

Fotos: DB AG/ Hans-Joachim Kirsche, Korall,

# PlanPro

Data modelling for planning of interlocking systems -  
Activities of DB Netz AG

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DB Netz AG

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I.NVT3 Projekt PlanPro

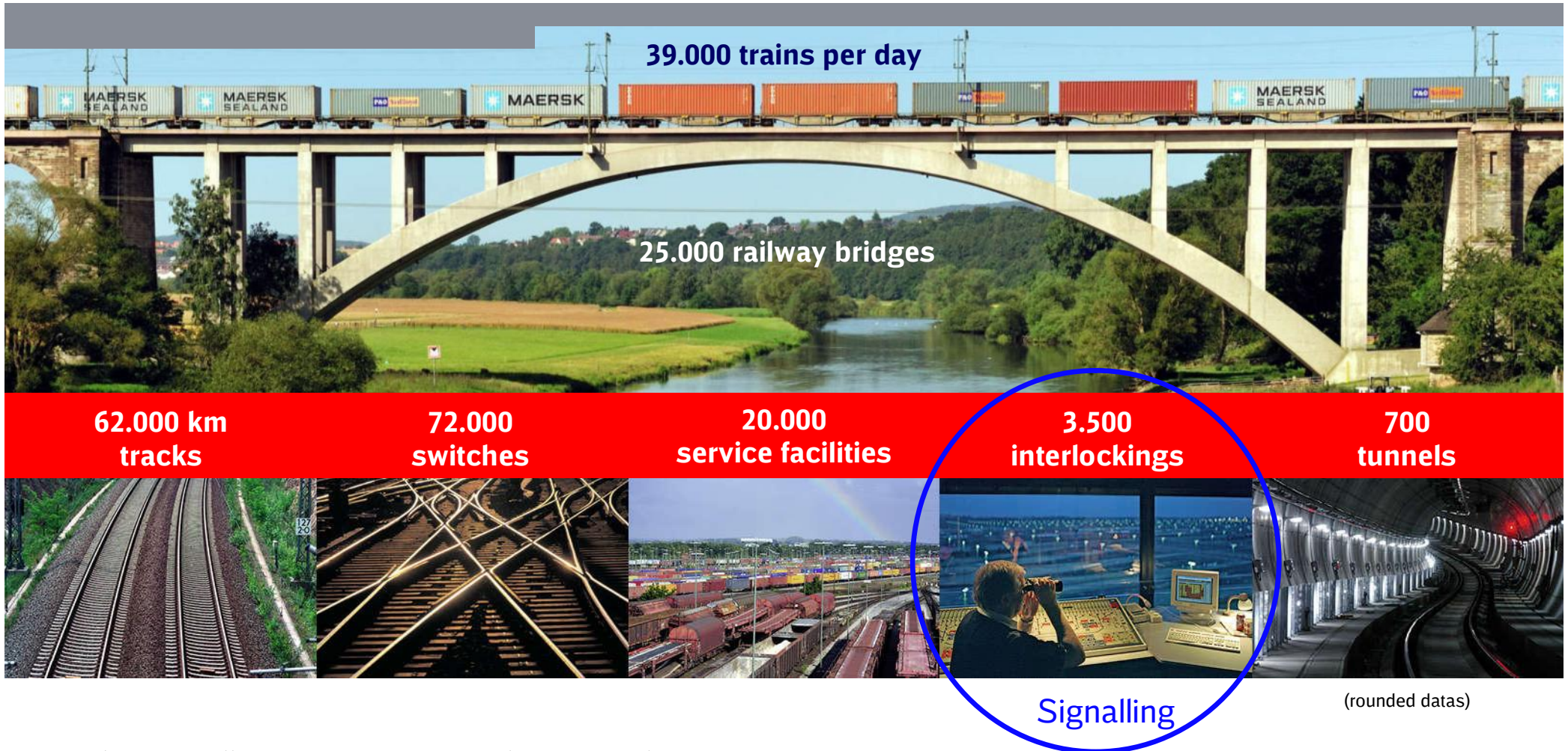
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Brödel / Klaus

