

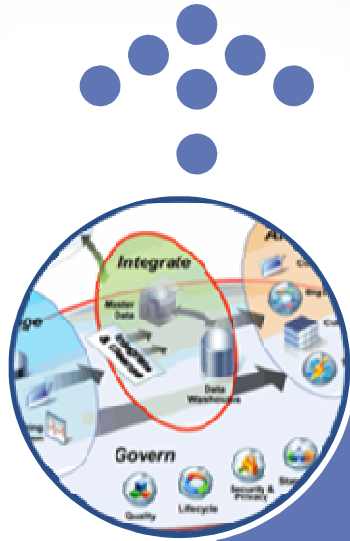
# Digitale Asset Informatie



**Asset Management**  
**Cattoor Robby**

**FlaGIS Studiedag**  
**Geo + BIM**

Technology Standards  
 MIDP Collaboratio:  
 BS1192 InfraModel  
 SAMP COINS RailTopoModel  
 BIM BEP  
**Management** AIR  
 VISI OTL IFC ISO55000 Protocol  
 OGC LandInfra EIR  
 IDM RailML OIR Tools  
 Ontology **Culture**  
 Organisation  
 CoCreation Process



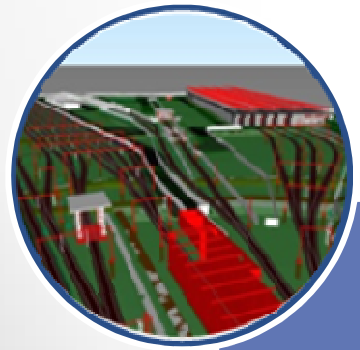
**Infrabel  
Cattoor Robby**

**Master Data  
Management**



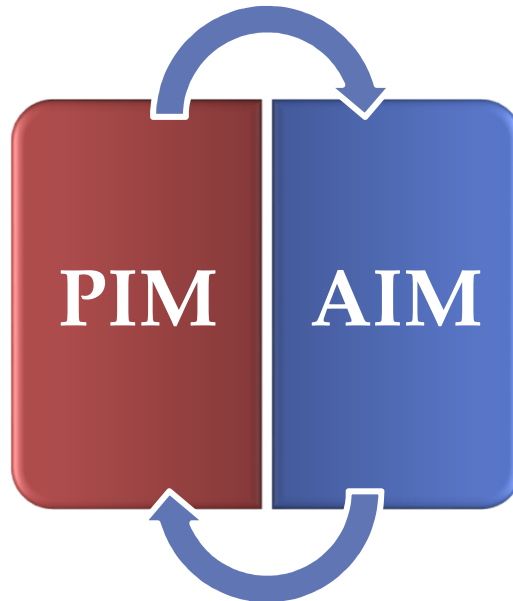
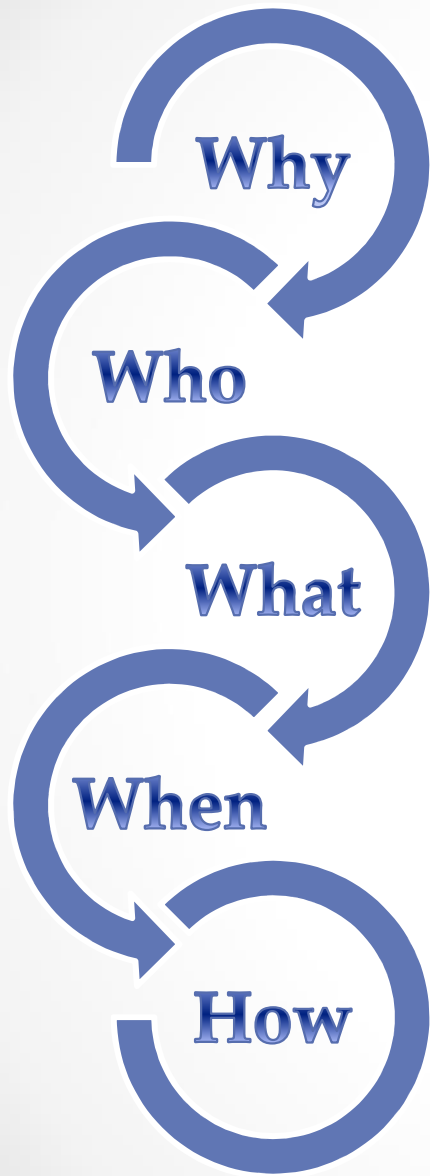
**CAD & GIS  
Development**

ObjectOriented Map3DAp  
 DependencyInjection  
 WMS Services  
 C#.net VaultApi  
 Civil3DApi PostGIS WPF  
 ADO.NET FME  
 UnitTests Oracle UML XML  
 Mapguide SqlServer  
 GeoServer  
 AutodeskApi  
 WFS



