

railML in Switzerland



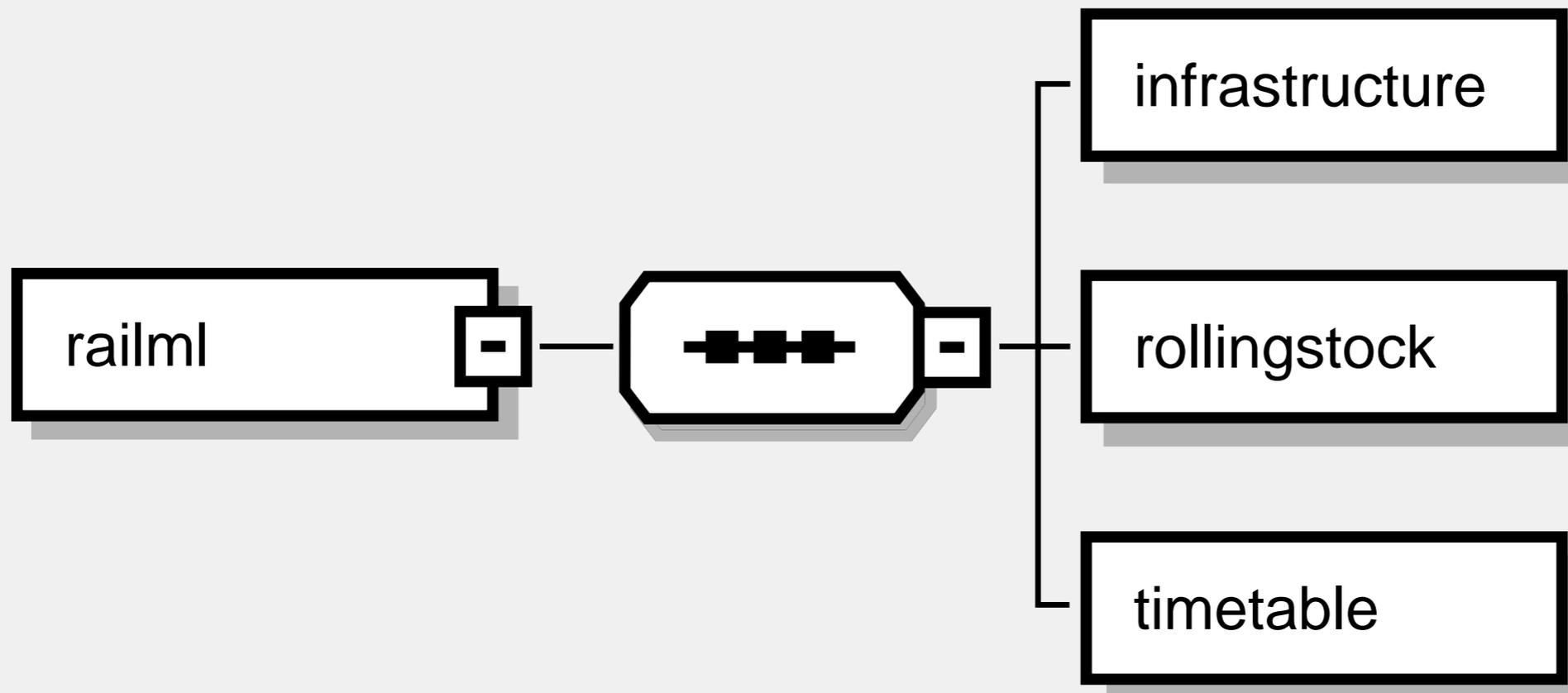
railML-Meeting
Sept. 18, 2013
Paris

Daniel Huerlimann
OpenTrack Railway Technology
Zürich

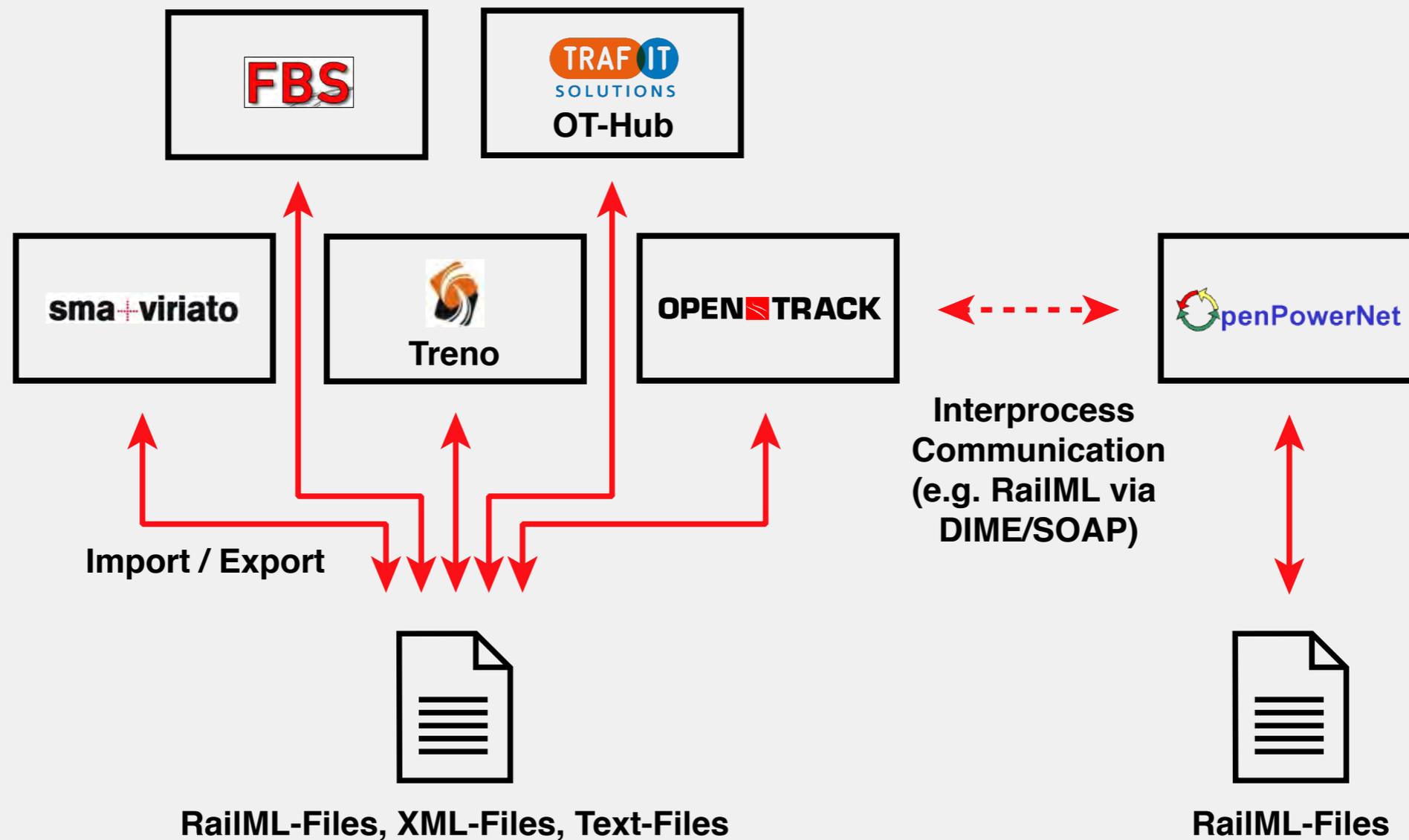
Agenda

- railML-Schema / railML-Usage
- Swiss Users and Developers
- A typical User: Swiss Railways (SBB)
- Swiss Railways (SBB) Projects: Stabilo and OpenTrackHub (OTHub)
- IA2OT: A Swiss IT-Project for the Netherlands

railML-Schema



railML-Usage



railML: Swiss Developers and Users - from the Beginning

- Developers:

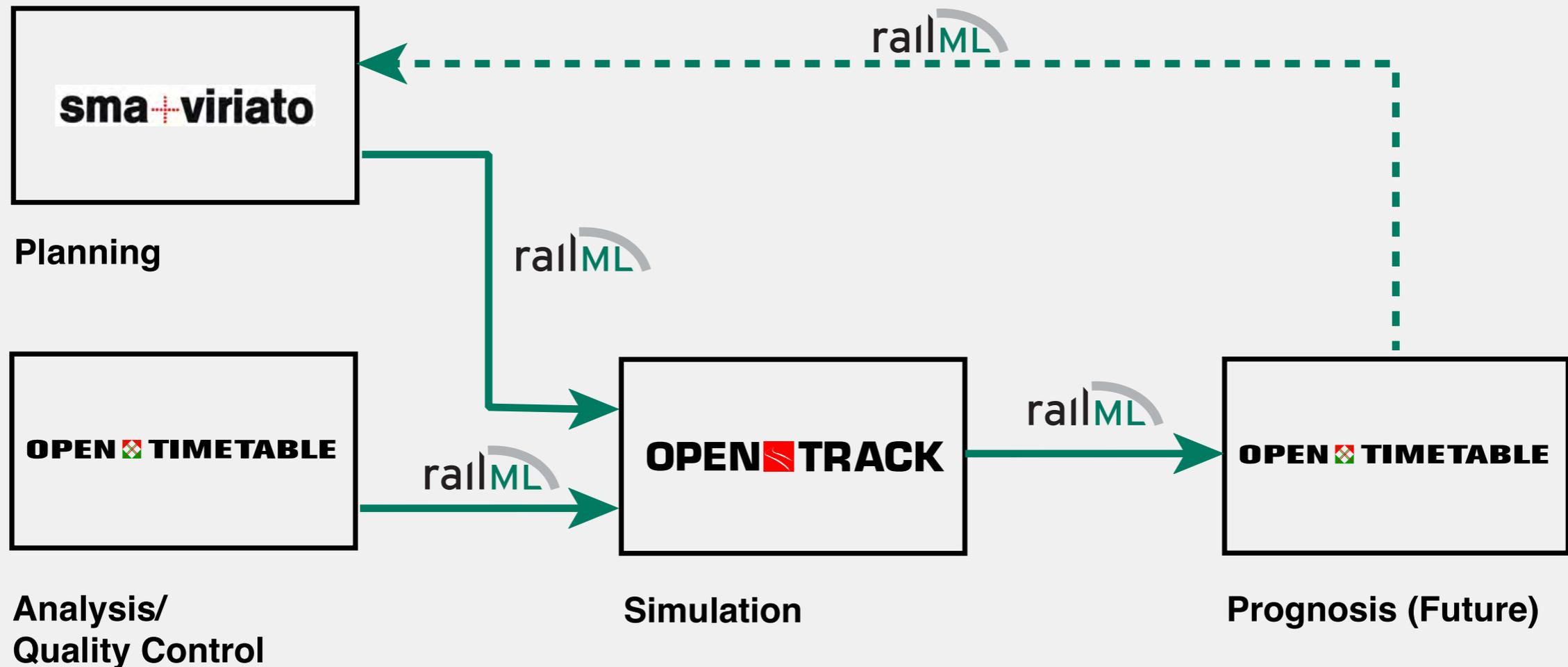


- Users:



 **Swiss Railways: Project Stabילו**

railML in the Data Workflow between different Tools



SBB Project Stabilo: Multiple Simulation Runs to predict the Future

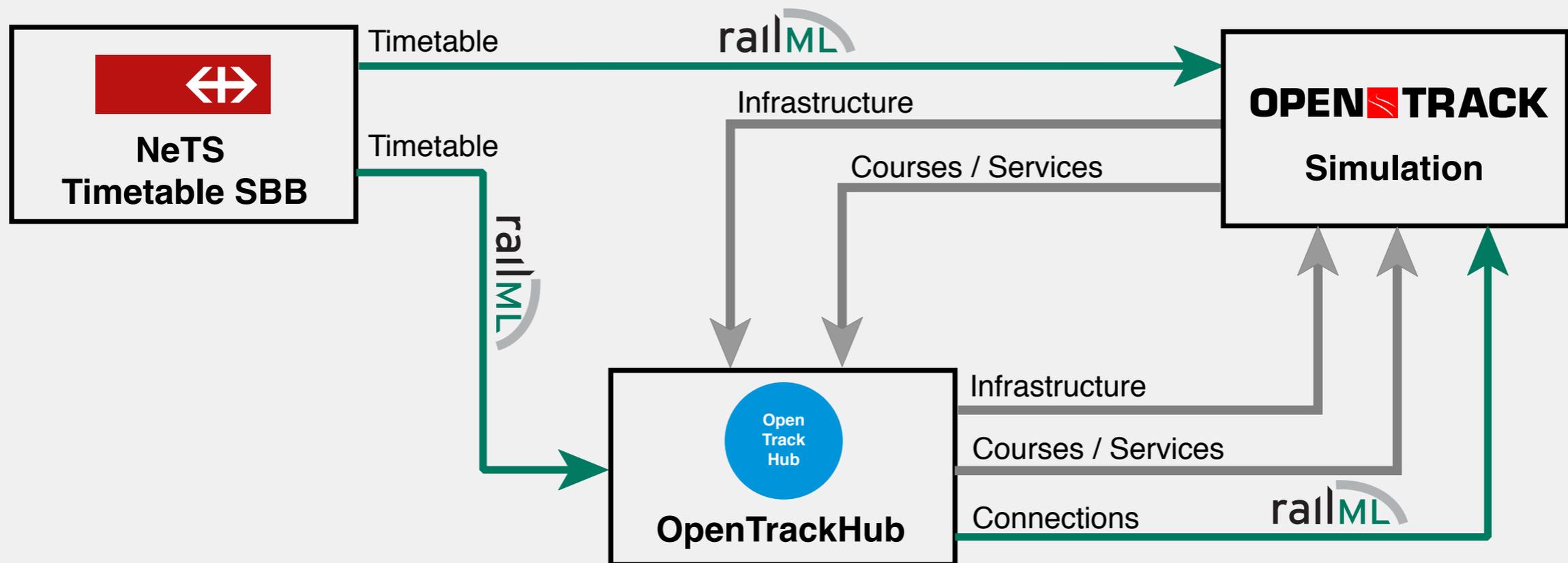
- Simulation uses planning data via railML
- Given statistical data (e.g. OpenTimeTable) of initial delays or station delays are used for the simulation of the future timetable
- Simulation results are exported as railML data and are reused in other tools (e.g. planning)



Swiss Railways: Project OTHub

- Joint project between Swiss Railways, trafIT solutions and OpenTrack
- Objective: automatic setting of used itineraries out of the timetable data (from NeTS via railML)
- Automatic creation of missing itineraries in OpenTrack
- Detected connections are automatically imported into OpenTrack

SBB Project OpenTrackHub (OTHub)



