



AN ADDRESS FOR EVERYONE

An address is one of the most common ways to describe a location. In the broader sense, an address is a location description for all kinds of service delivery, ranging from 'physical' services such as postal delivery, utility services, goods delivery, and emergency dispatch; to more

'abstract' services such as credit application, customer relationship management, tax collection and land administration.

A (geo)spatial reference system identifies locations on the surface of the Earth. An address identifies a location through such a geospatial referencing system. There are three

The social benefits of an international address standard are not necessarily quantifiable, but nevertheless huge. Here's a look at an initiative in this direction

categories of spatial reference systems. First, a geographic identifier reference system specifies the location by a label or code. Such a reference system comprises a related set of one or more location types that may be related to each other through aggregation or disaggregation, possibly forming a hierarchy. Secondly, a linear reference system specifies the location by reference to a segment of a linear geographic feature and distance along that segment from a given point. In some addressing schemes the address numbers are assigned according to distance from a given point.

Thirdly, a coordinate reference system specifies the location by reference to a datum. Sometimes addressing can even resemble a coordinate reference system. For example, in South Africa, addresses in remote rural areas are captured as 'dots' either with GPS devices or from aerial photography. The province, municipality and village name could be associated with the dot, but to locate the address, one has to know the coordinate. Over

time, these addresses could evolve into more commonly known addresses with street names and numbers (Coetzee et al, 2008).

Standardising addressing within a country streamlines the delivery process for both physical delivery services and the more abstract services. Internationally, addressing cannot be standardised because addresses have a strong cultural connotation and also because addressing is governed by the laws of a particular country. However, there are other benefits that an international address standard can provide, such as, understanding address data created by others; facilitating interoperability of address data; promoting the reusability of address-related software tools by providing a common framework for their developers and facilitating the development of spatial data infrastructures (SDIs) and data discovery through geospatial portals. In addition, an international address standard could provide guidelines to countries that are still to develop addressing systems.

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On the one hand, an international address standard would benefit those who assign addresses and create and maintain address data. They would use the standard to describe the addressing scheme that is used in address assignment, as well as to describe how addresses are represented as address data. These descriptions can then be used to draft rules and legislation for address usage and governance.

On the other hand, an international address standard benefits those who use addresses and address data supplied by others. They would use the standard to understand and interpret addresses and address data from a specific country or in an international context, from a number of countries. When the addresses are geocoded, users can also map them, calculate routes between addresses or geospatially analyse information that is linked to the addresses.

In 2008, ISO/TC 211, Geographic Information/Geomatics arranged an address standard workshop, hosted and sponsored by the Danish National Survey and Cadastre: *Considering the issues related to an*



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international address standard.

Subsequently, the ISO 19160 project for preliminary work on address standardisation, *Addressing* was initiated. The project has two objectives:

- Investigate and formulate requirements in relation to addressing
- Make recommendations on whether standards should be developed and if so, how this should be done.

The project's justification points out that addresses lie between geographic information, electronic business and postal systems, amongst others. Unlike other ISO/TC 211 projects, ISO 19160 does not include 'geographic information' in its title, reflecting the wider scope of the project. Addressing experts from as many as ten countries, namely Australia, Canada, China, Denmark,



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France, Japan, South Africa, Thailand, UK and USA, participate in the project. The project welcomes additional representation from countries in Africa, South America, the Middle East and Asia. Other organisations participating in the project through their liaison relationship with ISO/TC 211 include the Universal Postal Union (UPU); the ISO technical committee for processes, data elements and documents in commerce, industry and administration (ISO/TC 154); the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT); the Organization for the Advancement of Structured Information Standards (OASIS); and United Nations Group of Experts on Geographical Names (UNGEGN).

In order to investigate requirements in relation to addressing, the ISO 19160 project team is currently reviewing a number of existing national and international address standards. Aspects reviewed include the scope, terminology, conceptual model, addressing schemes, address metadata, processes and procedures for the maintenance of

address data, encoding and address rendering. The results of the review will serve as input to formulate recommendations on whether standards should be developed and if so, how this should be done.

One possible recommendation is an international address standard that provides a common addressing terminology, which will assist in eliminating misunderstandings. A conceptual model (using such a common terminology) will further improve mutual understanding of different addressing schemes and associated addresses. Together, the terminology and the conceptual model make it possible to describe address data and address schemes from different countries, thus facilitating addressing interoperability.

A number of current initiatives related to addressing confirm the importance of international address data interoperability. For example, the Addressing the World, An Address for Everyone initiative by the Universal Postal Union (UPU) focuses on creating address-related synergies between UN agencies, inter-



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governmental organisations and any other interested parties, such as academia, non-profit organisations, development banks and businesses. As another example, addresses are listed as a priority spatial reference dataset in the directive for the European spatial data infrastructure programme, Infrastructure for Spatial Information in Europe (INSPIRE).

In Denmark, an address standard was developed to support the 2002 decision to provide the official Danish address data "free of charge" for public as well as commercial reuse. While a monetary value can be put against some of the benefits of an international address standard, the social benefits of an international address standard that facilitates addressing in developing countries are not necessarily quantifiable, but nevertheless huge. Having an address makes an individual part of modern society by enabling postal mail, utility services, goods delivery, financial services and not least, finding friends!

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