



# INTERNATIONAL ROAD CONGRESS

Innovation in Road Infrastructure



INTERNATIONAL ROAD FEDERATION  
FÉDÉRATION ROUTIÈRE INTERNATIONALE

## Implementing an Assetwise approach to Road Asset Management

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MOSCOW, RUSSIA

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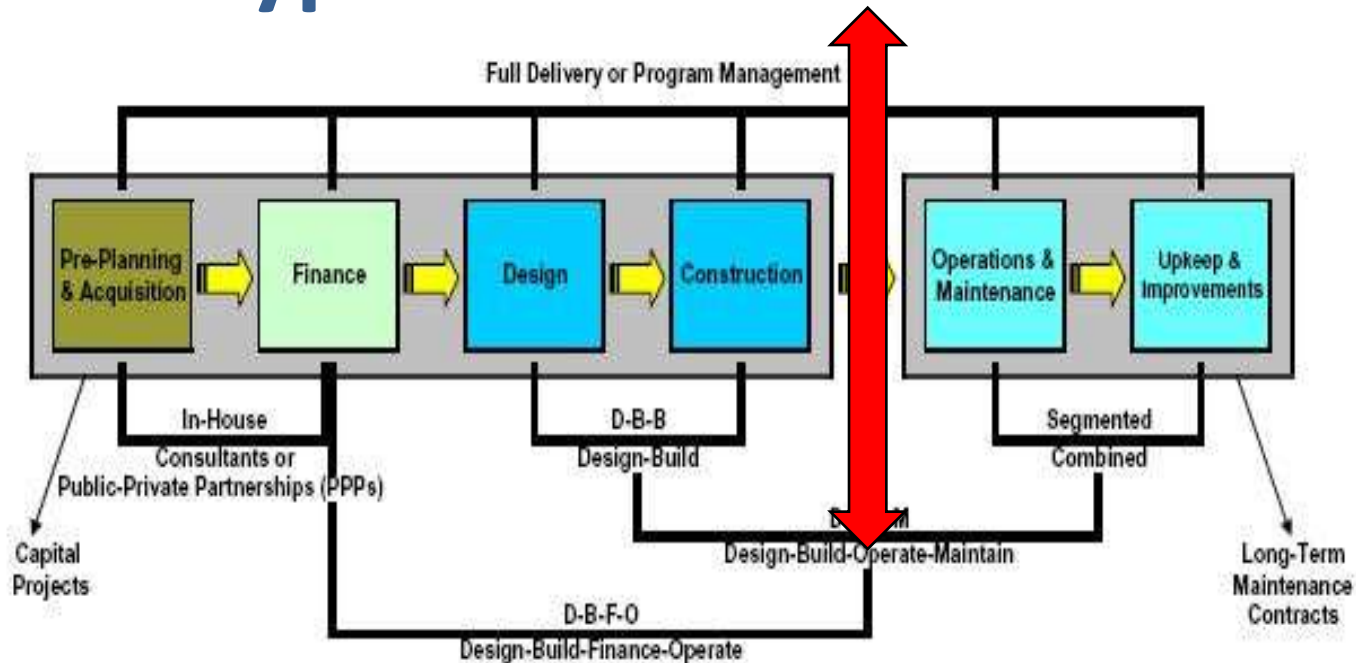


