Vlaamse overheid

OSLO : IMKL

Thematic Workshop 1

Welcome!

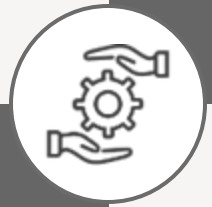
Thursday 25 May 2023
Microsoft Teams

We start at 13:35

Practical arrangements

Sound of audience is **muted** by default

Use the **hand** icon if you want to say something. Collaboration is greatly appreciated!



Questions, comments and suggestions can be shared via the chat function. Interaction is encouraged!

Yes/no questions can be answered with:

Agree = +1
Dissagree = - 1
Indifferent = 0

Recording?

Today's Goal

Presentation of the modified model, explained component by component. A comparison with the old model is also made in each case.

Summary of the business workgroup

Presentation and discussion about the improved model

Capturing input through interactive exercise

Agenda

13u35 - 13u45	Welcome and agenda
13u45 - 13u50	Cause and Context
13u50 - 14u00	Summary of previous workgroup
14u00 - 14u10	UML
14u20 - 14u35	Our method
14u35 - 14u50	Pause
14u50 - 16u00	Improved model with comparison
16u00 - 16u15	Q&A and next steps

Who is who?

MURAL-LINK

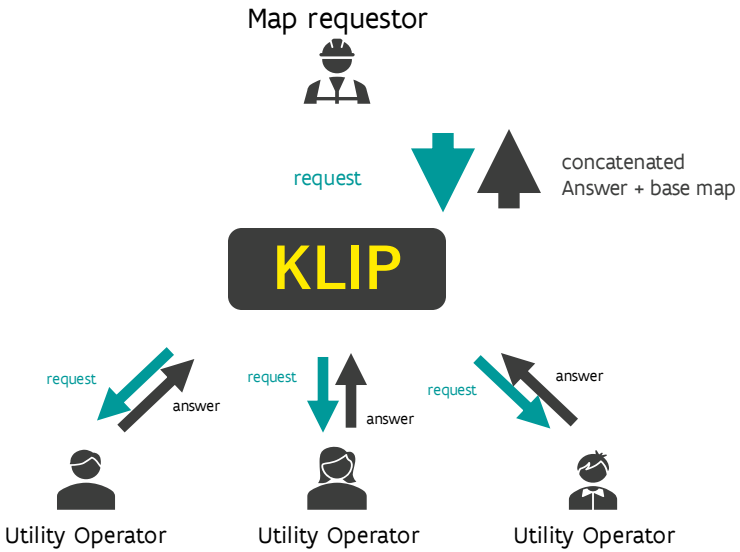
Cause and Context

Vlaanderen
verbeelding werkt

CONTEXT KLIP

KLIP Digitaal

2016 - today



Use cases IMKL

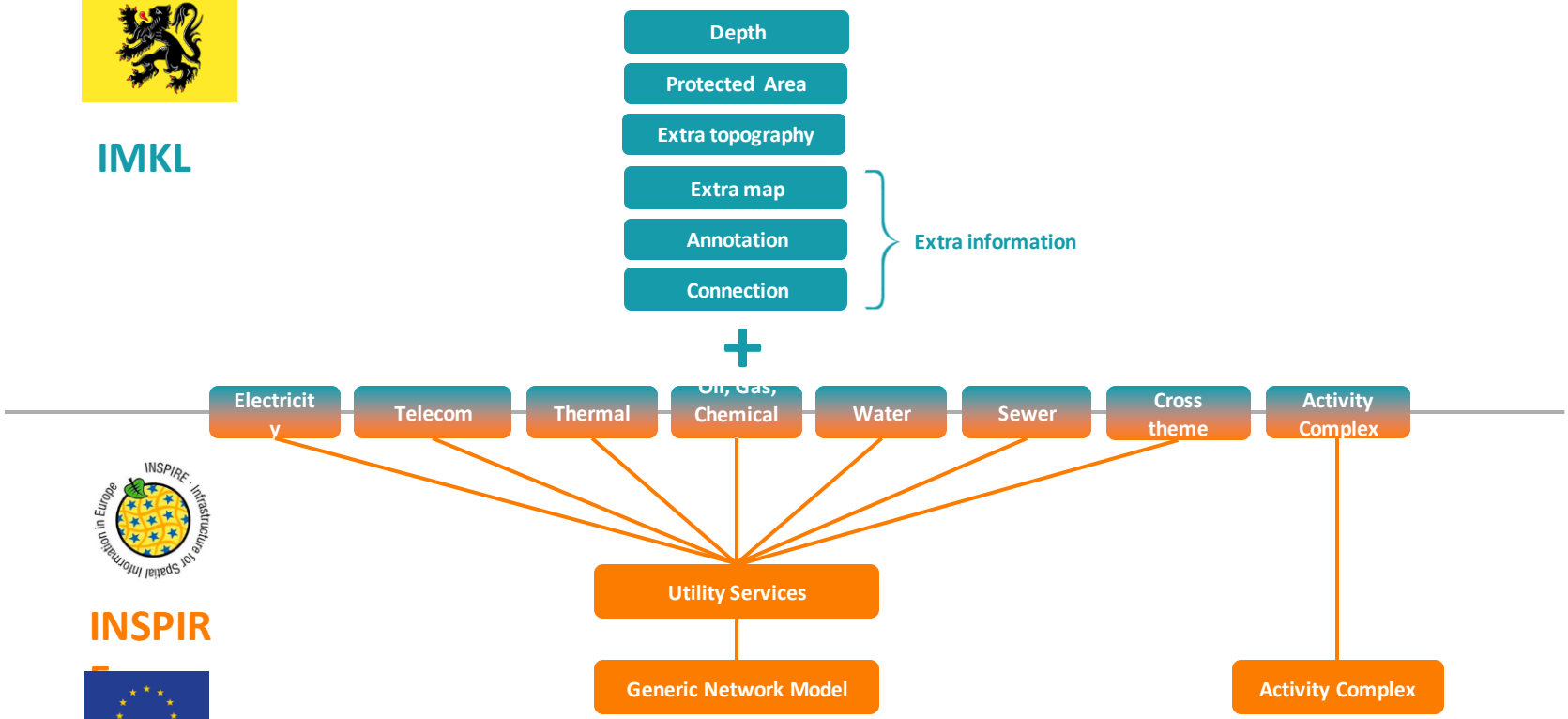
- **Limit excavation damage** by exchanging data about underground cables and pipes
- Deliver piping data in a standardized form to be able to **display** this **info on 1 map**
- Collect piping data in a standardized form to process these data in **preliminary studies**
- Better **policy preparation** en better support to prevent issues with underground cables and pipes by improving **coordination between policy/big projects and pipe infrastructure**.

CONTEXTSCHETS KLIP

IMKL Model

IMKL

INSPIR



KLIP VISION 2025

IMKL-update: why?

- Current version (IMKL 2.3) in production since 24/08/2017

- Since 2017
  - Not yet implemented breaking changes in INSPIRE Data Specifications for Utility Services
  - Flemish Government commits to Open Standards for Linking Organisations (OSLO)
  - A.o. for infrastructure (for example the OTL specifications of the Agency Roads and Traffic)
  - OGC-standard in development: “Model for Underground Data Definition and Integration (MUDDI)”

- New use cases detected
  - Policy preperation
  - Large infrastructure projects

- The current data model
  - Only XY-coordinates allowed (2D)
  - Only Lambert1972-coordinate system allowed
  - Mix of Dutch and English terminology
  - Maybe too complex

KLIP VISIE 2025

IMKL-update

2023

- Analysis datamodel

30/09/23

2024

Implementation new validationrules

30/06/24

Working together with OSLO-team (Digitaal Vlaanderen)

