ICEG Hydrants – Meeting Report

Third Thematic Workshop

Date: March 28, 2024 (10:00 - 12:00)

Attendees:

Attendee Name	Affiliation
Nicolas Soenens	HVZ Zone 1
Rink W. Kruk	NGI – IGN
Yves Loos	HVZ Taxandria
Bart Vermetten	Pidpa
Carole Nahon	Province De Liège
Laura Verhulst	Brandweerzone Antwerpen
Laurent Charbon	Zone de secours Liège
Rudy Declercq	HVZ Fluvia
Donatienne Borremans	Vivaqua
Carl De Moor	Water-Link
Sylvie Vertongen	Aquawal
Frédérique Witters	UVCW
Marc Van Aelst	Farys
Tom Van Brabant	De Watergroep
Filip Vancoillie	De Watergroep
Marc Bruyland	FPS/FOD BOSA
Jitse De Cock	PwC
Florian Barthelemy	PwC
Vincent Feremans	PwC

Agenda

Welcome and timeline
ICEG & trajectory background information
Implementation concerns
Data examples - Use cases
Data needs
Public review - Change requests

Meeting Minutes

Welcome and recap of the business workshop

The first workshop of ICEG Hydrants in 2024 was kicked off with an extensive recap of what ICEG is, the importance of harmonising data concerning extinguishing water sources in the Belgian context, what the goal of this trajectory is, and most importantly, an explanation of what defines a semantic model and what it is not. More information can be found in the slides.

Next, a clarification was given concerning the essence of a semantic model:

What is a semantic model?

- A semantic representation of all data which is connected to a fire hydrant.
- All aspects of a fire hydrant are translated into a data standard in a logical structure.
- The objective is to enable stakeholders to communicate in a common language about a fire hydrant, offering consistency.
- It provides a blueprint for designing and implementing the exchange of data.

What is a semantic model NOT?

- It does NOT mean that if a certain aspect of a fire hydrant is included in the model, the data must be made available.
- The ICEG Hydrants trajectory does NOT enforce the implementation of the data model onto the stakeholders. Only a law would be able to do that.
- It does NOT provide statements on how data is stored, accessed or manipulated in a database.

Remarks concerning the implementation of the data model

Rink Kruk addressed the concerns with regards to the implementation of the data model by introducing the help that NGI can offer all stakeholders, based on their level of maturity to implement the data exchange on hydrants using the model. NGI can

1. Provide stakeholders with a web-based user interface that will automatically add your data to the NGI database based on manual input.
2. Offer import and export functionality. Based on the shape, etc. from your own system and upload it to the NGI system.
3. Offer APIs or a Linked Data Event Stream (LDES) (with information and support on LDES and its usage of nodes).

Afterwards, a bundled overview was given of all the received concerns related to the matter.

What will the process of use data on fire hydrants entail?
- Contracts already established with public utility services at the request of emergency services;
- Ideal solution: IGN collects data nationally, and makes it accessible to emergency services;
- Benefits for both data providers (less fragmented supply) and users (single access point for updated uniform data);
- Process facilitated through GeoHub for emergency services;
- Easy integration into emergency services' IT solutions; and
- Ensures consistently updated information for emergency services.

How will confidential data be handled, and what experience does NGI have?
- A strict framework for data usage via an agreement is requested due to the strategic nature of the data;
- NGI has experience handling confidential data, including that of Fluvius and work for Defense; and
- In short, protected data and limited access.

Who should initiate the request for data updates, and how should it be done?
- NGI proposes handling data updates proactively for emergency services, providing the most up-to-date information through a web service/API and/or download, without access charge.

What is the proposed arrangement for reciprocal information exchange?
- It is suggested that emergency services promptly provide clear and concrete information to water companies regarding hydrant usage.
- The water companies, in return, will address issues and manage the water infrastructure effectively.

Have the discussions on reciprocal information exchange taken place?
- Yes, the discussions on this matter have started in the fire department network, with further consideration in other fire department working groups and at higher levels on the method of conveying such information.

