • Providing address information stored in their records • Identifying IT methods used to print bills, statements and other information 	

National project team

The project team will comprise a small number of experts responsible for the different project elements. Eight teams will be supervised by the project team: four working on addressing in the different regions of Malawi and four working on GIS, postcodes, databank and marketing. The national project team will be responsible for coordinating the efforts of the eight teams to ensure they are working in a coordinated manner to the agreed specifications. The national project team will be responsible for:

- preparing a detailed project plan for “Addressing Malawi”, together with an activity timetable and budget proposals;
- drawing up the terms of reference for all eight project teams;
- identifying existing data concerning addressing systems;
- delivering the project on time and within budget;
- producing monthly progress reports;
- setting the agenda for quarterly steering committee meetings;

- making progress reports to the quarterly steering committee meetings;
- supervising the heads of all eight project teams;
- hosting monthly meetings of the eight project teams to assess progress; and

- designing key performance indicators to gauge the project's success.

The national project manager will be in direct control of the eight project managers responsible for delivering different aspects of "Addressing Malawi":

Addressing teams

1. City assemblies project team

(From city assemblies of Lilongwe, Blantyre and Mzuzu and the Physical Planning Department)

Team members	Team responsibilities
<ul style="list-style-type: none"> • Project manager • Mapping team • Street naming team • Street numbering team • Signs and numbering team 	<ul style="list-style-type: none"> • Plan the mapping for the region • Carry out physical mapping in accordance with GIS team proposals • Ensure data are collected in accordance with databank team requirements • Define street names and property numbers in accordance with steering group policy • Plan the erection of street name-plates

2. GIS project team

Team members	Team responsibilities
<ul style="list-style-type: none"> • GIS expert • Ministry of Health GIS team • Department of Surveys 	<ul style="list-style-type: none"> • Identify the uses of GIS in Malawi • Identify the best GIS system for mapping Malawi • Merge existing GIS data into a standard format • Develop mapping in coordination with addressing teams • Develop physical and digital mapping systems • Work with databank team to ensure standardized data format • Work with marketing team to roll out mapping

3. Postcode project team

Team members	Team responsibilities
<ul style="list-style-type: none"> • Malawi Posts Corporation • MACRA 	<ul style="list-style-type: none"> • Develop a postcode system for the whole of Malawi • Ensure that a flexible postcode can be developed over time to meet business needs • Provide large businesses with unique postcodes • Link postcodes to addresses • Work with the databank team to record postcode data electronically • Liaise with addressing teams to ensure that postcodes are appropriate for existing urban, district, village or other boundaries

4. Databank project team

Team members	Team responsibilities
<ul style="list-style-type: none"> • Department of Surveys • National Statistical Office • National Spatial Data Centre • Malawi Posts Corporation • ESCOM/water boards • Banks/telecoms • IT experts 	<ul style="list-style-type: none"> • Identify existing data and format • Clarify requirements with all stakeholders • Develop a database that meets requirements • Specify fields required in the database • Provide software solutions to facilitate data manipulation • Maintain the databank after the project is completed

5. Marketing project team

Team members	Team responsibilities
<ul style="list-style-type: none"> • Ministry of Information and Civic Education • MACRA • Databank team member • GIS team member • Postcode team member • Addressing team members 	<ul style="list-style-type: none"> • Develop a marketing plan • Ensure “Addressing Malawi” remains in the media spotlight throughout the project • Promote the use of addresses through large businesses • Produce “You Are Here” street maps for erection in towns and cities • Print leaflets advising individuals of their new address • Encourage individuals to use their names and addresses together

Dissemination and promotion

The success of the project will depend on how well addressing is promoted and disseminated. Merely allocating street names and property numbers will not guarantee their use. This project proposal therefore includes an **“Addressing Malawi”** slogan. The title **“Addressing Malawi”**, together with a short catchphrase, might be adopted to promote the project.

ADDRESSING MALAWI
Connecting Individuals to Society
Connecting Society to Individuals

A catchphrase like this could be used in all awareness-raising campaigns to demonstrate the benefits of addressing to citizens, businesses and government departments. These may be related to health issues, education, bill payments, connection to utilities and banks, emergency services and other important activities.

Specific marketing campaigns ought to be designed for the different users of addresses, focusing on the benefits for each. Specific campaigns might be developed for the following groups:

- government departments;
- IT specialists in public administrations;

- financial institutions;
- training and education institutions;
- communications and transport companies;
- police, fire services and health services;
- business community;
- general public;
- postal operators and key mailers.

The ways of promoting the new addressing system could include:

- a sustained media campaign to highlight the progress of addressing during the course of project implementation;
- the production of national, regional and local maps identifying street names and property numbers;
- the production and distribution of leaflets explaining the address standard;
- the production and distribution of self-adhesive labels to households with their individual address;
- the production of an addressing directory and CD-ROM;
- the development of a website linking maps to addresses and postcodes;
- the dissemination of an address databank to all large businesses promoting the use of addresses;
- the erection of “You Are Here” maps.

The marketing project team is also expected to develop a marketing campaign tailored to the Malawian market.

Expected results

“Addressing Malawi” should deliver the following results:

- a national addressing standard;
- a national postcode system;
- physical addresses for the whole of Malawi;
- a national databank of addresses for the whole of Malawi;
- GIS mapping of the whole of Malawi;
- physical street maps of all major towns and cities;
- national and regional street maps;
- the erection of street name-plates in all major towns and cities; and
- national centres responsible for maintaining GIS and the databank.

In addition to these specific deliverables, **“Addressing Malawi”** will offer the following benefits:

- faster and more efficient provision of emergency and health services;
- more extensive reach of social services (health, education, etc.);
- improved tax collection;
- more equal access to communications and other services for all members of society;
- improved public targeting, expanding access to public utilities;
- easier collection of bill payments by utilities, enabling them to increase investment and connect more customers;
- easier access to banking services;
- greater opportunities for businesses to extend their range of services;
- more efficient delivery of products and services, in particular home delivery of mail and packages;
- faster development of marketing databases and software applications; and
- stronger economic growth, as all sectors of society become accessible.

The national address system will promote the social and economic development of Malawi as a whole. It will also result in the increased provision of utility services, enhance postal services (offered by both MPC and competitors), and ease the introduction of national ID cards. Banks and private companies will be able to expand the delivery of their services, thanks to easier identification of customers and marketing opportunities.

