



Bentleyuser.dk ÅRSMØDE 2010 Vejle, 08.+09.11.2010

Bentley Plant Update

Carsten Gerke
Senior Sales Director
Bentley Plant EMEA



- **General news**
- **Update on OpenPlant**
- **Introducing AssetWise for Plant**

Bentley Plant – How is the business...?

- 2010 results
 - Crisis is over!
- Bigger additions to the community (just to name a few prominent ones...)
 - ProjectWise
 - Norsk Hydro
 - Rosneft
 - TGK-1
 - Aker
 - Rosatom St Petersburg (plus additional big MicroStation invest)
 - ABB
 - PWT
 - Plant Applications
 - Shell HH (Isometrics)
 - Buhler (Design ++)
 - EnBW, ConocoPhillips (PID)
 - Transneft (AP), Graintec (PSDS)
 - Structural
 - Sørco
 - Energoprojekt Kattowice

Bentley Plant – What's new

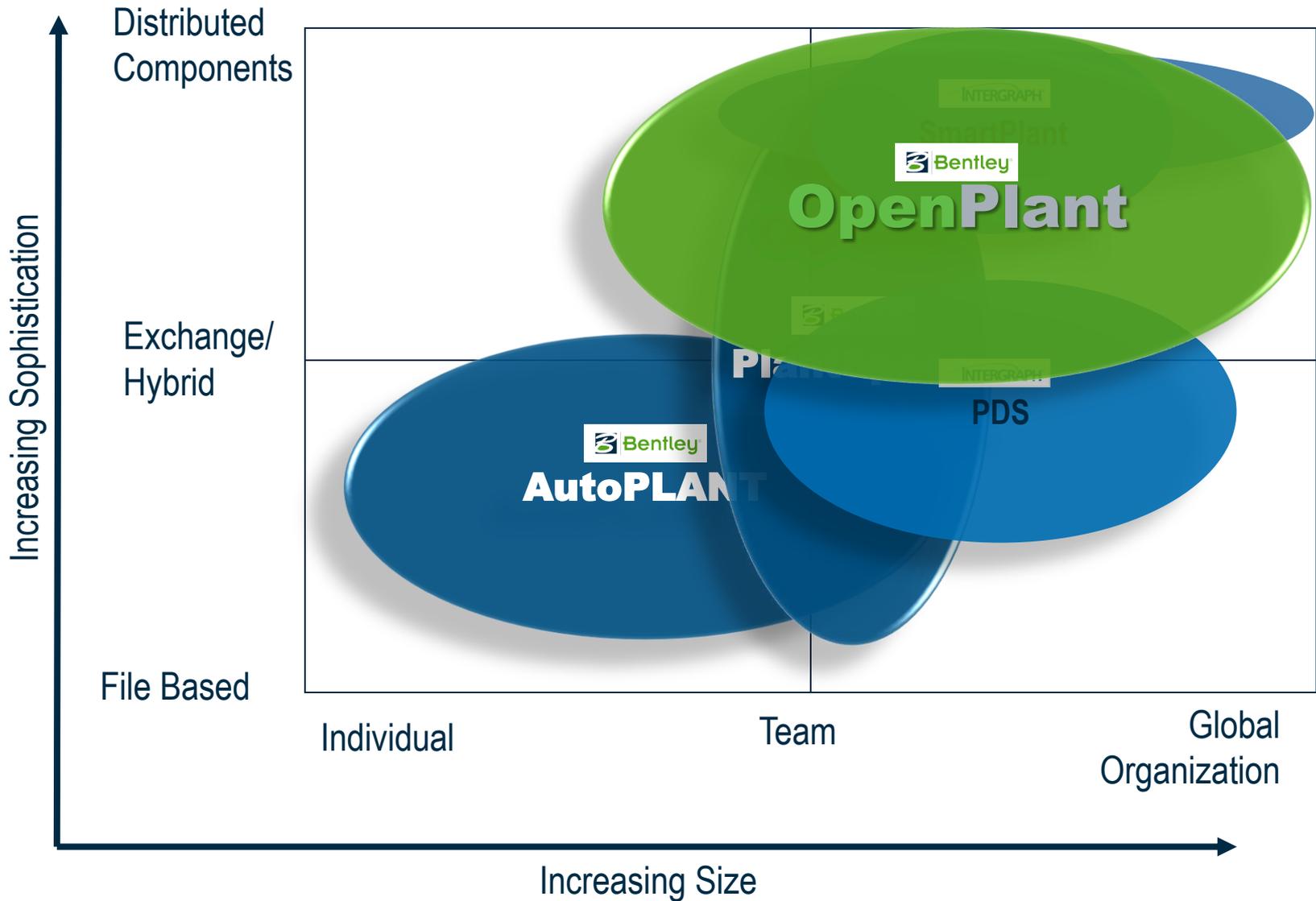
- New acquisitions
 - Exor
 - Enterprise Informatics

=> Both forming the backbone of our AssetWise strategy
- New products
 - Bentley Raceway and Cable Management
 - ProjectWise Dependency Services
 - OpenPlant Physical Design Suite released
- New licensing
 - Passport Subscription for a wide range of our portfolio
- New Services
 - ProjectWise Prepackaged Services
 - Bentley OpenPlant BestStart Services
 - Earley Acces Programs

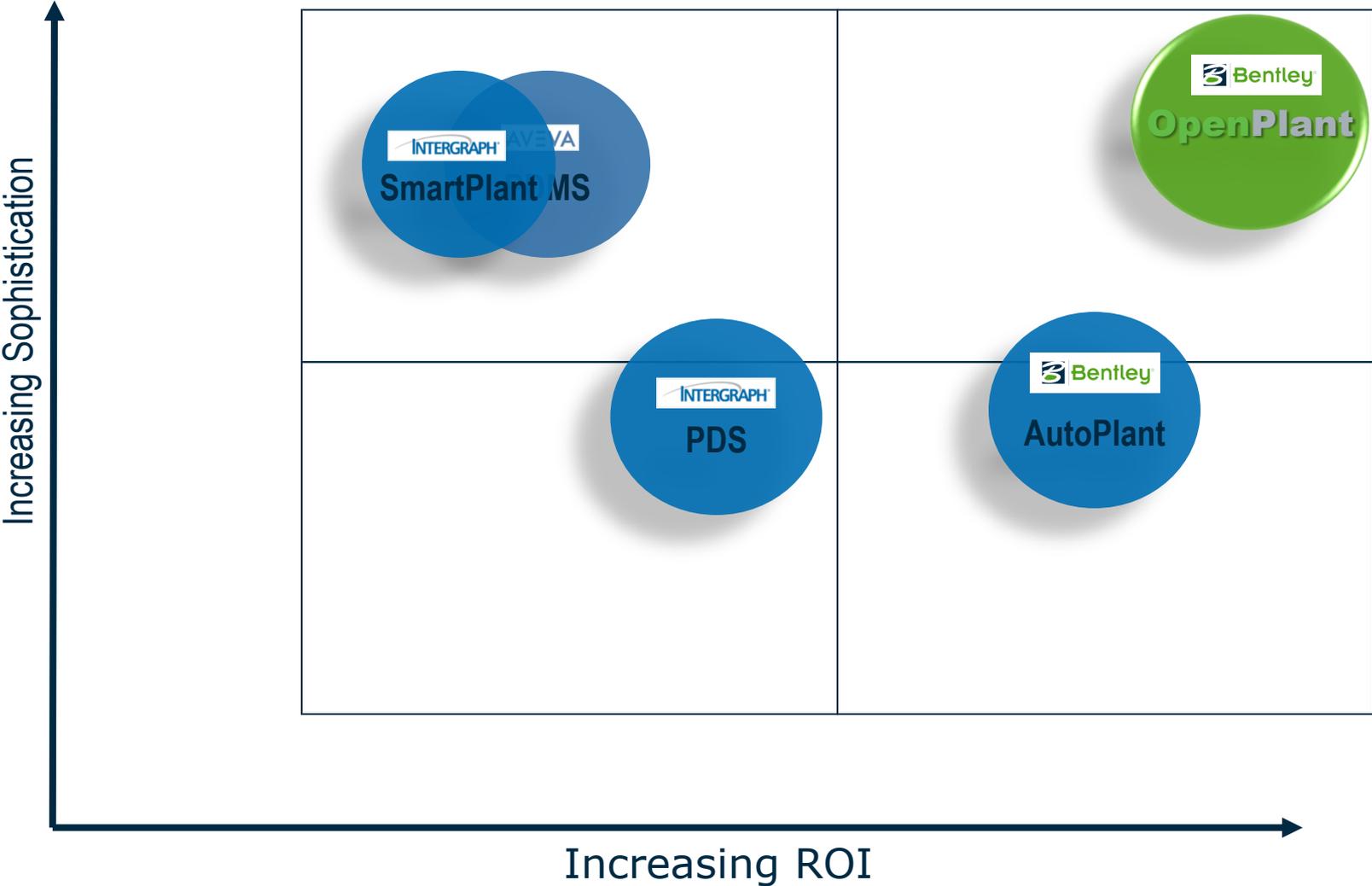


OpenPlant

3D Market Analysis



3D Market Analysis



A silhouette of an industrial plant with several tall chimneys and complex piping, set against a bright orange and yellow sunset sky. The plant is dark, with some lights visible at the base.

