ICEG Hydrants – Meeting Report

First Thematic Workshop

Date: April 18, 2023 (9:30 - 12:00)
Attendees:

Attendee Name	Affiliation
Arne Van Der Stuyft	AWV
Bart Reynaert	Pidpa
Bart Vermetten	Pidpa
Carl De moor	Water-link
Carole Nahon	Province De Liège
Jan De Saedeleer	FOD BZ
Jasmijn Overmeire	Farys
Laura Verhulst	FOD BZ
Miguel Sebastian Santamaria	Vivaqua
Philip Stichelbaut	HVZ Fluvia
Rink W. Kruk	NGI – IGN
Romain Lizin	AIEC
Simin Thirion	De Watergroep
Valentin Pierson	SWDE
Vanessa Meirhaeghe	Farys
Thierry Wauthier	INBW
Yves Loos	HVZ Taxandria
Florian Barthelemy	PwC
Christophe Bahim	PwC
Vincent Feremans	PwC
Lorenzo Vylders	PwC

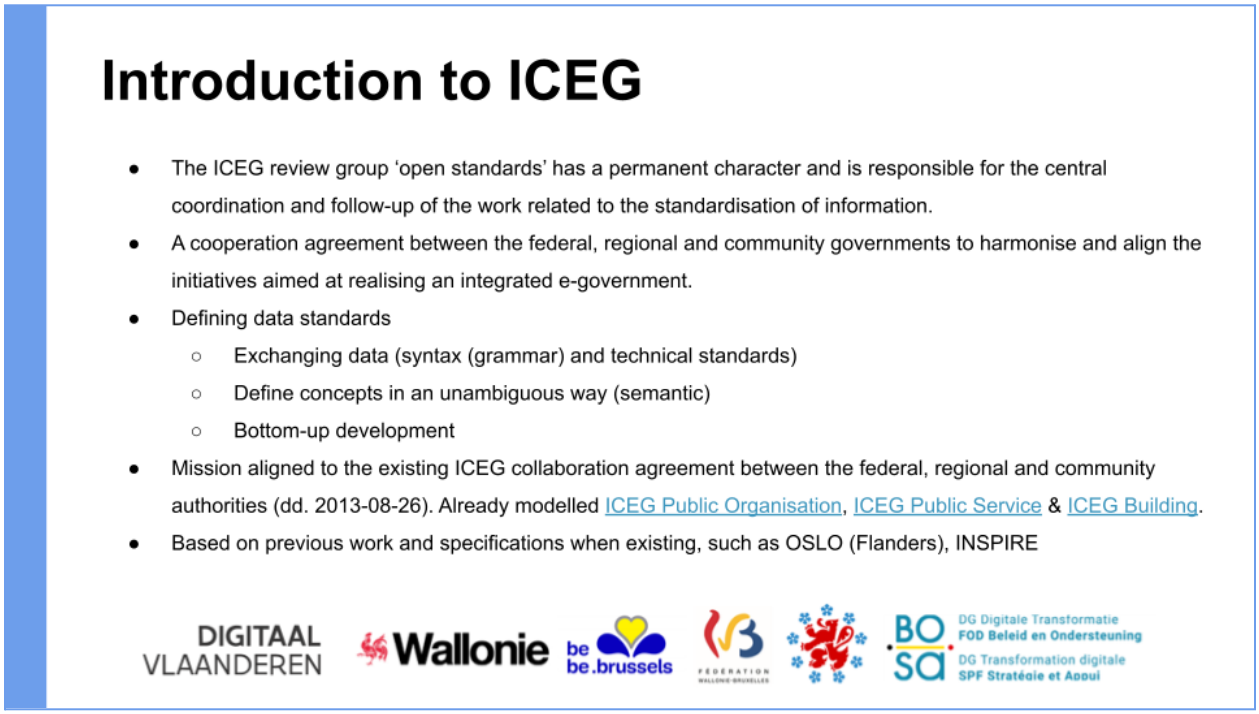
Agenda

Welcome	9:30 to 10:00
Process, input and timeline	10:00 to 11:20
Presentation of identified use cases and requirements	11:20 to 11:50
Identification and presentation of parts of the model	11:50 to 12:00

Meeting Minutes

Welcome and recap of the business workshop

The first thematic workshop of ICEG Hydrants was kicked off with a recap of what ICEG is, the importance of harmonizing data concerning extinguishing water sources in the Belgian context, what the goal of this trajectory is and how this is endeavored to be done; and finally an overview was given with what was achieved in the last workshop. More information can be found in the slides.