Financial plan

The whole of Malawi cannot have proper addresses without careful financial planning. The total cost of the project is likely to exceed 1 million USD, including installation of

street furniture, introduction of GIS systems, development of a national databank and all the human resources needed during implementation. That said, many government departments already have budgets earmarked for activities related to this proposal. One of the key activities during project set-up will be to estimate the budget required for the different elements and identify which funding sources are already available.

Funding sources

Many activities with a direct impact on addressing are already taking place. Departments involved in related projects include:

- Department of Surveys
- Ministry of Health
- City assemblies
- Ministry of Local Government
- Ministry of Land
- Physical Planning Department
- Ministry of Information and Civic Education
- National Statistical Office

Their budgets and human resources could be used for the national addressing project. Other interested parties might be approached to help fund the project. These could include:

- MACRA
- Malawi Posts Corporation
- ESCOM and water boards
- banks and telecoms companies
- other stakeholders

Although national funds are already available, it is expected that there will be a funding shortfall to implement all the activities. The steering committee should therefore approach the international community to seek financial assistance. It is important to pinpoint ways of convincing the international community of the project's long-term benefits, e.g. greater social inclusion and more efficient operations for international organizations.

Costs

The main expenditure items to be considered for each element of the project include:

- project management resources;
- dedicated IT equipment for the national databank;
- street signs and property numbers;
- consultancy expertise;
- database and software development costs; and
- marketing

While many of the human resources required might be seconded from existing projects, new resources will be needed for specific roles. A national project manager will need to be recruited to oversee the project. Special IT resources, in the form of external consultants, are likely to be required.

The production and erection of physical street signs will be one of the biggest costs and every effort should be made to minimize their price where possible.

In order to keep down resource costs, the steering committee could approach national and international uni-

versities with urban planning departments to offer their students an opportunity to do fieldwork.

The following table lists some of the costs and the possible resources for each aspect of the project:

	Resource requirements
I. Project set-up	During the project set-up phase, it is expected that existing staff will develop the terms of reference, project plan and budgets. It might prove necessary to recruit a national project manager and team and to provide computer facilities for them.
II. Information gathering	The national project team will work with existing staff from other organizations to gather existing information.
III. Addressing standards	The steering committee will develop the addressing standard based on UPU standards provided by Malawi Posts Corporation.
IV. Mapping	Existing staff from city assemblies and the physical planning department will carry out mapping. Computers may be required to enable the four teams to map information digitally.
V. Postcodes	Existing staff from Malawi Posts Corporation will undertake the postcode element of the project.
VI. Addressing and numbering	Existing staff from city assemblies and the physical planning department will undertake street naming and property numbering. Additional staff may be required to speed up the process. Funds will be required to produce street signs. Additional staff will be required to erect street signs.
VII. GIS Solutions	External expertise may be required to identify the most appropriate GIS software. Dedicated staff may be recruited to carry out the GIS mapping and coordination.
VIII. Databank	External expertise is likely to be required to develop appropriate software for the address databank. Dedicated staff may be recruited to build the databank and maintain it after the project is completed.
IX. Marketing	A marketing budget will be required to promote addressing during and after the project.
X. Project Evaluation	A team of existing government staff could carry out the project evaluation.
XI.- Training	Throughout the project, staff training will be called for.

Annex 11 – Case study: “Hong Kong: Information management System”

Provision of a High Quality Mail Delivery Service in Hong Kong without introduction of postcodes

Introduction

Postcode have been introducing in countries with significant quantity of delivery

addresses to facilitate mail sorting and delivery service in order to save resources involved for sorting mails manually as well as to reduce the delivery sequence preparation work of the delivery teams.

Notwithstanding that no postcode system has been introduced in Hong Kong, Hongkong Post (HKP) has been providing a high quality of mail delivery services to all delivery addresses in Hong Kong since its establishment in 1841. Hongkong Post pledges to deliver 98% of its locally posted mails by the following day and the service pledge can be always achieved. The high level of quality mail delivery service is enabled mainly through the installation of a high performance mail sorting system and the establishment of an efficient mechanism to ensure the resources used in mail delivery service can be adjusted to cope with the increasing and changing demand for mail delivery services due to economy growth. Besides, the various information management systems developed by HKP since 2001 for ensuring the resources used in mail delivery service are effective has also played a very important role as they help eliminating unnecessary manual data input as well as enhancing data flow with mail sorting system and between other information management systems.

Background information of Hong Kong

Hong Kong is geographically compact with about 7 million people living in an area of 1,104 km. Being an important international financial and commercial centre with the highest concentration of corporate headquarters in the Asia-Pacific region, the local mail traffic in Hong Kong is tremendously high with about 1,234.6 million in the fiscal year of 2007/08. To provide speedy and efficient delivery service to the territory for supporting the economy of Hong Kong as well as to meet customers' needs and expectations, Hongkong Post pledges to deliver 98% of its local mail to the recipients on the next working day. At present, 29 delivery offices are set up in the territory of Hong Kong with about 1,700 delivery teams serving the whole community.

In view of the high quality service requirement and heavy traffic handled, the challenges that faces by Hongkong Post in the planning and managing the delivery route

are very complex, which include, among others, non-existence of postcode system, diversified delivery modes, considerable number of high-rising buildings with high density of delivery points and heavy mail volume, provision of door-to-door delivery to both sides of streets or scattering houses in rural areas; and non-sequential arrangement of the house or street numbers. Besides, owing to the rapid economy growth and fast real estate development in Hong Kong in the past years, changes in delivery points as well as surging of mail volume over time is not uncommon.

Automation of mail sorting process

HKP has automated its mail sorting process with its first set of Mechanised Letter Sorting System (MLSS) fully commissioned in 1990. The MLSS adopted Optical Character Recognition technology to read addresses printed on the mails for sorting the mails down to delivery team. The MLSS is also equipped with Video Coding facility through which staff can view the image of the address of mail and code the mails down to delivery team level based on prescribed coding rule. As the MLSS has already reached the end of its life cycle, HKP has started to replace the MLSS by a new one with higher performance in May 2007. The installation of the new MLSS was completed in January 2009 and the new system is now under Confidence Trial. The performance of the new system is expected to be about 15-20% better than the old system, thus saving considerable staff resources that might otherwise required for mail sorting as well as ensuring a faster and efficient mail flow in the mail processing and delivery chain.