Renewed IMKL becomes a Flemish OSLO-data standard

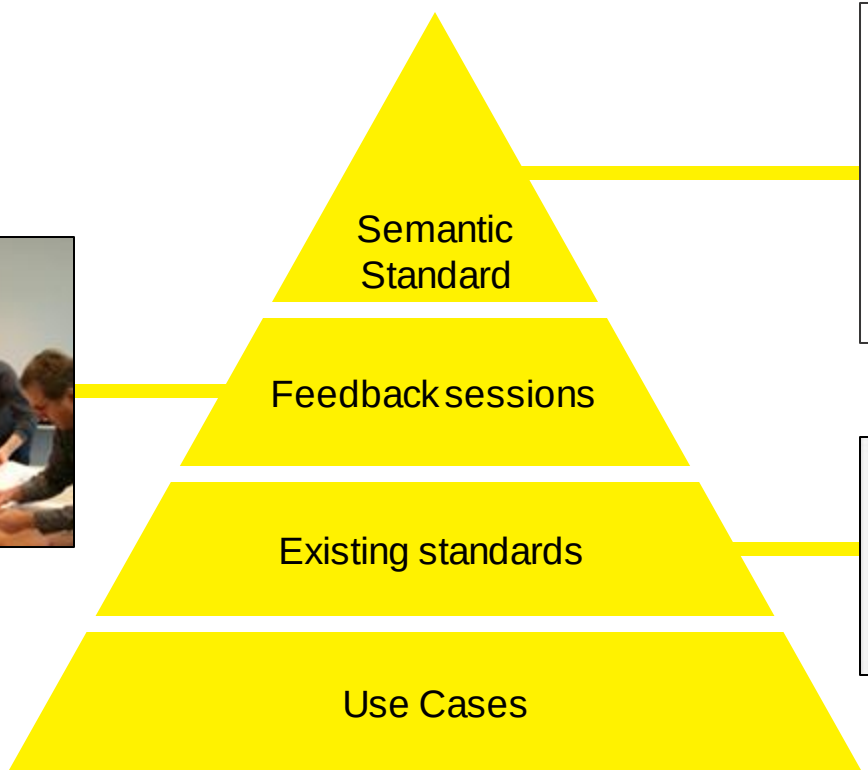
Open Standards for Linking Organisations (OSLO)

INTEROPERABILITY

=

The ability of different autonomous organisations or systems to communicate and collaborate with each other

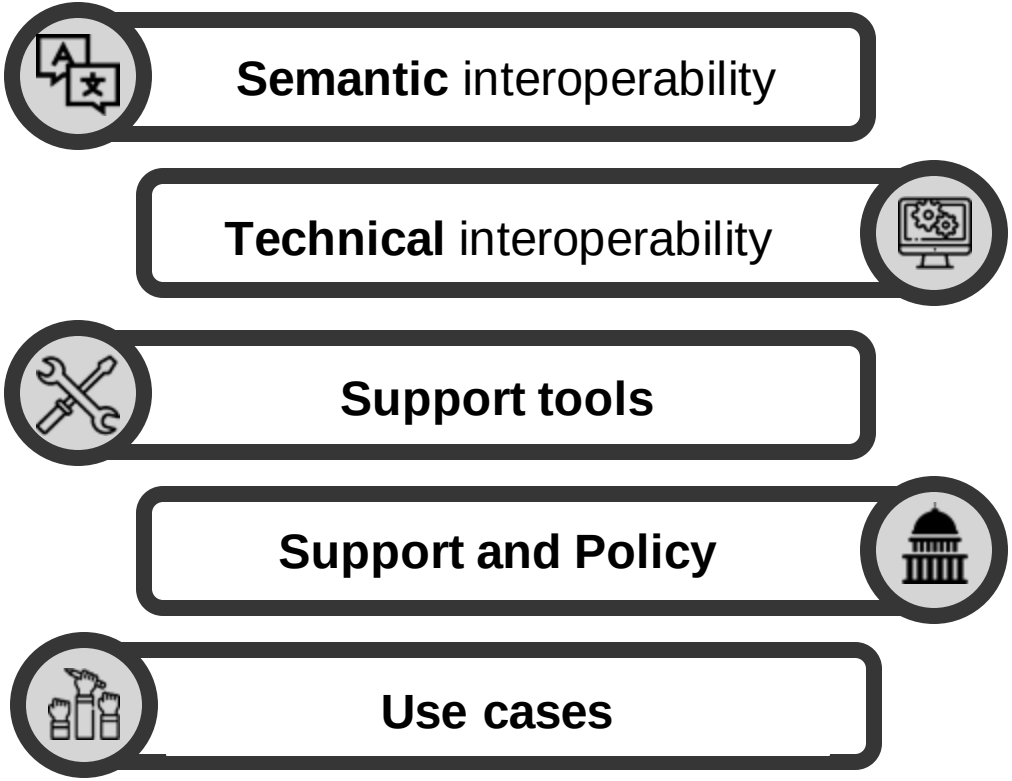
Bottom-up


Semantic Standard
Feedback sessions
Existing standards
Use Cases


data.vlaanderen.be
https://data.vlaanderen.be/ns/persoon


International Standards
EU ISA CORE Vocabularies
OSLO Extention
e.g. INSPIRE
EU - ISA'
Federal Government
Regional Government
Local Government
Industry
Academia

OSLO


Semantic interoperability
Technical interoperability
Support tools
Support and Policy
Use cases

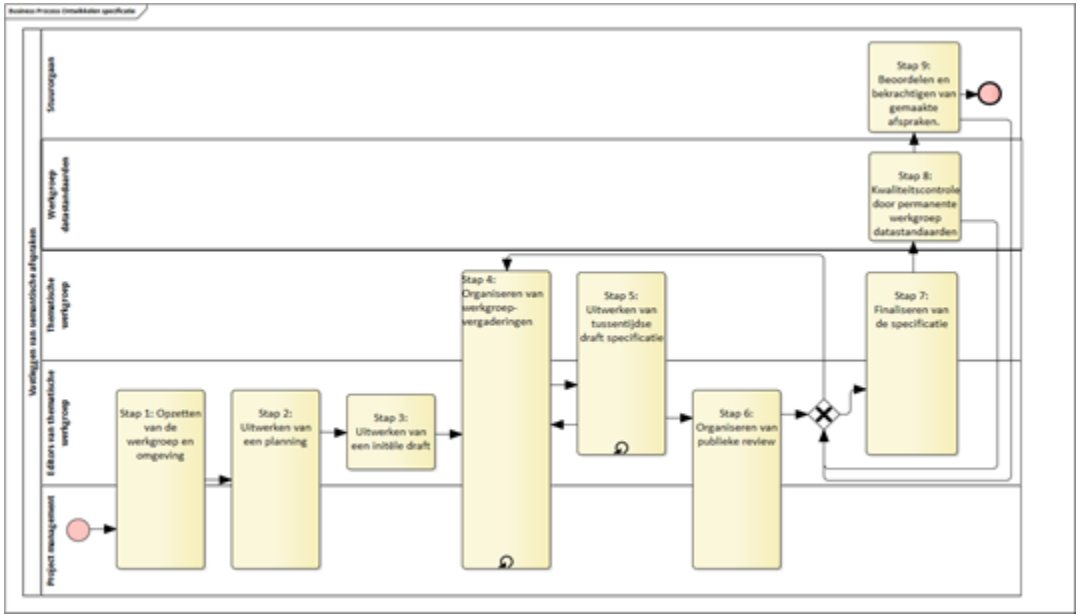
Process and methodology

Scalable process for joining, developing, changing and phasing out data standards. Discover the document with Process and Methods here.

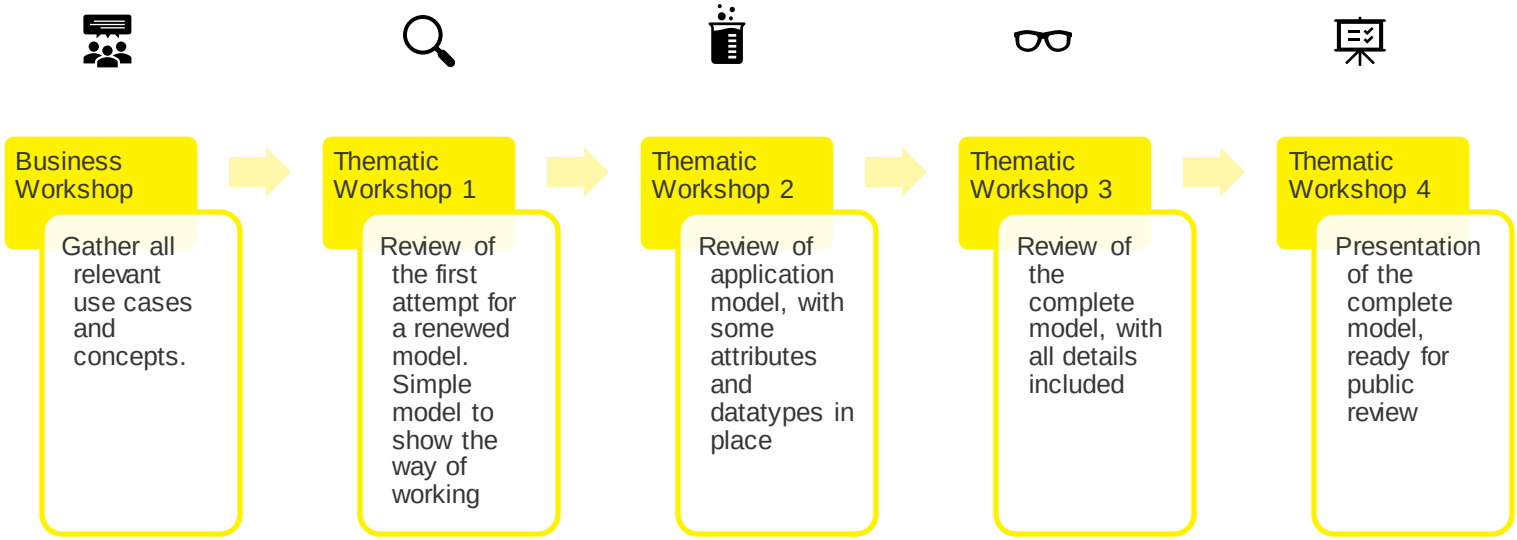
Context of the workshops

Workshops should be put into the context of a broader process

- Goal: Consensus around the data standard by several stakeholders
- Process and methodology for developing a data standard
- Obtaining content-related data



