Vlaamse overheid

OSLO : IMKL

Thematic Workshop 4

Welcome!

Thursday 5 October 2023
Microsoft Teams

We start at 13:35

Practical arrangements

Sound of audience is **muted** by default

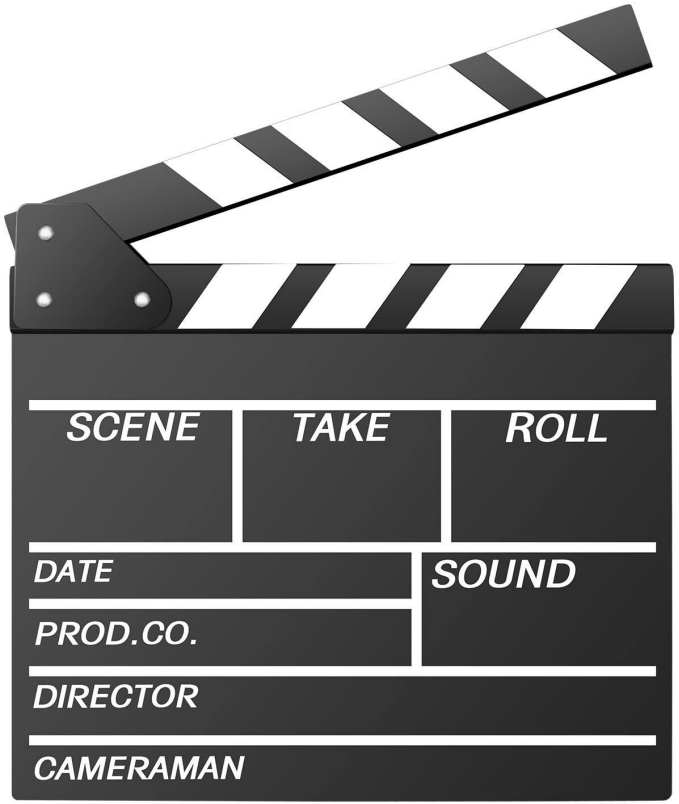
Use the **hand** icon if you want to say something. Collaboration is greatly appreciated!

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

Finilasing the entire modified model

Summary of the previous workgroups

Presentation and discussion about the improved model

Capturing input through interactive exercise

Who is who?

MURAL-LINK

Thematic workgroup 3: Summary

Vlaanderen
verbeelding werkt

What did we do in the previous workgroup?

OSLO & UML Introduction

- Scope and goal of the project
- Overview of use cases
- UML basics to understand the model

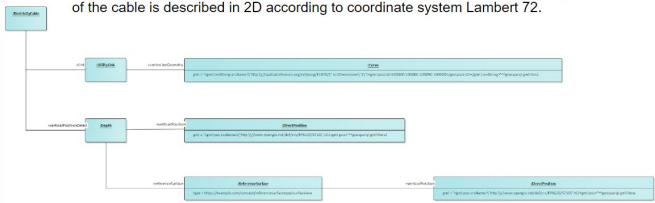
Data examples from data model

- Visualisation of real life data with data examples
- Different possibilities for Depth
- Overview of the complete renewed model

Pipe in data model

Different possibilities for depth

- VerticalPosition is specialised as Depth and at 21m TAW.
- Reference surface has type surface level.
- Ground surface at 22m TAW. No distance to ground level given, due to given vertical positions.
- Cable is 1m below ground level. No location given, depth implicitly applies to entire cable.
- Potential problem if cable is not at the same depth along its entire length. The geometry of the cable is described in 2D according to coordinate system Lambert 72.

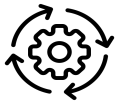


Scope of the project

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 items ourselves where necessary

We align as much as possible with existing standards

The renewed model

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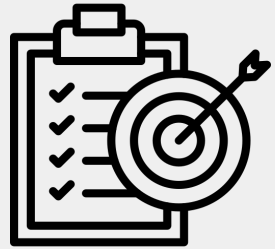
Goal



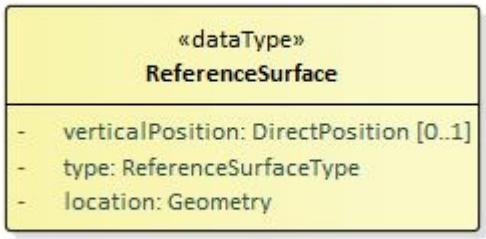
Updating the ‘old’ IMKL 2.3 model**,** while keeping **existing models** and **European obligations** in mind.

