Interlocking Schema

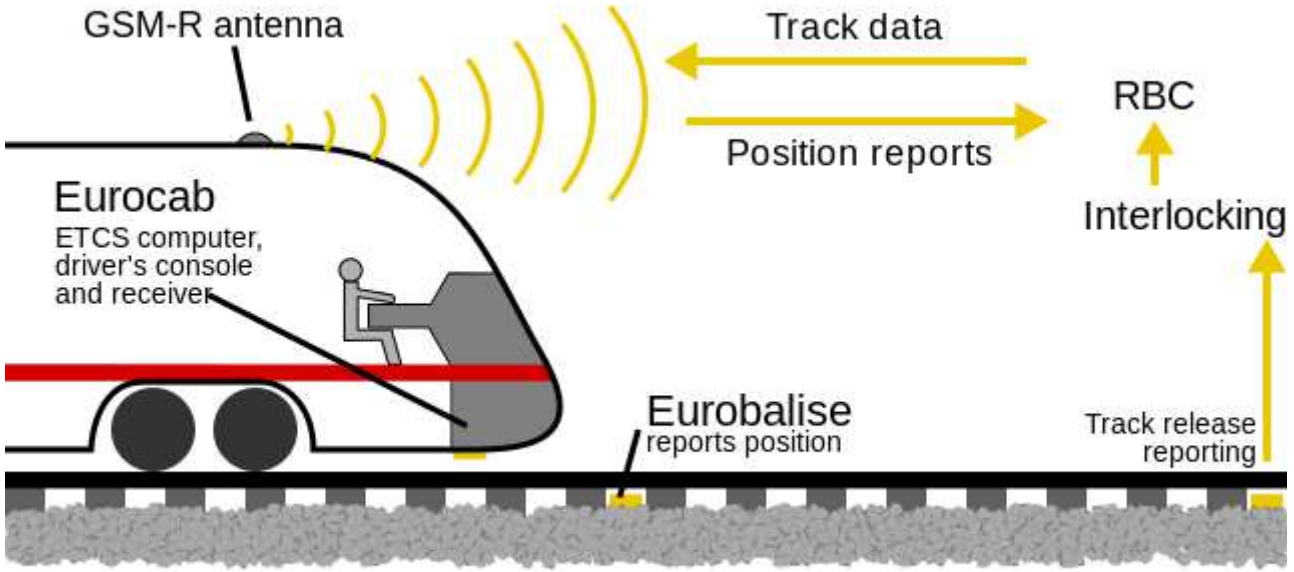
39th railML Conference – April 21st 2021

Agenda

1. Development in Interlocking Schema
2. Forum Posts
3. Schema Documentation
4. Next steps

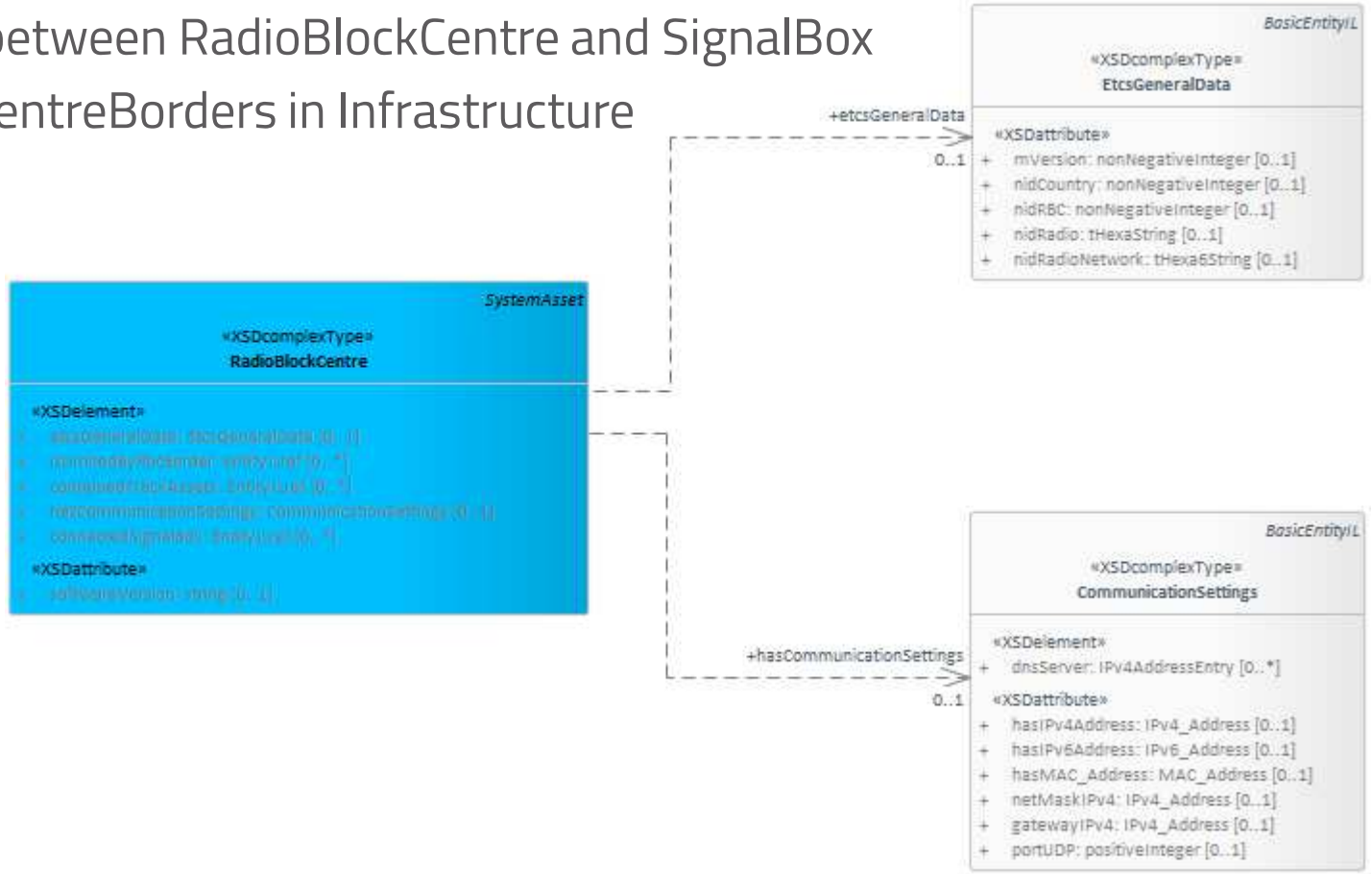
1. Development in Interlocking Schema

- No interlocking specific working group
- Current development driven from ETCS working group under lead of infrastructure
- Some inputs by forum posts
- Feedback only from two users
- Enhancement of use case IMED