- railML wherever possible

IA2OT: A Swiss IT Project for the Netherlands

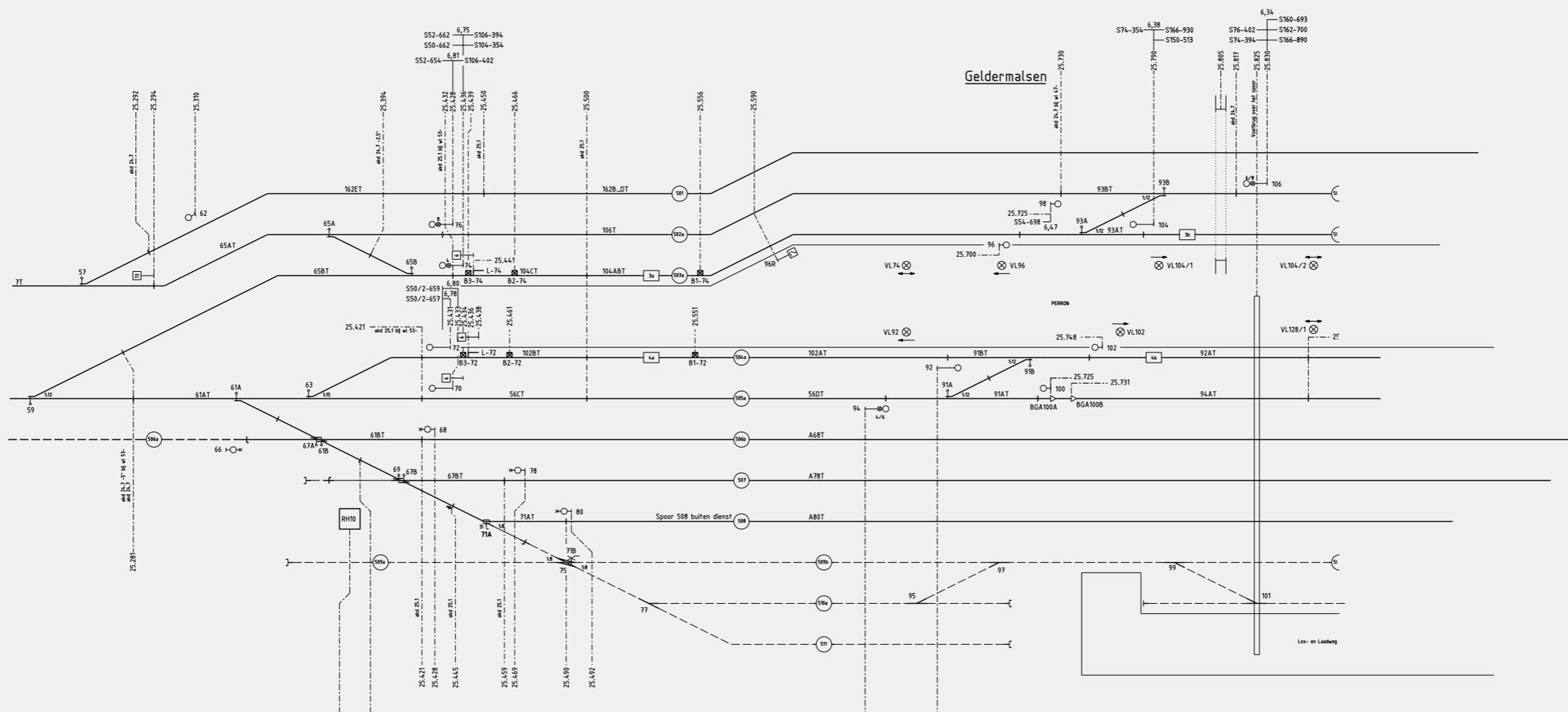
- Joint project between ProRail (NL), DHV (NL), trafIT solutions (CH) and OpenTrack (CH)
- Objective: Automatic transfer of infrastructure data from the InfraAtlas database into the simulation tool OpenTrack (incl. signal aspects and block sections)
- railML as intermediate format (IA2railML, railML2OT)
- Additional format for signal aspects and block sect.