Identified use cases and identified requirements

Original use cases

1	**Extinguishing water sources** are essential for emergency response services during a fire or other emergency situations.	There are **objects with a location** that can be identified through a set of **geographic coordinates**. These sources are typically owned by water distribution companies or enterprises with a high-risk profile. Clear **ownership information** is essential to enable linking with relevant authorities, such as the Enhanced Crossroad Bank for Enterprises
2		**To make these sources useful, standardized attributes** are required, such as unique-id, type, capacity, source, hose connection type, availability, accessibility, and contact point to inform the owner about the use of the source so that appropriate action can be taken
3		Some owners, emergency services, municipalities and provinces have a system and process to register the **status of the extinguishing water sources** (broken, checked-and-working, last-check-date). It must be possible to establish a link with the water source and its management status/follow-up.
4	It is important to use **standardized symbols** in the context of hydrants, therefore a link should be created between the attributes and a standardized symbol to be **shown in cartographic interfaces**.	

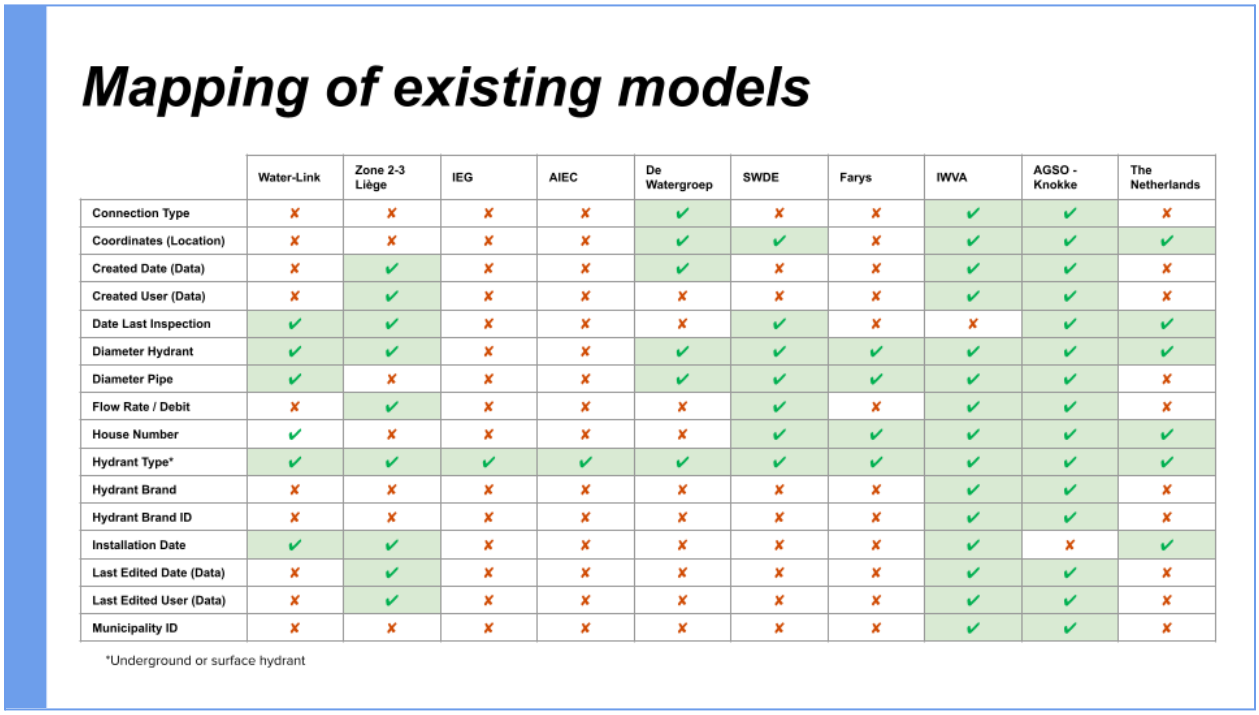
During the business workshop (webinar #1), the ICEG Hydrants team received several insights on the original use cases due to which several enrichments to these use cases were proposed and it was decided to split the use cases into five instead of four. More information ons this can be found in the meeting report of the business workshop.