Evolution of Plant Design...

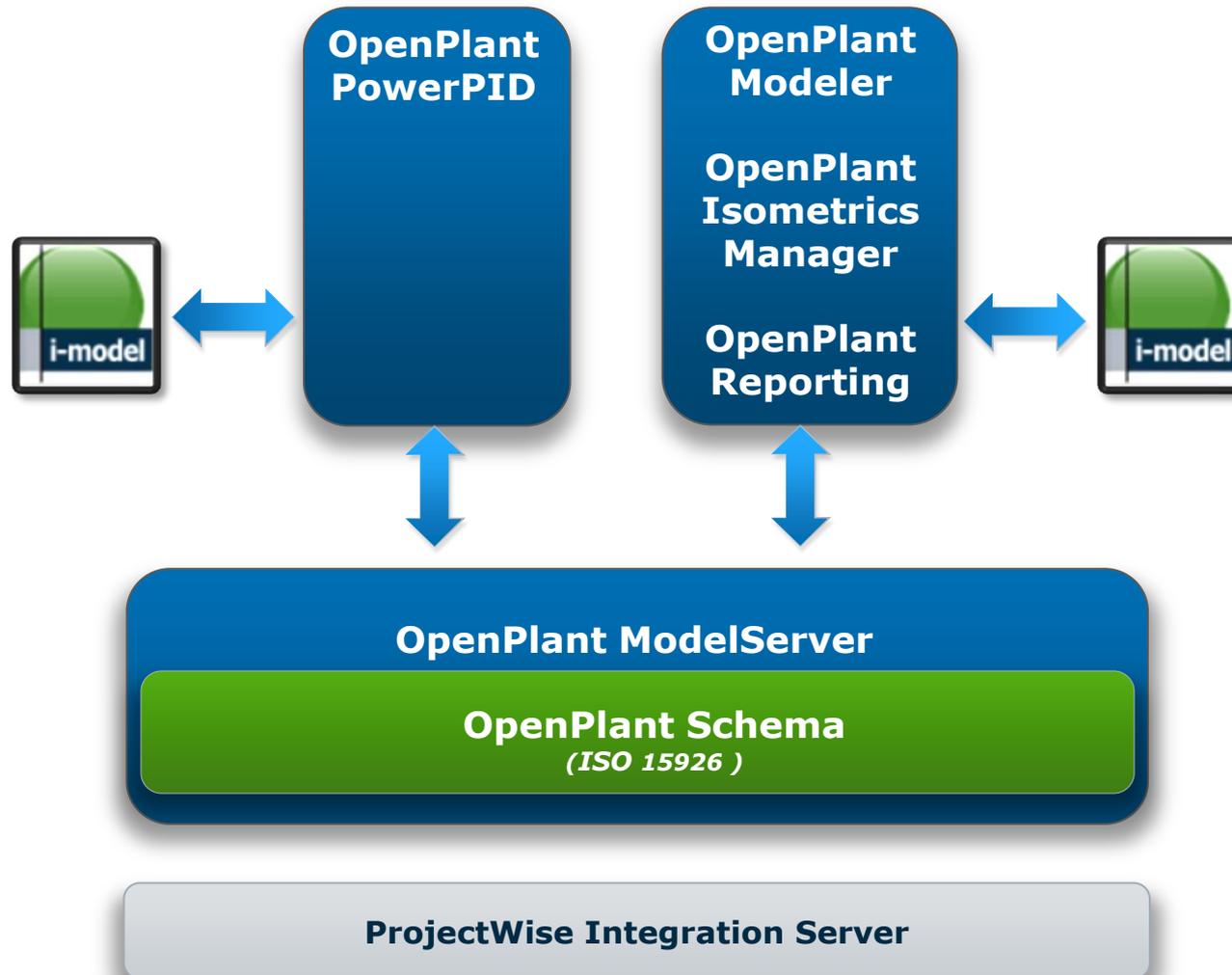
Bentley OpenPlant

When we started in 2008 ...

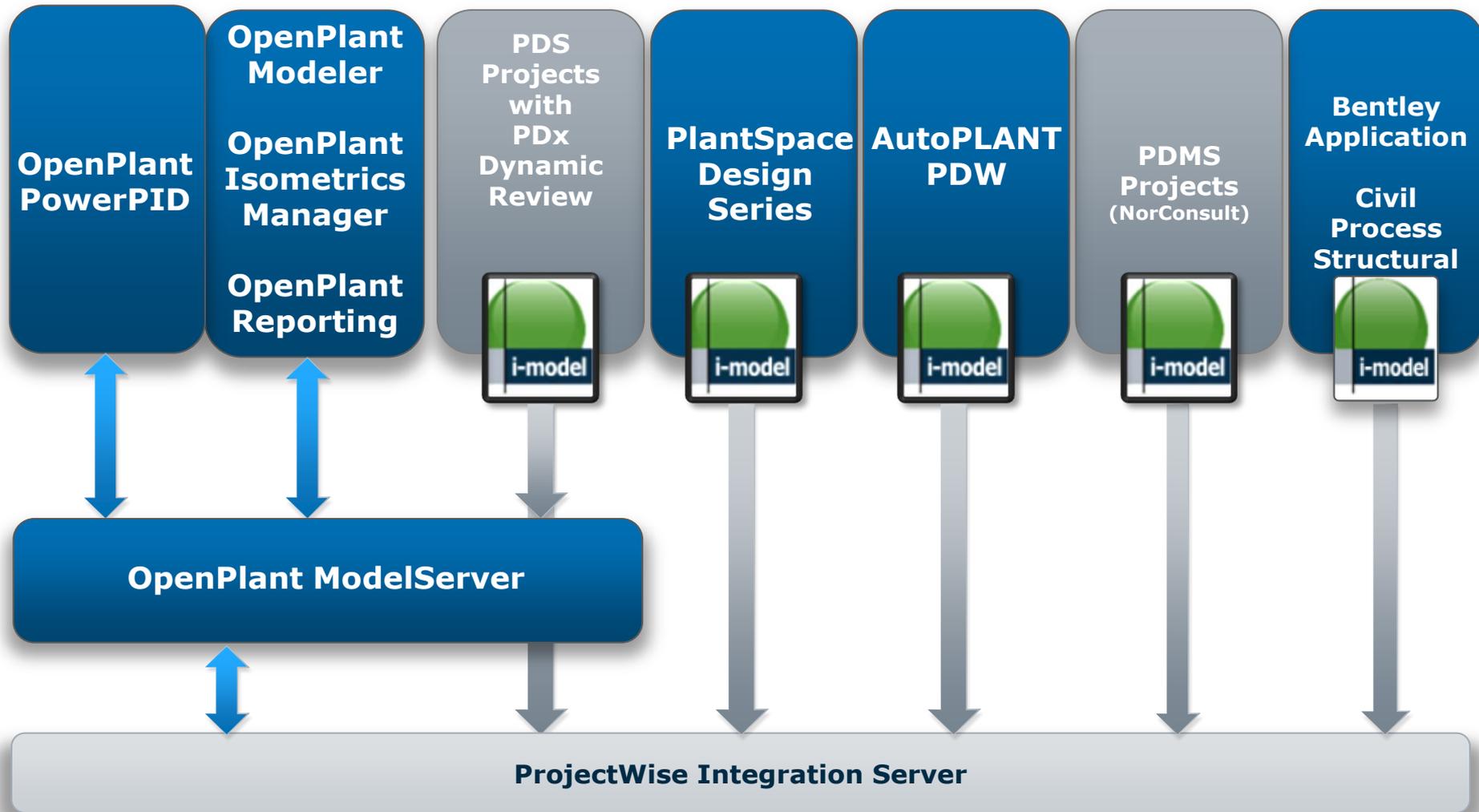
- Support globally-sourced, loosely coupled projects at an affordable cost
- Use open standards to provide real interoperability between all project participants
- Increased end-user productivity
- Reduce the time to implement and learn
- Deliver greater return on investment in information
- Lower overall cost of ownership