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Paris, 18.09.2013

# The comprehensive, modern infrastructure of DB Netz AG ensures the smooth rail

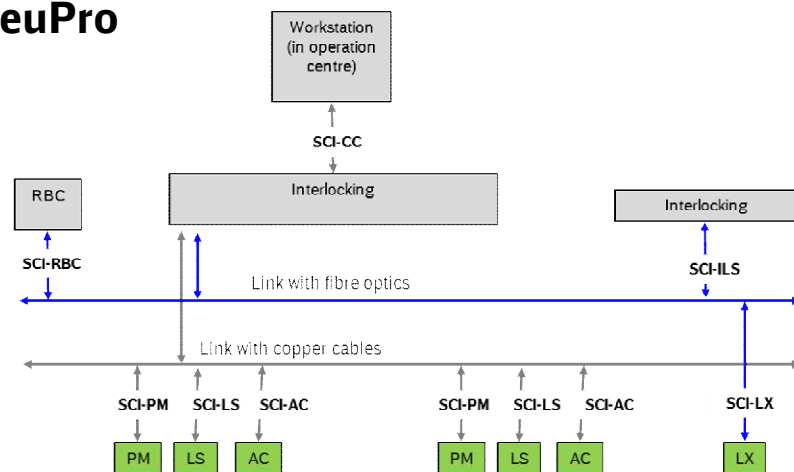


- The signalling is an important basis for the infrastructure equipment.
- Many infrastructure data are determined by the signalling.

# Project PlanPro- Data modelling for planning of interlocking systems

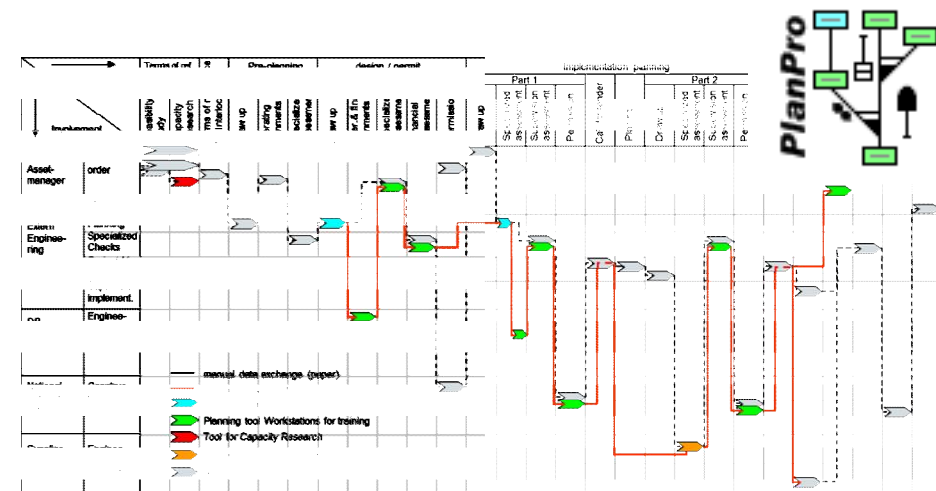
## Innovative signalling activities of DB Netz