Agenda

1. Clarification on resting points
2. Data example of Annotation
3. Cable under water
4. Difference between Depth on IMKL 2.3 and renewed model
5. Recap & overview of the renewed model
6. Start Public Review and specification
7. Implementation model

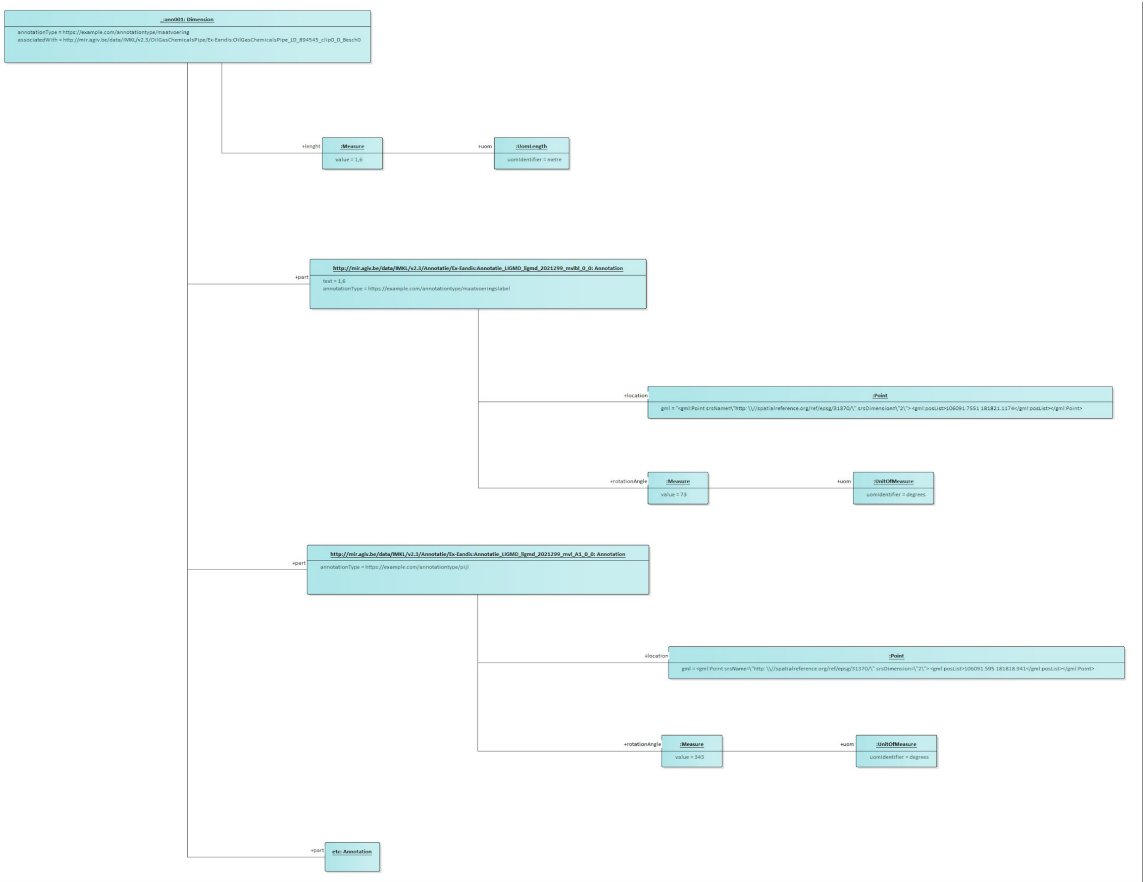
Clarification on resting points

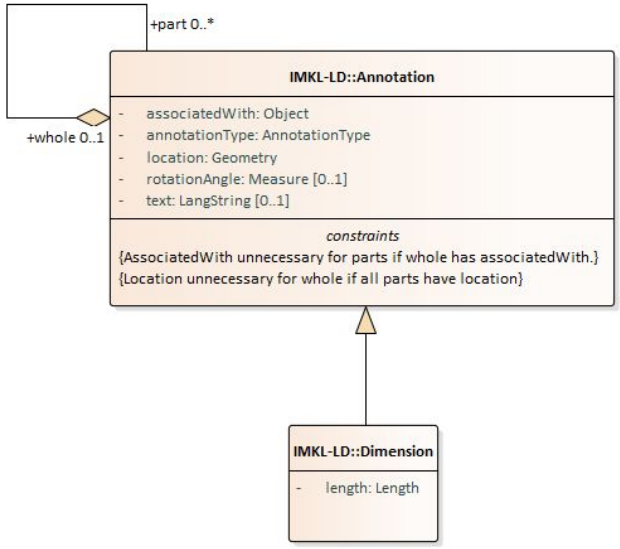
- ReferenceSurface has now extra attribute location with data type Geometry
  - Possible to define ReferenceSurface as a point, polygon or surface
- ProtectedArea is further specified and finetuned
- Annotation is also futher specified, data example on next slide

