



Rijkswaterstaat
Ministry of Infrastructure and the
Environment



Results and experiences of BIM use at Highway Expansion Schiphol-Amsterdam-Almere (SAA)

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Content of presentation

- The Schiphol-Amsterdam-Almere(SAA) program
- The Rijkswaterstaat(public client) implementation program.
- Experiences at Schiphol-Amsterdam-Almere(SAA)
- Questions?



**Tree
replanting**



**Noise reducing
asphalt**



Noise barriers



Road widening Schiphol-Amsterdam-Almere

Goal:

- Improve the accessibility and quality of life within the SAA corridor

Expected results:

- Improvement of economic development and employment opportunities in the northern Randstad region with respect of the natural and social environment





Planning

A10 - Oost/ A1 Diemen (completed)

2012 – 2014

A1/A6 Diemen - Almere Havendreef

2014 – 2020

A9 Holendrecht - Diemen

2015 – 2020

A6 Almere Havendreef - Almere Buiten-Oost

2017 – 2020/22

A9 Badhoevedorp - Holendrecht

2019 – 2024/26





A6 Almere Havendreef – Almere Buiten-Oost





A9 Holendrecht – Diemen





A9 Holendrecht – Diemen





Tunnel movie SAA IXAS

Short movie:

Use of BIM model for stakeholder information purpose



Problem/Target

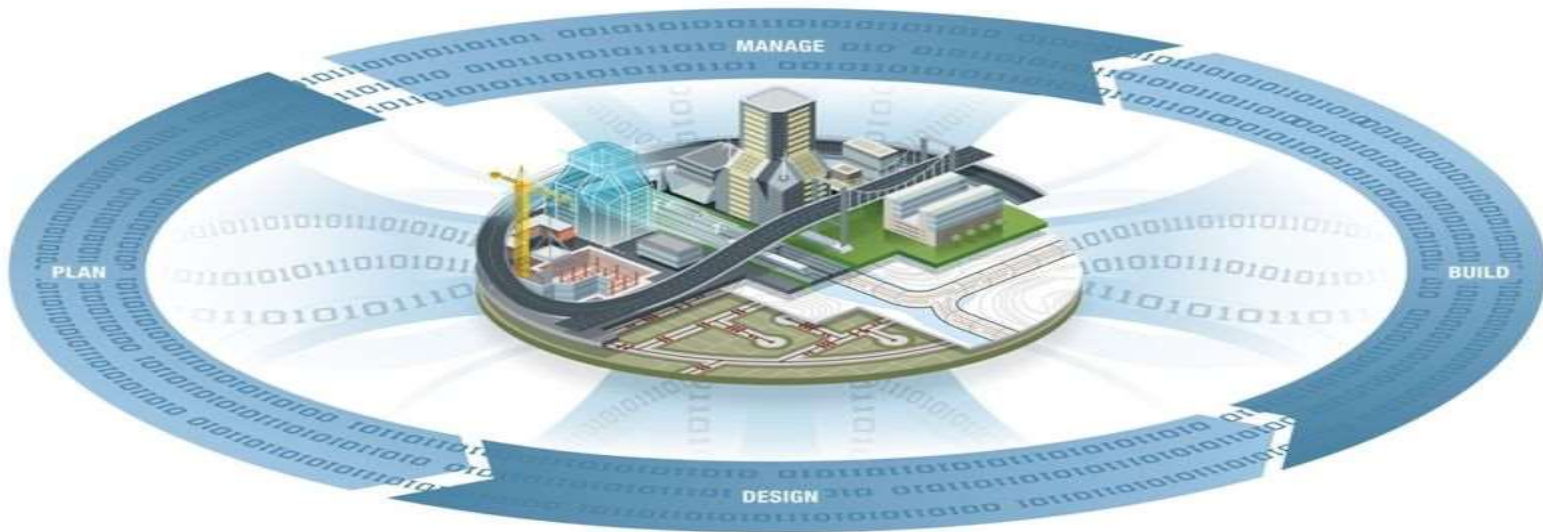
- Data in different ICT-systems during exploitation
- Data in different ICT systems of constructors and clients
- Data exchange often a large/expensive effort