### NeuPro



Research & development of new electronic interlocking systems

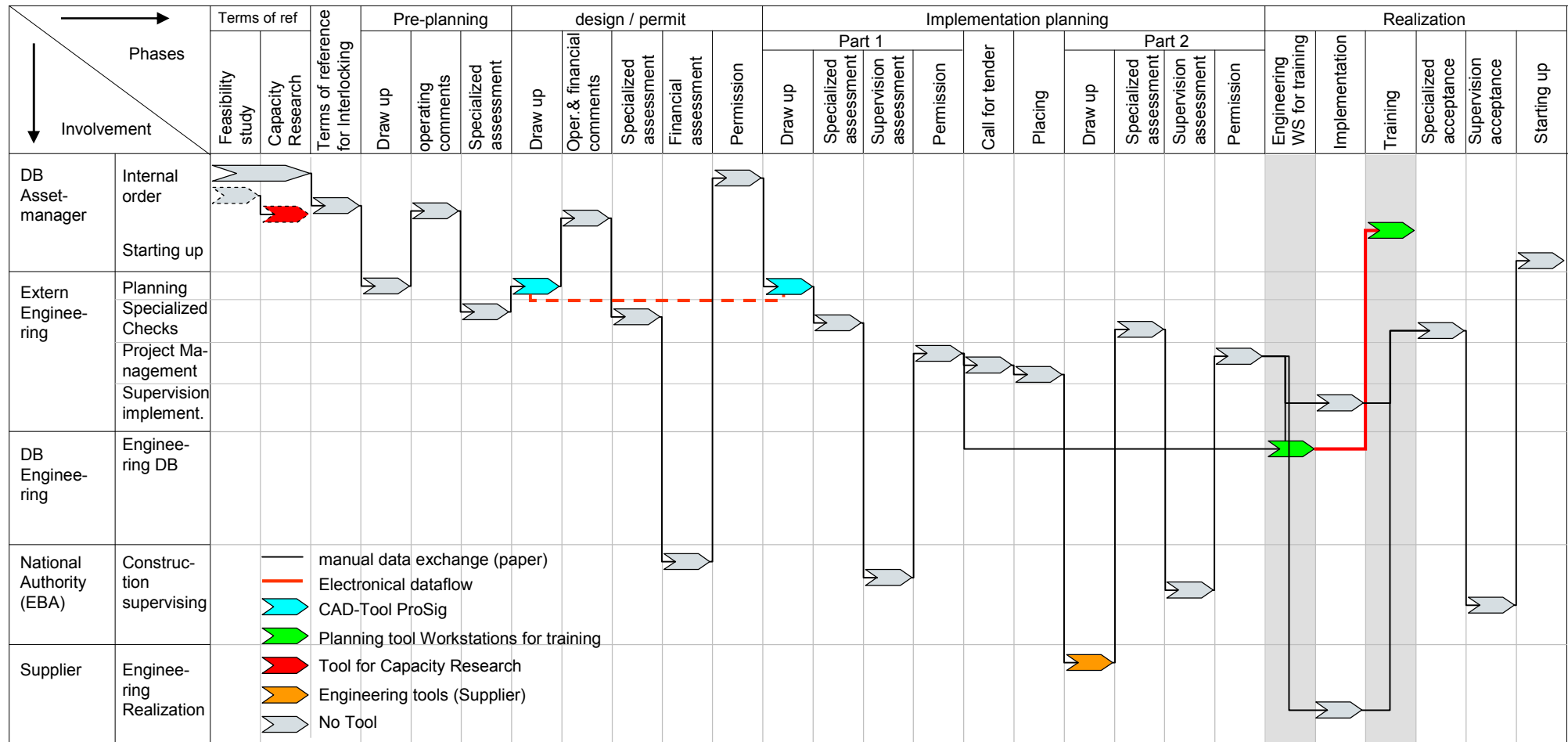
- Similar future architecture
- Standardized interfaces



Planning, Building, Acceptance of existing electronic interlocking systems

- Geo-based signalling data model for planning, simulation and inventory data management
- Electronic data transfer to the manufacturers to support an automated materialization and software generation

# Today the steps of the planning are handling usually with paper



The planning is provided on paper. Every paper plan is handled over to the next step.



# Industrialisation of the project handling by automation of the data management and quality assurance in the planning process

## Effects of PlanPro

### 1. Storage of planning and inventory data in a signalling database

- **Continuous digital data storage for electronic interlocking to avoid manual interfaces in the complete planning process (including inventory data).**
- **Realisation of a legally binding electronic workflow management system for data transfer and test processes (digital signature, version control, storage).**

### 2. Quality assurance for planning data and planning process

- **Development of planning- und simulation tools considering existing tools (ProSig, BEST).**
- **Development of planning data as a supply for operational simulation tools to increase the planning quality.**
- **Handling of all relevant planning processes in the tool chain.**

# Industrialisation of the project handling by automation of the data management including the suppliers and other stakeholders

## Effects of PlanPro

### 3. Electronic transfer of planning data to the manufacturer of interlockings

- **Completeness and integrity of all relevant planning data.**
- **Pre-condition for materialization and software development, for example**