**Design Railway**

**Bentley**  
 Leica  
**Trimble**  
**Autodesk**  
 Novapoint  
 1Spatial

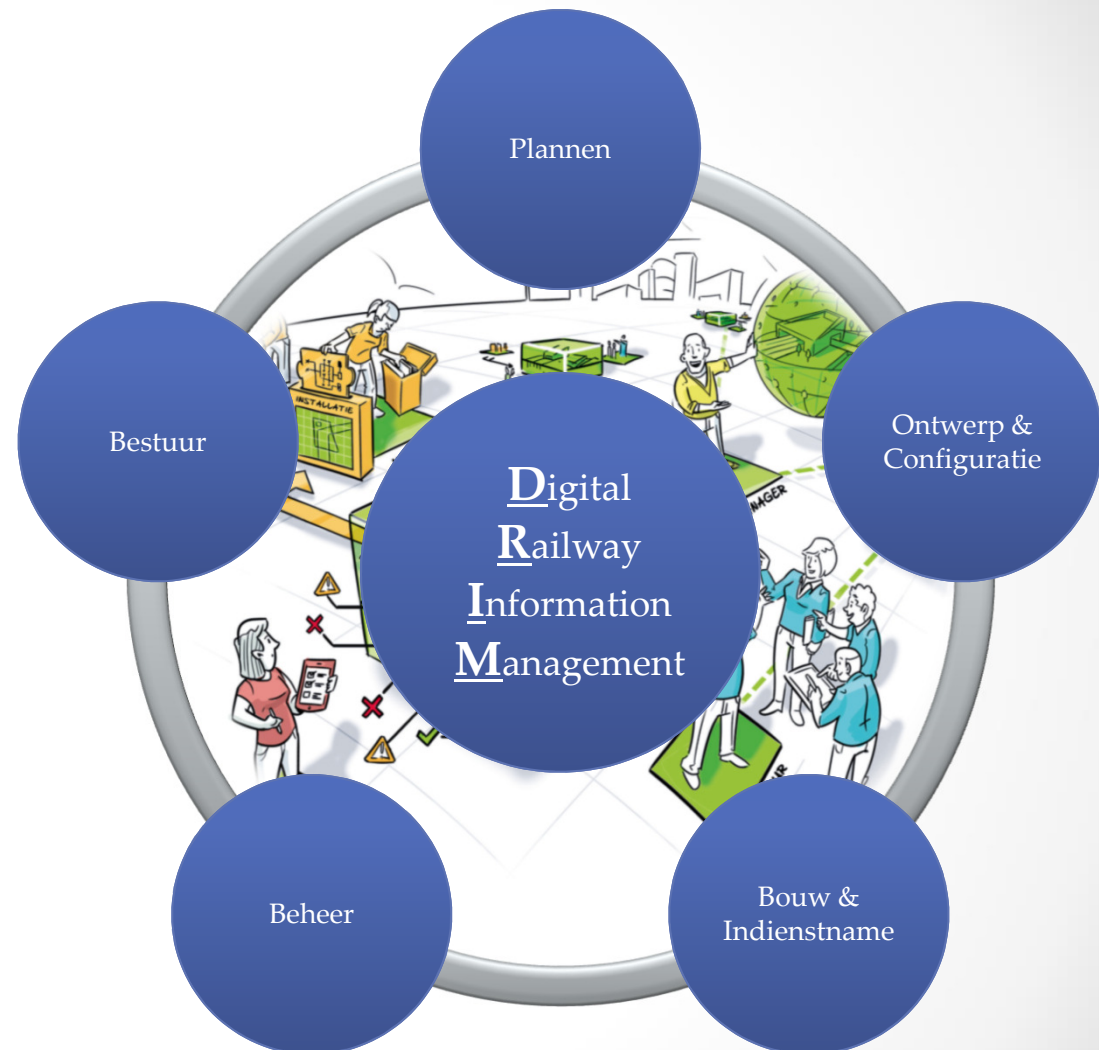
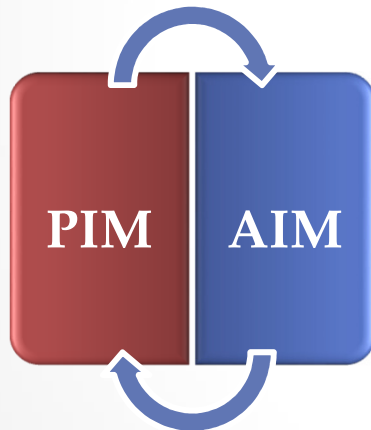