Bentley OpenPlant™

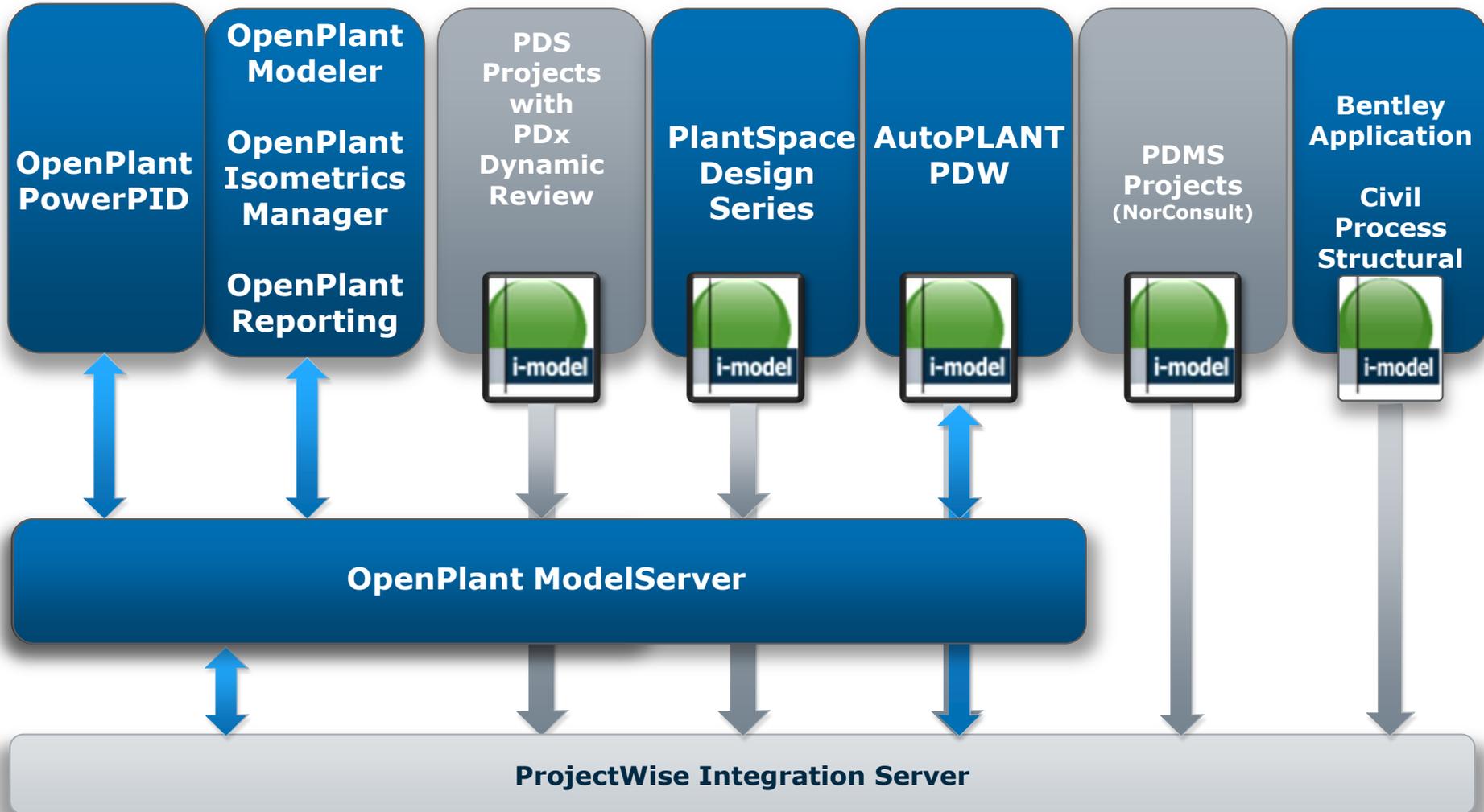
OpenPlant Interoperable Environment



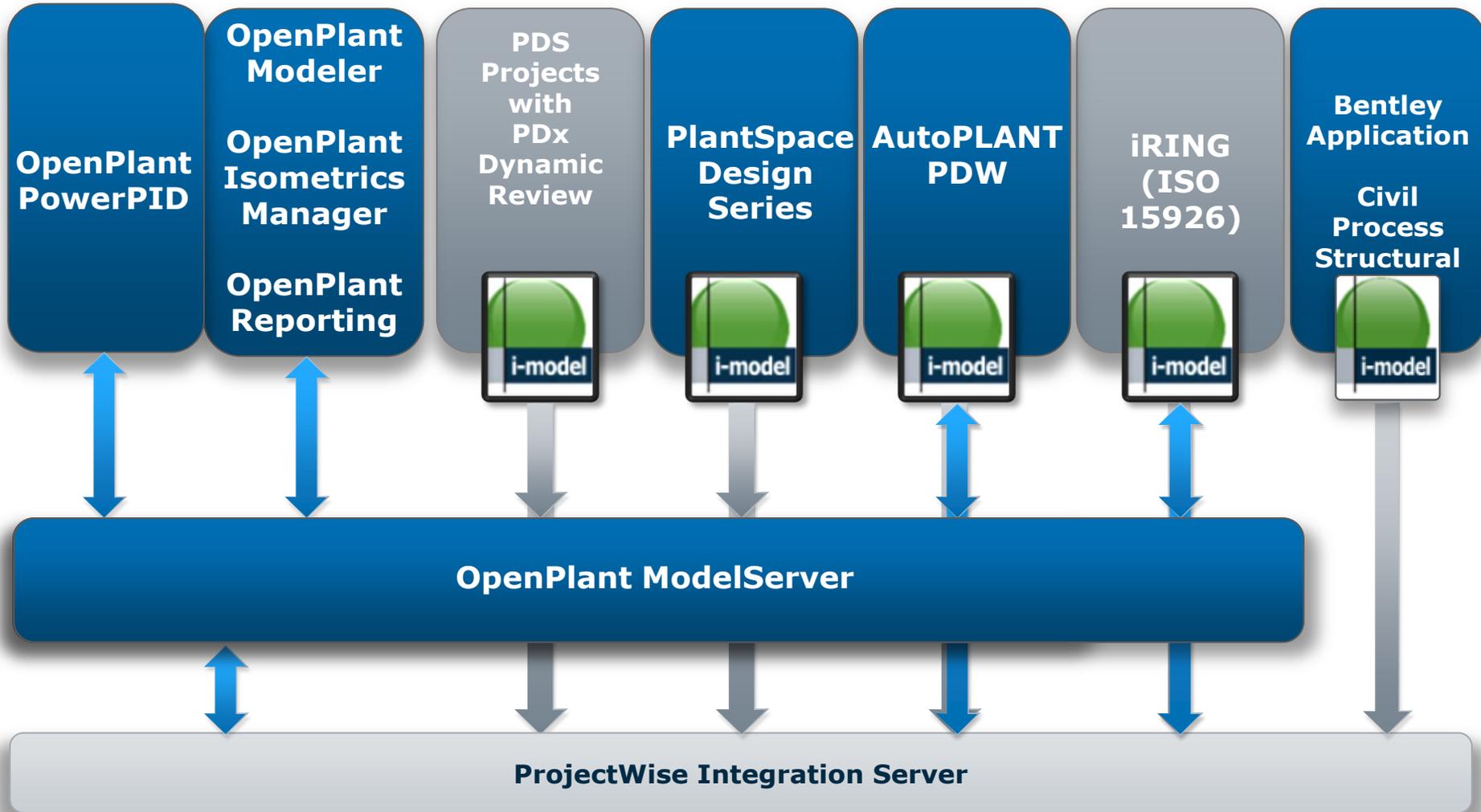
OpenPlant Interoperable Environment



OpenPlant Interoperable Environment



OpenPlant Interoperable Environment



OpenPlant – where do we stand

- Jan 2010
 - Usability lab in Munich
- April 2010
 - Early Access Program (controlled beta)
 - Power/Food/Chemical
 - Europe and US
- August 2010
 - Product release of OpenPlant Modelserver, OpenPlant Modeler and OpenPlant Isometric Manager
- Activities
 - pilots
 - Studies
 - Active usage

Bentley OpenPlant Applications NOW!