BIM Implementation at Public client as RWS

RWS board decision: *'Start with BIM at 4 DBFM projects, and roll out from 2015 in all DBFM-contracts, Maintenance and planning phase projects'*





- in uitvoering
- in voorbereiding
- ▨ Prestatiecontracten

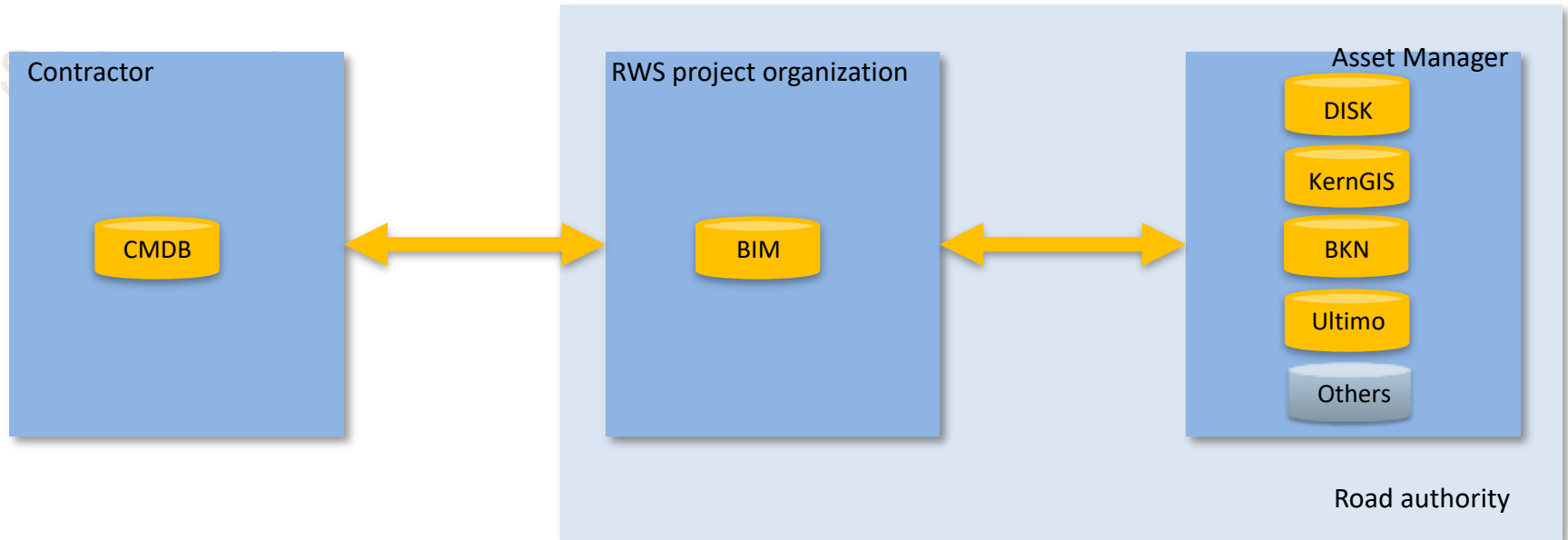
Klik op het project voor meer informatie
 versie december 2015

BIM-projecten

<http://corporate.intranet.rws.nl/BIM>



The BIM proces at Rijkswaterstaat



- Improve collaboration
- Asset information in control
- Information flow in control



How?