Questions and comments received during the workshop on this topic:
- **Comment:** The water companies reiterated on their concerns to only be willing to share their data if permissions are strictly managed and only organisations with the right to do so such as emergency services will receive that access.
  - Rink Kruk highlighted NGI/IGN's vast experience when it comes to data protection, with success stories such as the Belgian Defense, emphasising the safety of the data.
  - The semantic data model that is being created in these working groups does not treat the filters that will need to be applied on who can view the data. This will need to be taken care of when implementing the model.
- **Question:** Certain smaller water companies are currently unable to digitalise their way-of-working further. Could the data exchange between the water companies and NGI/IGN be done on a voluntary basis?
  - NGI has experience in aiding organisations with data entry but acknowledges the reliance on the goodwill and capacity of water companies. A collaboration with the water companies could start with basic information, such as localising hydrants on a national level, after which the range and the amount of data could gradually expand.
  - Several SLA's will need to be signed between NGI/IGN and the water companies to establish such a collaboration.
  - The model tries to semantically capture how the data surrounding hydrants should be structured and does not enforce any actual data exchange.
- **Comment:** Water companies currently face challenges to provide all elements within the data model due to the lack of data and question the need to elevate data exchanges to an interfederal level. The need for data related to fire hydrants is still not clear for some water companies.
  - The representatives of the Walloon and Flemish firefighting zones which were present, and Rink Kruk, stressed the importance of hydrant related data when operating in cross-regional emergencies. Collaboration between the different regions and zones is very common and due to the lacking availability of data, fire fighters are not able to organise themselves properly during such large-scale emergencies, further indicating the need to address the current information gaps.
  - The recommendation was made by several participants to host an additional meeting between the water associations and the different fire fighting networks outside of the ICEG Hydrants trajectory to further address the data issues which fire fighters struggle with.

Background information

Next, the background information was once more given, explaining the various use cases for which the data model was created. More information ons this can be found in the meeting report of the business workshop.

| 1	**Extinguishing water sources** are essential for emergency response services during a fire or other emergency situations.	They 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, standardised 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 **standardised symbols** in the context of hydrants, therefore a link should be created between the attributes and a standardised symbol to be **shown in cartographic interfaces**.	

In order to further elaborate on the model, a visual representation of a fire hydrant was used to illustrate the data model, its entities and its attributes. These concepts were provided by stakeholders during the virtual workshop on March 7, 2023, or subsequent virtual workshops. The full reports can be found via this link.

Data examples - Use cases

Three successive data examples were presented, gradually filling in the ICEG Hydrants data model.

- **Use case 1:**
  - During an intervention in Kontich-Kazerne (a municipality close to Antwerp), fire fighters make use of a below ground hydrant from Pidpa which was installed in 2008.
- **Use case 2:**
  - The firefighters require an openingKey to open the valve of the hydrant (DN 80) and access the water. According to the last inspection report from 01/02/2022, the hydrant is operational as well as the pipe.
- **Use case 3**
  - Unfortunately, when opening the valve, there is no water flowing out of it. The firefighters call the emergency phone line of Pidpa, who on their end have an entire overview of all the data linked to the hydrants as well as the pipe. The pipe is also still operational so Pidpa can easily solve the problem on their end and ensure the correct waterType is provided.