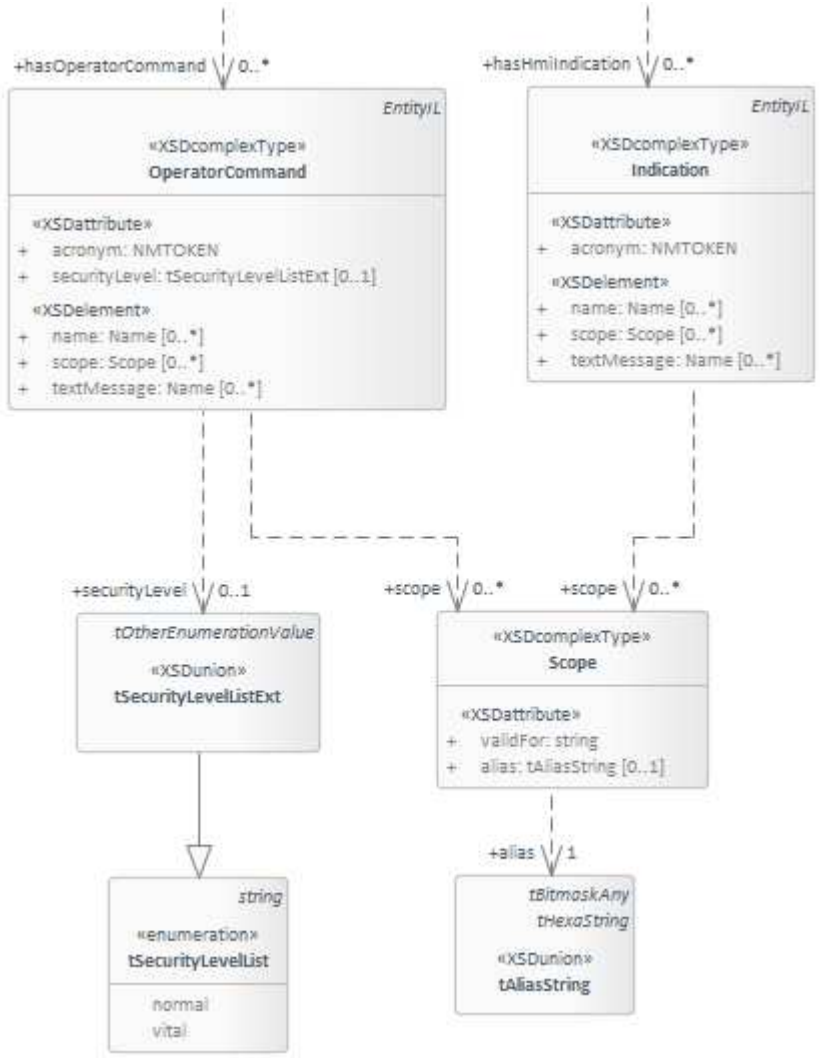
1. Development in Interlocking Schema

- RadioBlockCentre in Interlocking – ticket #386 in parallel to SignalBox
- References between RadioBlockCentre and SignalBox
- RadioBlockCentreBorders in Infrastructure



1. Development in Interlocking Schema

- Operator commands and indications (HMI) – ticket #451
- definition of commands and indications as "genericTypes" for a specificInfrastructureManager
- references from any element/indicator to defined commands and indications



1. Development in Interlocking Schema

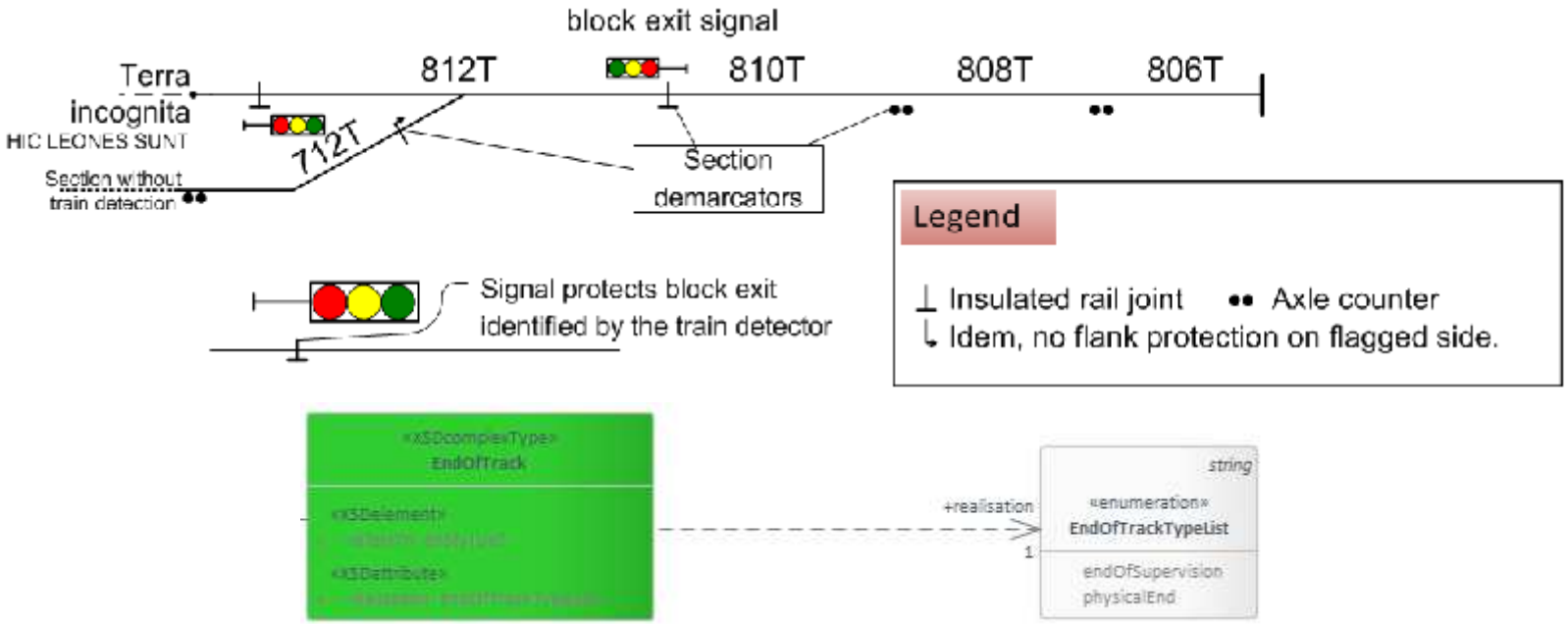
- Aggregation of elements – ticket #465
  using same principle as in Infrastructure
  reference to same class as parent

```
<xs:attribute name="belongsToParent" use="optional" type="rail3:tRef" />
```