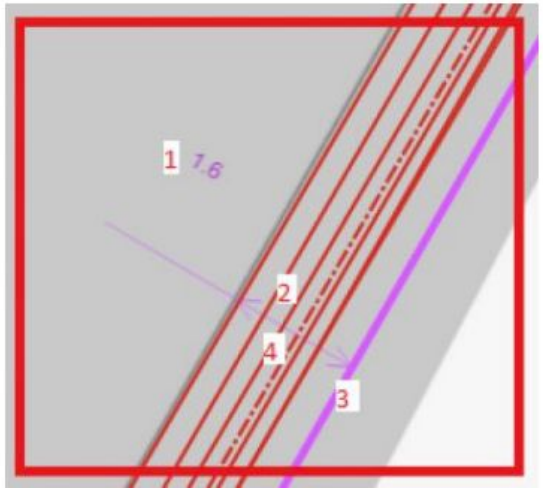


(from IMKL-LD)

Data example of Annotation





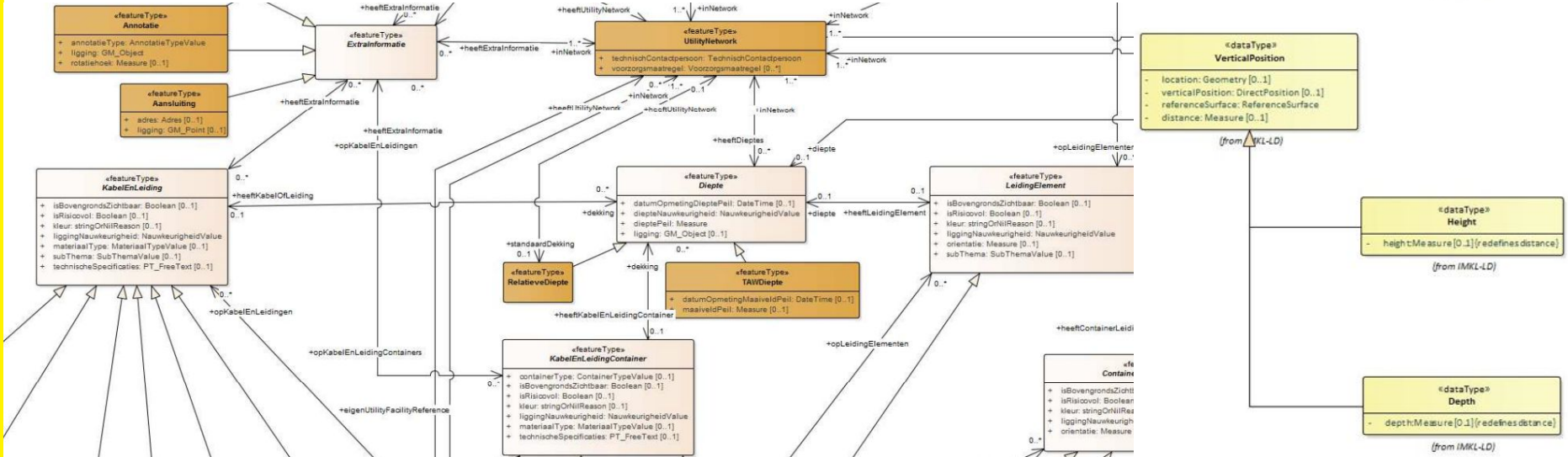


Cable under water

- Still under investigation with Vlaamse Waterwegen
- Average water level is used to indicate water level
- All elements must be 15m under the water level (in TAW)
- In near future: GIS implementation