ILS



OTL



VISI



COINS

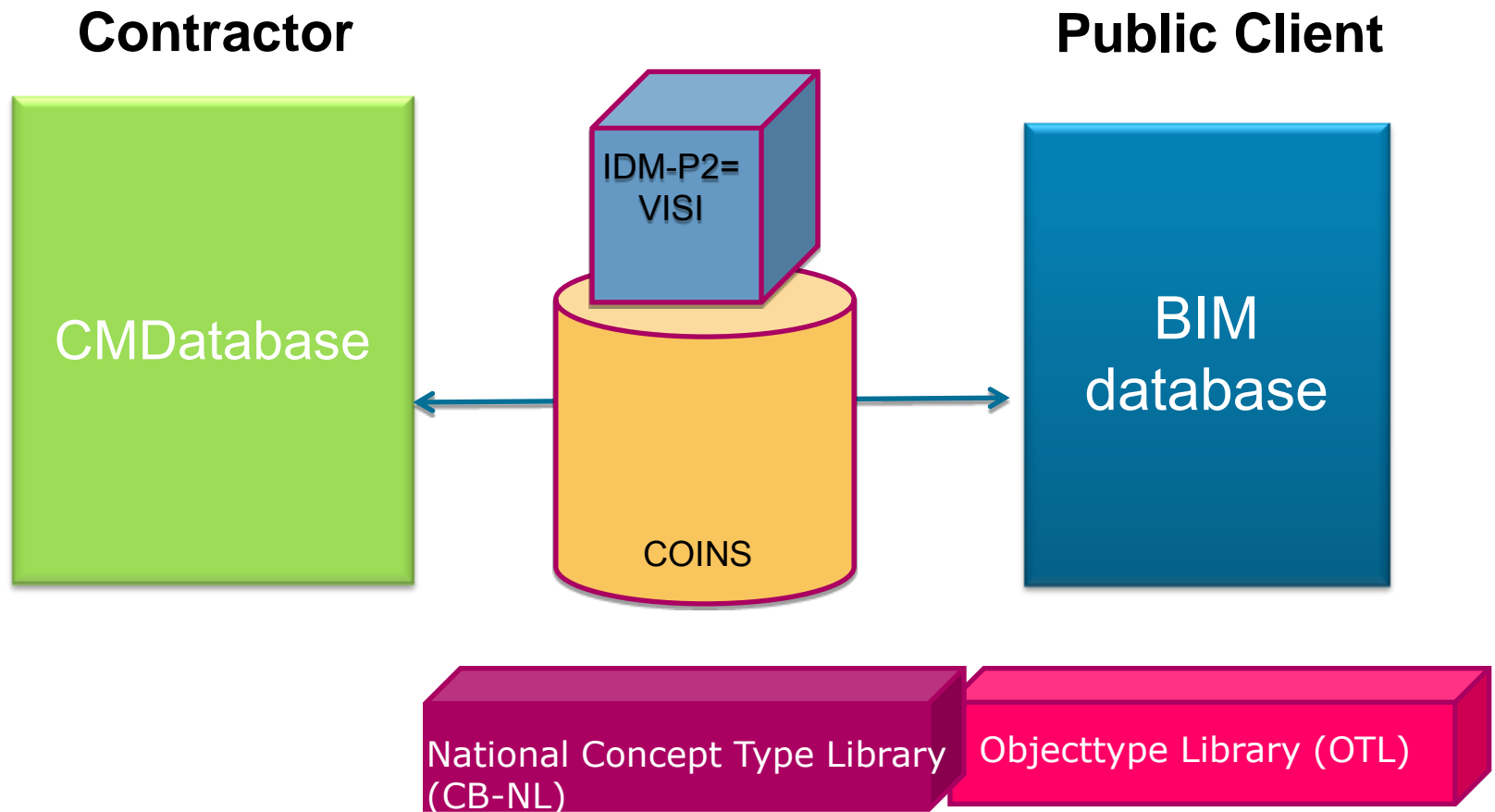
These standards make sure that:

- We use one uniform language
- Structured data transfer
- Clear agreements on how data transfer is executed





Information delivery proces -Focus





Informatie Delivery Specification (ILS) SAA A6 - Almere

- ILS part of contract
 - General aspects on information formats, standards, structure, norms
 - Delivery proces
 - Quality of the information
- Contractual obligation to except new OTL version on a yearly basis



ILS Example of DBFM contract: appendix 9



ILS



The screenshot displays a web-based GIS application. The main window is titled "CBS Server - Map / wmv@bruggen.nl". The interface is divided into several sections:

- Entity Browser:** A tree view on the left showing a hierarchy of objects. The selected object is "Vaste Brug" (Fixed Bridge) with ID "vKunstwerk-11621".
- Map:** A central map view showing a 3D model of a bridge structure over a waterway. A tooltip for "vKunstwerk-11621" is visible, showing "Naam: Brug" and "Beschrijfklass: -".
- Entity details of 'vKunstwerk-11621 / Brug':** A panel on the right showing metadata and aggregated properties. The "Aggregated Properties" section is expanded to show "Vaste Brug" with the following details:

Property	Value
Aantal overspanningen	No value defined.
Behouder	RWS West-Nederland Noord
Belastingcoefficient	No value defined.
Belastingklasse	No value defined.
Belastingklasse (tijdelijk)	No value defined.
Constructiebreedte (maximaal)	No value defined.
Constructiebreedte (minimaal)	No value defined.
Datum aanleg	04/27/2011 23:00:00
Datum opname geometrie	06/30/2011 23:00:00



SAA experience SAA A1-A6, A9-GDW en A6-Almere

Implementation at the A1/A6 project was hard work but today we are receiving a three monthly delivery according to our Information delivery specification(ILS)

Contractors are used to our requirements (standardisation)

Project teams are trained and projectmanagementteam on board

Improvement of contract specifications(OTL and ILS)

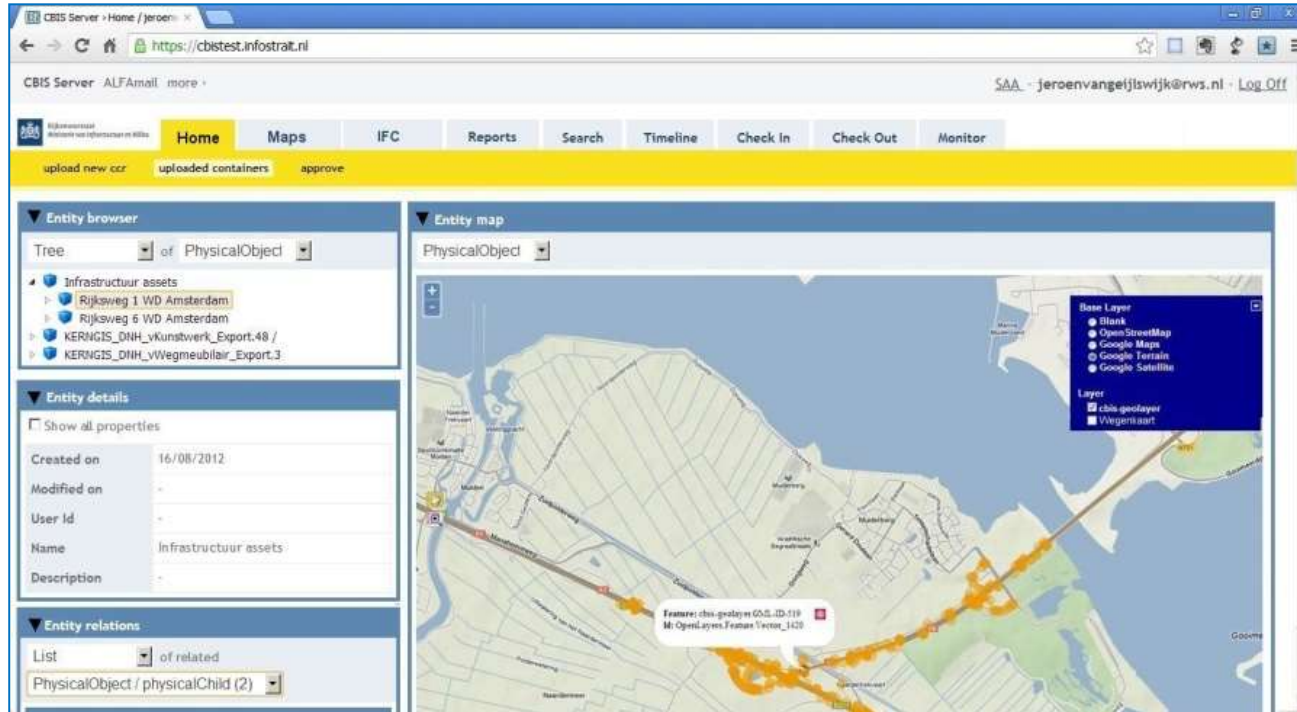
Challenges: Asset management
Outdated specs in first DBFM contracts





Information in control, for today and tomorrow

- Thank you!





QUESTIONS?