Review on the introduction of postcode in Hong Kong

Hongkong Post has completed the study on the introduction of a postcode system. Generally speaking, the objective of introducing a postcode system is to improve the efficiency of the postal operation so that letters can be sorted to their delivery sequence, thus improving the read rate of the Optical Character Recognition System used in letter sorting and obviating the need for a postman to sort the letters before delivery.

The study revealed that the postcode adopted in overseas countries consists typically of five to seven digits, denoting the buildings by district and by street. Our study concluded that assigning a postcode to each building in Hong Kong will not achieve such benefits. Instead, a

separate postcode has to be assigned to each address (i.e. each unit in a building).

Against this background, we have the following constraints in terms of designing the postcode for adoption in Hong Kong:

- Hong Kong is a city with high density development. To assign a separate postcode to each of the 2.5 million postal addresses in Hong Kong, the postcode of Hong Kong could involve up to 15 digits;
- A possible alternative is to have a postcode with random numbers. But such a postcode gives no indication of the actual address;
- To allocate a separate postcode to each of the 2.5 million postal addresses in Hong Kong, we need a postcode with seven random numbers; and
- To help detect input errors, an additional “checksum digit” will have to be included in the postcode. Consequently, the possible postcode would have to contain eight random digits.

Given the constraints on the postcode design, the introduction of postcode in Hong Kong would not be considered appropriate for introduction at the moment for the following reasons:

- The use of the postcode by business organizations will depend on their line of business, the volume of mail they handle, their need for address data management and whether they have the necessary IT infrastructure. The use of the postcode by the general public will also influence these organizations’ use of the postcode. If the use among the general public is low, we could not expect the postcode to be widely adopted by commercial organizations;
- A unique postcode with eight random digits is difficult to memorize by public. In this connection, it is likely that people will be inclined to use the postal address at present. Whilst it is technically feasible, the benefits of postcode system to postal service ultimately depend upon individual potential addressees informing potential senders to use the postcodes assigned to the addresses and senders’ willingness to address their correspondence using such code, in full awareness that this will not make substantial difference to the service they can expect from the postal service so as to sustain a success rate of delivering 98 % of locally posted letters to their recipients on the working day following the day without a postcode system.
- For a relatively small but highly urbanized place like Hong Kong with concentrated population settlements, the benefit which we could derive from the use of a postcode system in improving the efficiency of postal delivery service would probably not be commensurate with the financial investment and social costs that we may need to put into such a venture.

Besides, Hongkong Post had completed the replacement of the old mechanised letter sorting system (MLSS), which has been in operation for almost 20 years, by a new and better performance one in January 2009. The new system is equipped with a higher efficiency Optical Character Recognition (OCR) module which can read addresses printed on the mails with a higher read rate, thus saving resources in processing the mails manually at the mail sorting centres and downstream delivery office. This has further reduced the benefits to be obtained from the introduction of the postcode. In light of above, Hongkong Post considers that it would not have significant benefit and hence urgent need to introduce postcode system in Hong Kong at the moment.

Mechanism to ensure resources are met with demand for mail delivery service

All along, HKP relied on its highly motivated, well-trained and efficient mail delivery team to provide a high quality and professional mail delivery service. To ensure the workload of the delivery teams can cope with the changing demand and operating environment, HKP has been using manual statistical methodology in the past to assess the workload of the delivery teams serving the whole territory and mail delivery services.

Since 1999, HKP commenced to adopt various industrial engineering techniques to the mail delivery service environment for ensuring a realistic, efficient and fair system for deriving the workload of its mail delivery forces. In a nutshell, these include the conducting of field surveys on the mail trend of each delivery offices and delivery teams, the recording of mail volume down to each delivery points, the recording of the time taken for each process, the re-design of the optimum layout for each delivery team based on the field data collected, the known development in the serving boundary of the delivery team and the mail traffic growth projected by respective product managers. The latter is in fact a very complicated task since it is not derived from a simple arithmetic calculation but depend upon a number of factors.

With the rapid development of technology in the past decades, HKP has since 2001 developed a number of information management systems through its in-house information technology staff or out-sourcing to assist the accomplishment of the complex task of the planning and managing its mail delivery service. Apart from enhancing the planning and management of mail delivery service, the information management systems also help minimizing the unnecessary duplicated efforts of data entry that might otherwise require under a manual reviewing system, eliminating human errors as well as ensuring data integrity and consistency between different management

systems. In order to maintain a high quality of delivery service as well as to meet the fast changing and mail handling environment, HKP also targets to complete the review on the workload of all its mail delivery teams every 3 years.

The following paragraphs describe the features, function and the relationships of the four major information management systems that HKP has developed in the past years to continuously improve the productivity and quality of its mail delivery service, namely :

1. Beat Revision Analysis System (BRAS),
2. Address Database Management System (ADMS),
3. Mail Delivery Management System (MDMS) and
4. Digital Map System,

The project management methodology adopted for the development of the aforesaid information systems, the benefits of roll-out of the systems, and the problems that HKP had encountered during the development and roll-out of the systems, are also briefly set out.

1 Address Database Management System (ADMS)



The Address Database Management System (ADMS) was developed by HKP's in-house information technology team and rolled out in 2004. It is built mainly to standardise the formats of postal addresses as well as to optimise the address database maintenance process for the mail processing automation systems.

The system maintains a centralized address database for all updated postal addresses of Hong Kong in street, building or estate/development level and aims at:

- Maintaining a well-structured and standardised postal addresses of all houses, buildings and developments in Hong Kong to which mail delivery service is to be provided;
- Maintaining and storing address records for exporting address files to the Mechanized Letter Sorting System installed at the mail processing centres for mail sorting, thus significantly improves the overall efficiency of the mail processing chain;
- Enabling Hongkong Post to develop new business initiatives on address products for address matching and de-duplication; and
- Maintaining of delivery particulars for all delivery team, including the delivery mode and delivery stop group, for interfacing with the Beat Revision Analysis System (BRAS) for facilitating the workload review of delivery teams.

2 Beat Revision Analysis System (BRAS)



The Beat Revision Analysis System (BRAS) was developed by HKP's in-house information technology staff. The system was rolled out in 2001 to facilitate the review on the workload of delivery team

as well as the design of the complicated and time-consuming task of optimum route and layout of delivery team.