**Asset Information**



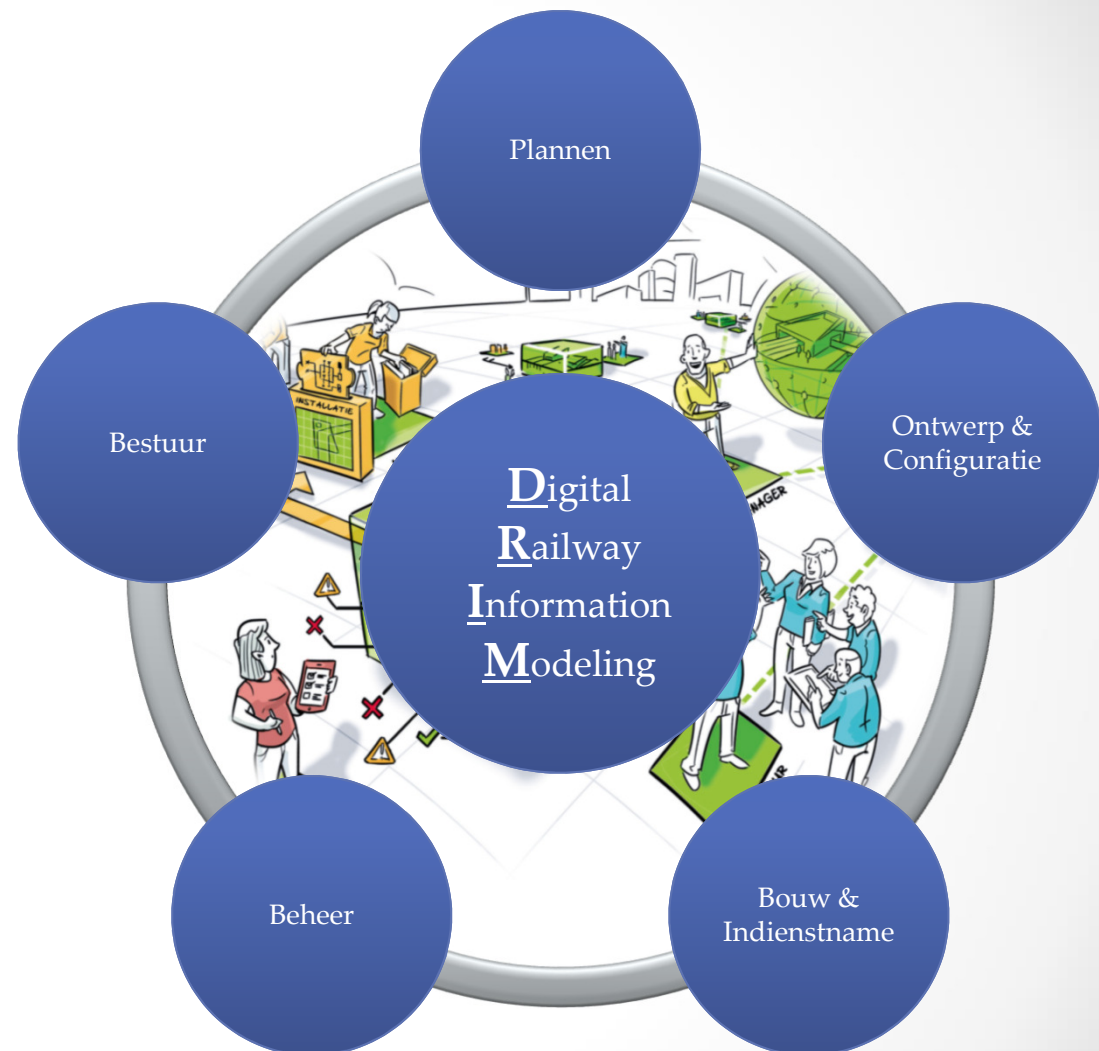
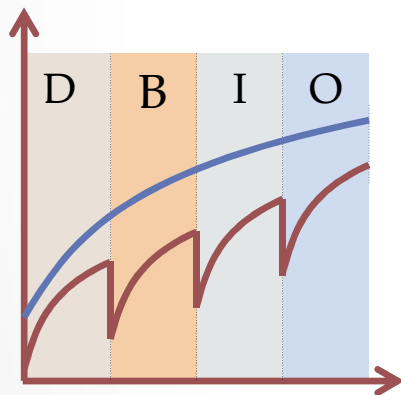
## Onze Visie

De kernprocessen van Infrabel baseren zich op hetzelfde **digitale informatiemodel** van de installaties.