- Harmonising common data – ticket #468
  <hasCommunicationSettings> for SignalBox, RadioBlockCentre, Controller

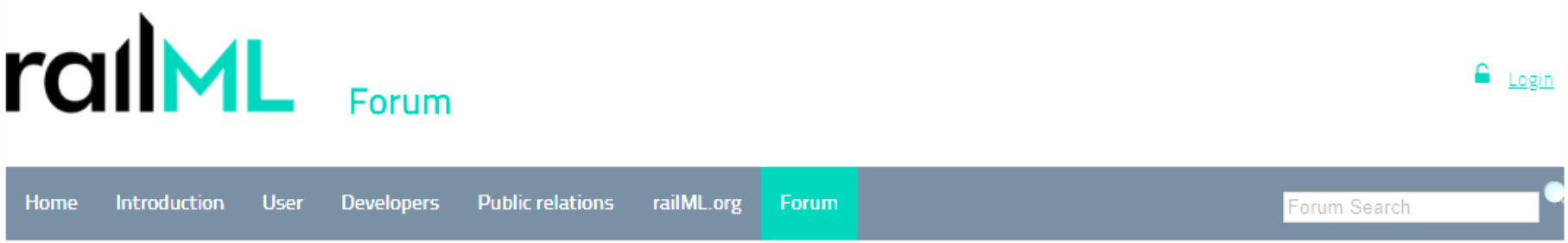
1. Development in Interlocking Schema

- EndOfTrack
  kind of border element for Interlocking purpose
  handling of physical end and limit of supervision



2. Forum Posts

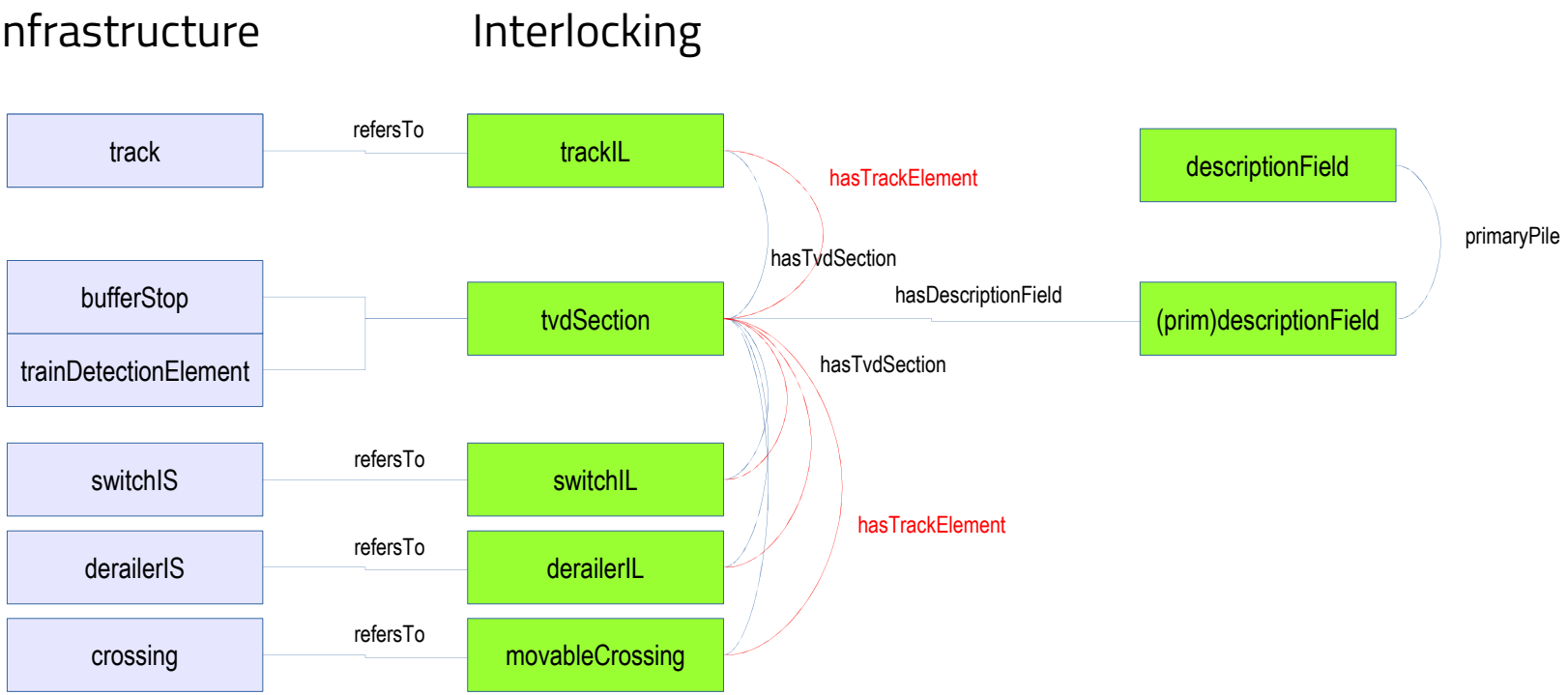
1. Referencing between IS and IL
2. Flank protection
3. What is the rationale for multiple <assetsForIL>s?
4. Signal aspect changes and simulation
5. Restricted Areas: limitedBy vs. elements inside
6. special infrastructure in IL - bascule bridge, tunnel gates
7. Train Number Description Field