The system maintains the information and route details of all the mail delivery teams, such as the mail volume of the delivery points of each delivery team. It improves the previous manual operations by facilitating the easy storage and retrieval of delivery team information for revision and analysis. By providing a central database of delivery route details, consistency of data can be ensured and the generation of the delivery route reports and management reports are more efficient. Since the production of the system, routes of delivery teams can be changed or adjusted easily in accordance with the latest real life situation. Besides, the total amount of time spent on the workload review of the mail delivery teams, including field survey, planning creating or revising delivery routes, has significantly reduced by about 30%.

In the past few years, enhancements have been made to BRAS to accomplish the complicated delivery team survey and revision task more effectively and efficiently. To facilitate the capturing of field survey data, Personal Digital Assistant (PDA) was introduced in 2003 for the Beat Survey Officer to record all the necessary mail delivery data of each of the delivery points of the delivery team under surveyed. With the use of PDA, the Beat Survey Officer can upload the surveyed data to the BRAS just within a minute. This has significantly eliminated the unnecessary data input work that might otherwise require under manual system and help speeding up the mail delivery team review process.

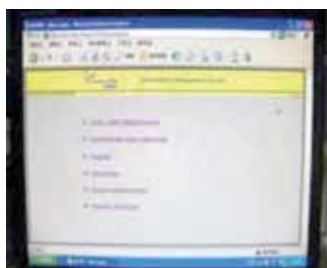
An interface was provided between the system and the Address Data Management System (ADMS) to enable the



Introduction of PDA for conducting field survey

former to retrieve the updated postal addressees from the latter system to facilitate delivery team survey and revision work. Reversely, the updated delivery team codes assigned to addresses in the BRAS will be uploaded to the ADMS so that the latter system can provide address data including delivery team codes to the Mechanised Letter Sorting System (MLSS), an automatic mail sorting systems installed by HKP, for sorting of mails down to individual delivery teams.

3 Mail Delivery Management System (MDMS)



Hongkong Post is committed to strive to provide excellent service to customers as well as striving for a profitability business by keeping its operation costs as low as possible. As mail delivery service is one of the major cost drivers, a low cost delivery service always plays a crucial role in ensuring efficient and effective postal operations.

The Mail Delivery Management System (MDMS) was developed by HKP's in-house information technology team. It was rolled out in 2005 with the aim to achieving the following objectives:

- Capturing of mail traffic and resources used by individual delivery team on each working day by means of Personal Digital Assistant (PDA) for eliminating the unnecessary manual recording and subsequent data entry works that are prone to clerical errors;
- Capturing of mail traffic and resource handled and used at individual delivery offices for generation of timely management and control reports on the performance and costing for the provision of mail delivery service;
- Enabling planning of mail traffic forecast, resources allocation and planning, process and workload monitoring, and compilation of activity-based unit costs for resource management and costing modelling;
- Extraction of mail traffic data of each delivery teams to BRAS to facilitate the workload review of delivery teams.

4 Digital Map System (DMS)

The Digital Map System (DMS) was developed through out-sourcing. The system was rolled out in 2005 with the



aim to achieving the following objectives:

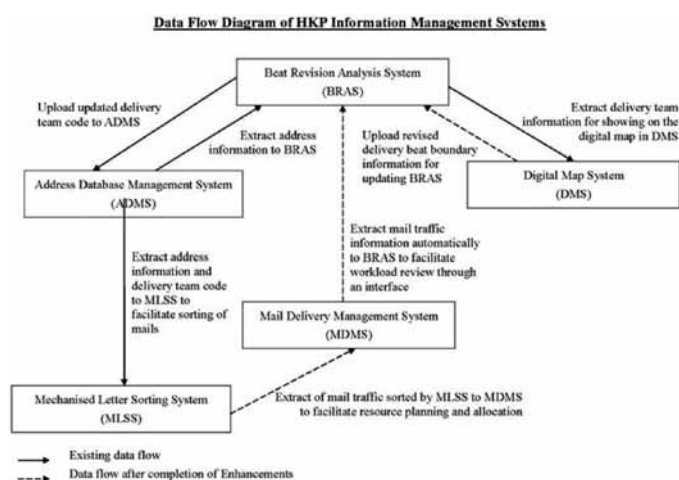
- Extraction of delivery team information from the Beat Revision Analysis System (BRAS) for showing the serving areas of

each delivery teams on digital map in different colours for refining of delivery routes and layout;

- Enabling and improving the management, monitoring and allocation of workload of the delivery team for ensuring a timely response to geographical and demographic changes.

5 Relationship of the four Information Management Systems

The data flow between the aforesaid four information management systems are shown in the following diagram:



6 Enhancements Planned/Undertaken

Enhancements are currently underway to improve the interface of BRAS and DMS for data synchronization. Upon completion of the enhancements, the Beat Survey Team will be able to plan and revise delivery routes through viewing of data in a digitized 'real world' on digital map rather than using a table showing rows of numbers and text. This visual capacity allows the Beat Survey Team to analyze data or delivery route spatially in a more sophisticated manner, which in turn enhance the efficiency in revising the areas and routes serving by delivery teams. One of the critical success factors for planning delivery routes with appropriate workload is the availability of updated information of mail mix and volume of the delivery teams, for both normal days and seasonal fluctuation. To ensure such information is available for delivery route planning, we plan to explore the cost-effectiveness of providing an interface to automatically extract such information maintained in the MDMS to the BRAS instead of through the current manual process.

With the commissioning of the new MLSS at the mail processing centres, the mail traffic handled by the new MLSS equipment are readily available. Hence, we plan to explore the feasibility and cost-effectiveness of enhancing the MDMS to automatically extract the mail traffic

handled by the new MLSS to save the current efforts of manual recording by the postal inspectors at respective delivery offices.

Project management on development of information management systems

A Chief Responsible Officer (CRO) will be assigned to ensure, inter alia, that the objectives and conduct of the project are in line with the relevant corporate strategies, that the project is implemented in accordance with planned schedule, and that the benefits of the project realized are no less than those on which basis that the project has been approved.