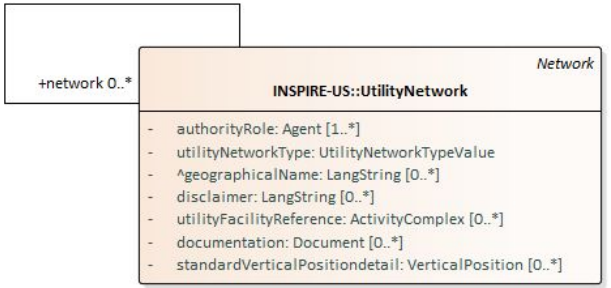
Depth IMKL 2.3 VS renewed model

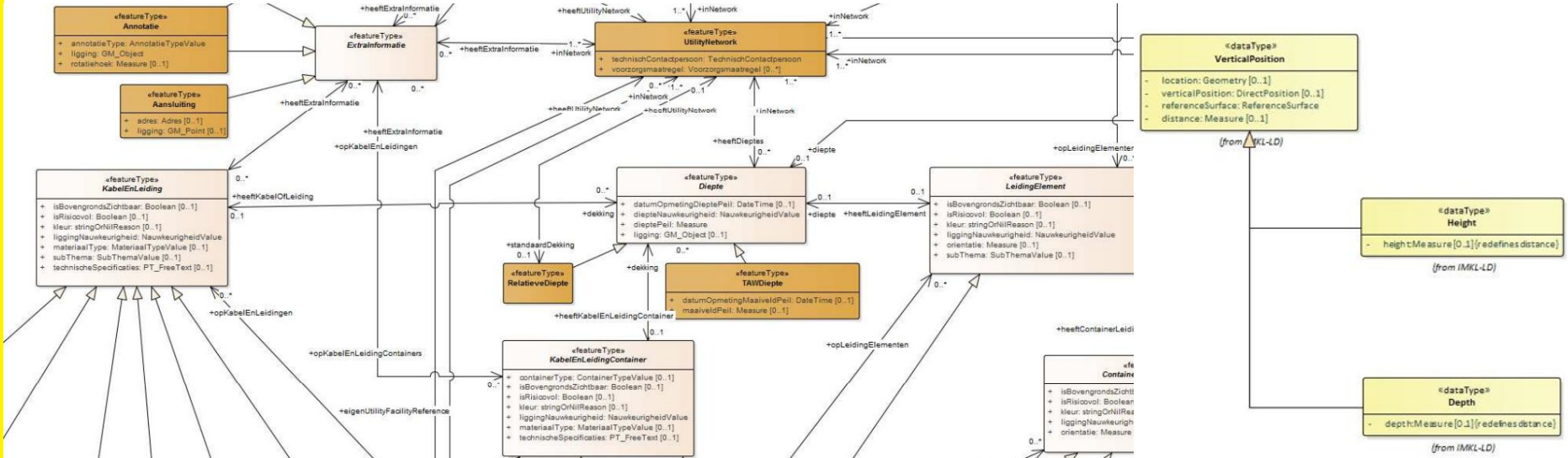
‘Super class’ vertical position: it determines height. Important fields (depth level, location) are lifted to vertical position.
‘Dekking’ becomes vertical positiondetail, saves separate relations from Dekking



Depth IMKL 2.3 VS renewed model

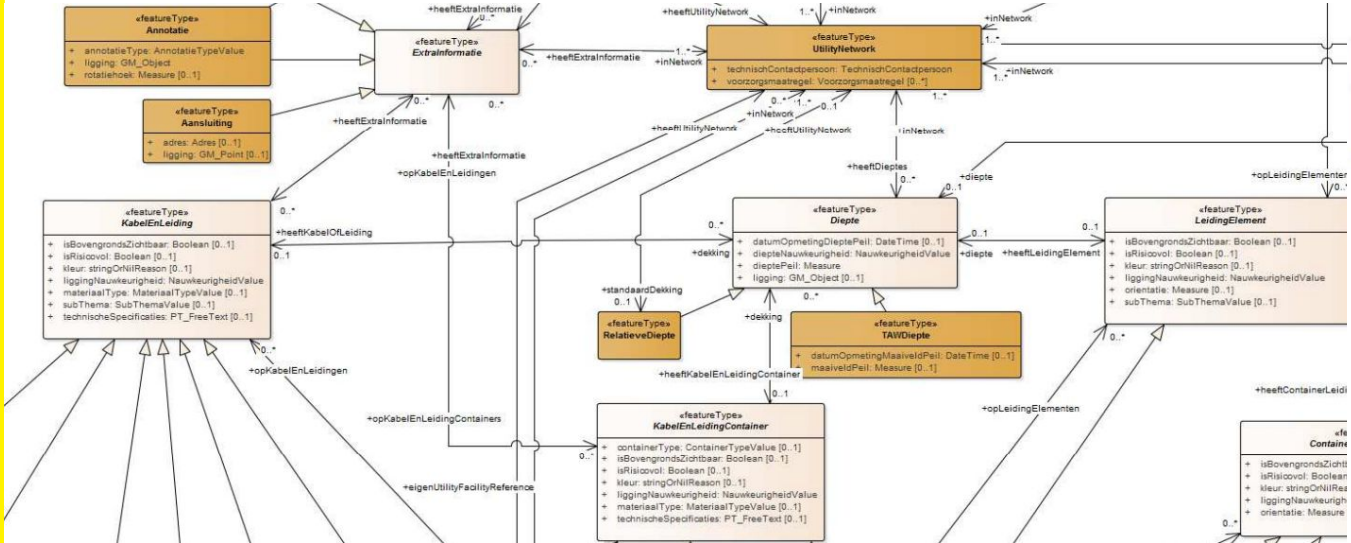
Standard vertical position attribute of utility network to lift relations.
Overarching class utilitynetwork element not in IMKL 2.3.
Abstraction between 2 models gone, so now also higher-level vertical position detail

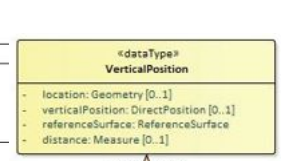


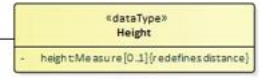


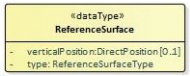
Depth IMKL 2.3 VS renewed model

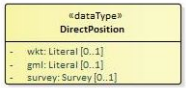
No more subclass Absolute Depth, depth level is not a Measure but a Direct Position
Not just depth related to TAW but real position in coordinate system is possible.
Position is defined by wkt/gml, with coordinate system TAW or other systems.
TAW is not hardcoded but described in gml.