IA20T Process



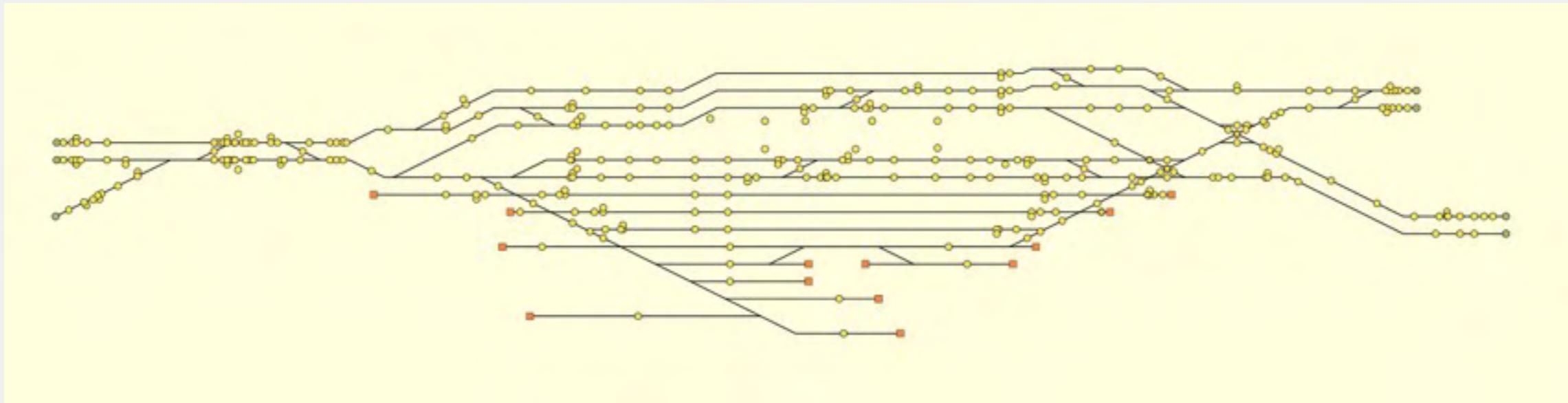
- railML wherever possible
- Additional format (XML-based) for signal aspects and block sections (ProRailML+)

IA20T



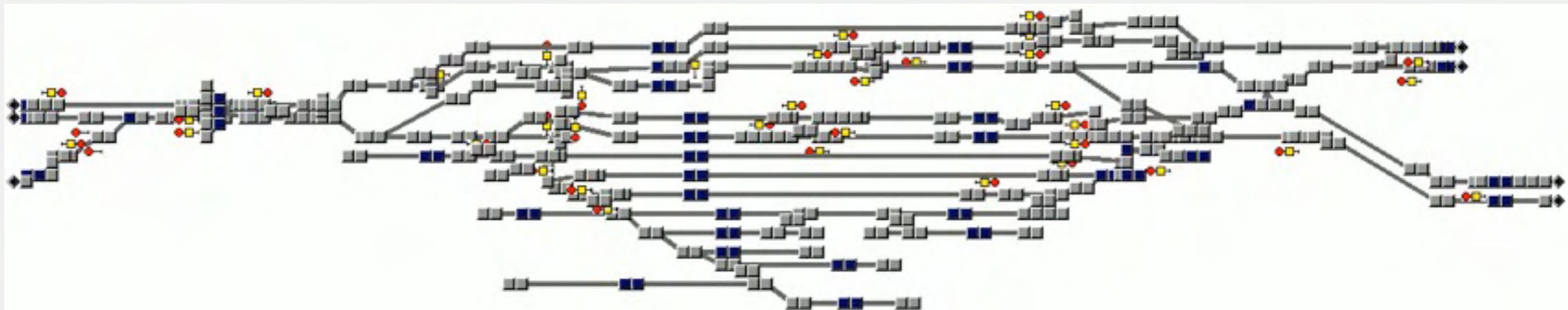
- Step 1: InfraAtlas OBE-Blad (e.g. Geldermalsen)

IA20T



- Step 2: IA20T / IA2railML (e.g. Geldermalsen)

IA20T



- Step 3: OpenTrack (e.g. Geldermalsen) including signal aspects and block sections

Performance: The Netherlands, the whole country

- 885 maps (OBE-Blads)
- 11'799 signals
- 27'011 block sections (routes)

- Size of all InfraAtlas files 68 MB
- Size of entire railML file 7 MB
- Size of 1 OBE-Blad railML file 0 - 278 kB