The Growing **OpenPlant** Family

OpenPlant
Power PID

ProjectWise
PDx Dynamic
Review

OpenPlant
Modeler

OpenPlant
Model Server

OpenPlant
Isometrics
Manager

*OpenPlant
Reporting (No
Charge)*

Practitioner Passports

Note: All prices shown in DKK

Process engineer
for FEED
Passport
Subscription

Designer for PID
Passport
Subscription

Designer for Layout
during FEED
Passport
Subscription

Designer for Piping
Passport
Subscription
(OpenPlant)

Mechanical
Engineer for Piping
Passport
Subscription
(OpenPlant)

Next Steps to Offer You

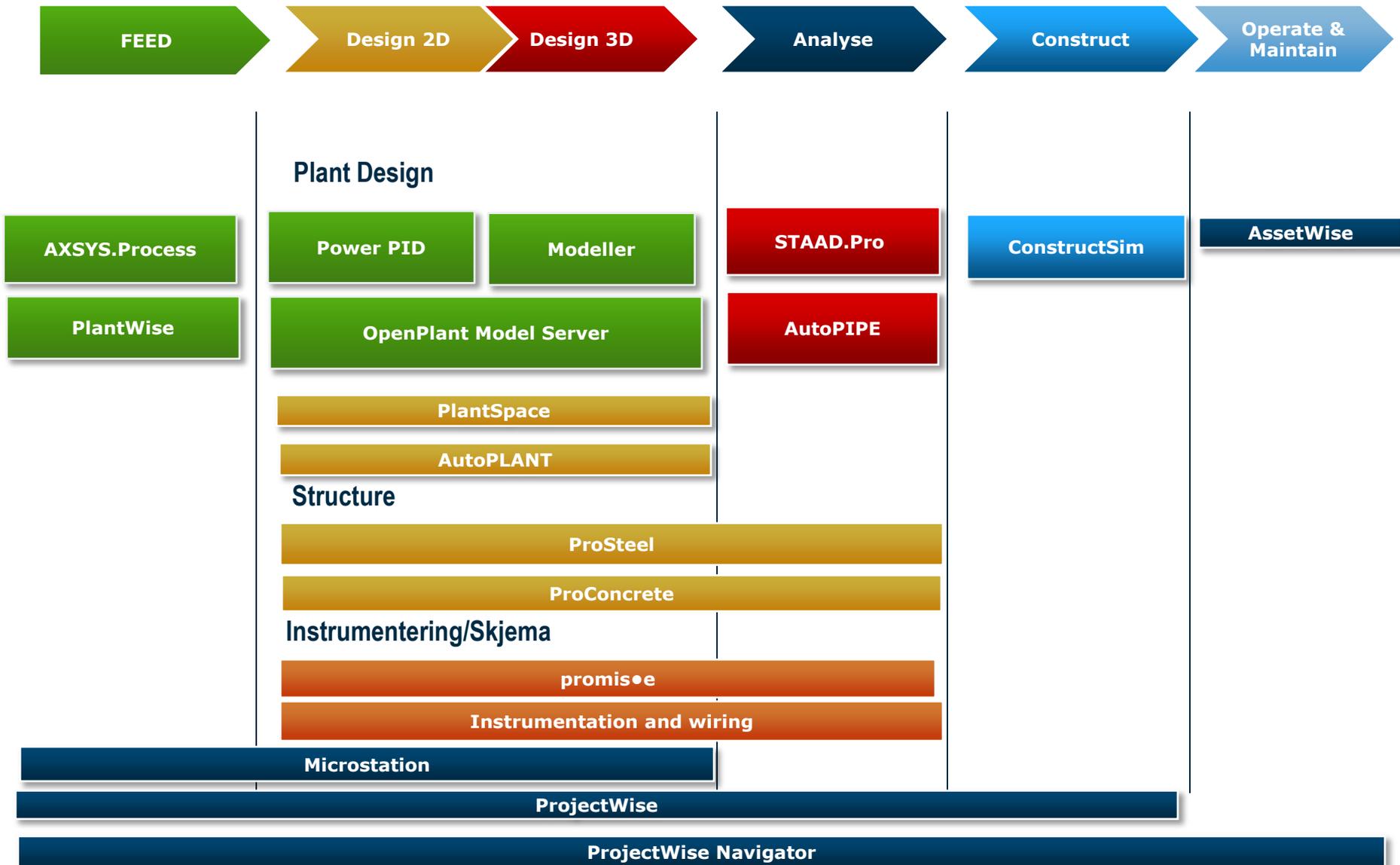


OpenPlant – Migration path for existing users

(note: These offers are valid 2010 and 2011 and are subject to change)

- ProjectWise
 - Special offer for quick-starting ProjectWise
- OpenPlant ModelServer
 - Under SELECT **one** OpenPlant ModelServer will be granted
 - SELECT fees apply
- OpenPlant Modeler
 - Max (Bentley Piping; AP/PS Equipment) = # of OpenPlant Modeler
 - SELECT fees apply
- OpenPlant Isometrics Manager
 - Isoextractor licenses will be swapped 1:1 (new SELECT will be applied)
 - If Isogen is used then for every 5 seats of Bentley Piping with Isogen 1 license of OpenPlant Isometric Manager will be granted (SELECT fees apply)

...and of course not only OpenPlant!