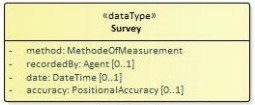






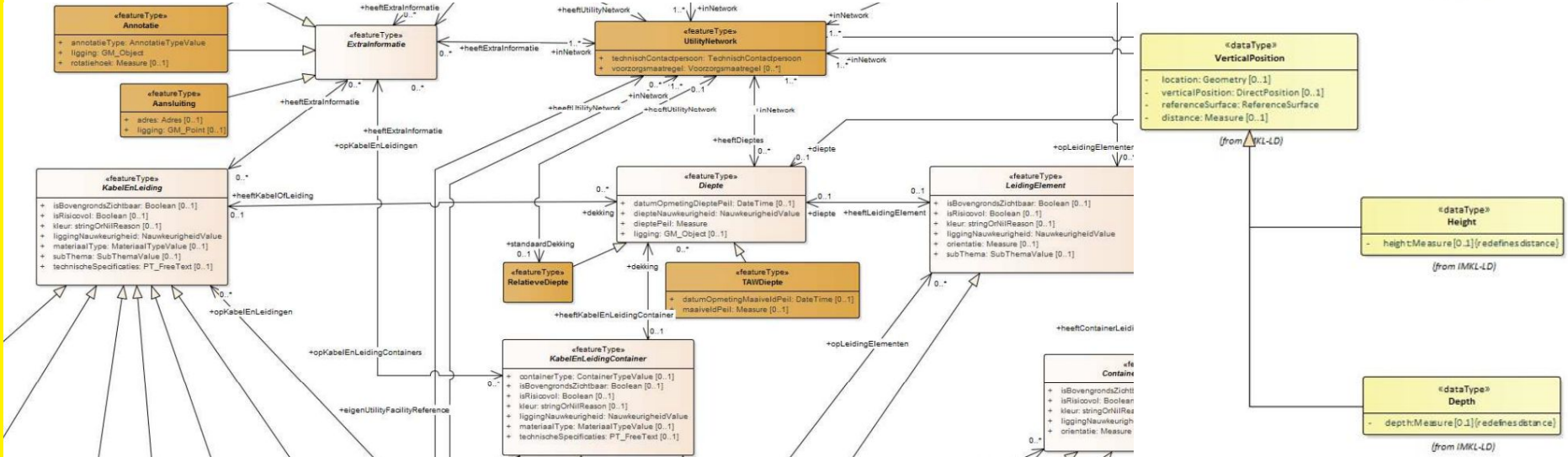


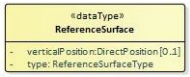


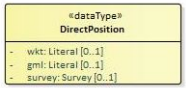


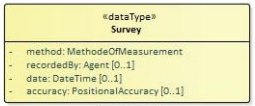
Depth IMKL 2.3 VS renewed model

Relative depth: when it is unable to give a direct position, so distance is added.
Date of survey and accuracy added, all at level of Geometry rather than depth or height in 2.3 model.