# Agenda

- Current Approaches
- Moving to an Assetwise approach
- The Future



# Typical Process Flow...

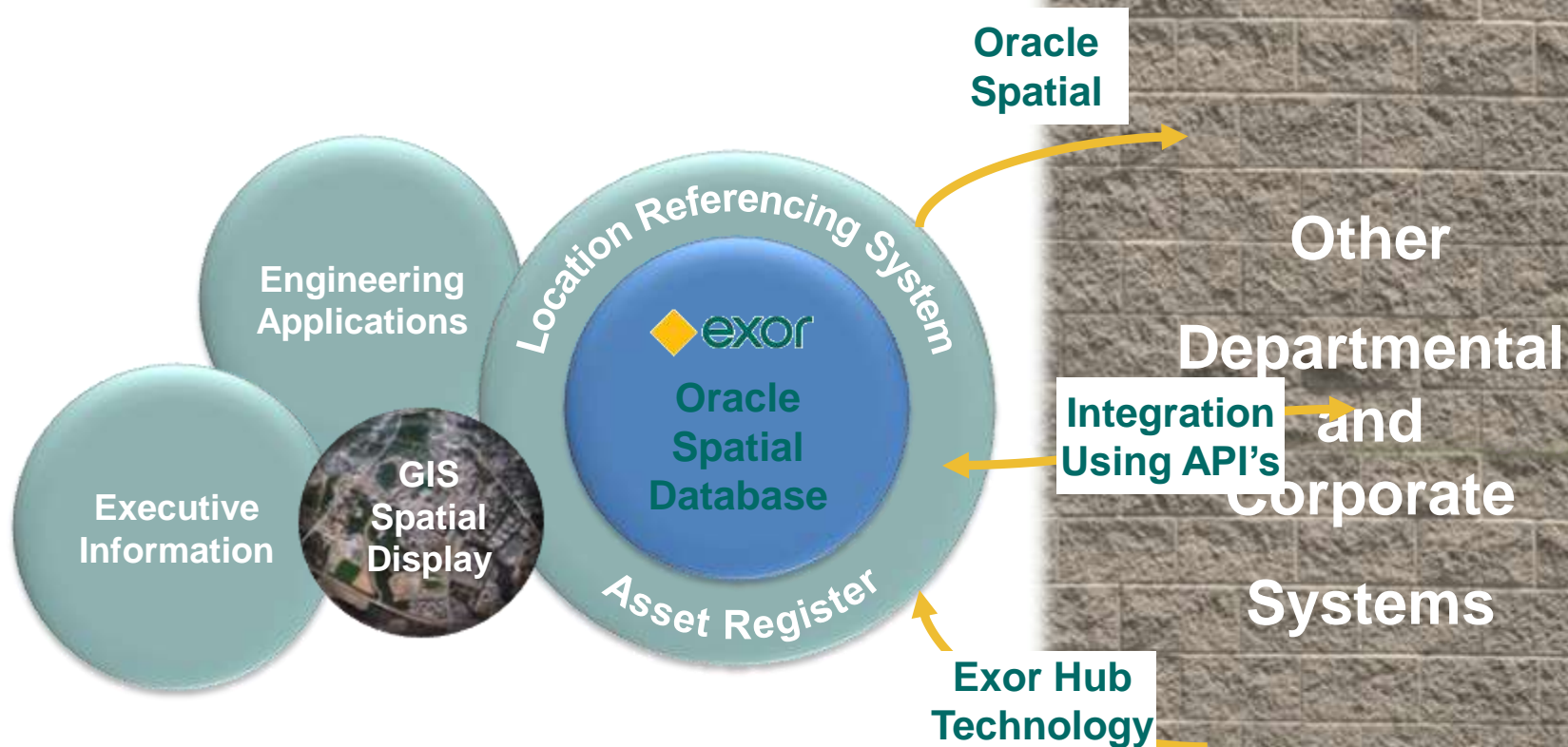


Source: Pekka Pakkala. *Innovative Project Delivery Methods for Infrastructure - An International Perspective*. Finnish Road Enterprise, Helsinki, 2002, p. 32.



# Roads Asset Management Integration

## \* Federated and Fused Data



**BRIDGE**

**CATEGORY:** Overpass  
**STREET:** Fairbrook Rd.  
**INSPECTED:** 30 April 2007  
**INSPECTOR:** R. Flannery  
**HEIGHT:** 22.5 feet  
**ROUTE:** CA-I15-N  
**SEGMENT:** MP-127  
**OFFSET START:** 2018 feet  
**OFFSET FINISH:** 2078 feet

**STREET LIGHT:**

**CATEGORY:** FWY illumination  
**REPAIR DATE:** 10 Oct 2009  
**REPAIR TYPE:** Bulb  
**HEIGHT:** 21 feet  
**MOUNTING BRACKET:** Pole arm  
**LAMP TYPE:** 1 Low Pressure Sodium  
**SEGMENT:** MP-127  
**OFFSET:** 1592 Feet

**STREET SIGN**

**CATEGORY:** merge  
**ILLUMINATED:** no  
**MOUNTING HT:** 11.5 feet  
**MOUNTING:** pole  
**ROUTE:** CA-I15-N  
**SEGMENT:** MP-127  
**OFFSET:** 1480 feet

**TRAFFIC LIGHT**

**CATEGORY:** FWY entrance  
**ILLUMINATED:** yes  
**REPAIR DATE:** 15 Mar 2008  
**REPAIR TYPE:** Bulb  
**MOUNTING HT:** 10.5 feet  
**MOUNTING:** pole  
**ROUTE:** CA-I15-N  
**SEGMENT:** MP-127  
**OFFSET:** 1516 feet