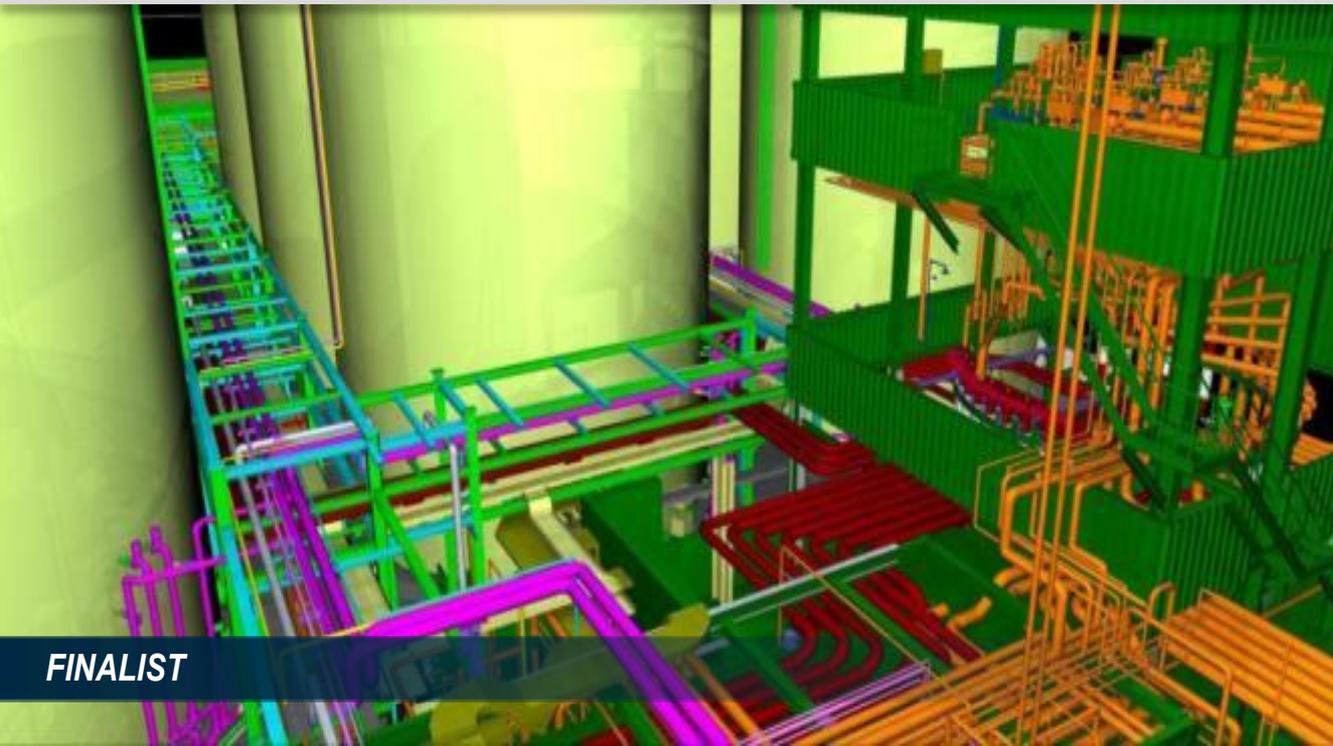


FINALIST

Grontmij Industry

Fully Automatic Production Unit for Sika

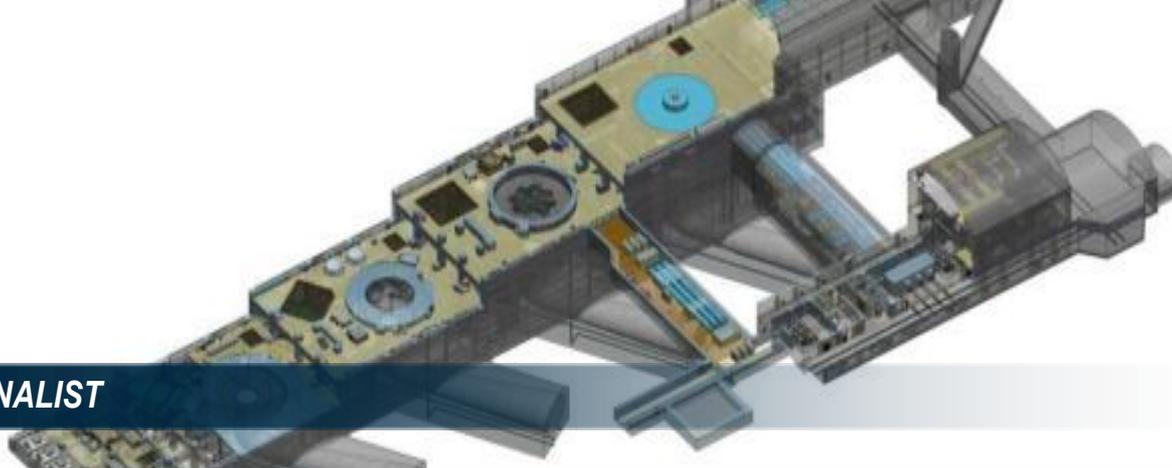
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Royal Haskoning Industrial Engineering

Vopak Tank Terminal Expansion Project



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ECIDI

Pumped Storage Power Station



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Engenix Engenharia S.A.

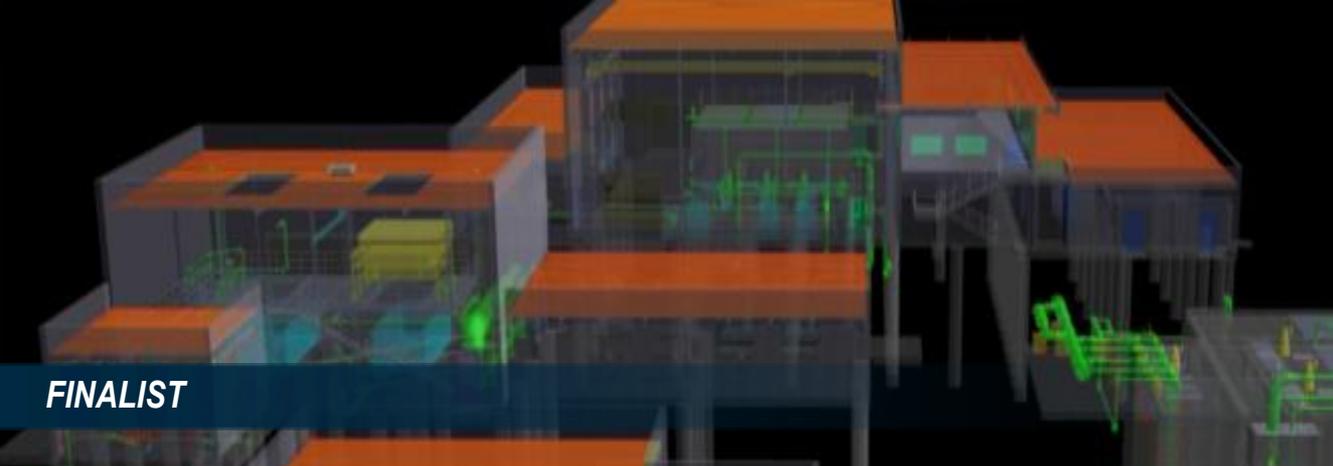
Hydro Power Plant São Domingos



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ESI Inc. of Tennessee

Department of Energy - Biomass Cogeneration Facility



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Carollo Engineers

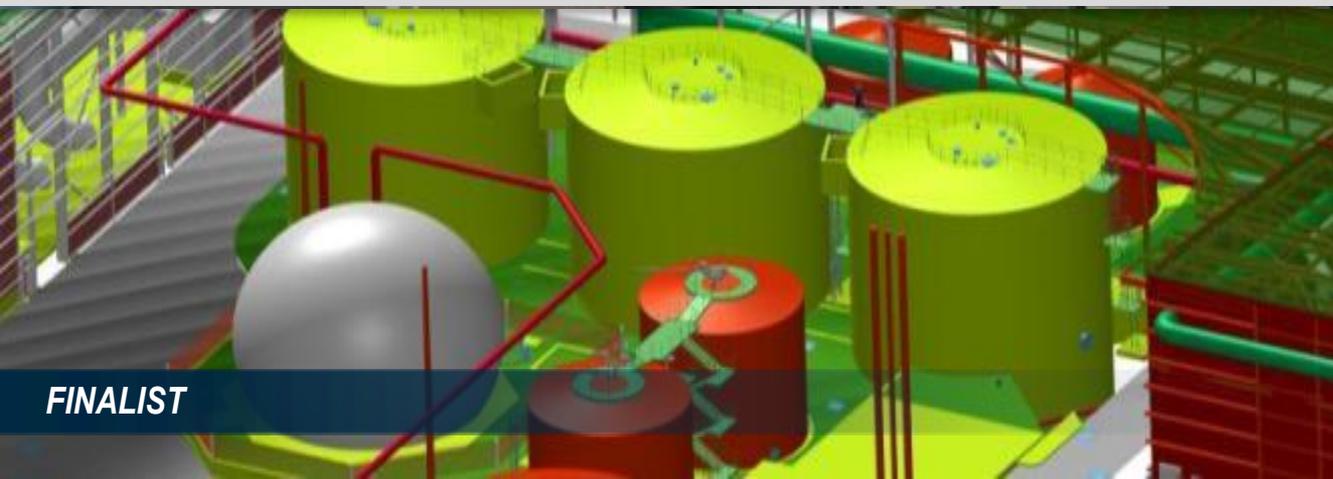
Ak-Chin Indian Community
Water Reclamation Facility



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Carollo Engineers

Denver Metro Wastewater
Reclamation District



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MWH Global, Inc.