Use case 3 represents a completely filled in representation of the ICEG Hydrants data model for one hydrant, as can be seen in the following image:
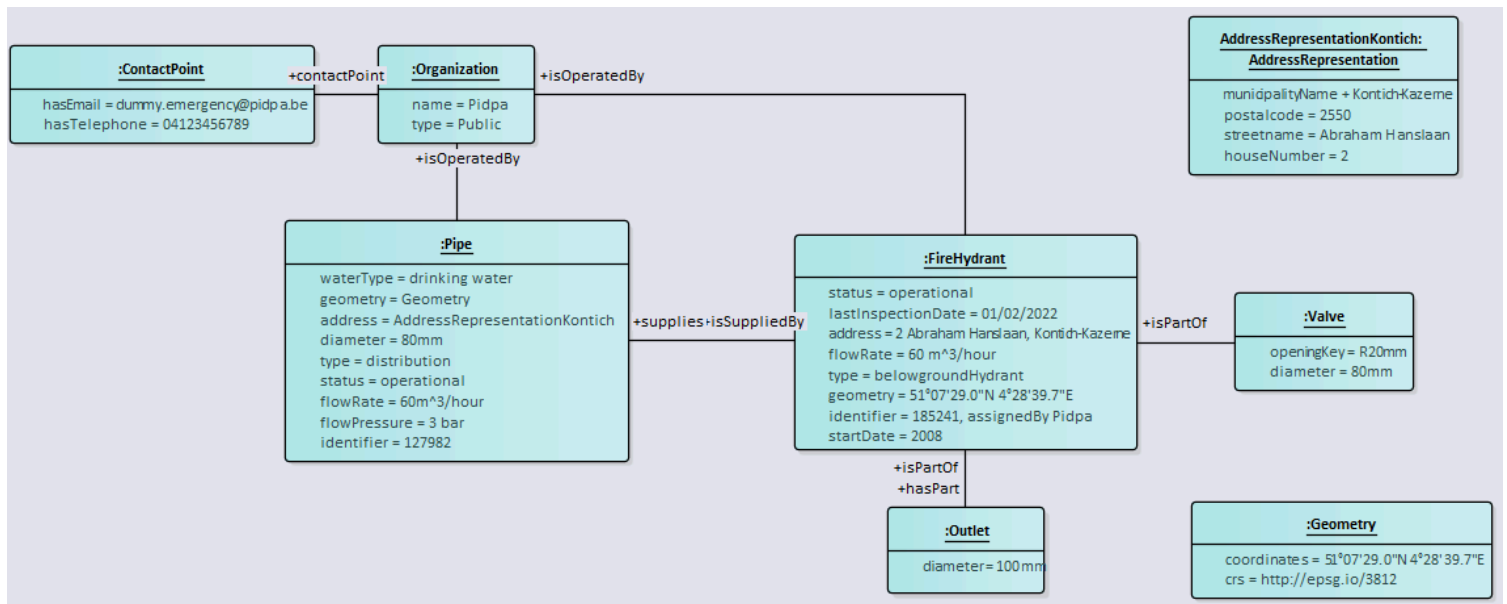
Note: One of the latest change requests was not yet implemented in this data example. During the public review period, the remark was given that the attribute "flowRate" should always have "L/min" as a unit and not "m³/hour". While this change request was accepted, this data example did not yet illustrate this yet.

The following was indicated by the participants during the discussions about the data examples:

- Information about the firefighters' usage of a particular fire hydrant (e.g., time and location) is still captured insufficiently in the model. The water companies expressed once more the imbalance between the needs of the firefighters and those of the water companies.

- Additional data requirements such as notifications and inspection reports conducted by firefighters need to be captured in the model.This would allow defects to be identified much faster and provide water companies with the opportunity to repair them sooner.
- Open water sources and other types of water sources are not captured in the model.
  - It has already been decided [during a previous workshop](#) that this attribute should be out of scope for this particular data model.
- In the entity "Pipe", an additional attribute called pipe.classification should be added, classifying pipes as primary, secondary or tertiary.

Next Steps

Until further notice, all the upcoming workshops have been cancelled as internal discussions within ICEG and its represented entities are taking place to see how to best finalise the ICEG Hydrants data model.

The ICEG Hydrants team will incorporate the feedback of this workshop in a newly published version of the model and create a supporting spreadsheet in NL, FR and EN to facilitate the additional feedback from the stakeholders on the model. The publication of the new version of the model and supporting spreadsheet is foreseen for the week of May 6th.