A two-tier project management methodology shall normally be adopted to oversee the implementation of information management systems, namely through the project Steering Committee (PSC) and the Project Assurance Team (PAT) with the following responsibilities:

1 Responsibilities of Project Steering Committee (PSC)

- At the commencement of the project, to establish the objectives and targets; to establish the project timeframe, including the staging of the project where necessary; to confirm budget allocation; and to confirm the deliverables required and where necessary the criteria for the deliverables to be acceptable;
- During the course of the project, to provide steer to the project to ensure compliance with the approved objectives, targets and budget; to consider and approve changes to the project programme, budget and key requirements, including but not limited to system specifications; to consider and approve acceptance of project deliverables and payment for the accepted deliverables; to approve completion of a project stage and progress into the following stage; and to report to CRO at regular intervals on the progress of the project and the details of the change to the key project plans and requirements approved by the PSC, together with the rationale for such change.;
- At the completion of the project, review the results achieved by the project against the approved objectives, targets and expected benefits; and approve project closure on being satisfied that all the required

deliverables have been completed and the approved objectives and targets are met, and expected benefits realized.

2 Responsibilities of Project Assurance Team (PAT)

The PAT shall assure the project on behalf of the PSC and conduct an external evaluation of the project. The areas to be assured by PAT are:

- User needs and expectations are being met or managed within the scope or boundary of the project;
- Risks are being controlled;
- Expenditure and time spent are within constraints set;
- Overall strategies of the organisation are being followed;
- Project remains viable and business cases are being adhered to;
- The requirements and guidelines that are established for the set up of information management systems, such as data security, access control and disaster recovery, are being observed; and
- Quality assurance standards are being applied.

Importance of a highly motivated and efficient mail delivery work force

With the adoption of Industrial Engineering techniques and setting up of information management systems to maintain an updated database of all postal addresses and mail traffic handled by each delivery team as well as to enhance and streamline the operational procedures and efficiency in conducting workload review on delivery teams, we could be able to even out the workload of delivery postmen and render the best quality of the delivery service to the commercial and residential sectors without the introduction of postcode in Hong Kong. Hongkong Post truly believes that planning the last mile effectively is a strategic step to improve service quality and productivity in the provision of mail delivery service.

Last but not least, Hongkong Post believes that a highly motivated and efficient mail delivery work force will play a crucial and important role in ensuring a high quality and professional mail delivery service. This is demonstrated by its mail delivery teams in delivering an effective and efficient service in the last mile of the mail delivery value chain.

Annex 12 – Case study: “Saudi Arabia: Unified national addressing system”

Introduction

A postcode is an identifier for a given postal delivery point or a collection of postal delivery points. It normally comprises a string of numerical or alphanumerical characters. The relevant project tries to put a postal address and zip code to all locations throughout the Kingdom. The postal address and zip coding system will facilitate the delivery of goods and services.

Home and street addresses did not exist in Saudi Arabia and no zip codes had been created for the Kingdom. Mail sorting was manual and inefficient. Mail delivery was an exhausting and time-consuming job. A larger mail sorting

- create and provide comprehensive geographical data, serving all e-solutions with upgrade capabilities;
- develop a mail dispatch management system;
- prepare an excellent routing system;
- provide improved technological advancement for all planning departments;
- integrate the Kingdom in an e-community.

The above-mentioned objectives can be achieved by introducing a better geographical information system. The Kingdom will reap the benefits of a standard national addressing system.

Design of project

To overcome the above challenges and achieve the goals mentioned, Saudi Post has developed a spatial data model to create the new postal addressing system (unified national addressing system) with the help of the geographic information system (GIS).

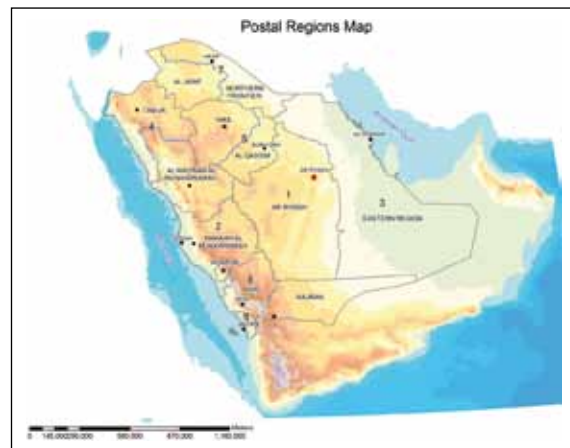
1. Data Collection for a strong GIS database:

Zip code creation and numbering

The creation of a zip code for the entire Kingdom is the first step in the development of this new addressing system. The Kingdom of Saudi Arabia has been subdivided as follows: eight postal regions, eight postal sectors, eight postal branches, nine postal divisions and nine postal quarters. The last postal quarter is called the postal zip code, whose number is created by using the combination of numbers corresponding to the region, sector, branch, division and quarter. The zip code number therefore comprises five digits. This five-digit zip code allows each and every location in the Kingdom to be identified with the region name, sector name and city or village name.

The above divisions are based on certain criteria and conditions, such as existing administrative boundaries, geographical features (mountains, valleys, plateaus, etc.), roads and tracks. Moreover, each part is numbered in accordance with a strategic plan which takes account of various considerations (coastal area, non-coastal area, etc.).

Les subdivisions ci-dessous se fondent sur certains critères, telles que les limites administratives existantes, les caractéristiques géographiques (montagnes, vallées, plateaux, etc.), les rues et les pistes. De plus, chaque partie est numérotée selon un plan stratégique tenant compte de différents éléments (régions côtières, régions non côtières, etc.).



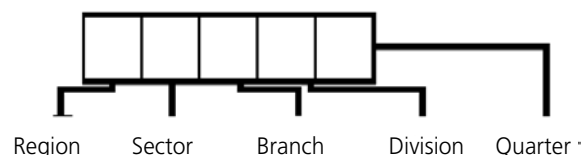
and distribution crew was required to achieve customer satisfaction. To this end, Saudi Post had to build a new postal addressing system, raise awareness among the community about it, make it available to governmental institutions and further develop it to provide the community with high quality e-services. An upgradeable comprehensive geographical infrastructure also needed to be developed, targeting data, tools and high-tech crew.

Scope and objectives of project

Postal addresses and postal zip codes help to reinforce a country's unity and sense of identity. A zip code identifies the location of a place or a site, while an address depicts each location in a country. The scope of the present study is to treat each and every part of the Kingdom as a unique part. This system will be an essential tool for the transport department and the public administration departments, as well as for other public and private services. It can therefore be seen that the addressing system has a broad scope in the Kingdom.