Identified requirements

The first version of the ICEG Hydrants' data model will be based on information received from a broad range of actors which represent the inclusion of stakeholders from all the different levels.

Based on all the received input the ICEG Hydrants team received from numerous Belgian water companies, the primary users and owners of the information, an initial mapping of the attributes was made. This mapping created an overview of the attributes used per actor which helps to find a common denominator and which can then be used as a basis to start and build a first draft of the model. after which an analysis could be made to examine which ones are the most relevant and important to include into the first version of the ICEG data model.

The mapping exercise can be found in the presentation or in the slides below:



Mapping of existing models

	Water-Link	Zone 2-3 Liège	IEG	AIEC	De Watergroep	SWDE	Farys	IWVA	AGSO - Knokke	The Netherlands
Connection Type	✘	✘	✘	✘	✔	✘	✘	✔	✔	✘
Coordinates (Location)	✘	✘	✘	✘	✔	✔	✘	✔	✔	✔
Created Date (Data)	✘	✔	✘	✘	✔	✘	✘	✔	✔	✘
Created User (Data)	✘	✔	✘	✘	✘	✘	✘	✔	✔	✘
Date Last Inspection	✔	✔	✘	✘	✘	✔	✘	✘	✔	✔
Diameter Hydrant	✔	✔	✘	✘	✔	✔	✔	✔	✔	✔
Diameter Pipe	✔	✘	✘	✘	✔	✔	✔	✔	✔	✘
Flow Rate / Debit	✘	✔	✘	✘	✘	✔	✘	✔	✔	✘
House Number	✔	✘	✘	✘	✘	✔	✔	✔	✔	✔
Hydrant Type*	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Hydrant Brand	✘	✘	✘	✘	✘	✘	✘	✔	✔	✘
Hydrant Brand ID	✘	✘	✘	✘	✘	✘	✘	✔	✔	✘
Installation Date	✔	✔	✘	✘	✘	✘	✘	✔	✘	✔
Last Edited Date (Data)	✘	✔	✘	✘	✘	✘	✘	✔	✔	✘
Last Edited User (Data)	✘	✔	✘	✘	✘	✘	✘	✔	✔	✘
Municipality ID	✘	✘	✘	✘	✘	✘	✘	✔	✔	✘

*Underground or surface hydrant

Mapping of existing models

	Water-Link	Zone 2-3 Liège	IEG	AIEC	De Watergroep	SWDE	Farys	IWVA	AGSO - Knokke	The Netherlands
Municipality Name	✔	✘	✘	✘	✘	✘	✔	✔	✔	✔
Nature	✔	✘	✘	✘	✘	✔	✘	✘	✘	✘
OGR FID	✘	✘	✘	✘	✘	✘	✘	✔	✔	✘
Orientation	✘	✔	✘	✔	✔	✘	✘	✔	✔	✘
Owner	✔	✘	✘	✘	✘	✘	✘	✘	✘	✔
Pipe ID	✔	✘	✘	✘	✘	✘	✘	✔	✔	✘
Pipe Material	✘	✘	✘	✘	✘	✘	✘	✔	✔	✔
Pipe Status	✔	✘	✘	✘	✘	✘	✔	✔	✔	✘
Pipe Type	✔	✘	✘	✘	✘	✘	✘	✔	✔	✔
Pipe Zone	✘	✘	✘	✘	✘	✘	✘	✔	✔	✘
Postal Code	✔	✘	✘	✘	✘	✘	✘	✘	✘	✔
Pressure	✘	✔	✘	✘	✘	✔	✘	✘	✘	✘
Remarks	✘	✔	✘	✘	✘	✘	✘	✔	✔	✘
Serial Number	✘	✔	✘	✔	✘	✘	✘	✔	✔	✘
Shape Hydrant	✘	✘	✘	✘	✔	✘	✔	✘	✔	✘
Shape Pipe	✘	✘	✘	✘	✔	✘	✔	✔	✔	✘