Iteration of workshops



Vlaanderen
verbeelding werkt

Note: This is just a guideline, we can certainly deviate from this

OSLO STANDAARDENREGISTER

Dit standaardenregister geeft een overzicht van alle lopende en afgewerkte trajecten die deel uitmaken van het initiatief Open Standaarden voor Linkende Organisaties (OSLO) van de Vlaamse overheid.

131
Erkende standaarden

33
Kandidaat standaarden

26
Standaarden in ontwikkeling

472
mensen hielpen mee

210
organisaties waren vertegenwoordigd

Business workgroup: Summary

Vlaanderen
verbeelding werkt

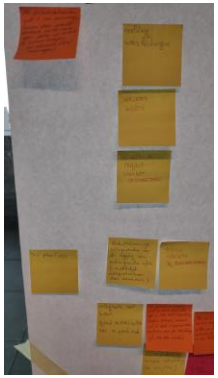
What did we do in the previous workgroup?

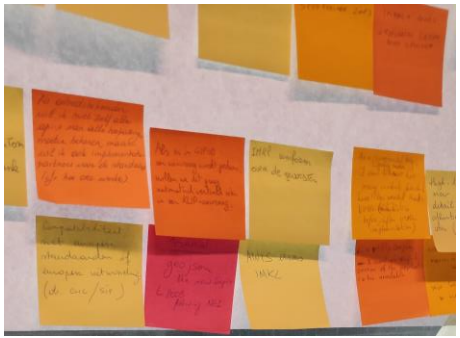
OSLO introduction

- Semantic interoperability
- Technical interoperability
- Exchange of data
- Reuse of data

Brainstorm exercise

- What are the different use cases?
- What data concepts can we capture from these use cases?
- What existing standards or information models already exist that we can build on?





Scope of the project

Develop a semantic framework for IMKL mapping and data sharing

*Develop a sustainable **application profile** and **vocabulary** for IMKL.*

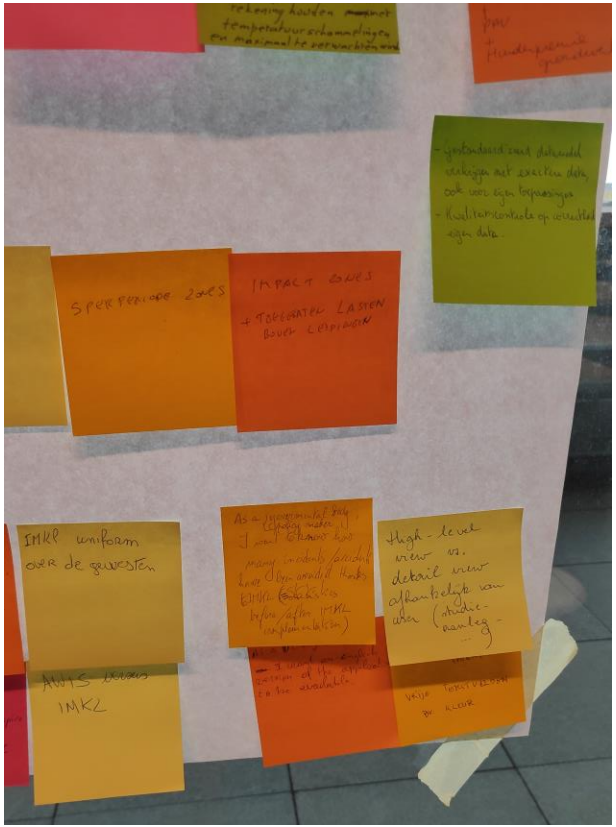
We follow the OSLO Methodology, which means:

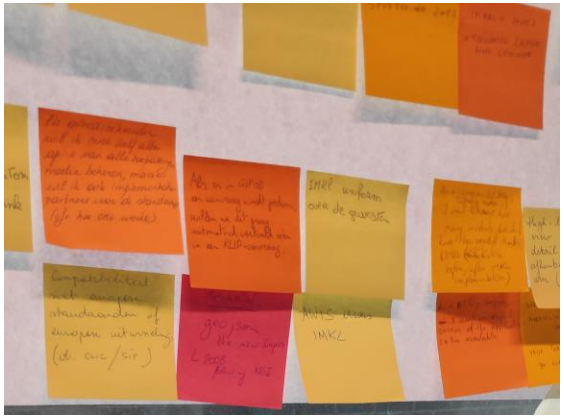
We start from use cases

We define cases ourselves where necessary

We align as much as possible with existing standards

Use cases business workgroup



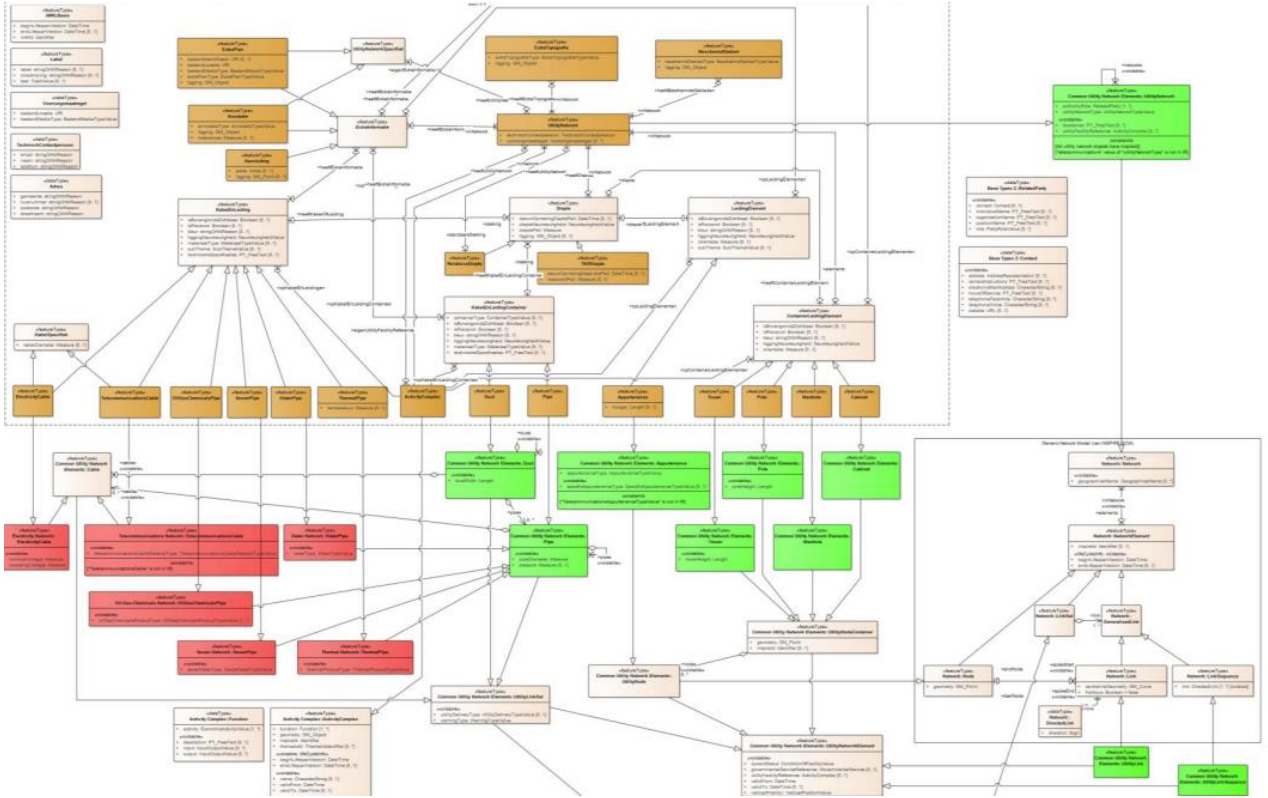


Data concepts

Use cases summarised

1	Include Z-coordinates
2	The current KLIP/IMKL model does not take into account different levels such as for bridges and tunnels
3	As a building company, I want to decrease the number of extra documents with disclaimers from different util companies in order to get better and easier the necessary information
4	If I have 3D data I prefer to also introduce this in the IMKL model
5	I want to see all steered drillings at a glance on the map