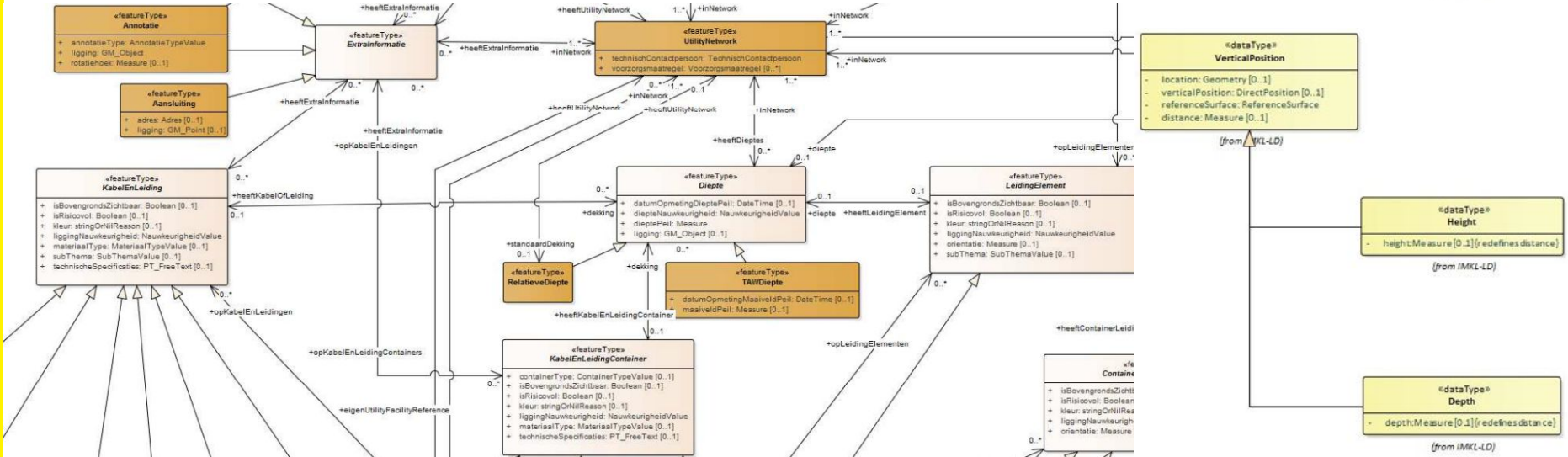


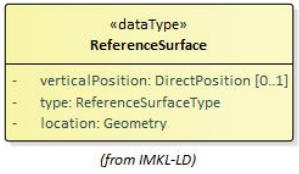


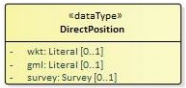


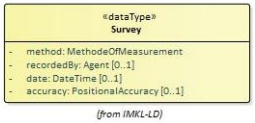
Depth IMKL 2.3 VS renewed model

Reference surface can be anything, different reference surfaces possible
In 2.3, fixed combination with TAW and Ground level









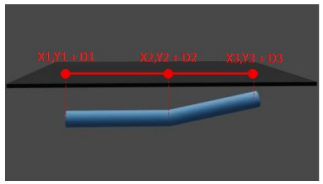
Recap OSLO IMKL

- Use cases

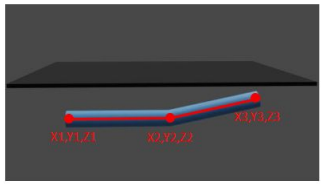
- Scoping

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

- More accurate and future proof data (Depth & Height, Lambert 2008, 2,5D)