Brighton and Hove WWTP



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Aurecon Hatch

Wiggins Island Coal Terminal



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Bechtel Australia



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PDC Consultants

Brockman Syncline No. 4 Project

WINNER: Innovation in Structural Engineering



Arup Singapore

Marina Bay Sands Integrated Resort

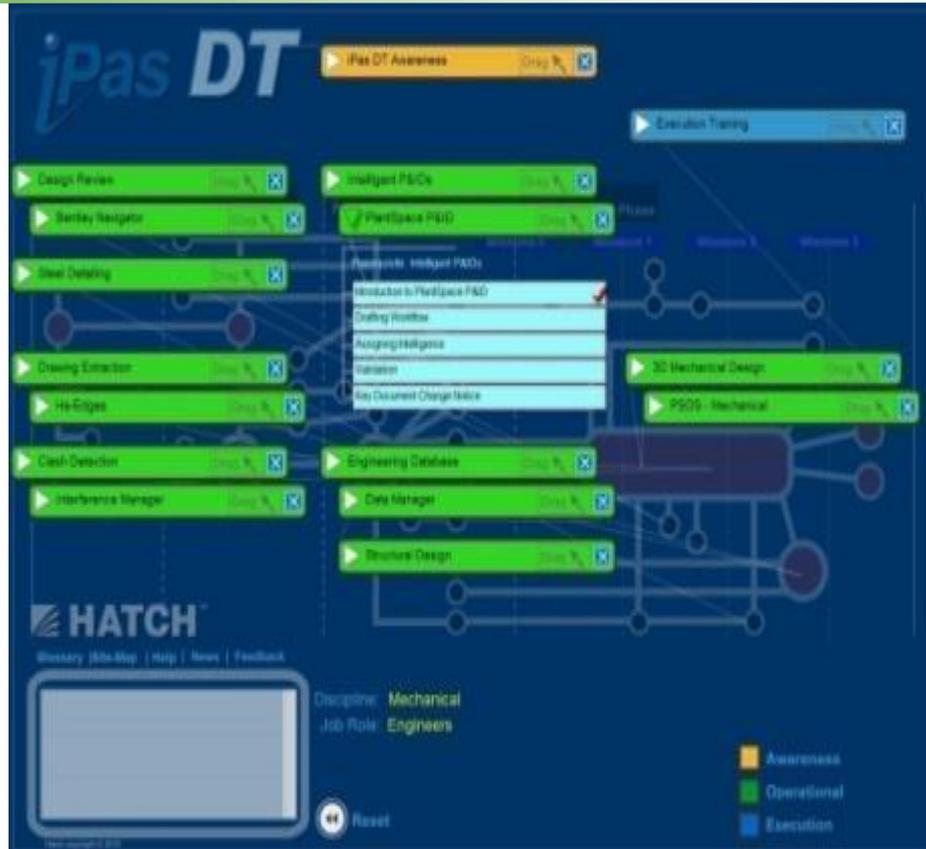
WINNER: Innovation in Construction



PT McDermott Indonesia

Cuu Long Su Tu Vang Project

WINNER: Sustaining the Professions



Hatch

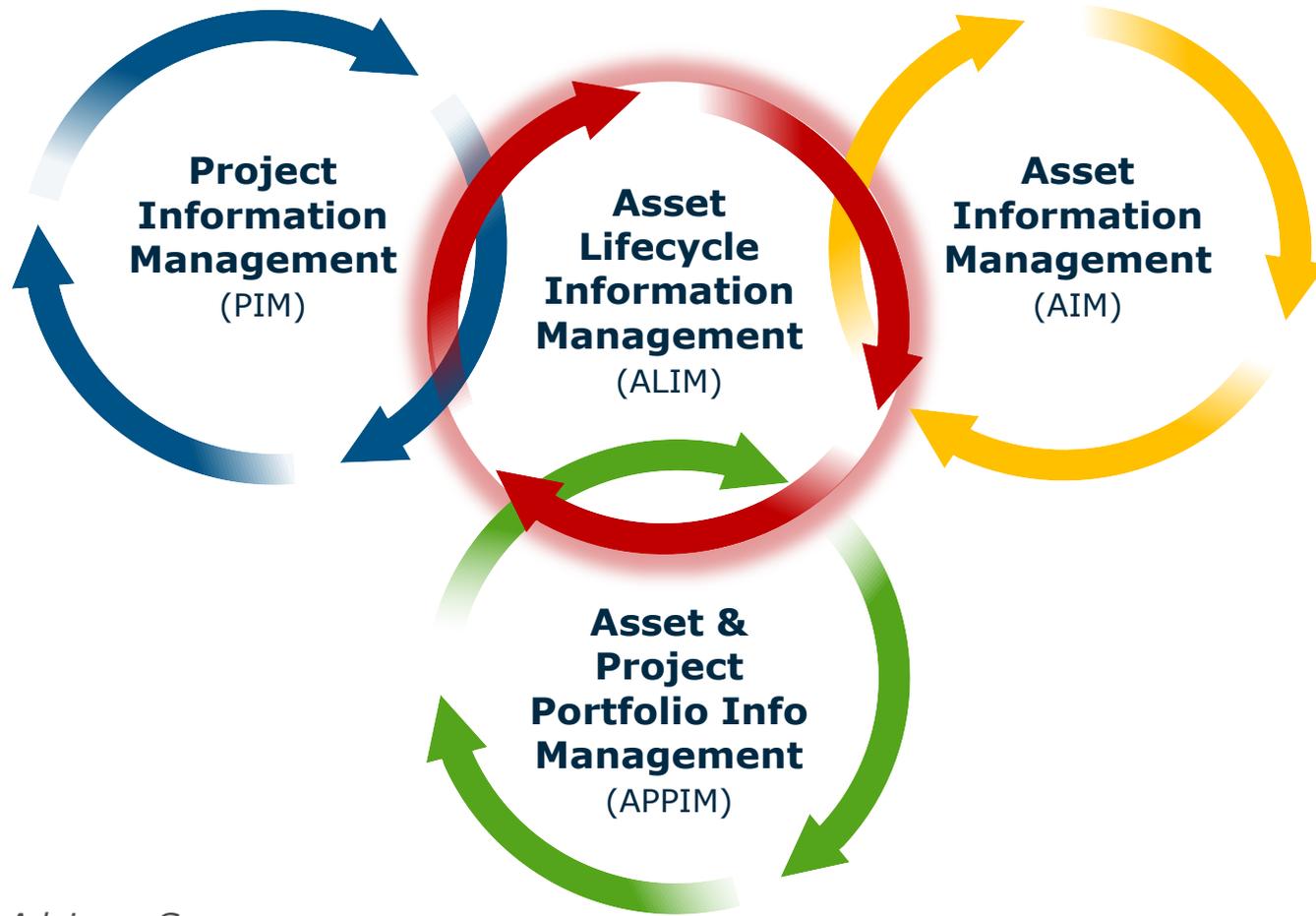
iPasDT Sustainable Training Initiative



Asset Lifecycle Information Management: Managing your Capital projects and Operations with Bentley solutions

Carsten Gerke
Senior Sales Director
Bentley Plant EMEA

Asset Lifecycle Management - Spanning Project / Asset Cycles



Source: ARC Advisory Group

Information Management Strategies for Asset Lifecycle Management, January 2010

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Bentley's Solutions Span Project/Infrastructure Asset Operations