2. Forum Posts

1. Referencing between IS and IL

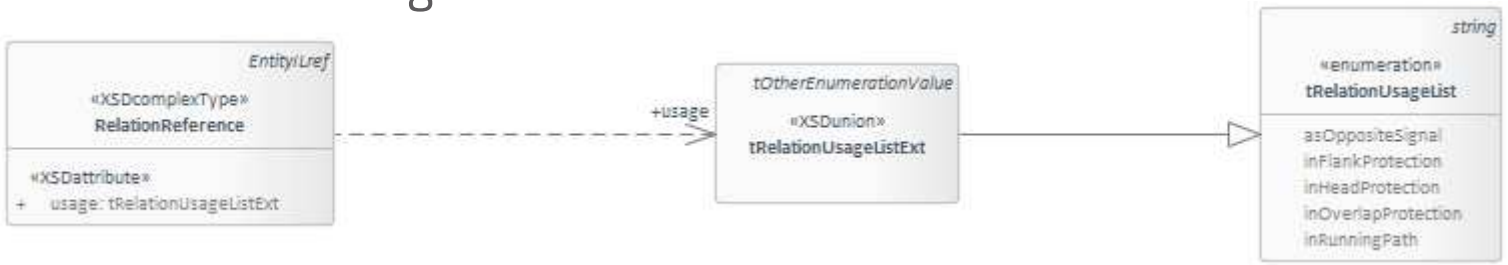
- Overview of possible references between IS and IL elements



2. Forum Posts

2. Flank protection

- can be defined using RouteRelations



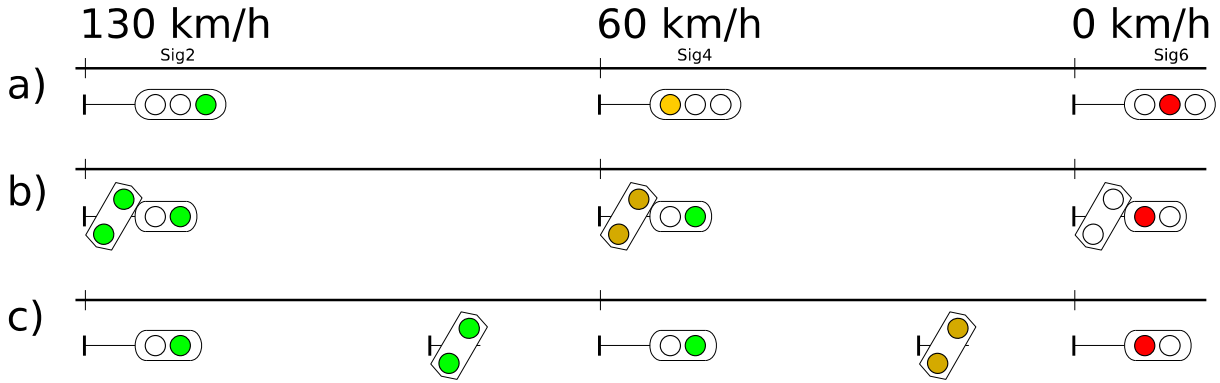
3. What is the rationale for multiple <assetsForInterlocking>s?

- having more than one <assetForInterlocking>
  ➔ different phases of evolution or different InfrastructureManagers

2. Forum Posts

4. Signal aspect changes and simulation

- Dependency of signal aspects in <implementsSignalPlan> of <signalBox>

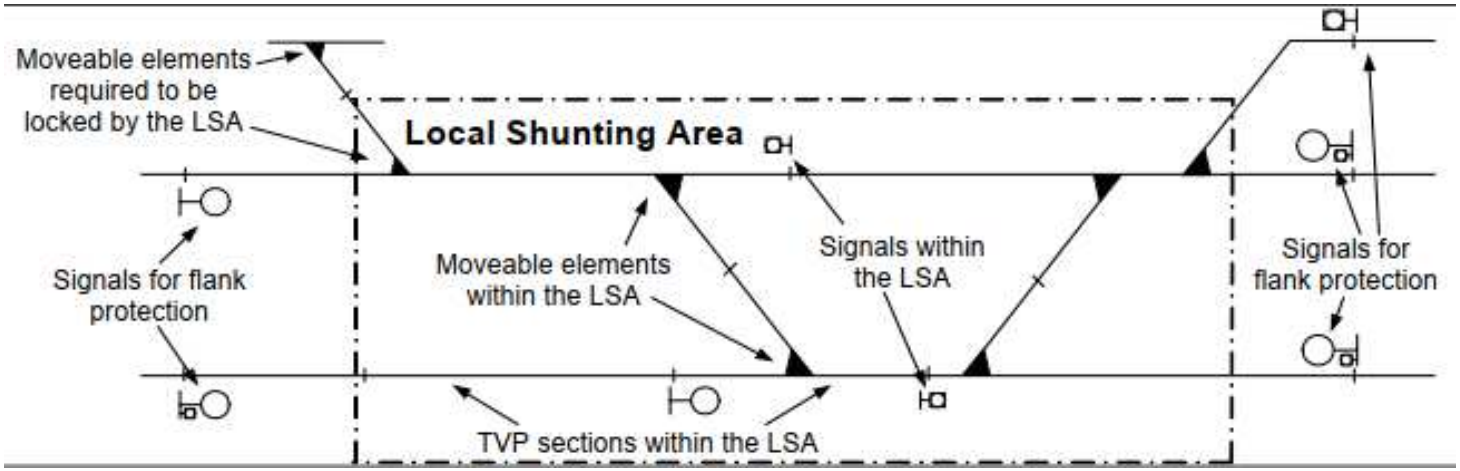


- Interlocking functions, i.e. handling of routes or signals depending on the situation, are not yet part of the schema