Existing standards: IMKL 2.3



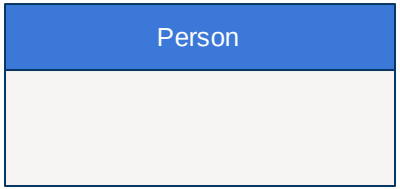
UML
Unified Modeling Language

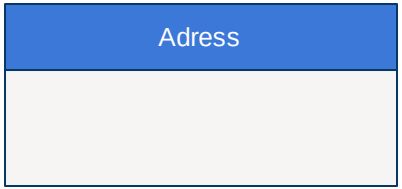
Basic UML concepts

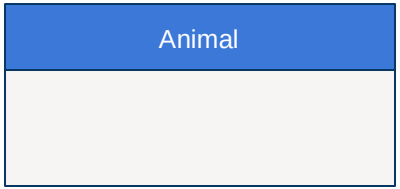
Use Case: : Adoption of an animal from the shelter by a person.

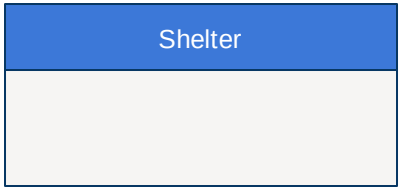
- Concepts
- Relations
  - Association
  - Generalisation
  - Aggregation
- Cardinality
- Attributes