Mapping of existing models

	Water-Link	Zone 2-3 Liège	IEG	AIEC	De Watergroep	SWDE	Farys	IWVA	AGSO - Knokke	The Netherlands
Status	✔	✘	✘	✘	✘	✔	✔	✔	✔	✔
Street Name	✘	✘	✘	✔	✔	✔	✔	✔	✔	✔
Signage	✔	✘	✘	✘	✔	✘	✘	✘	✘	✘
Unique ID	✔	✘	✘	✔	✔	✔	✔	✔	✔	✘
Water Type	✘	✘	✘	✔	✘	✘	✔	✔	✘	✘

Attributes which could be found only in 1 model

+ Spindle Type
+ Protected
+ Reference Number Fire Department
+ Noria Point
+ Depth underground hydrant
+ Geometry (SQL spatial geometry format)
+ G3E FID
+ CALC ADDRE
+ Net type
+ Nominal Diameter
+ Annotation
+ Feature CO

Data model: First draft

Lastly, the initial version of the ICEG Hydrants data model was presented. The section was split into four distinct parts that showcase the essential components of the model, their interconnectivity, and their association with use cases.

1. Hydrants & Pipe
2. Location
3. Owner
4. Attributes on a map

1. Main sections of the data model

PwC presented a first draft data model of how extinguishing water sources and their pipes should be modeled. The following topics were discussed:

- Flow rate: It was mentioned that this attribute is correlated to diameter and pressure but can vary depending on the time of day or whether large companies are consuming substantial amounts of water. The suggestion was made to take the nominal flow rate as value since this is the rate which emergency services can minimally expect from a hydrant.
- The data model should be future proof. For example, several types of map projection standards need to be included (e.g., Lambert 72, Lambert 08 and WGS 84) as the preferred standard will change over time.
- Privately owned hydrants: Hydrants on private (industrial) property are not linked to the common network. The suggestion was made to capture the type of owner as well (i.e., private or public).
- Location of signalisation: Due to the vandalism related to signalisation on the streets (i.e., theft, displacement, graffiti, etc.), it was recommended not to incorporate such an attribute in the model.