2. Forum Posts

5. Restricted Areas: limitedBy vs. elements inside

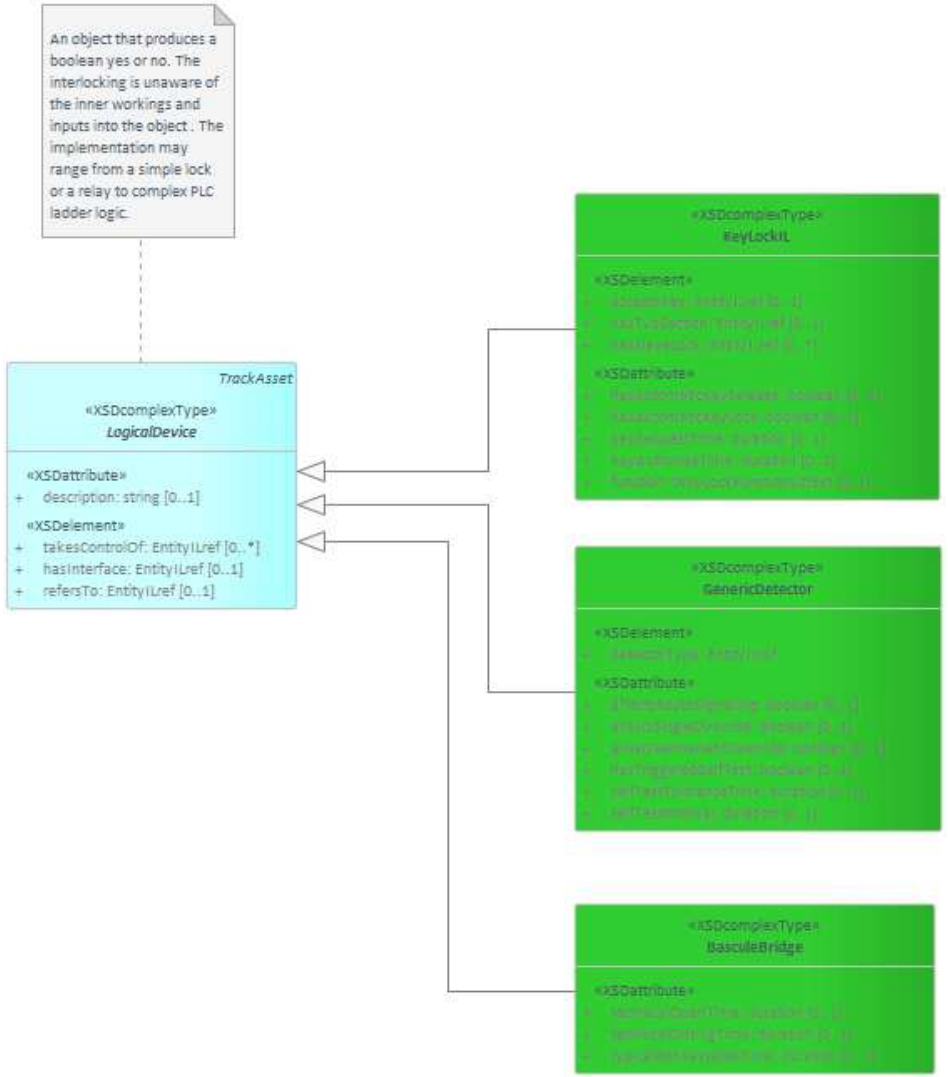
- Both were originally included but <trackAssetInArea> removed by community vote
- Now requested to have it again
  ➔ issue of border element is without info on which side of the area



2. Forum Posts

6. special infrastructure in IL - bascule bridge, tunnel gates

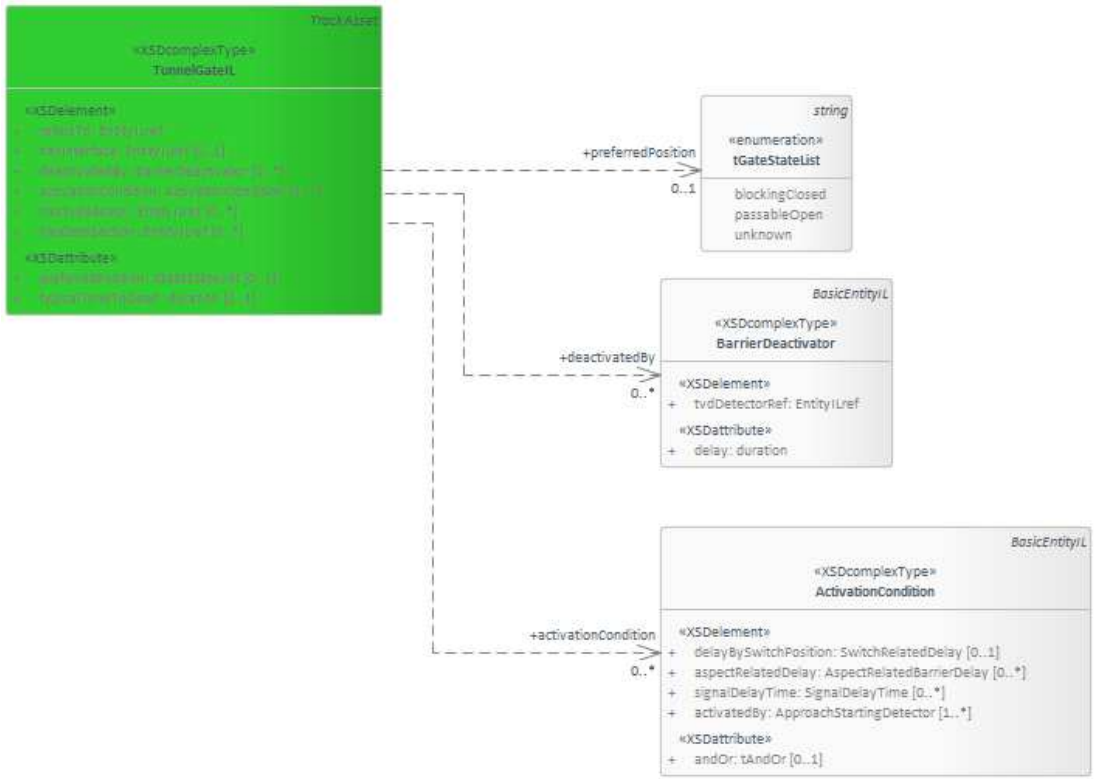
- Similar information needed as keylock or level crossing – depending whether which positions are controlled by interlocking
- BasculeBridge as LogicalDevice only locked position of interest
- Interlocking does not control the bridge drive
- No change in Infrastructure needed – Overcrossing