Concepts of Classes

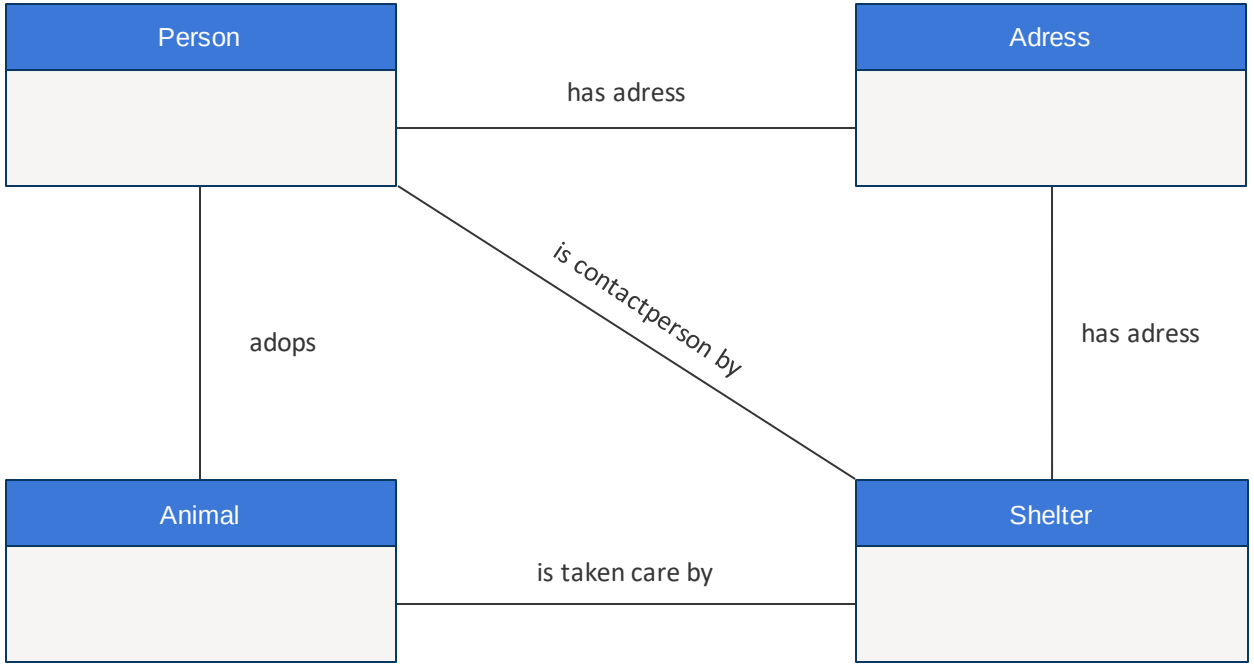




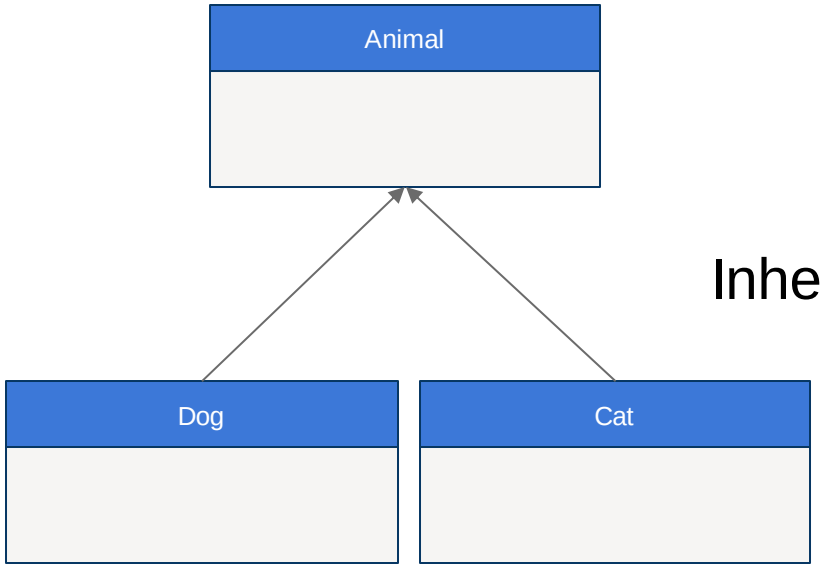




Association

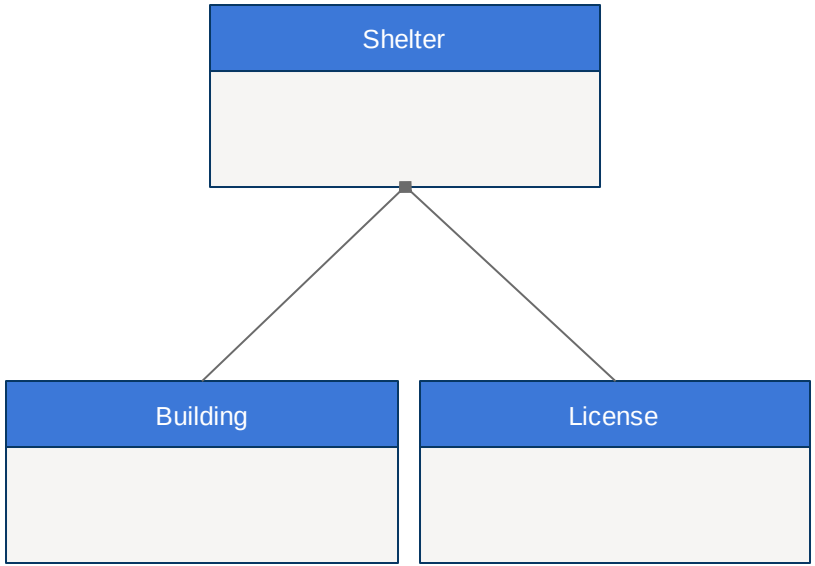


Generalisation

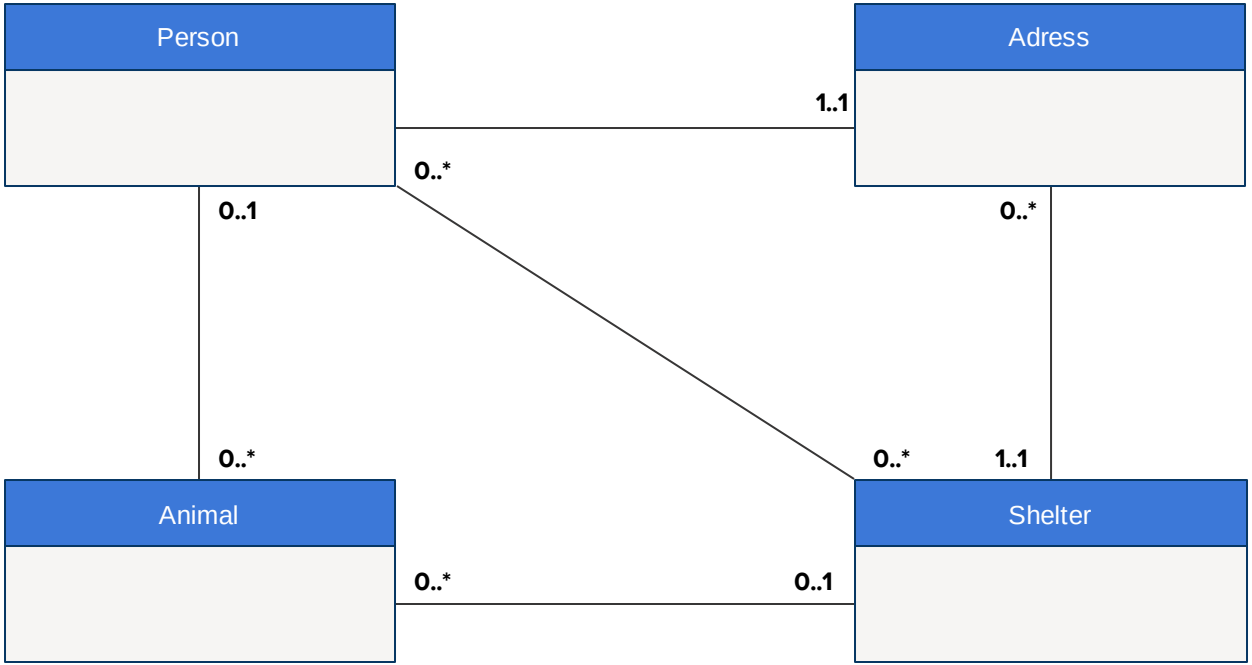


Inheritance

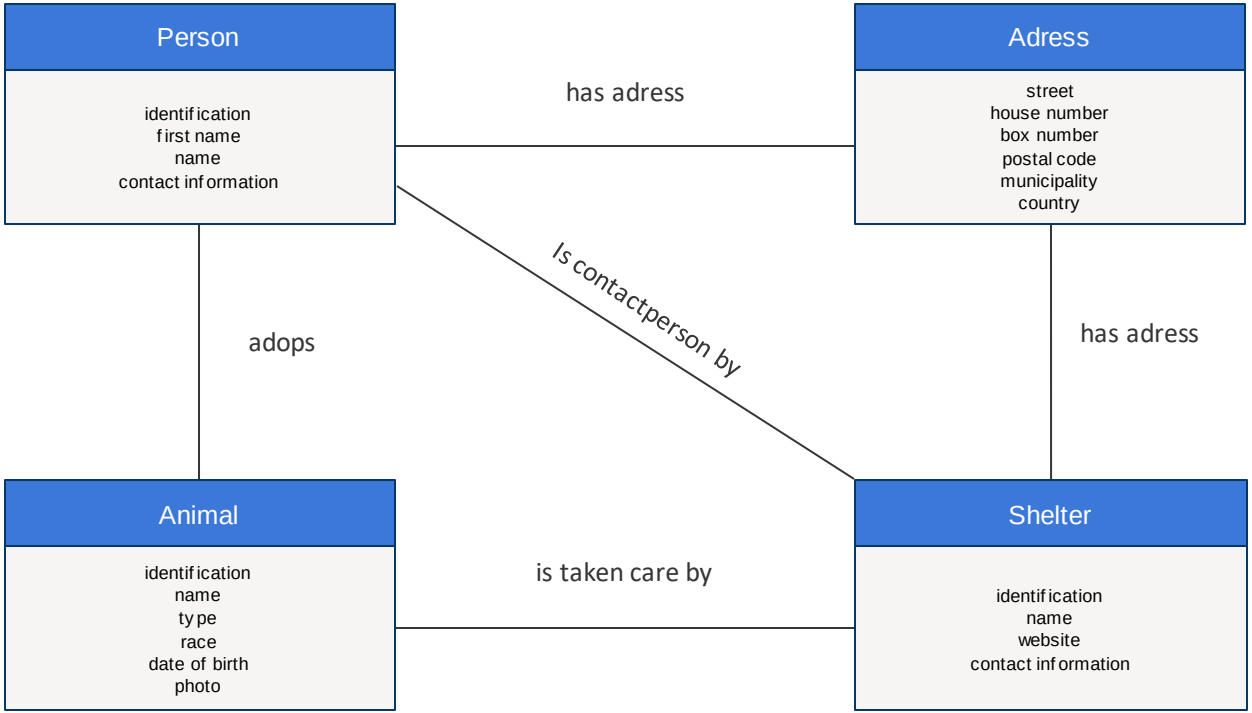
Aggregation



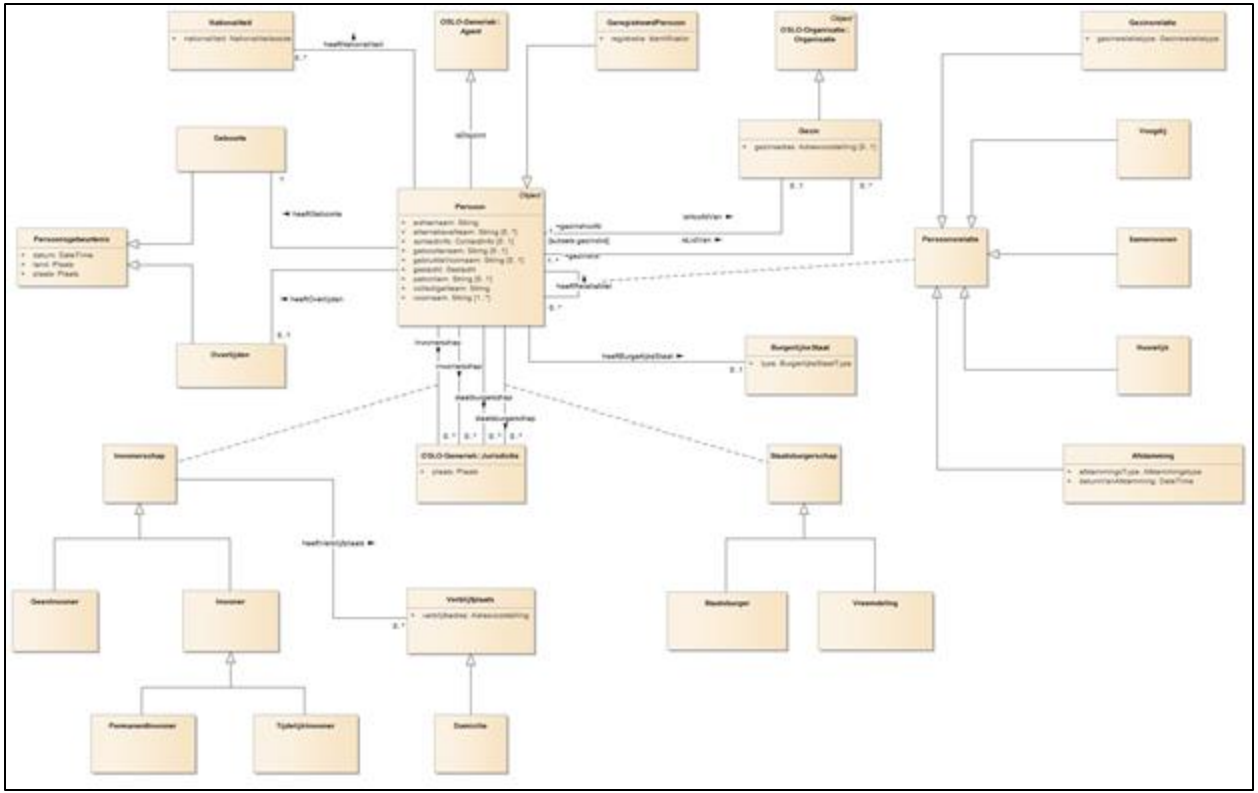
Multiplicity



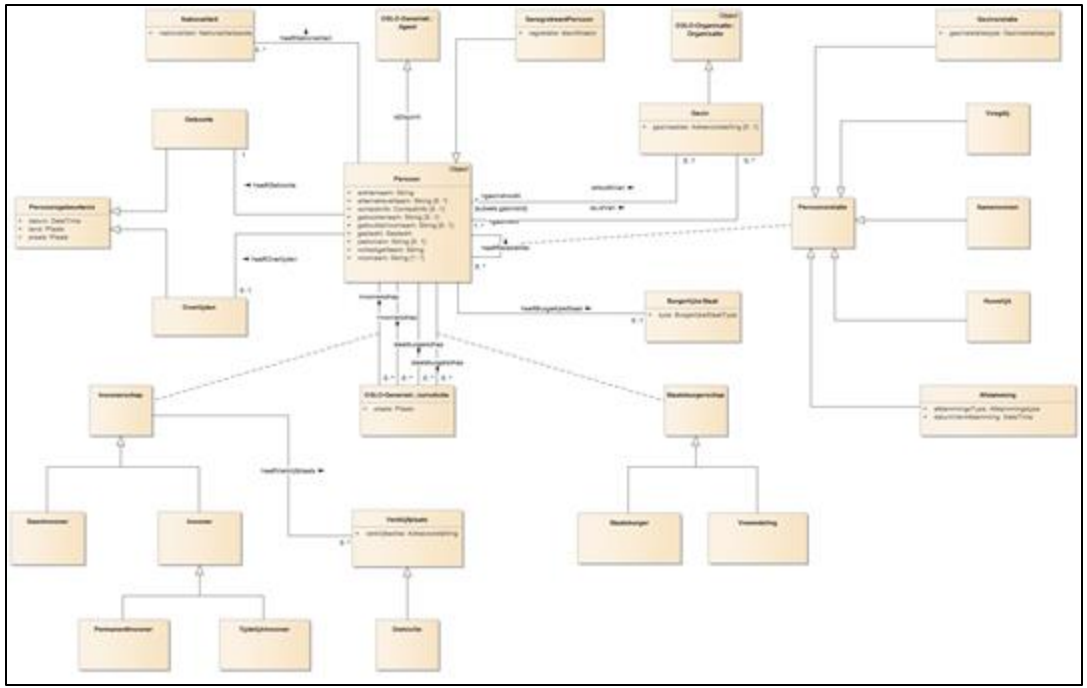
Attributes


Person
identification
first name
name
contact information
has adress
Adress
street
house number
box number
postal code
municipality
country
adops
Is contactperson by
has adress
Animal
identification
name
type
race
date of birth
photo
is taken care by
Shelter
identification
name
website
contact information

Example: OSLO Persons



UML & HTML



Persoon

Beschrijving

Natuurlijk persoon.

Gebruik

In de rechtspraak betreft het een persoon (in de wettelijke betekenis, ttz met eigen rechtspersoonlijkheid) van de menselijke soort, ttz een fysiek persoon. Tegenhanger is de rechtspersoon, een juridische constructie die een private of publieke organisatie dezelfde rechtspersoonlijkheid geeft als een natuurlijk persoon (kan bv ook schulden hebben, contracten afsluiten, aangeklaagd worden etc).

Eigenschappen

Voor deze entiteit zijn de volgende eigenschappen gedefinieerd: achternaam, alternatieve naam, contactinfo, geboortenaam, gebruikte voornaam, geslacht, heeft burgerlijke staat, heeft geboorte, heeft inwonerschap, heeft nationaliteit, heeft overlijden, heeft staatsburgerschap, heeftPersoonsrelatie, inwonerschap, is hoofd van, is lid van, patroniem, staatsburgerschap, volledige naam, voornaam.