The aim of the unified national addressing system project is to:

- create, publish and use a scientific postal addressing system (including zip codes and parcel addresses);
- ensure efficient and creative mailing;



Parcel drawing

QuickBird Satellite imageries and base maps are used and made available to various government authorities.

Field survey

Once the parcels and streets for the cities have been digitized, Saudi Post conducts a survey, which involves collecting the following information from the field:

- Land use type
- Building type
- Number of floors in each building
- Number of units in each building
- Building boundaries
- Identification of all streets and services

Parcels numbering

Once the postal zip code has been established as explained above, a postal address is created for each location within this zip code on the basis of various rules and regulations that form the general numbering policy. Saudi Post has developed a local coordinate system based on the Universal Transverse Mercator Projection. Using the local coordinate system, Saudi Post calculated special X co-ordinates with integer values ranging from 2,000 to 5,999 and Y co-ordinates with integer values ranging from 6,000 to 9,999 for each location within each zip code. The X coordinates are the building number and the Y coordinates the additional number for buildings facing a road in an east-west direction, while the Y co-ordinates are the building number and the X co-ordinates the additional number for buildings facing a road in a north-south direction. The building number is an ODD number if it is on the right side of the road in a north or east direction and an EVEN number if it is on the left side of the road in a north or east direction.

In this way, Saudi Post assigned a unique and systematic postal address for every location inside the Kingdom with 13 digits, consisting of a zip code and of building and additional numbers.

Saudi Post created a postal address for each location which made a strong GIS model. Infrastructure was built using an ESRI ArcGIS Server and a Microsoft SQL Server. Our comprehensive geographical database is designed to be shared by all strategic services that Saudi Post intends to provide.

After creating postal addresses for each location within the Kingdom, Saudi Post developed a range of e-solutions aimed at facilitating the publication of its addressing system and its internal working procedures. For example, it developed a postal web locator where citizens, governmental institutes, private and public sectors can refer, mapping any location in Saudi Arabia. An internal version of the locator, aided with map modification tools, helped Saudi Post staff and contractors maintain addresses, postal plates and boxes for each parcel in Saudi Arabia. A PDA version was also developed for mail distributors and public users. An AVL and a navigation system were built on top of the locator to help in tracking mail distribution and identifying the best routes for services.

Saudi Post also focused on building GIS services to support governmental and commercial services. For example, the Saudi Post mail dispatching system and CRM benefited from these services, as did certain governmental institutes.



2. Implementation

After setting the postal address for each location in the GIS System, we installed a plate indicating the number of each building and fixed postal inboxes for each unit in the building. We also fixed one postal outbox for every 10 (or fewer) units. All inboxes were installed with RFID (radio frequency identification) tags storing the full address of the building (i.e. zip code number, building number and additional number).

3. Collection, transmission, sorting and delivery of mail

Saudi Post developed this new postal addressing system in order to provide reliable communication between citizens. This is the optimal and fastest way of delivering all postal services to the homes of citizens and residents. Saudi Post generated a unique postal address with the help of GIS, installed boxes at houses and delivered keys to addressees free of charge for the life time of the box. The Saudi Post mail delivery and dispatch system serves a wide area. Each year, Saudi Post handles some 900 million pieces of mail (6,321 collection points, 82 agents and 770 representatives).

Each type of mailing system is treated differently. Saudi Post has a mail dispatch and management system. This system is highly concentrated for the efficient collection and distribution of mail throughout the Kingdom and has a high-tech facility for the collection, transmission, sorting and delivery of mail. The mail processing cycle is given below:

Collection of mail means collecting mails from postal outboxes and other offices. The mail is collected by the postman. There are two types of collection system: self service (physical mailing) and pickup. Self-service involves the di-

rect handover of mail at collection centres, which are post offices or self-service machines, while pickup is a service for Saudi Post subscribers whereby the postman collects the letters from outboxes every day and takes them to the sorting centre direct. If customers do not have a pickup service in their locality, they can send a message or e-mail to the customer care centres at their post office. Customers can report problems regarding the post boxes in their locality through their customer care centre.

The mail collected at post offices or by the self-service machines incorporates the delivery address in a special barcode affixed to the mail item that could be read in a later stage by the sorting machine; otherwise, the written address is read by the OCR system pertaining to the sorting machine.

All the local and international mail collected is taken to the sorting centres for re-sorting and allocation to the point of delivery. There are three international sorting centres in the Kingdom, located in Riyadh, Dammam and Jeddah. Each sorting centre has a different service area and all the sorting machines are connected to the address in the GIS database. Once the mail reaches the sorting centre, the employees sort it according to certain criteria. In the case of ordinary mail, they may not affix a barcode, but the mail could still be sorted by a machine (using the advanced built-in OCR system), which is able to read addresses written in Arabic and English. However, video coders may be needed for poor quality addresses. Sometimes, the address on ordinary mail may be incomplete, so the sorters enter the missing address data manually. All the mail items collected at post offices or via the self-service machines have the delivery address bar-coded and affixed to them, which enhances their readability and the accuracy thereof. As a result, the sorting results are improved.

The sorting machines are connected to databases in order to verify the result of address interpretation. They read the zip code, together with the exact coordination of the home address (building and additional numbers), and allocate the delivery point accordingly. The result of the sorting is transmitted to an intelligent system, which calculates the distribution route for each delivery man, and transmits a sorting plan to the sorting machines. The sorting machines use these plans to prepare the mail items, which are sorted according to the delivery points for each delivery man. The sorting staff prepare the mail into different bundles for distribution by envoys (the person who carries mails from the processing centre to the distribution centre). The envoys of each distribution centre then check all the mail and distribute it to the delivery men. The envoy enters the number of mails and all other details in the database.

The distribution centres are divided into different zones, depending upon the zip code. Each zone is assigned to a delivery man, who should deliver the mail on time. Once the mail has reached the distribution centre, the envoy hands over the list of mail recipients to the delivery man.

Saudi Post provides a handheld mobile device to each delivery man for correct identification of the mail recipient. This handheld device is connected to the GIS and address database to show the parcels and their address correctly. The device functions with the help of GIS and GPS. Users can add and edit data through the device.

When the list of mail recipients is given to the delivery men, they connect their handheld device to the GIS database and enter all the addresses. The device then shows all the parcels and services and the shortest path to those locations. With the help of this device, the delivery men can finish their work within a short time. When the delivery man reaches the delivery point, the handheld system reads the post box chip. This system is known as RFID, a system that is embedded with the customer's post box to identify the delivery man's handheld device. There is also a tracking system embedded in the Saudi locator. By using this system, the delivery men's routes are monitored by the various delivery centres.