2. Forum Posts

6. special infrastructure in IL - bascule bridge, tunnel gates – ticket #450

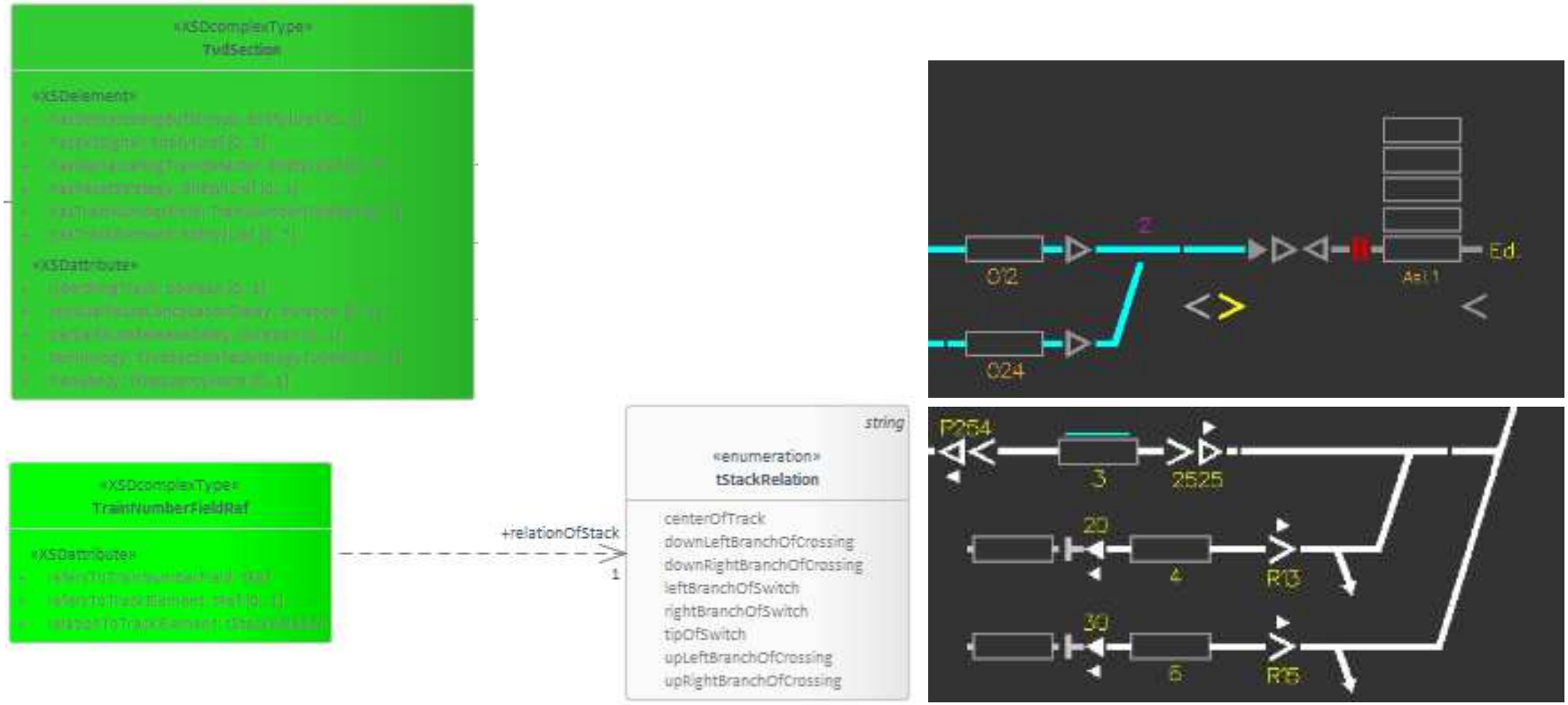
- TunnelGateIL derived from LevelCrossing
- Both positions controlled, with approach information
- Counterpart TunnelGateIS needed as positions might be not only at tunnel portals