Eigenschap	Verwacht Type	Kardinaliteit	Beschrijving	Gebruik	Codelijst
achternaam	String	1	Gedeelte van de volledige naam vd persoon ontvangen van de vorige generatie.	Ook wel familienaam genoemd omdat de achternaam een familiale verwantschap aanduidt.	
alternatieve naam	String	0..*	Alternatief voor de volledige naam vd persoon.	Bv pseudoniem, titel etc.	
contactinfo	ContactInfo	0..1	Informatie zoals email, telefoon die toelaat de Persoon te contacteren.		
geboortenaam	String	0..1	Volledige naam vd persoon bij geboorte.	De namen van een persoon kunnen id loop vd tijd wijzigen. bv kan de achternaam wijzigen door huwelijk. De oorspronkelijke naam wordt echter dikwijls ook nog gebruikt.	

Our approach

Vlaanderen
verbeelding werkt

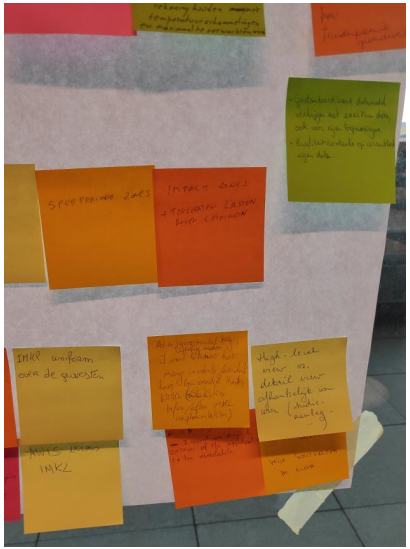
Our approach

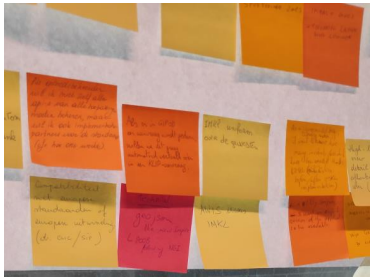
We start from use cases

We define cases ourselves where necessary

We align as much as possible with existing standards

Starting from use cases





- Breakdown of use cases/concepts into different categories

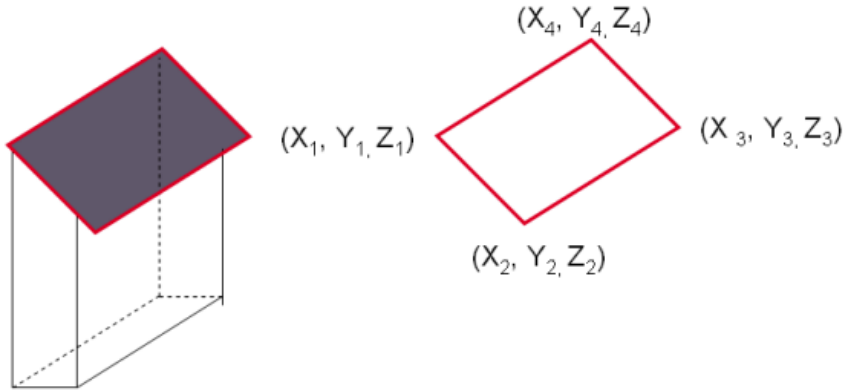
Starting from use cases

- Breakdown of use *cases/concepts* into different categories

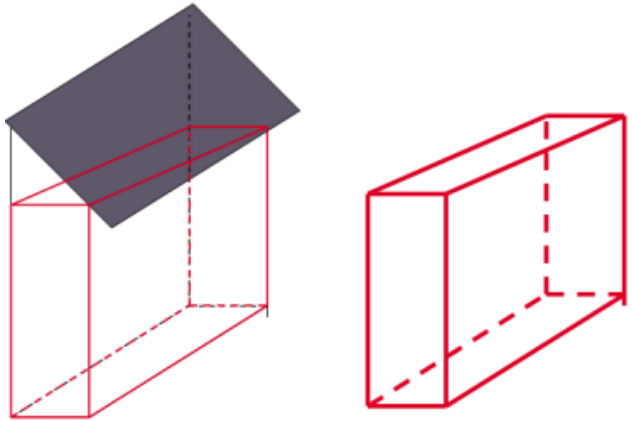
In Scope	Out Scope	Feature/implementation
Cables & Pipes	CAD implementation	Colour codes
Infrastructural elements		Feedback
Z-coordinates		
Overhead pipes		
Steered drilling		
Restricted Zones		

Z-Coordinates: 2.5D vs 3D

- Geometry of features is represented in a three-dimensional space with the constraint that, for each (X,Y) position, there is only one Z.



- Geometry of 2D data is given using (X,Y,Z) coordinates without any constraints.