**SCHEIDT&BACHMANN**



**funkwerk**  
enterprise communications



**THALES**

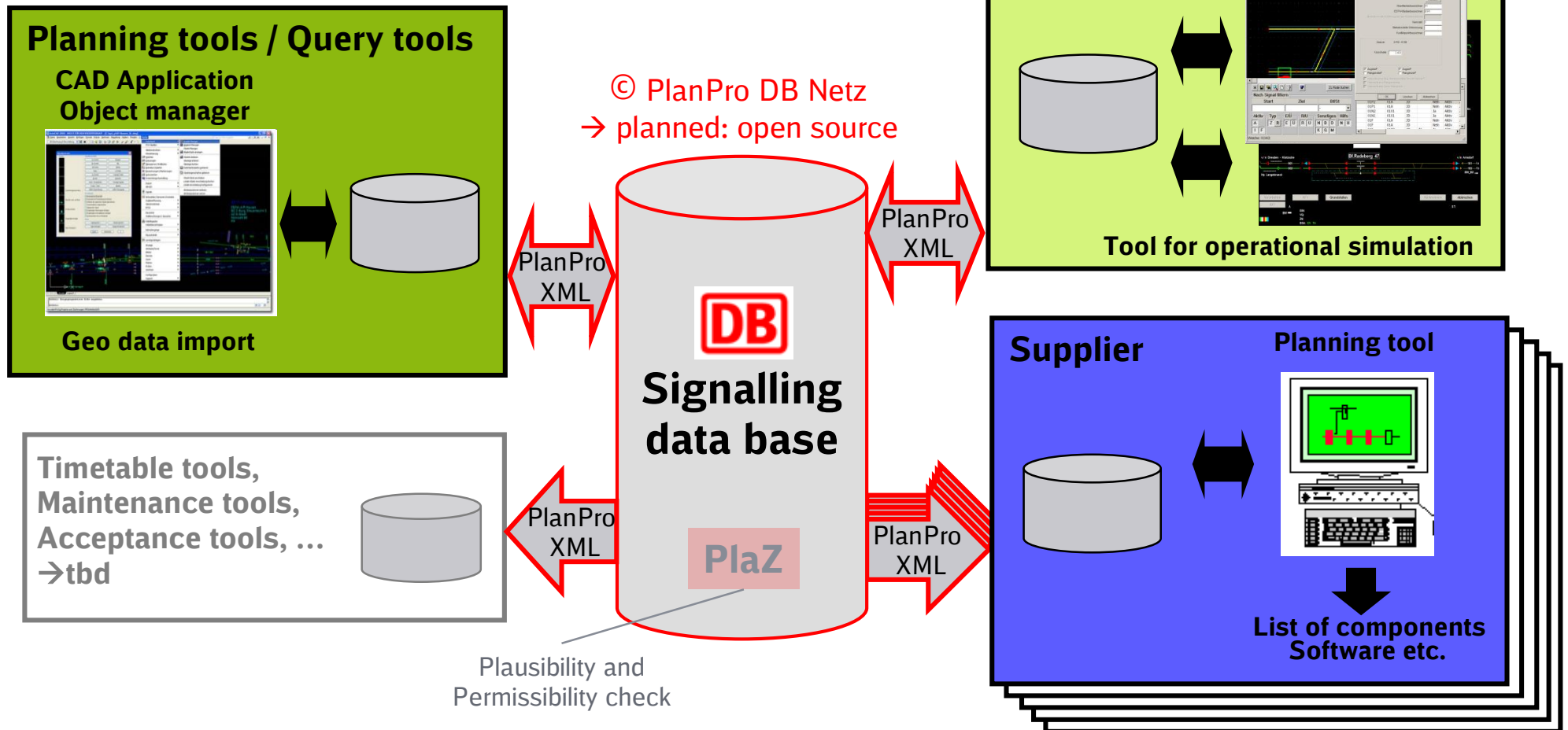
**SIEMENS**

### 4. Using of inventory data in the life cycle

- **Using of inventory data in the life cycle by planner, maintenance staff, acceptance inspector, timetable planner etc.**