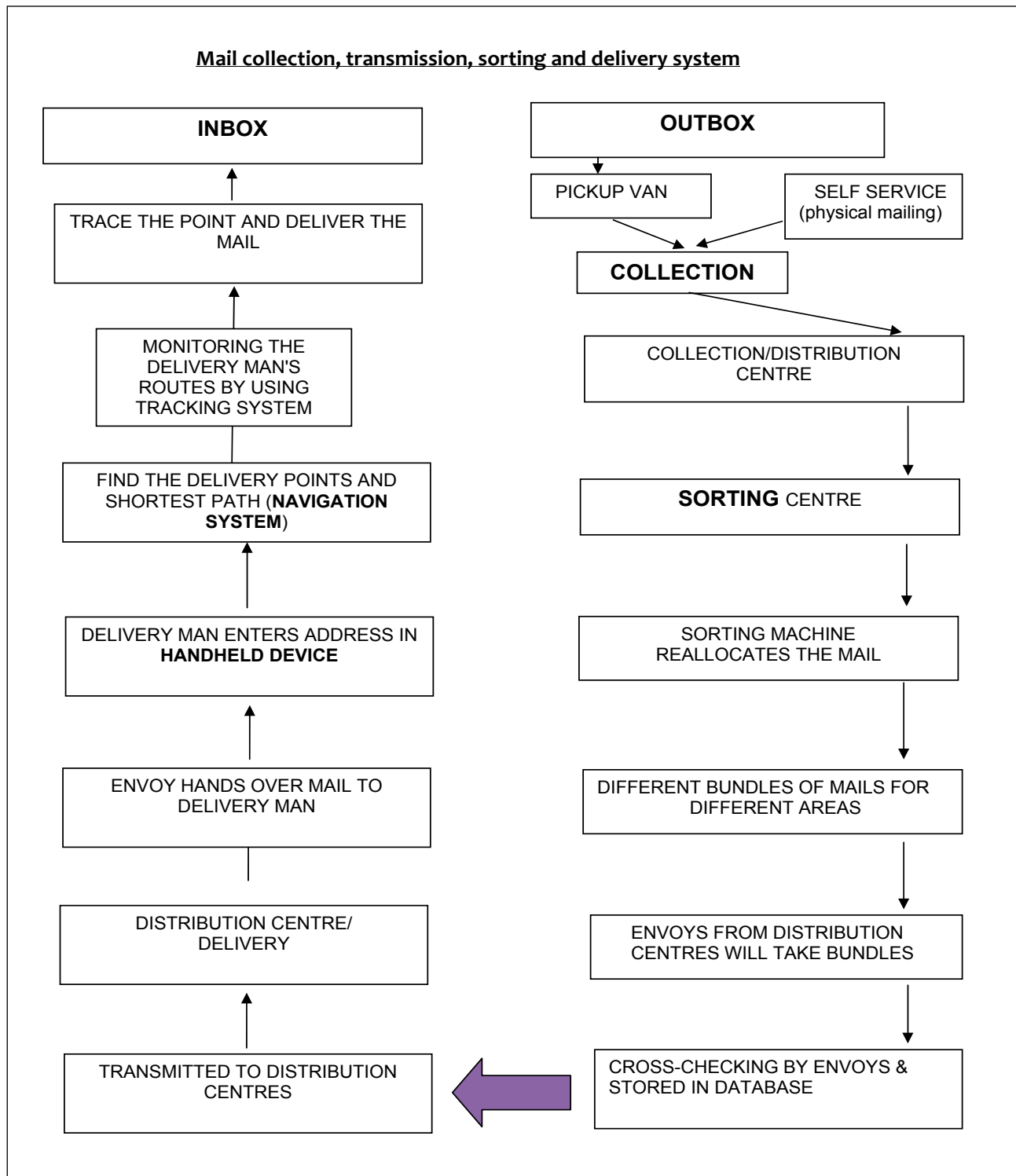
Sorted mail can be transported from one region to another. The delivery staff transport the mail in pickup vans. Large shipments, however, are transported by a private company, which has entered into an agreement with Saudi Post for the transmission of goods between regions.

In short, the GIS plays a key role in this unified national addressing system.

Conclusion

Database-based postcode and postcode systems are a critical tool for postal organizations and, consequently, for the quality of services and postal developments. The unified national addressing system had a significant impact on the work of Saudi Post. The creation of zip codes led to the development of the Saudi locator, navigation system, RFID chip system, etc. The GIS plays a key role in the unified national addressing system. The spatial and non-spatial data are correctly ordered, analyzed, manipulated and displayed for managing imbalances in the postal system. Saudi Post developed this system by using advanced GIS technology and the latest information technology.

Websites: www.sp.com.sa and <http://saudilocator.sp.com.sa/weblocator>



Postcode[®] publications

Postal addressing systems

The Universal Postal Union is a specialized agency of the United Nations. Its International Bureau is in permanent contact with the designated operators of its 191 member countries.

The POST*Code Team, responsible for collecting and analysing the elements making up an international address, maintains and up-dates a database of postal addressing systems.

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Postal addressing systems

A reference work

You will find in it, among other things, information on international addressing:

- address elements;
- the formatting of an international address;
- the use of a country code in an address;
- the position of an address on an item.

A description for each country

You will have the address format for each member country, viz.:

- the type and position of the post-code;
- the coding system;
- the format of domestic addresses.

In addition to examples of addresses by country,

you will have in your hands a basic manual and will quickly optimize your investment thanks to:

- address models;
- contacts in each member country for specific information;
- lists of countries' regional subdivisions, if these are included in the address.



“Postal addressing systems” is a POST*CODE® product in the range.

The guarantee of a properly written address

Only a reliable address can guarantee the quick and efficient handling of letter-post items, letters or packets, however many items you send.



This reference document gives you the essential elements for writing international addresses correctly.

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The appearance of this annual publication completes the **Universal POST*CODE® DataBase**, a world database of postcodes converted into the same format, updated quarterly and which is easy to integrate into your applications or address checking and correction software. There's only one address in this case: postcode@upu.int.