Break

The new model

Vlaanderen
verbeelding werkt

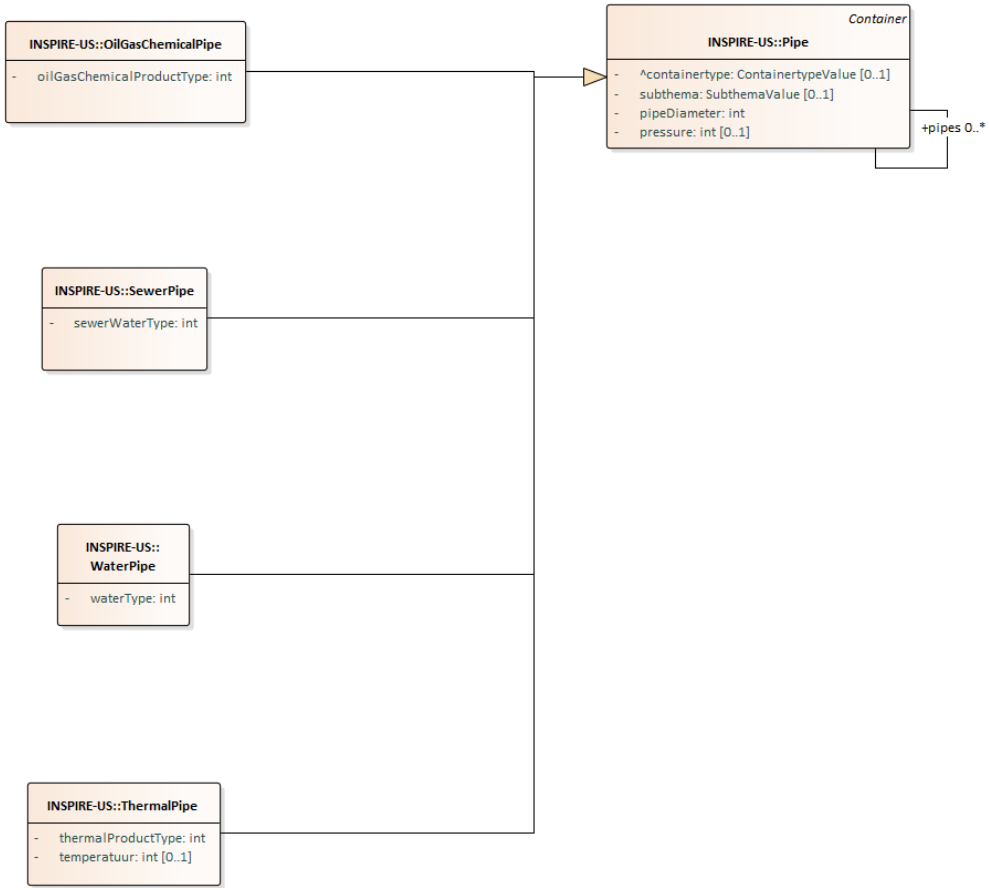
Goal

Building a **new model**, while keeping existing models and European obligations in mind.

Transition

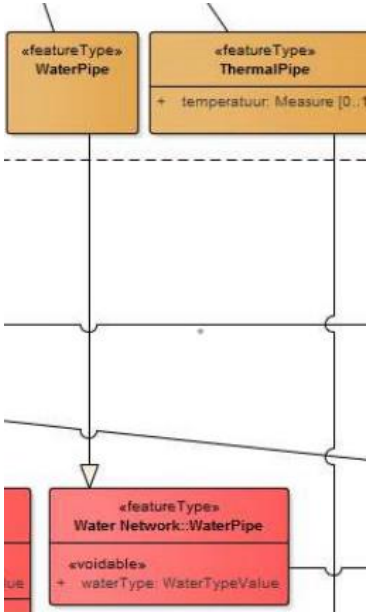
1. Elimination of self-specialisations
2. Elimination of meaningless abstracts
3. Too-specific attributes are generalised
4. Inheritance of Generic Network Model is now explicit
5. Reference to OSLO data quality & addition of meaningful data types

Self-specialisations eliminated



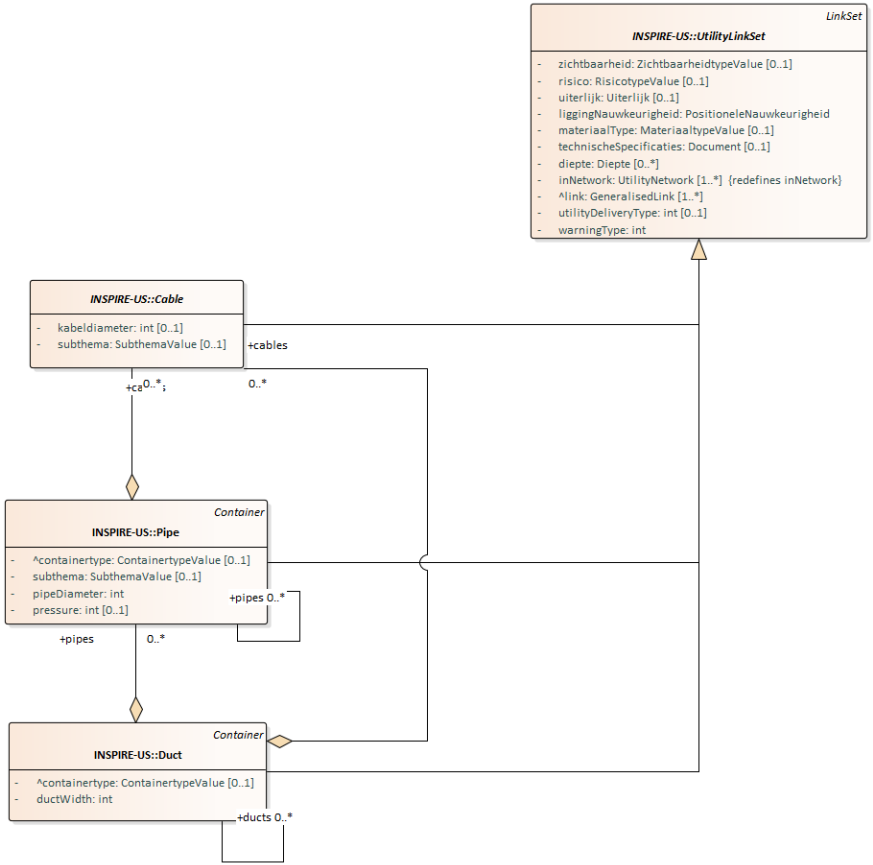
What has changed in the process?
Specialisation from ex. Waterpijp to Waterpijp is not necessary. The OSLO-Toolchain would generate two different uri's for what is basically the same thing. With the new model, it is perfectly permissible to extend existing classes (e.g. US::Thermalpipe) with their own attributes (e.g. US::ThermalPipe.temperature).

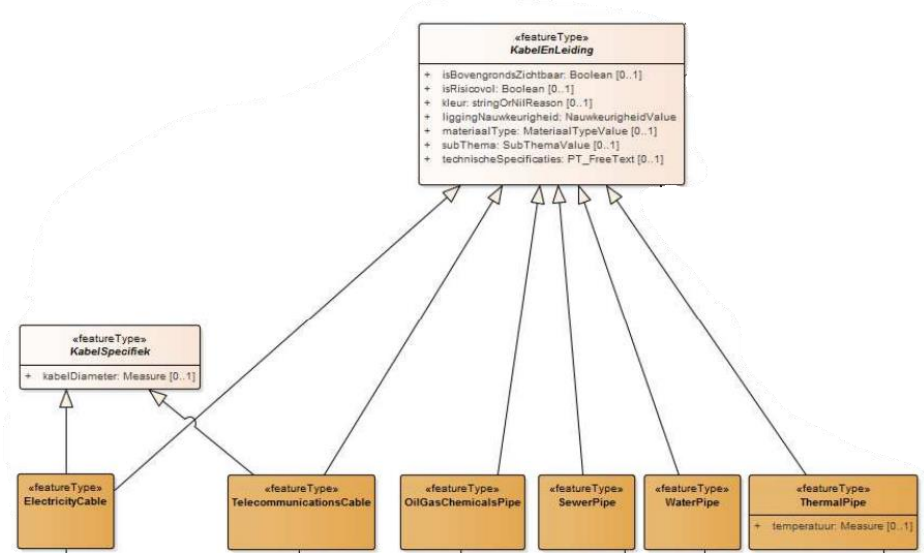
How was it previously modelled?



Meaningless abstracts eliminated

What has changed in the process?
For example, KabelEnLeiding or Kabelspecifiek. It is better to push the common attributes to Inspire US:UtilityLinkset.
And for the distinction between KabelEnLeiding and KabelEnLeidingContainer a class Container of which Duct and pipe inherit.
How was it previously modelled?