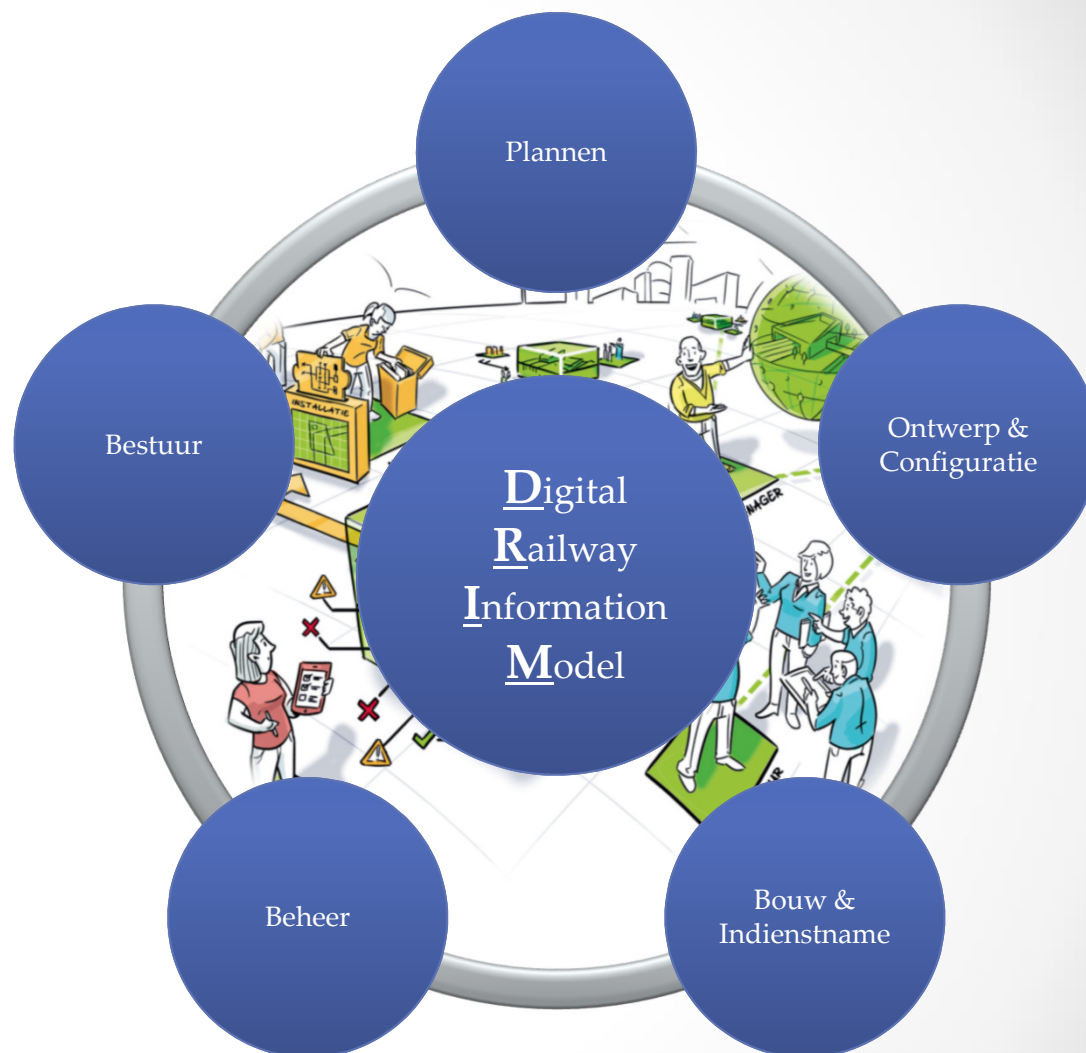
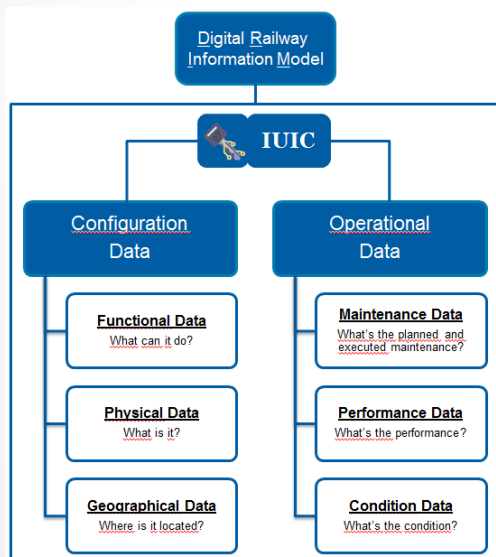
## Onze Visie

Eénmalig vastgelegd aan  
de bron meervoudig  
gebruikt doorheen de  
levenscyclus