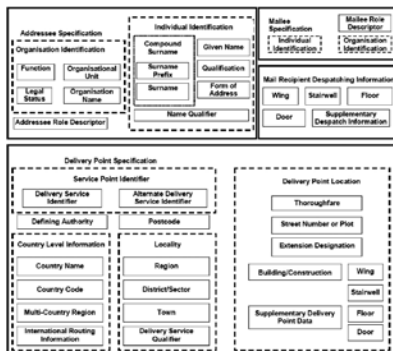
International addressing standards S42 and S53

The Universal Postal Union (UPU) is a specialized agency of the United Nations, and it has been the recognized partner of member countries for more than a century. Its International Bureau is in constant contact with the postal operators of its 191 member countries.

The UPU S42 International Addressing Standards working group is responsible for maintenance and development of international addressing standards to improve delivery efficiencies for a country's inbound international mail.

S42 defined International postal address components and templates

The S42 international addressing standard comprises of a generic list of address elements (used in all UPU member countries) and country-specific templates that tell users how to transform address elements into an accurately formatted address. In other words, a country defining its S42 template provides precise information about its address elements and formats.



S42 elements

As templates are expressed in both human and computer readable languages, they are ready to be integrated into address formatting computer systems.

There are currently 16 countries using S42-compliant templates, and another

six in the process of creating templates. Each template is developed collaboratively by representatives from individual countries and the S42 working group.

S42 DB FORMAT	ADDRESS LABEL
GIVEN NAME: MARIO	MARIO ROSSI
SURNAME: ROSSI	INTERNO 12 PIANO 4
STREET NO: 300	VIALE EUROPA 300
STREET NAME: EUROPA	00144 ROMA RM
STREET TYPE: VIALE	
FLOOR: PIANO 4	
DOOR: INTERNO 12	
TOWN: ROMA	
REGION: RM	
POSTCODE: 00144	

... templates transform address elements into an accurately formatted label

Who can benefit

Postal agencies from any country in the world will benefit most by adopting an addressing standard and developing a template to share with all of their customers. The bottom line is that they will save time and money when processing both their domestic and inbound international mail.

The other group that will benefit greatly are companies that send out large volumes of mail – both domestically and across international borders.

The following are just some of the ways that each of these two groups will be helped by adopting an S42 template.

Benefits to designated operators

- Improve postal efficiencies for both domestic and international mail
- Reduce operational costs of processing mail
- Increase postal revenue with new ability to process a higher volume of international business mail
- Simplify database management by allowing both domestic and foreign addresses to be stored in one database
- Improved data quality

Benefits to mailers

- Increase deliverability rate of mail
- Faster mail delivery
- Address logic can be built into existing mailing software
- Improve data quality

How to begin

It is easy to start the process of developing a standard addressing format template. All you have to do is contact us. There is no obligation, so get in touch with us today and discover how you can put your postal system on the path to more efficient processing of your mail.

These templates are built using fictitious data so that no actual addresses are required, which eliminates any privacy or security issues.

The process for creating a template is simple. Any costs associated with developing a template for a country are relatively small and normally related to the staff time needed to work on the project.

S53 – Electronic exchange of address data standard

The UPU Addressing Group is also developing a standard on electronic exchange of address data. The first draft was approved for status 0 in February 2009.

How to contact us

If you would like to know more about UPU addressing standards you can contact us in one of the following ways:

Email at: S42@upu.int
Tel: +41 31 350 31 11
Fax: +41 31 350 31 10

Or by post at:
International Bureau
Universal Postal Union
PTC-Addressing Unit
P.O. Box
3000 BERNE 15
SWITZERLAND

The Universal Postal Union is a specialized agency of the United Nations. It has been the recognized partner of member countries for more than a century. The specialist POST*CODE® relational network has been working on postcodes since 1988.

The world database of raw postcode data contains all available information on the postal addressing data of the 191 member countries of the Universal Postal Union

You will find postcode data to town, locality, street and delivery point level, depending on the particular country's system.

Details of addressing systems are also provided, with sample addresses for each member country, and contact details for their specialist addressing units.

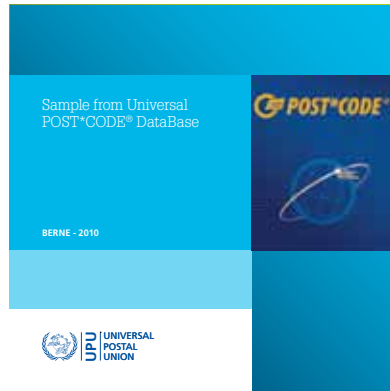
The principle users of the product include:

- address file management and batch address correction firms,
- carriers and dispatch companies,
- suppliers and manufacturers of sorting equipment,
- mail order businesses,
- postal financial centres and banks issuing inpayment money orders,
- universities and libraries,
- government offices (immigration, information, national security, infrastructure and transport, etc).

Universal POST*CODE® DataBase is part of the POST*CODE® range of products.

Whether you need data for the whole world, for a particular geographical region or just for a few countries, we have the right package for you.

This product is the key to quality addressing, ensuring rapid sorting, transmission and delivery of your letters, parcels or money orders. Quality of service is optimized through clear documentation and ready-con-



verted data in a single, durable format able to be directly integrated into your application or address checking and correction software.

Use of the world database is subject to the conditions set out in the Universal Postal Union's international licence.

Please note also that certain countries apply specific access conditions to their data, so you will need to sign an additional national contract (if you have not already done so) for user rights and/or billing.

Ask us for a list of these countries and the national contracts in force. If you do not wish to be bound by these conditions, we can supply the database without these particular countries.

With this database, you can:

- easily check that the addresses in

each country you send mail to are correctly written

- check the postcode for the town, locality, district and street for each country (depending on the level of data available and in use in each country).

Do you already use postal data from certain countries?

- Supplement your current database easily with POST*CODE® data.
- No more data acquisition, analysis and conversion issues!
- Save on development time and human resources.

We will also supply quarterly updates in a choice of forms:

- either a full initial delivery of all raw data requested, followed by 3 deliveries of updated data only, or
- a full initial delivery, then quarterly updates of all the raw data requested.

Get to know Universal POST*CODE® DataBase with the demo data. This 25 country sample is supplied free of charge. It will enable you to explore this unique professional tool.

We should be happy to answer any questions you may have, preferably by e-mail:

postcode@upu.int

Don't hesitate to contact us for a commercial proposal tailored to your user needs and data deployments.

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