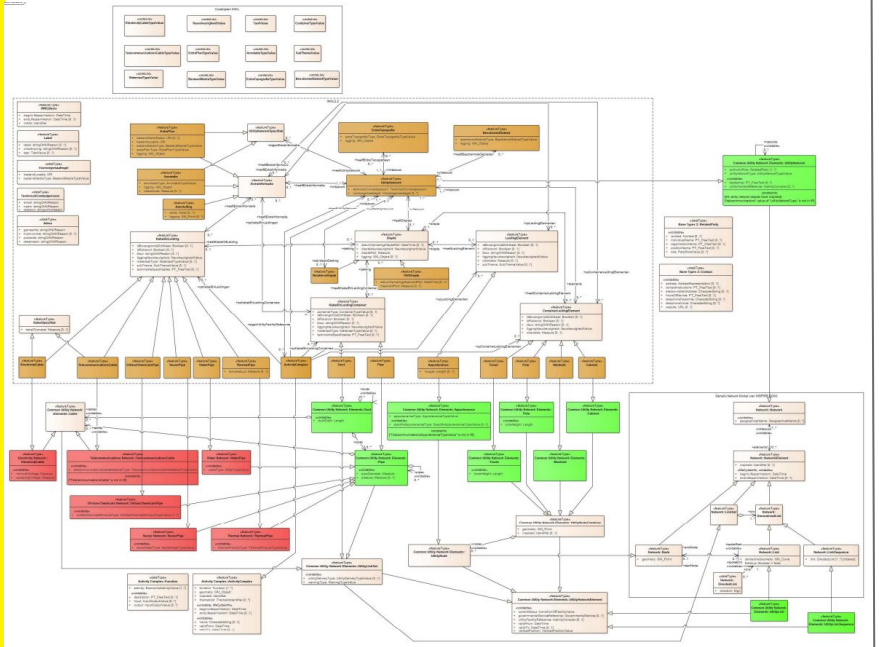
2D + diepte



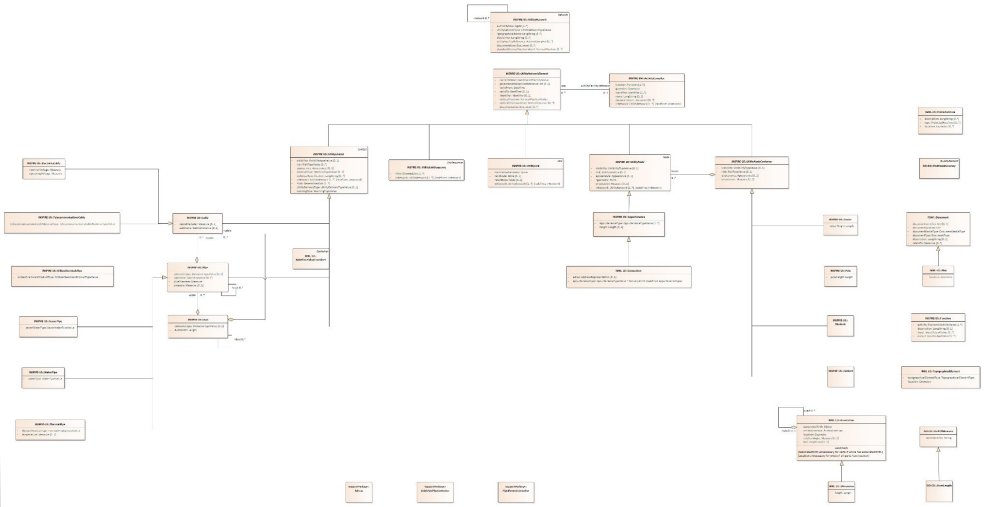
2.5D

Recap OSLO IMKL

From this



To this



Complete model

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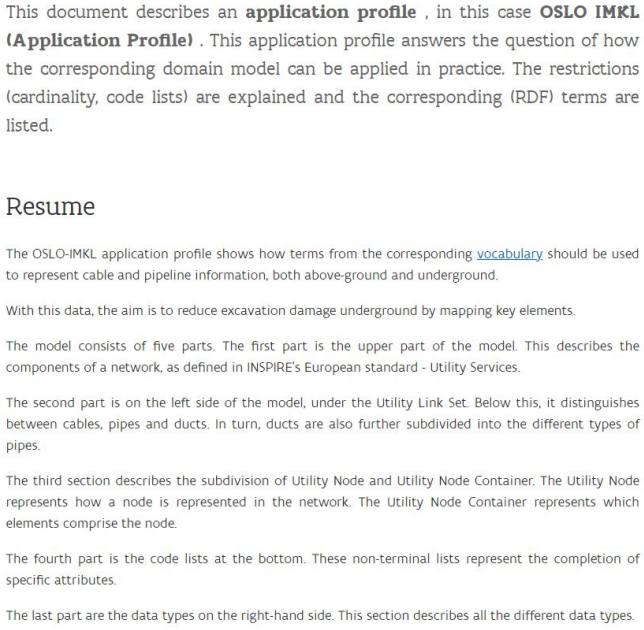
Break

Start Public Review

- Organise public review
  - Collect public feedback
  - Stable specification during public review (no changes will be made)
  - Feedback can lead to minor or major changes
- Two possibilities based on feedback:
  - **Editorial or minor semantic changes**: Prepare final version, possibly short validation by working group.
  - **Propose major semantic changes**: Additional working group meetings and possible repeat public review.
- Status during public review:
  - "Under consideration".
  - "Candidate standard"
- Criteria for promotion to candidate standard are checked.
- Ideal period for proof-of-concept implementations and evaluation by working group members and external stakeholders.
- Complete process on: Proces en methode

Online specification

- Online specification where all classes, attributes and relations are explained
- Due to data governance, it will be fully available in Dutch and English



This document describes an **application profile** , in this case **OSLO IMKL (Application Profile)** . This application profile answers the question of how the corresponding domain model can be applied in practice. The restrictions (cardinality, code lists) are explained and the corresponding (RDF) terms are listed.

Resume

The OSLO-IMKL application profile shows how terms from the corresponding vocabulary should be used to represent cable and pipeline information, both above-ground and underground.

With this data, the aim is to reduce excavation damage underground by mapping key elements.

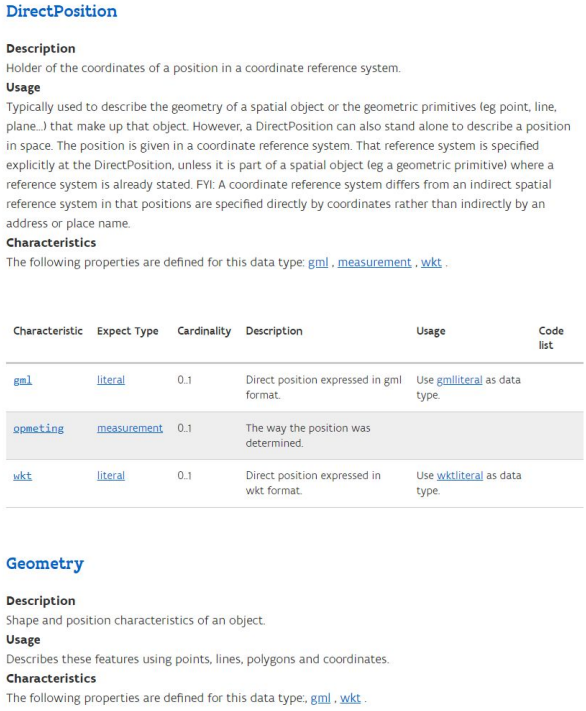
The model consists of five parts. The first part is the upper part of the model. This describes the components of a network, as defined in INSPIRE's European standard - Utility Services.

The second part is on the left side of the model, under the Utility Link Set. Below this, it distinguishes between cables, pipes and ducts. In turn, ducts are also further subdivided into the different types of pipes.

The third section describes the subdivision of Utility Node and Utility Node Container. The Utility Node represents how a node is represented in the network. The Utility Node Container represents which elements comprise the node.

The fourth part is the code lists at the bottom. These non-terminal lists represent the completion of specific attributes.

The last part are the data types on the right-hand side. This section describes all the different data types.