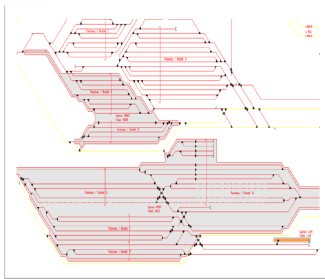


# Onze Visie

Unieke  
Identificatiecode  
ontsluit data



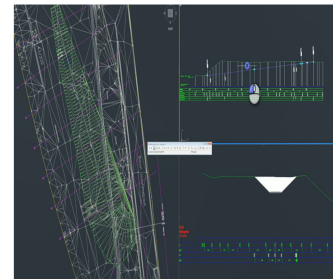
# Voorbeelden BIM Workflow



LT Planning  
Capaciteit



Voorontwerp

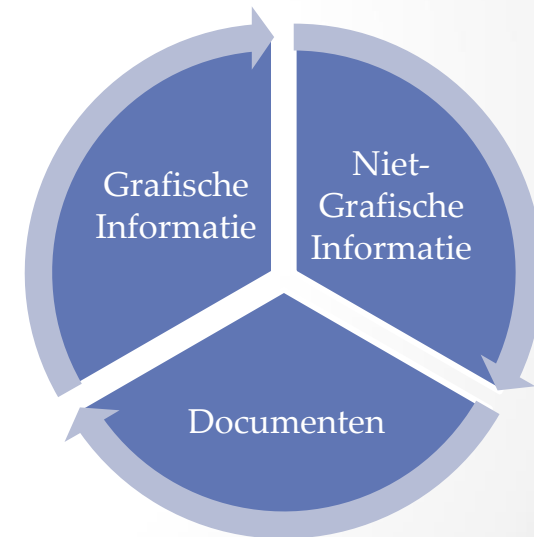
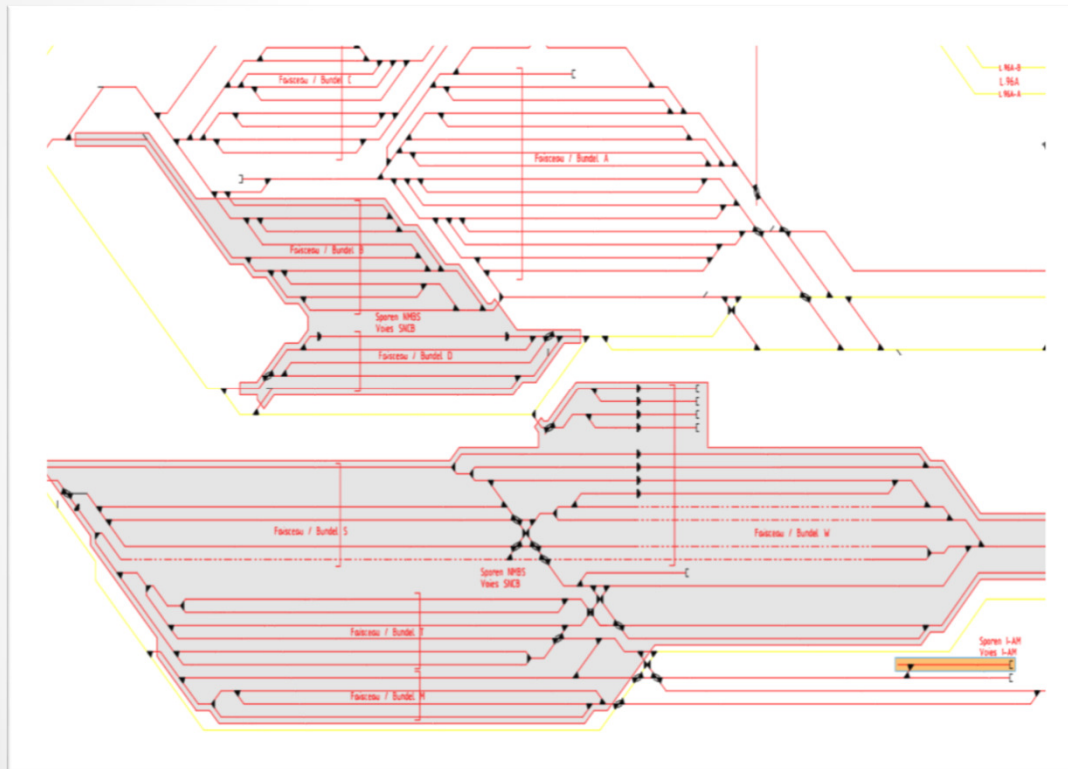