**Project Performance
Management**
(Design & Build)



**Asset Performance
Management**
(Operate & Maintain)



Bringing new assets on stream
within cost, time, quality constraints

ProjectWise

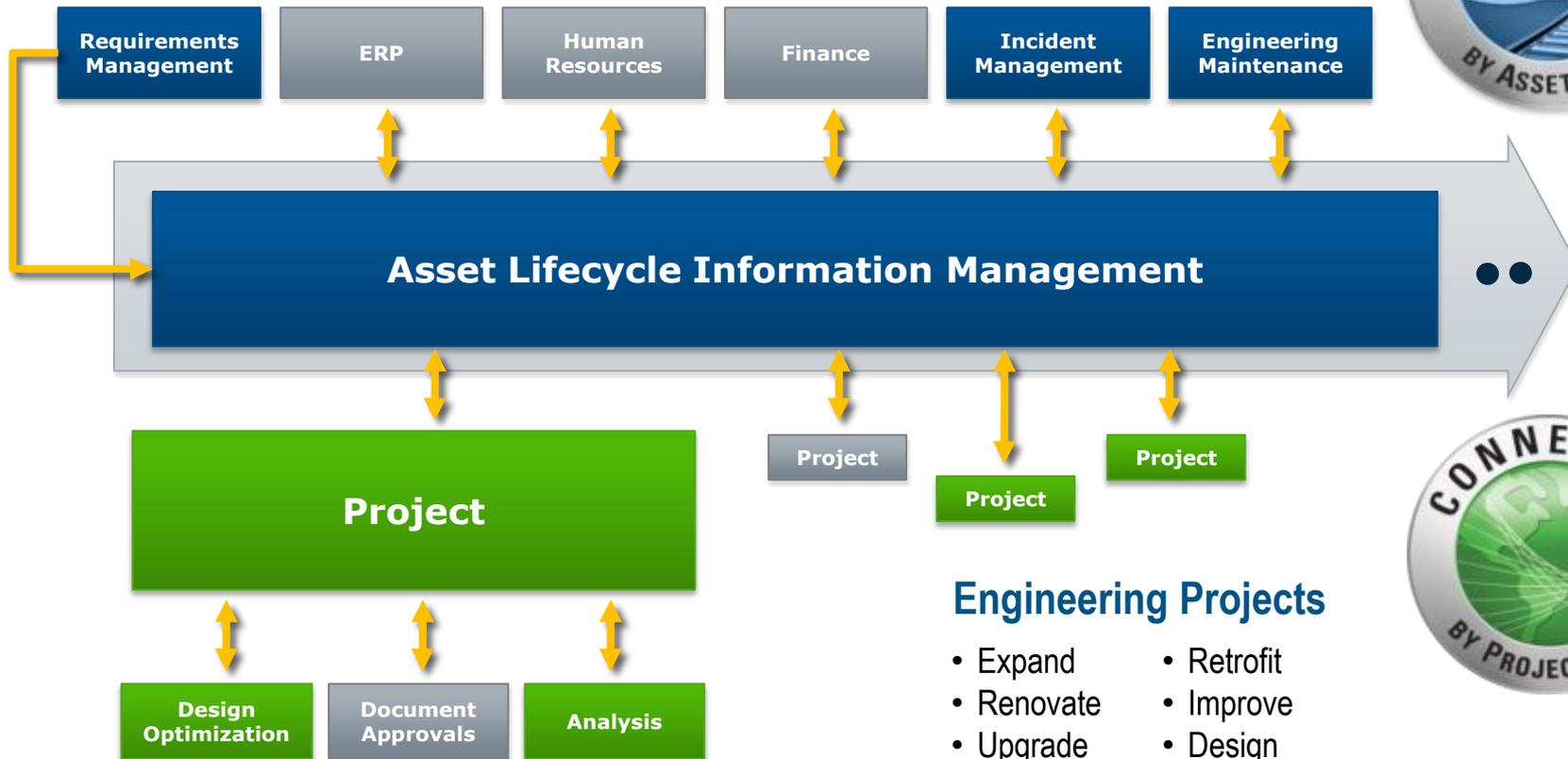
Optimizing return on assets - ensure
they perform safely and profitability

AssetWise

Infrastructure Asset Operations

Asset Operations

- Maintain
- Repair
- Compliance
- Safety
- Inspect
- Replace

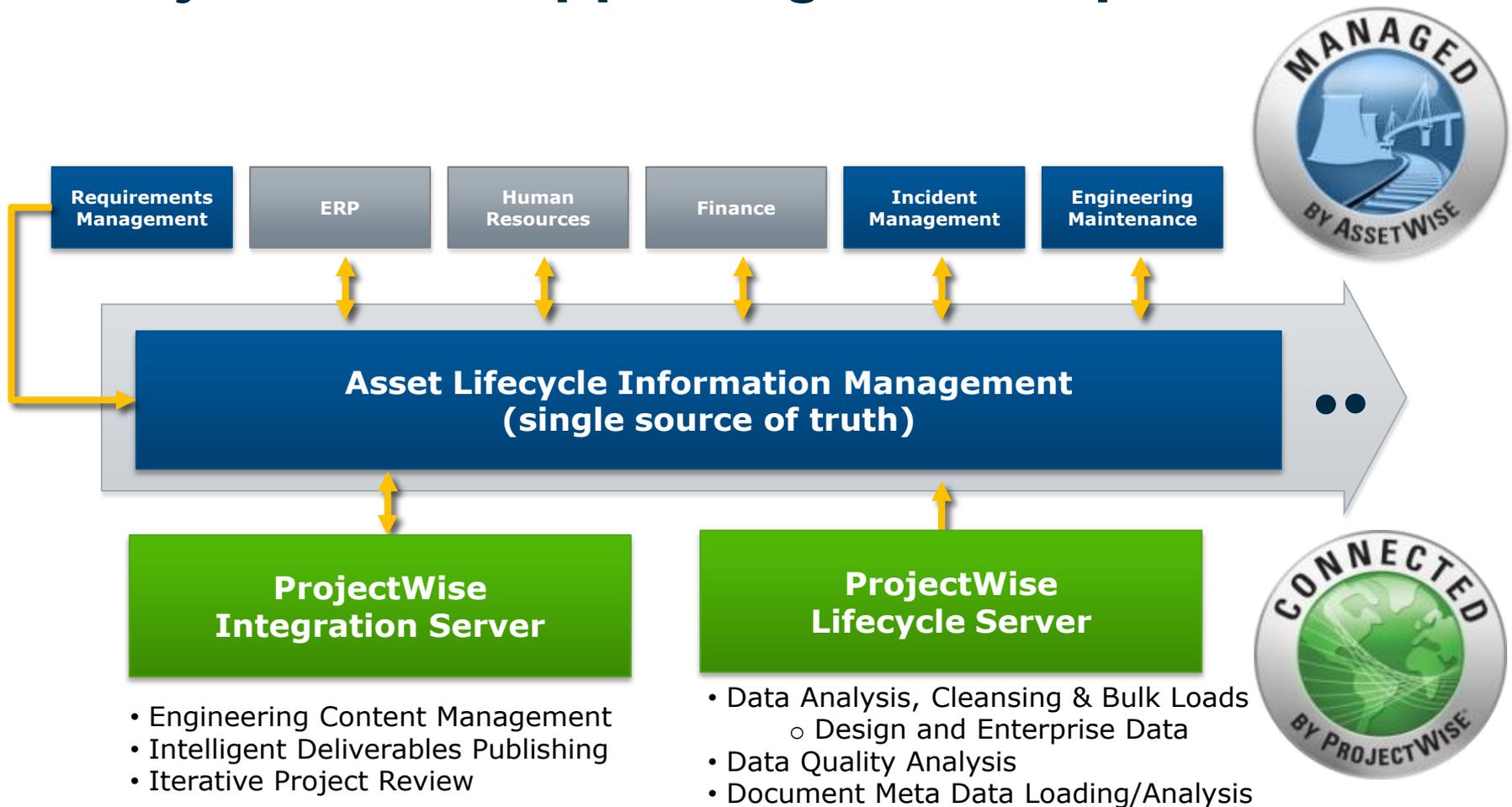


Engineering Projects

- Expand
- Renovate
- Upgrade
- Retrofit
- Improve
- Design



ProjectWise Supporting Asset Operations



- Engineering Content Management
- Intelligent Deliverables Publishing
- Iterative Project Review

- Data Analysis, Cleansing & Bulk Loads
 - Design and Enterprise Data
- Data Quality Analysis
- Document Meta Data Loading/Analysis

What is AssetWise?

AssetWise is an **operations information modeling platform** for delivering lifecycle information management to operators of infrastructure assets...

&

a suite of **interoperable applications** and **on-line services** to improve the management and operational performance, safety, compliance of infrastructure assets.

AssetWise for Plant Operations

Pains

- Lack of accurate asset information
 - Higher risk of non-compliance with regulations
 - Increases cost and duration of plant shutdowns
 - Delays asset renewals and capacity improvement
 - Increases “wrench-time” and re-work

Advantages

- Accurate, asset information
 - Meets regulatory requirements reducing risk of non-compliance
 - Manages the impact of change efficiently and reliably
 - Captures and retains operating experience and knowledge
 - improves plant safety and security
 - shortens plant shutdowns
 - lowers operational costs



Person

Name: Larry Roberts
Department: Mechanical Operations
Title: Controls Engineer
Training Certification: Current

Requirement

Number: REQ00091
Name: REACTOR COOLANT ISOLATION PARAMETERS
Classification: FUNCTIONAL
Status: SATISFIED

Knowledge Item

Number: KI-2010-00146
Description: CALCULATION ZZ-224 - STROKE TIME
REVISIONS FOUND TO IMPACT THIS CONDITION
Type: ANALYSIS
Category: SAFETY
Status: COMPLETE