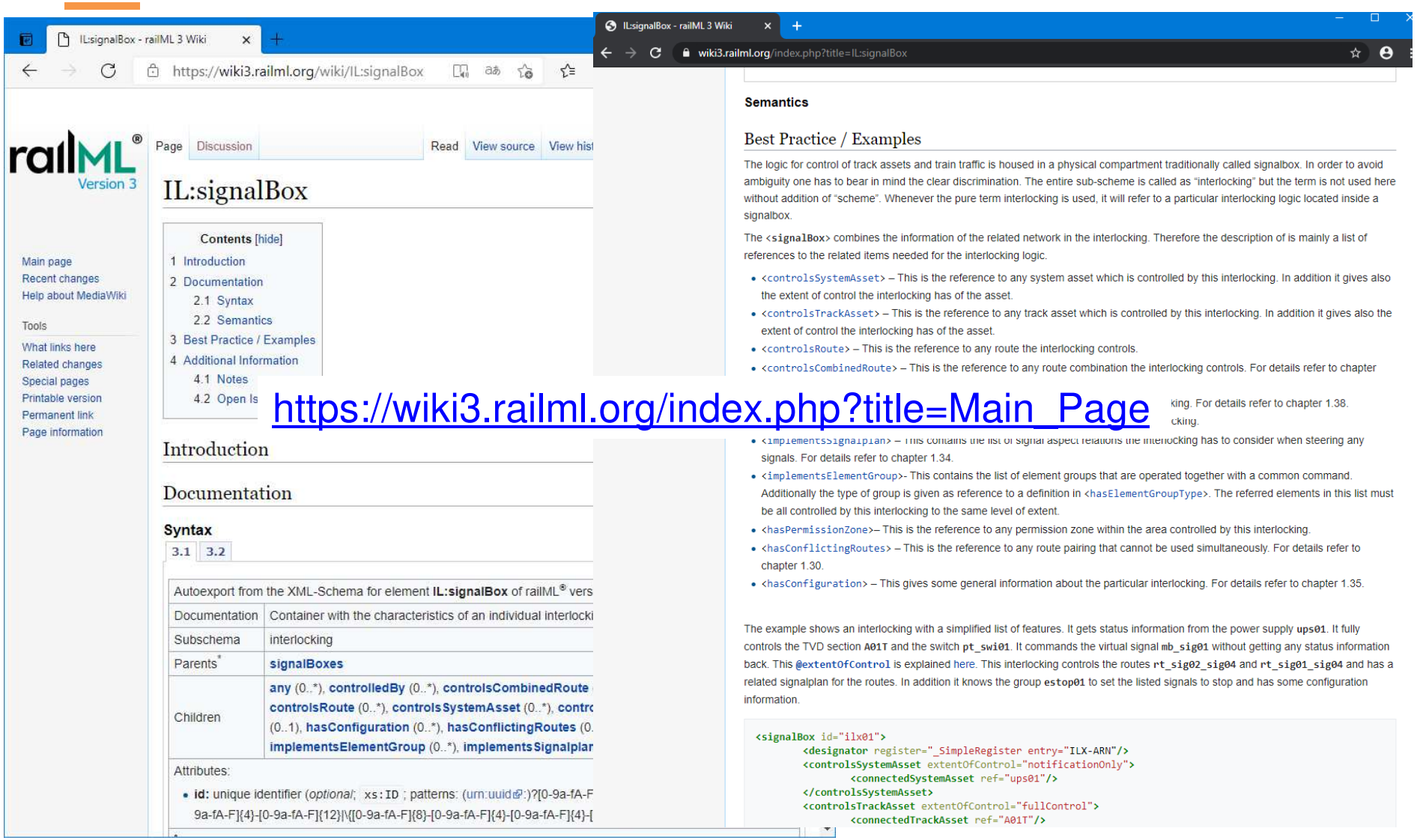
2. Forum Posts

7. Train Number Description Field

- Reference from TvdSection

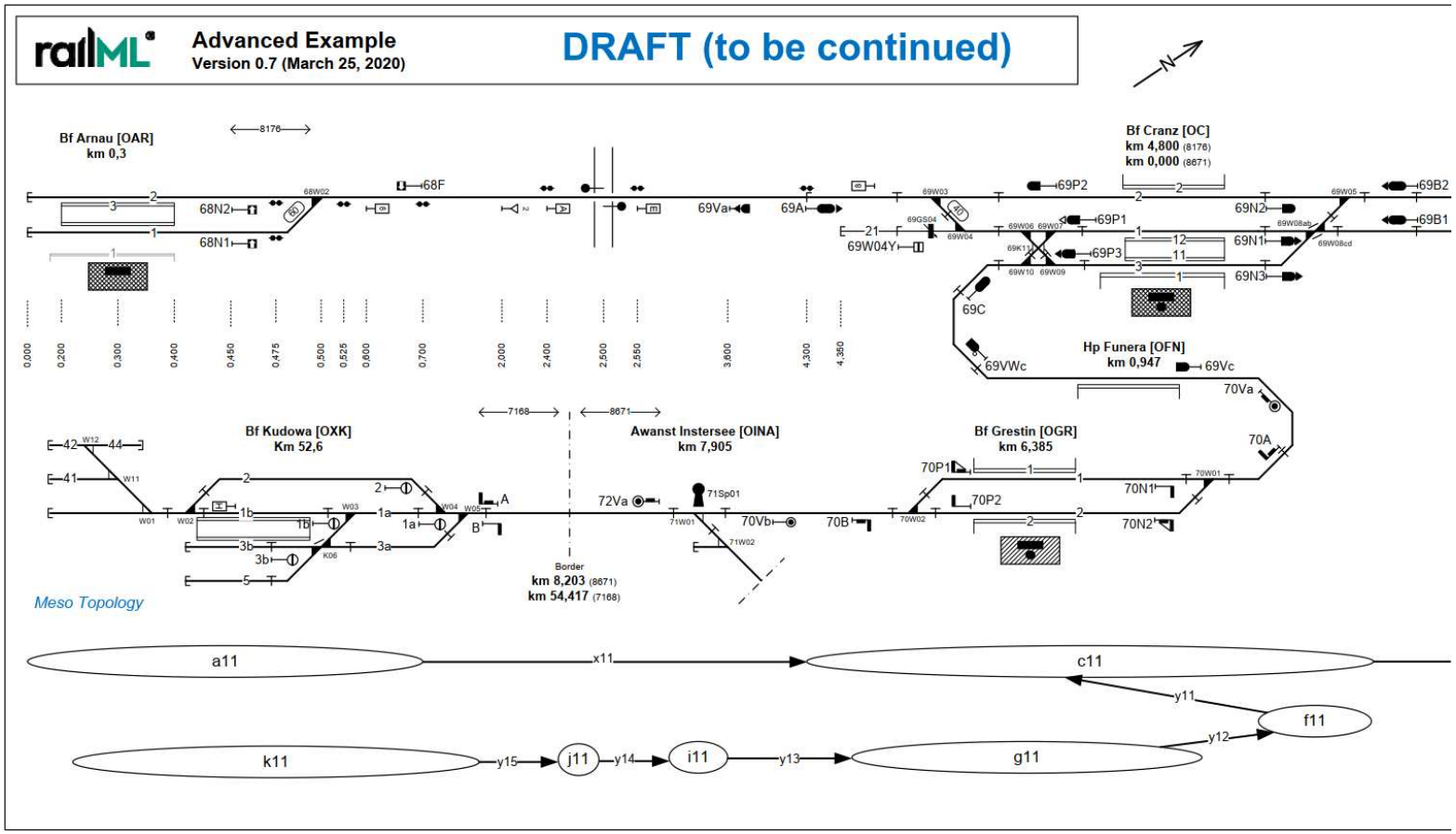


3. Schema Documentation



3. Schema Documentation – Advanced Example

- Extension based on Simple Example v11 with Topology
- just first draft as schematic plan + draft railML file



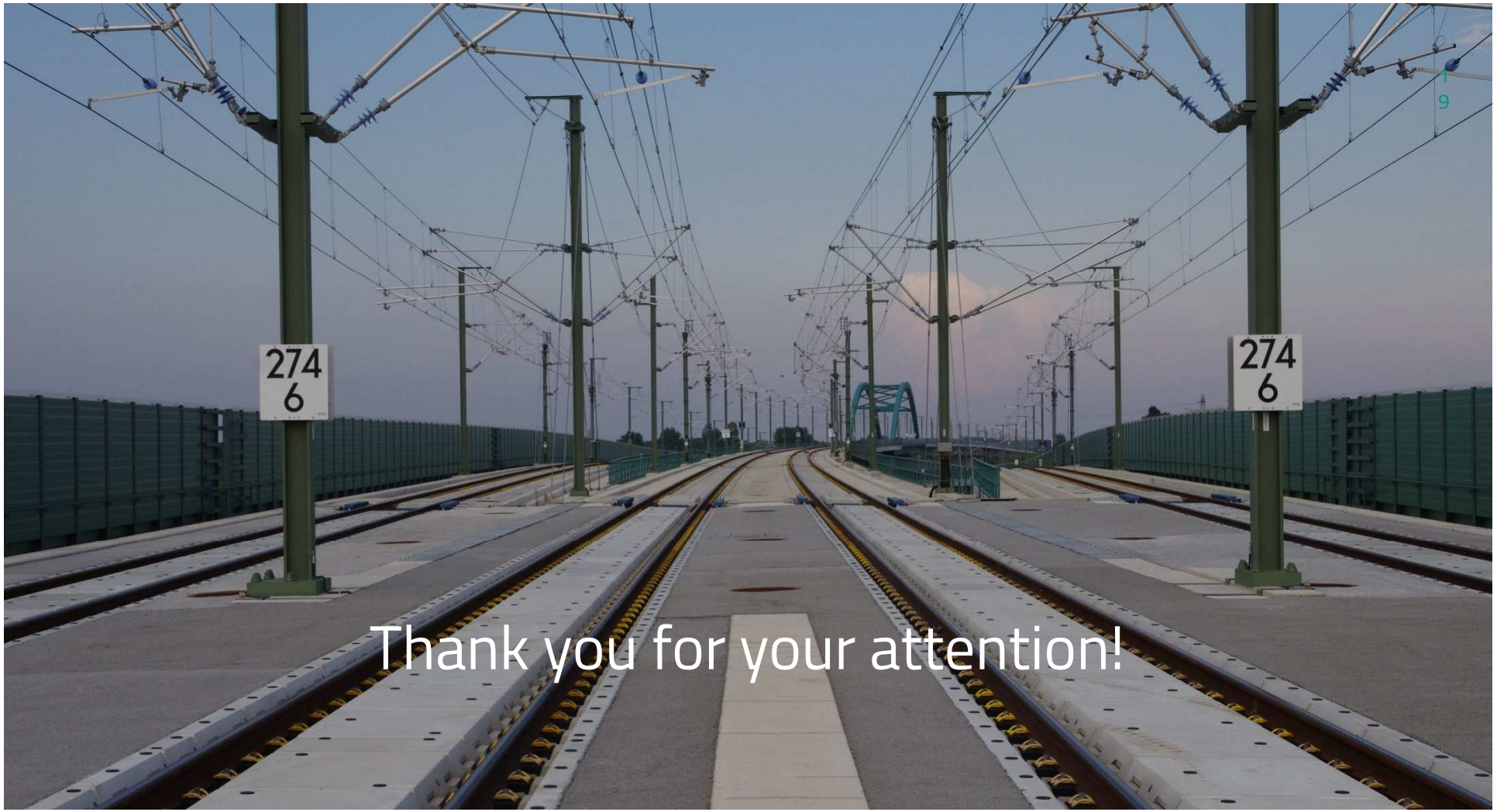
4. Next steps/tasks

- Target release of final railML 3.2

- Collection of feedback and best practise
- Enhancement of documentation: wiki & tutorial
- Completion of IL part of advanced example

- Further development improving extent of existing use case
- No additional IL use case
- Cooperation with IS for ETCS/ITMS use case
- Review of open Trac tickets for railML3.x

- Discussions on forum



Thank you for your attention!

Institut für Bahntechnik GmbH

www.railml.org

Jörg von Lingen

Interlocking coordinator

coord@interlocking.railml.org

+49-351-8775940