Detail Ontwerp



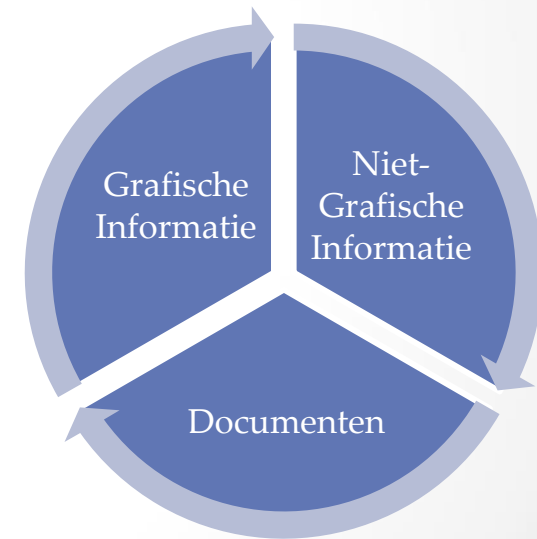
Asset Management &  
Onderhoud

# Lange Termijn Planning Capaciteit



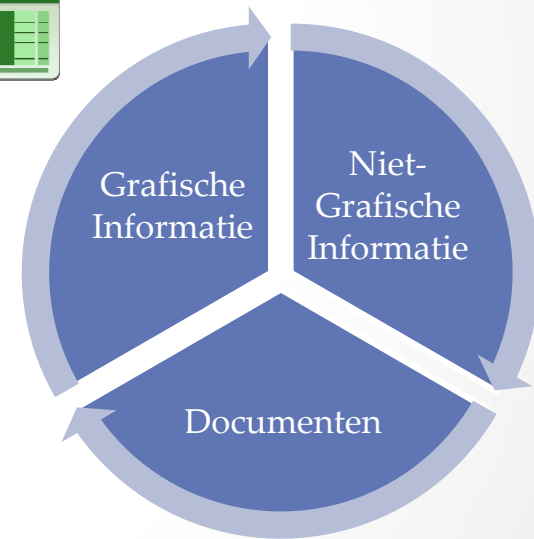
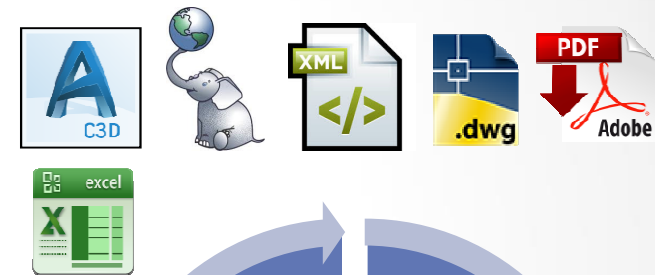
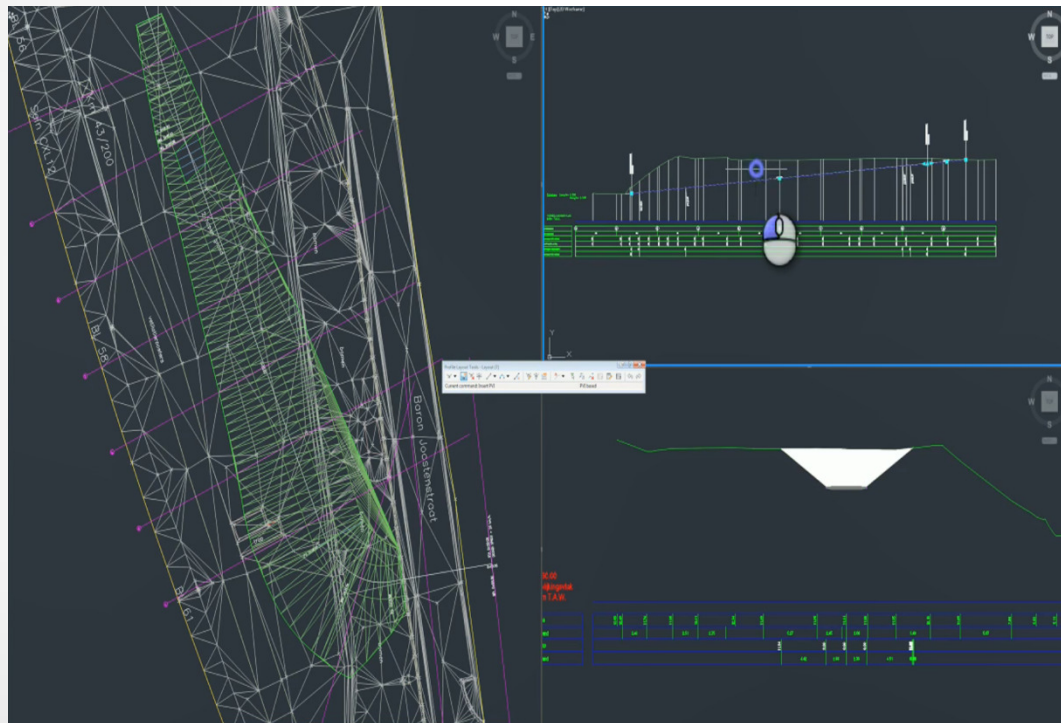


# Design - Voorontwerp



Online Video's

# Design – Spoor

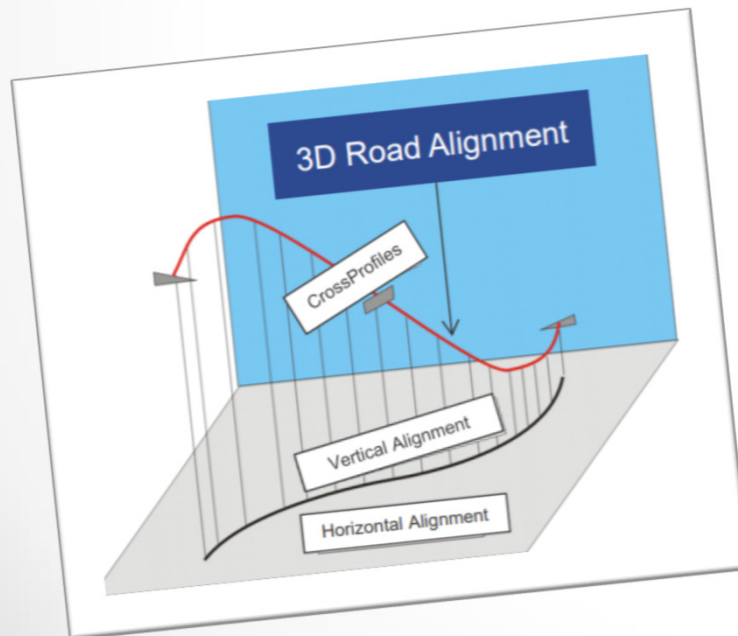
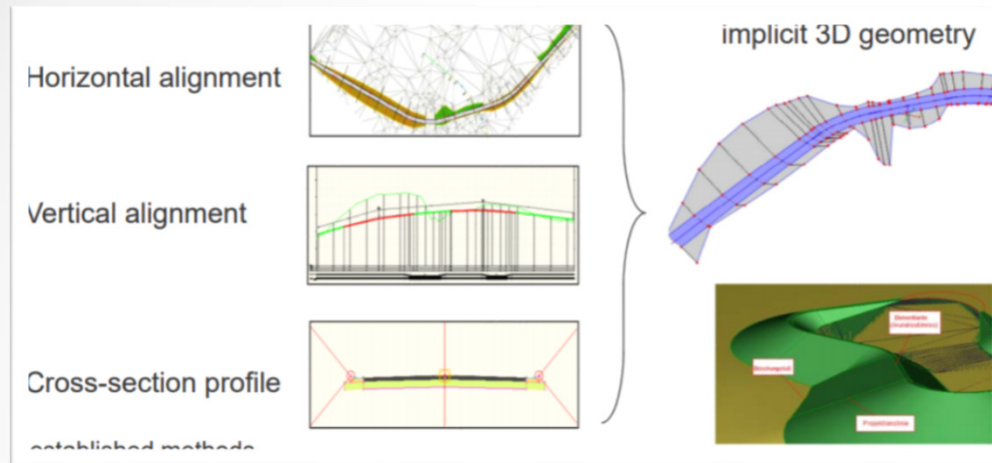