Too-specific attributes generalised

«enumeration»
ZichtbaarheidtypeValue

bovengrondszichtbaar

«enumeration»
RisicotypeValue

risocovol
nietRisicovol

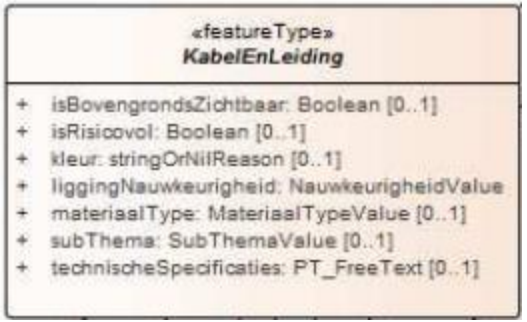
«enumeration»
KleurValue

«enumeration»
MateriaaltypeValue

«enumeration»
SubthemaValue

What has changed in the process?
For example, visibility with code list zichtbaarHeidTypeValue instead of isBovenGrondsZichtbaar. There might be different types of visibility in the future, after all. It is the same for something like isRisicovol, kleur…

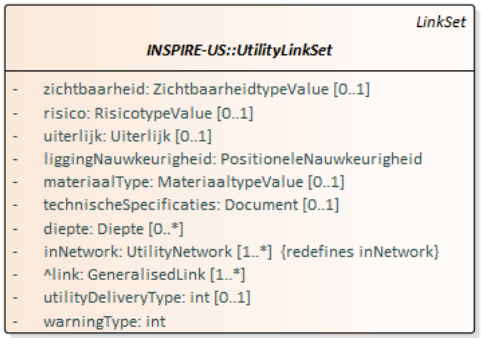
How was it previously modelled?

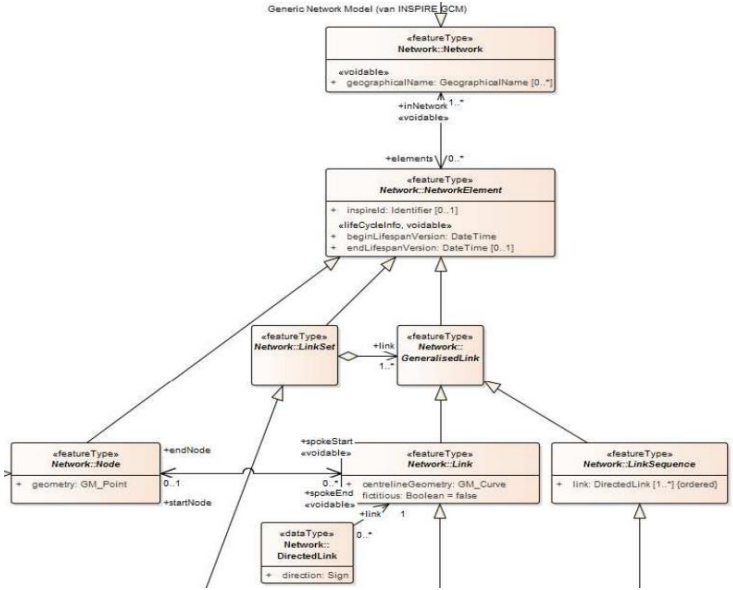


Inheritance of GNM is now explicit

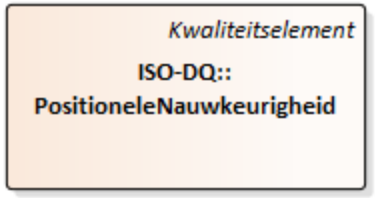
What has changed in the process?
The inherited attributes are identified by the ^ sign and will retain their original uri in the spec. But in the new model, they are more visible where they are needed.

How was it previously modelled?





Reference to OSLO data quality & Meaningful data types

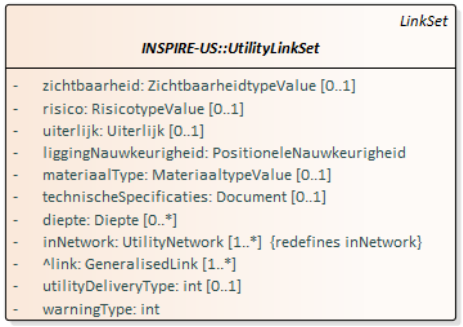


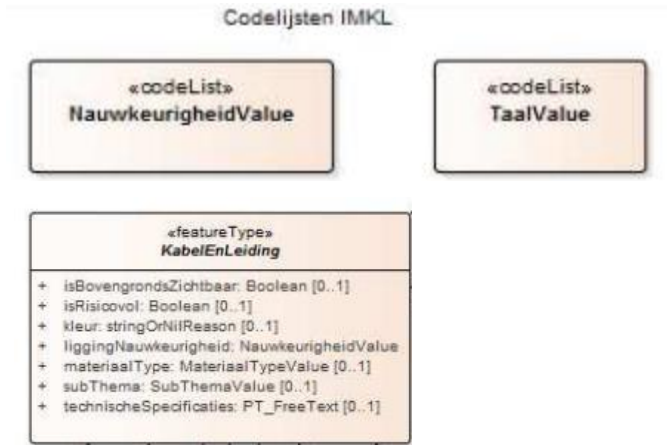
What has changed in the process?

1) Instead of using a code list with fixed values for positioneleNauwkeurigheid, we better use PositioneleNauwkeurigheid (actually ISO:DQ_PositionalAccuracy) where there is the possibility to give a value and unit (e.g. 60 cm) instead of hard-coding it.

2) E.g. Document for technical specs instead of free text.

How was it previously modelled?





New model

MURAL-LINK

Q&A en Next Steps

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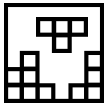
Next steps

Processing all inputs from this thematic workgroup.

Send around a report of this working group. Feedback is certainly welcome.

Capturing feedback via GitHub.

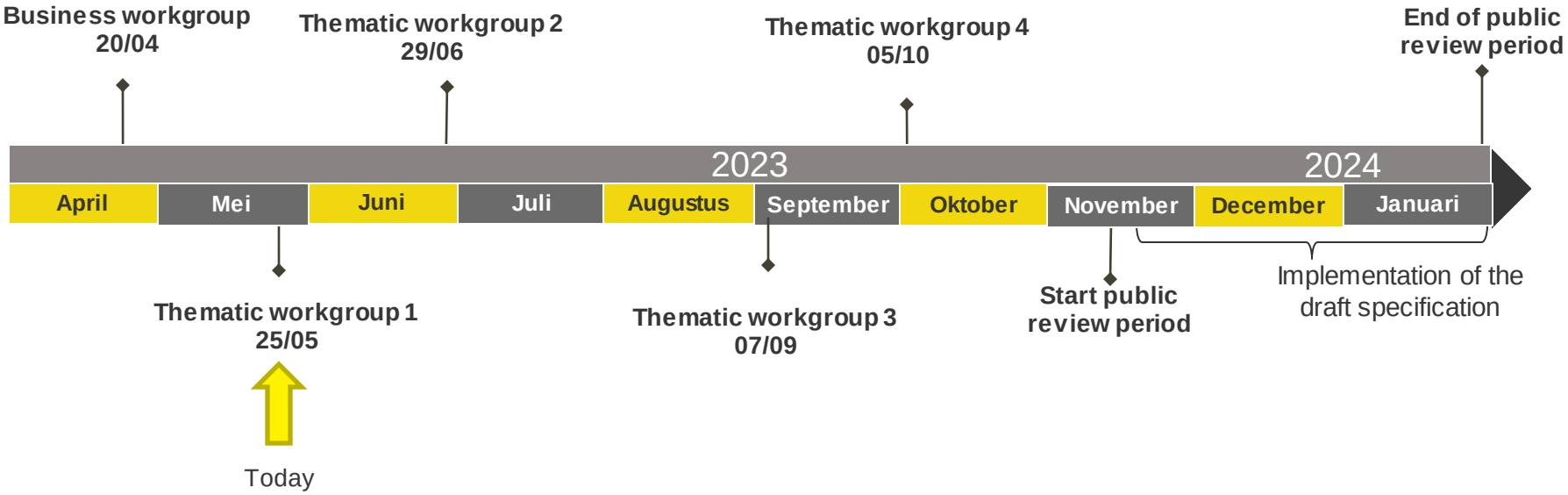


Publishing first version of a semantic model on GitHub. Feedback is certainly welcome here too.

Fully develop the UML model

OSLO timeline

Thematic workgroup 2 on **Thursday 29th of June: 13u30 - 16u30**
Register via the following link: [2nd thematic workgroup]



Feedback & Cooperation OSLO

Feedback can be given by e-mail to the following people:

- digitaal.vlaanderen@vlaanderen.be
- pieter.desmijter@vlaanderen.be
- jef.liekens@vlaanderen.be
- laurens.vercauteren@vlaanderen.be

Feedback/input can be given via GitHub: https://github.com/Informatievlaanderen/OSLOthema-imkl

Through the creation of **issues**

Why do we…?

Shouldn't we add …?

Can't we …?

What is …?

Thank you for your effort!

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