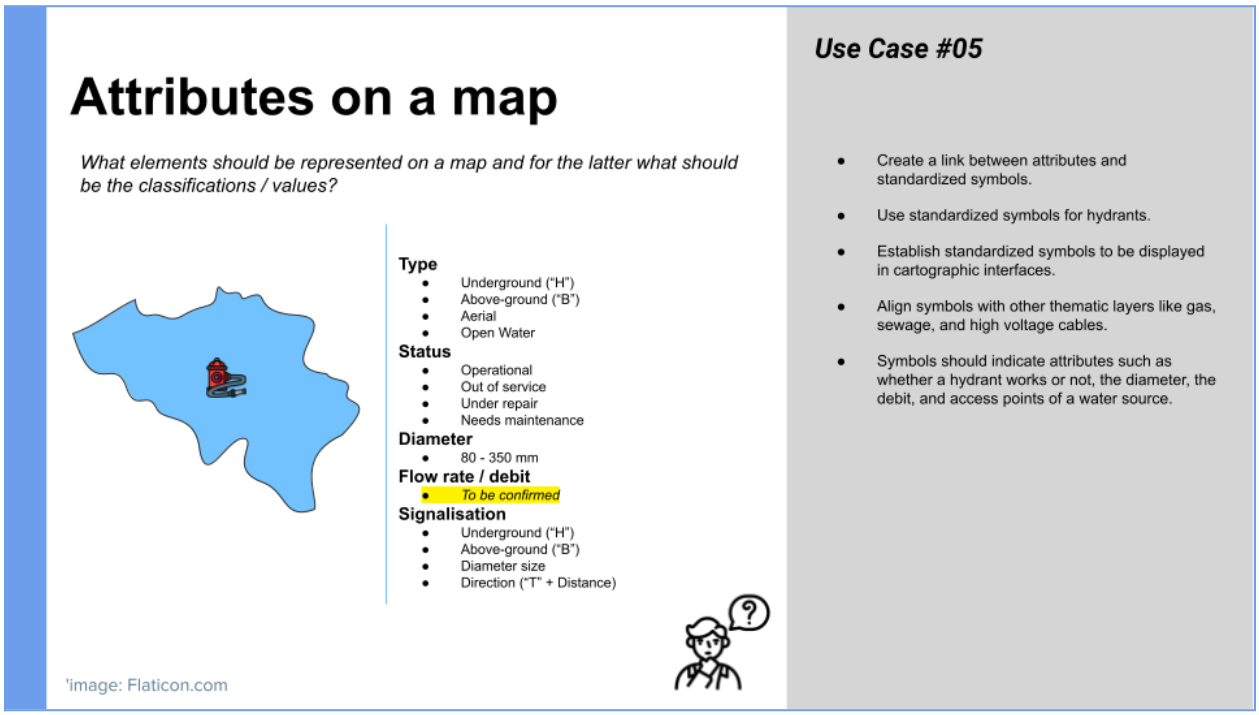
Legend:

- Green: Attributes that need to be added to a particular entity or moved to another entity.
- Yellow: Attributes that are considered optional or uncertain whether they should be included in the model.
- Red: Attributes that must be removed from the data model due to their irrelevance.

Hydrant	Pipe
+ Identifier + Hydrant_Type + Hydrant_Shape + Signage + Usage + Installation date + Last inspection date + Status + Valve_Diameter + Valve_Type + Flow rate + Isolation	+ Pressure + Pipe_Diameter + Pipe_Status + Pipe_Type ~~+ Pipe_Material~~ + Pipe_Shape
Location	**Owner**
+ Latitude + Longitude + Topography	+ Name + PhoneNumber + EmailAddress

+ Orientation + Type_Residential + Type_Commercial + Type_Industrial + municipalityName (BeST) + municipalityCode (BeST) + postcode (BeST) + addressPosition (BeST) + streetName (BeST) + houseNumber (BeST)	+ EmergencyTelephoneNumber

2. Cartographic attributes (slide 29)



The ICEG Hydrants Team presented a first representation of attributes which should be captured on a map. Here, the goal is to see which elements should be represented on a map and afterwards, how they should be classified. This discussion will be continued further on Github in the form of an issue.

Next Steps

In order to keep involving all stakeholders in this trajectory and to ensure that the data model is built in consensus with them, the concept of "issues" on Github was introduced. It is a means of facilitating offline discussions about the attributes of hydrants to reach said consensus in preparation of our next webinar. These issues are designed to help us discuss and arrive at a shared understanding of the four main elements of the data model we presented (i.e., hydrant, pipe, location and owner). They are created based on the mapping exercise of the identified requirements. Everyone can simply enter the discussion by commenting on a particular issue.

Please have a look at all of them and evaluate the model, entities, attributes, definitions and codelists, against your use cases.

- Hydrant Entity Attributes
- Pipe Entity Attributes
- Location Entity Attributes
- Owner Entity Attributes
- Discussion on attributes to be used for cartography-related purposes

For easy access, these issues are posted on our Github thematic repository, which can be accessed here: https://github.com/belgif/thematic. Github is a platform that enables us to share data models and documents, and provides a forum for constructive discussions among relevant stakeholders.

To comment on the issues, you will need to create an account on Github by providing your email address. Once signed in, you can participate in the discussions and contribute to building a consensus.

If you encounter any difficulties in navigating on Github or in the creation of a Github account, please do not hesitate to contact us via email.

Please note in your agenda the date of our **next workshop** which will **take place on the 22nd of June**, 2023.