LAND  
xml  
.org



# Design Track Layout

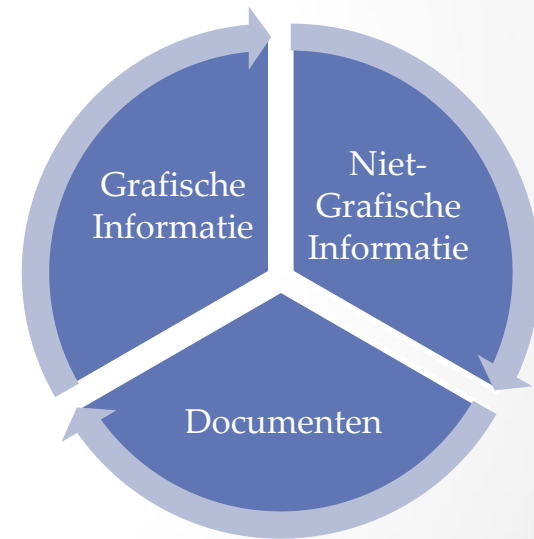
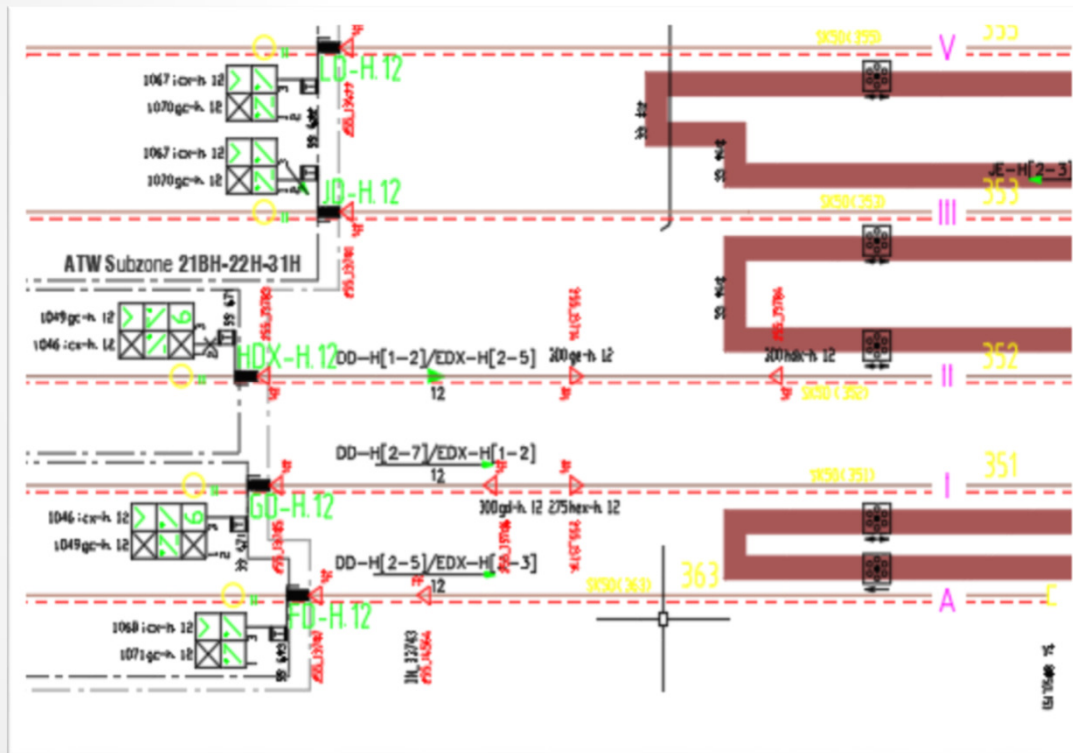
Read LandXML  
& Create 3D Alignment  
using FME



