key messages

1 GS1 is capable of becoming a reliable source of master data of physical locations by building on its global standards an international network of location databases applying other international, regional and national standards.

2 Location databases built on GS1 global standard elements establish interoperability among the different position measuring (satellite) and orthographic systems as a globally unique identifier is allocated to each and every location with physical extent, and coordinates positioned in any measuring (satellite) and orthographic system can be chained to these identifiers as master data. As a result a location database built on GS1 principles can serve any map application.

3 The most significant added value of the location database built on GS1 standards is that it provides interoperability towards databases built on GS1 identification principles keeping a record of the master data of other entities. Hereby location-related information about organisations, products and documents may become available for users, by which the basis for a complex track and trace system applicable in any sector may be formed.

The advantages of the GS1-principled Location Database

On the basis of international standards and legally authentic location data GS1 Hungary has worked out a location database that is capable of supporting any type of track and trace system as it provides accurate and reliable location data for stakeholders of the supply chain in real time. Additionally, GS1 Hungary is now developing some mobile software solutions based on international standards. While recording any event, these solutions supported by the location database show the accurate physical location of the given event and all related location information, record the time of the event and at the same time they are also in communication with other databases containing master data, thus – if it is relevant – they can provide further organisation, product or document data for the event in question. This concept and the devices developed for this purpose may significantly increase the effectiveness of the different track and trace systems, helping the work of enterprises and state authorities, while contributing to the information provision for consumers.

The rapid development of info-communication tools allows players of both the business and state sectors to take advantage of the opportunities offered by internet, mobile communication or global locating systems in any supply chain while tracking and tracing activities, products and services. These tools and solutions are strengthened and supported by GS1 global standards in the framework of an integrated system and way of thinking, the employment of which guarantees the profitability of enterprises and the effective operation of state authorities as well as the improvement of welfare of customers in the long run.

GS1 Hungary

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GS1-principled Location Identification

GS1 Hungary

The network of GLN databases

I. IDENTIFICATION OF ORGANISATIONS BY GLN_{ORG}

GLN_{ORG} serves to identify organisations (legal entities) globally and individually.

II. IDENTIFICATION OF PHYSICAL LOCATIONS BY GLN_{LOC}

GLN_{LOC} serves to identify physical (e.g. warehouses, places of business), administrative (e.g. counties, cities, towns, districts) and functional locations (e.g. ports and harbours) globally and individually.

III. IDENTIFICATION OF VIRTUAL LOCATIONS BY GLN_{LOG}

GLN_{LOG} serves to identify virtual locations (storage location of data and routers in the network) and the location of related information globally and individually.

1 LEGAL AUTHENTICITY

The GS1-principled location database is based on legally authentic location data purchased from the Hungarian Institute of Geodesy, Cartography and Remote Sensing (FÖMI). It contains the geographic names that are included in the Gazetteer and data of the Administrative Boundaries containing country, region, county, local administrative units and settlement boundaries.

2 GLOBALITY

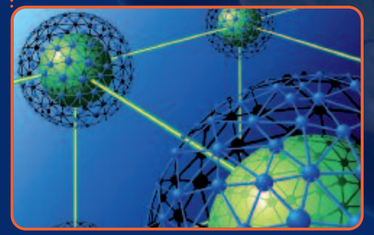
The GS1-principled location database uses GLN, a GS1 identification key used in 150 countries worldwide for identification of physical locations (including administrative, geographical and business locations as well as addresses) and the GLN + extension for the detailed identification. The GLN, which is also constructed in accordance with relevant GS1 standards and other international standards and regulations, is the key element to the attribute stock of physical locations.

3 PRINCIPLE OF THE NETWORK OPERATION

The fact that the GS1-principled location database is based on international standards allows GS1 member organisations and their co-operating partners (either competent authorities or enterprises operating in the field of geoinformatics) to create their own national location databases, which on the model of GS1 other networks (GEPIR, GDSN, EPCglobal Network) may be connected to each other.

4 ENSURING INTEROPERABILITY

The GS1-principled location database ensures penetrability among the different measurement (satellite) systems (such as GPS, Glonass, Compass, Galileo) and the orthographic systems (for example WGS84/UTM, National Projection Systems or other functional systems like the military system of NATO [MGRS]). The basis of ensuring penetrability is the global identification (GLN) of physical locations independent of any systems, to which the data of physical locations fromdifferentmeasurement systems may be chained as attributes.



5 INDEPENDENCE

The GS1-principled location database is a solution independent of language, location and time, which is capable of recording legally authentic information aswell as locations important from business point of view for users' business needs. In addition to GS1 standard elements, it meets the relevant ISO standards and is independent of any other business-based solutions anywhere in the. As a consequence of penetrability it is also independent of any other map applications.

6 ACCURACY

The GS1-principled location database applies a 3D location identification solution, complementing international and local orthography systems with the figures measured by the third dimension (height) and stored in the location database.

7 MOBILITY

The GS1-principled location database is integrated into GS1 Hungary's modern mobile applications, where it allows the access to data of any legally authentic physical location in real-time and the recording of data of a location important from business point of view. It also allows the recording, storing areas measured or marked on any map (polygons) as well as forwarding them in standard XML messages with a mobile device to anyone, anywhere, anytime.

8 CUSTOMIZATION

The use of the GS1-principled location database may be customized with the help of modern mobile applications of GS1 Hungary. The accuracy of the location identification, the visibility, the publicity and the sharing of locations recorded by the user that are important from business point of view may be set in different profiles created by users.

9 RECORDING FUNCTION

The location information provided by the GS1-principled location database is archived (recorded) in the applications of GS1 Hungary, thus the accurate physical location of an event recorded by the user may be looked up anytime and further information about the location may be accessed, too.

10 SUPPORTING TRACK AND TRACE

The features and advantages summarised above enable the GS1-principled location database to become a dominant basic element of accurate track and trace systems in all sectors where it is important and necessary to follow the movement of goods from manufactures to end-users.