Component

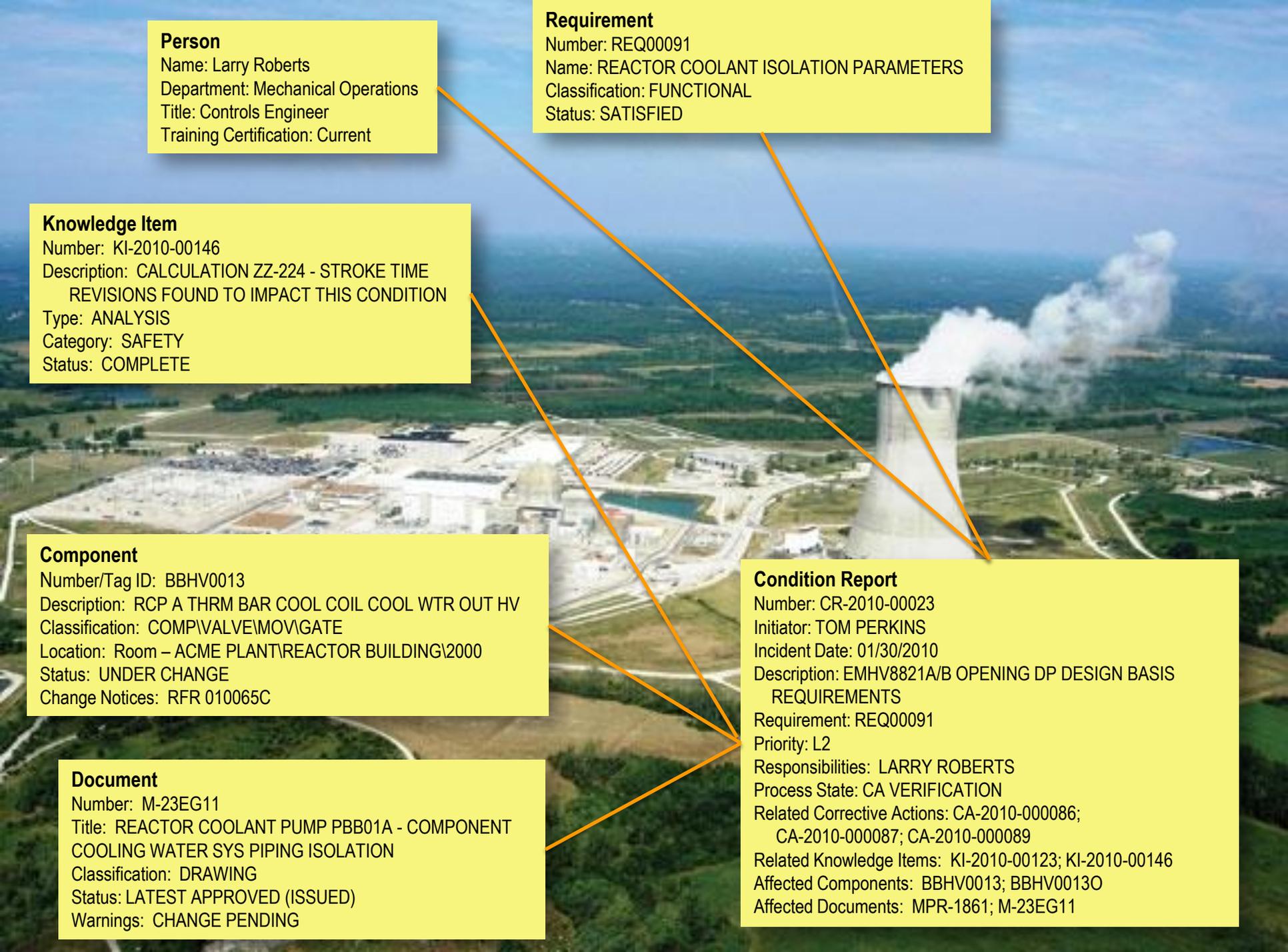
Number/Tag ID: BBHV0013
Description: RCP A THRM BAR COOL COIL COOL WTR OUT HV
Classification: COMP\VALVE\MOV\GATE
Location: Room – ACME PLANT\REACTOR BUILDING\2000
Status: UNDER CHANGE
Change Notices: RFR 010065C

Document

Number: M-23EG11
Title: REACTOR COOLANT PUMP PBB01A - COMPONENT
COOLING WATER SYS PIPING ISOLATION
Classification: DRAWING
Status: LATEST APPROVED (ISSUED)
Warnings: CHANGE PENDING

Condition Report

Number: CR-2010-00023
Initiator: TOM PERKINS
Incident Date: 01/30/2010
Description: EMHV8821A/B OPENING DP DESIGN BASIS
REQUIREMENTS
Requirement: REQ00091
Priority: L2
Responsibilities: LARRY ROBERTS
Process State: CA VERIFICATION
Related Corrective Actions: CA-2010-000086;
CA-2010-000087; CA-2010-000089
Related Knowledge Items: KI-2010-00123; KI-2010-00146
Affected Components: BBHV0013; BBHV0013O
Affected Documents: MPR-1861; M-23EG11

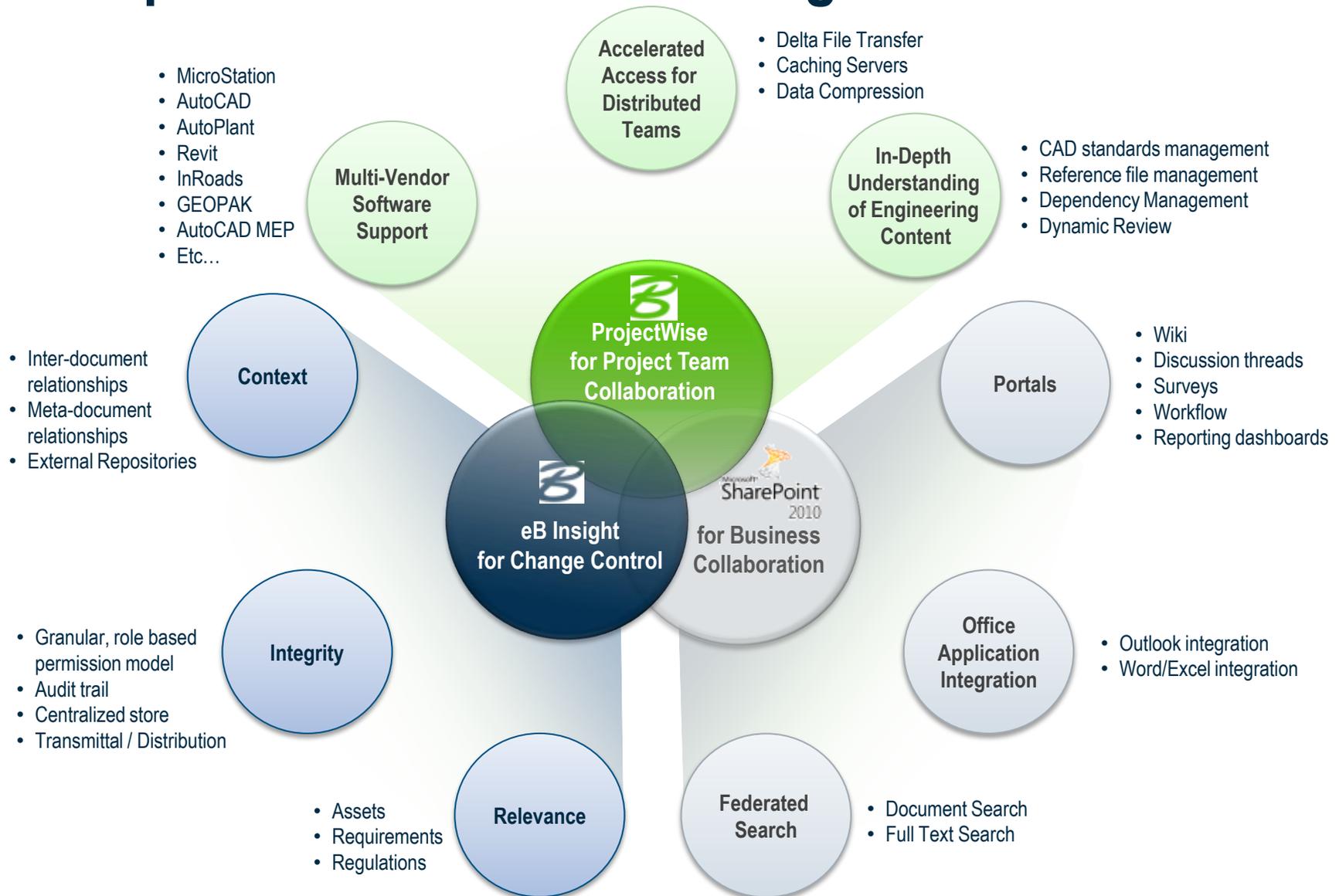


AssetWise for Plant Operations

Applications and Online Services



Interoperable Information Management Platforms





Q&A