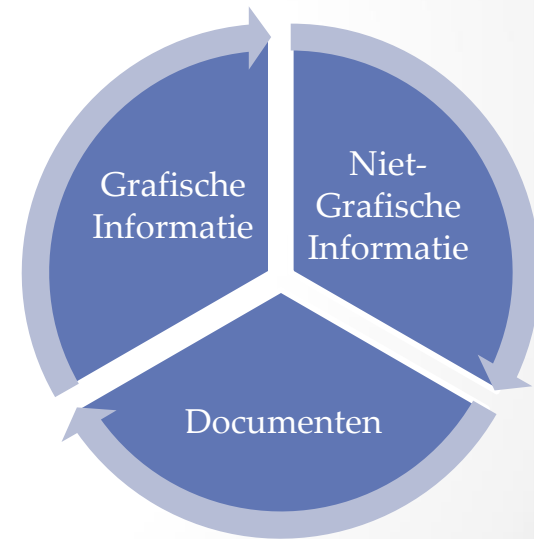
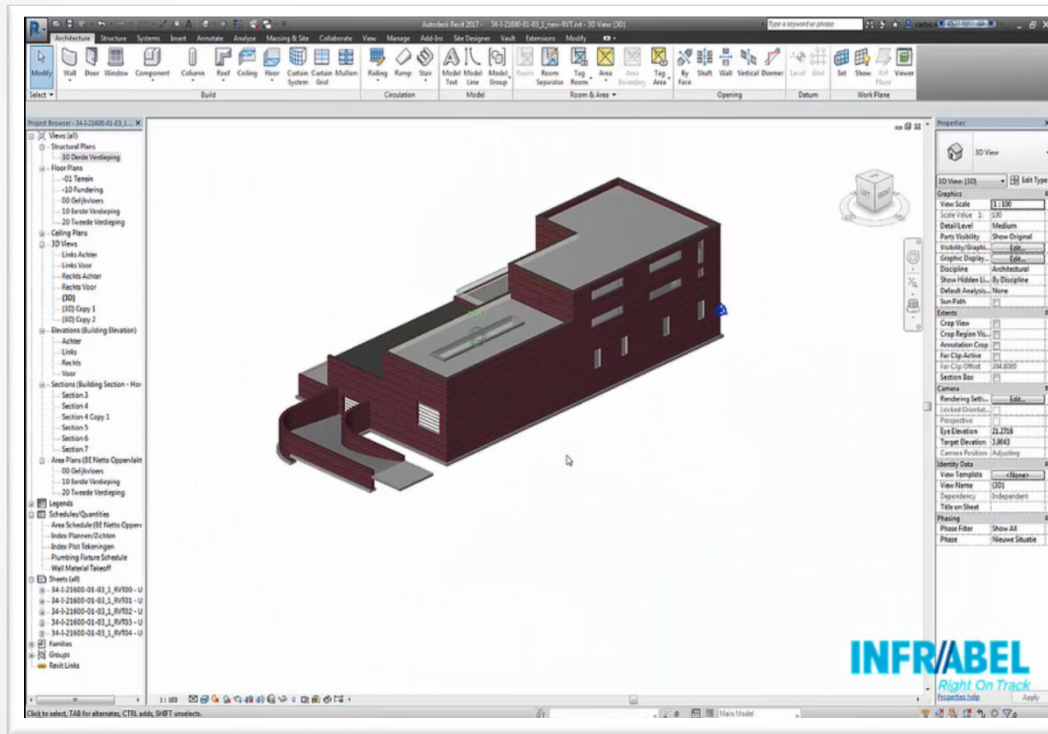
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Design Data 2 Geo Data

# Design - Seinrichtung



# Design - Gebouw



IFC



Online Video

Digitale  
Projectruimte

Linked  
Data &  
Documents

# Uitdagingen

Data  
Toegankelijk

Data op Orde

Design 2  
Geo

Onderhoud

Asset  
Management  
Systemen

Metingen,  
Monitoring

Link?

Link?

Machine  
Leesbare Data

Infra  
Projecten

Interoperabiliteit  
& Standaarden

Machine  
Begrijpbare Data

Data i.p.v. Plan

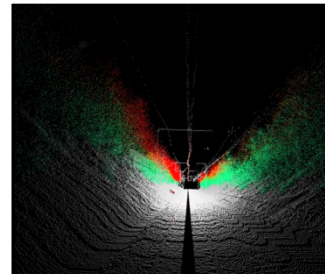
# We need and want to be part of the digital revolution

## MEASURING - MONITORING



Data PQUBE

Stroomcurves Wissel



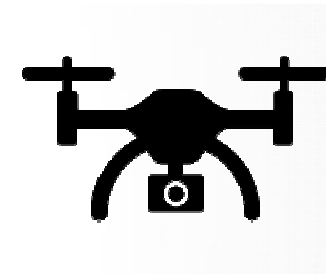
LiDAR Data

Vegetatie rond het spoor



Foto's & Videobeelden

Objectherkenning



Drones

Inspecties

And many more...

## PREVENTIVE & PREDICTIVE MAINTENANCE



Safety



Train On Time



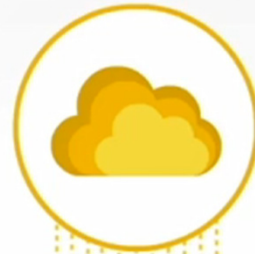
Reduce Cost



Online Video



# Infrabel is building the Smart Railroad



Online Video





**INFR/ABEL**  
*Right On Track*