DirectPosition

Description
Holder of the coordinates of a position in a coordinate reference system.
Usage
Typically used to describe the geometry of a spatial object or the geometric primitives (eg point, line, plane...) that make up that object. However, a DirectPosition can also stand alone to describe a position in space. The position is given in a coordinate reference system. That reference system is specified explicitly at the DirectPosition, unless it is part of a spatial object (eg a geometric primitive) where a reference system is already stated. FYI: A coordinate reference system differs from an indirect spatial reference system in that positions are specified directly by coordinates rather than indirectly by an address or place name.
Characteristics
The following properties are defined for this data type: gml , measurement , wkt .

Characteristic	Expect Type	Cardinality	Description	Usage	Code list
gml	literal	0..1	Direct position expressed in gml format.	Use gmlliteral as data type.	
opmeting	measurement	0..1	The way the position was determined.		
wkt	literal	0..1	Direct position expressed in wkt format.	Use wktliteral as data type.	

Geometry

Description
Shape and position characteristics of an object.
Usage
Describes these features using points, lines, polygons and coordinates.
Characteristics
The following properties are defined for this data type:, gml , wkt .

Support implementation model

- Mix of technical profiles under supervision of facilitators (potential OSLO)
  - Agreement on what support will be delivered (XSD etc)
  - Agreement on timeline (Indicative estimate is 25 man-days)
  - Opportunity to familiarise with the (external) experts on the subject

- Content support
  - Analysis documents
  - Information model

- Support for implementation models
  - Drafting an implementation model
  - Publishing an implementation model

- Support for implementation in services

What is expected of you?

- Point out any improvements during public review on the model
  - Are there multiplicities that need revision?
  - Relations that should be specified?
  - Datatypes that should be defined differently?
  - Is there anything missing in the model?

- Improvements on the specification
  - Suggestions on domain-specific definitions
  - Improvements for the Dutch-English translation

- Take part in the implementation of the OSLO model
  - As a technical profile for implementation details
  - Or as a field expert for data specifications

Q&A en Next Steps

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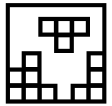
Next steps

Processing all inputs from this thematic workgroup.

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

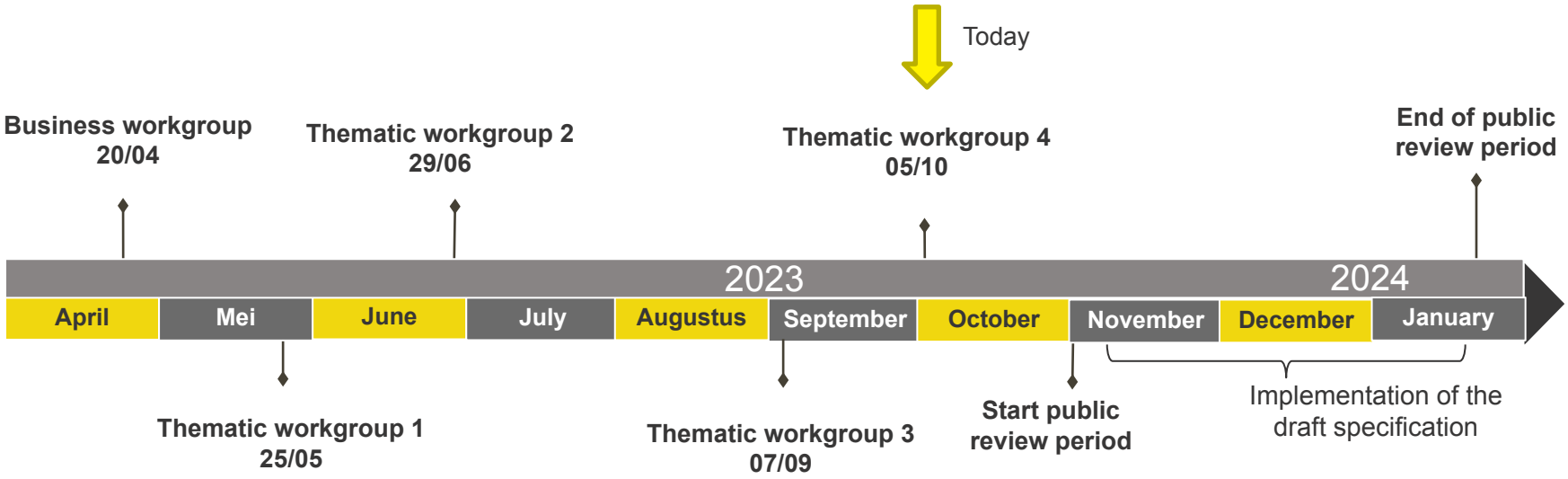
Capturing feedback via GitHub.



Publishing the application specification on test.data.vlaanderen.be

Promote the model to candidate standard and start the public review period.

OSLO timeline



Feedback & Cooperation OSLO

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

- digitaal.vlaanderen@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!
This was never possible without your input!

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