# The architecture provides a unified planning interface for the exchange of planning and inventory data

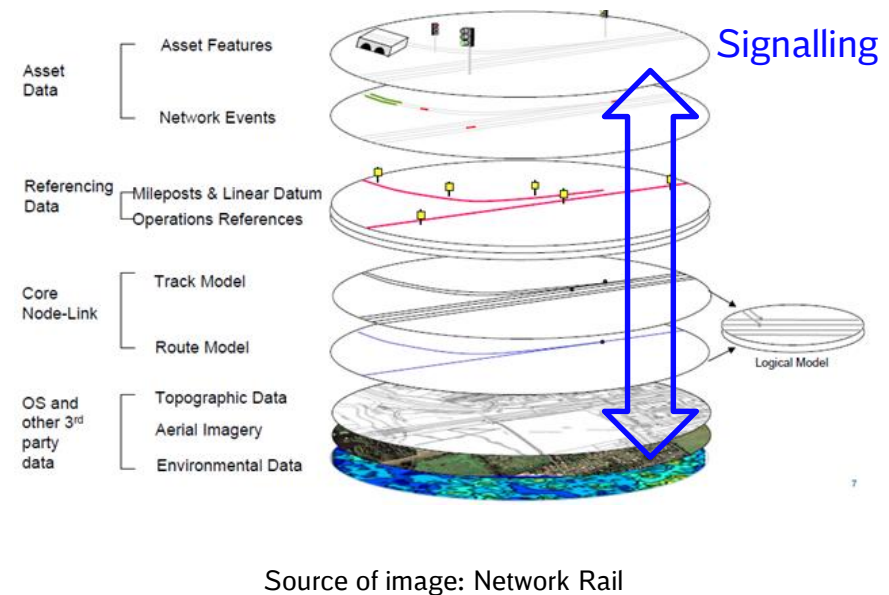
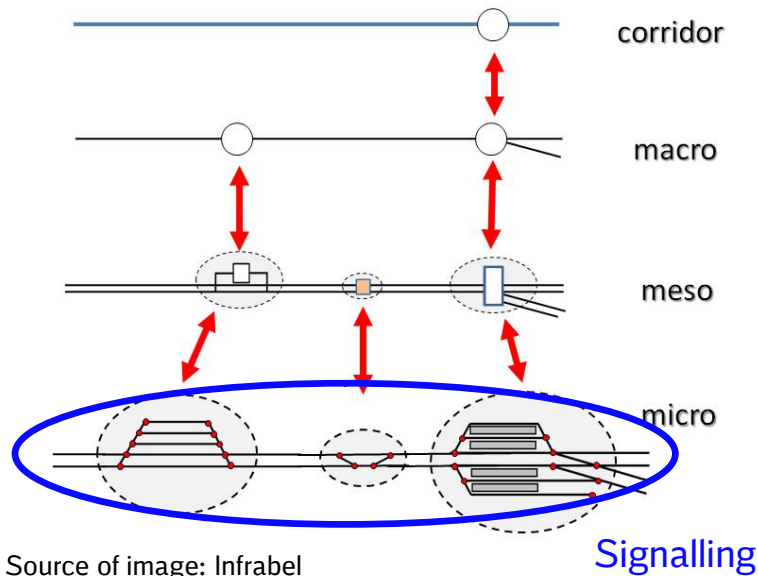
All data (planned and realized interlockings) based on geo-data stored in the database and made available in XML format for the production of interlockings by suppliers and for other users.







# The UIC-project ERIM with its new project approach Railway Data Modelling is extended by details of signalling



- Signalling is part of the microscopic approach.
  - But therefore the network topology and topography is needed.
- Given this context, Railway Data Modelling is interesting for DB Netz.

## **We want to share our experiences of the signalling data modelling in the work of Railway Data Modelling**

- **In recent years, we have collected many experience in the detailed modelling of signalling data.**
- **This experience we can contribute to the work for an international data exchange format.**
- **railML<sup>®</sup> can be the basis for the harmonization of international railway data.**
- **We believe that a common international data exchange format will support competition, will reduce market entry barriers and by this will reduce costs.**

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**Thank you for your attention!**