**BARRIER**

**CATEGORY:** Cement wall  
**LENGTH:** 128 feet  
**ROUTE:** CA-I15-N-M27  
**SEGMENT:** MP-127  
**OFFSET:** 1352 feet

**POT HOLE**

**CATEGORY:** Hwy defect  
**DAMAGE REPORTED:** 12 Jul 2009  
**REPAIR PRIORITY:** High  
**DATE REPAIRED:** 15 Jul 2009  
**ROUTE:** CA-I15  
**SEGMENT:** MP-127  
**OFFSET START:** 1270 feet  
**OFFSET FINISH:** 1274 feet

Road Works



Accidents



Parks and Places



Traffic Data

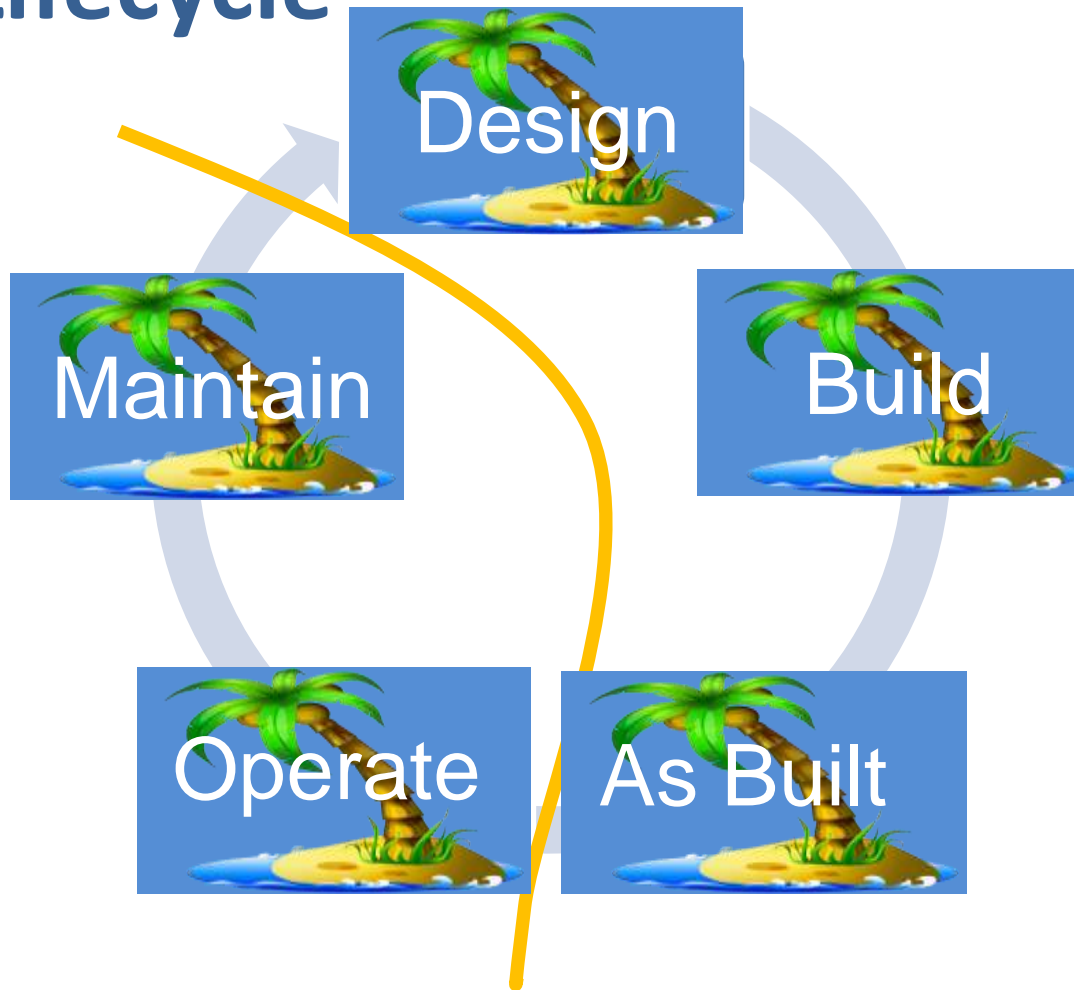


Enquiry Management



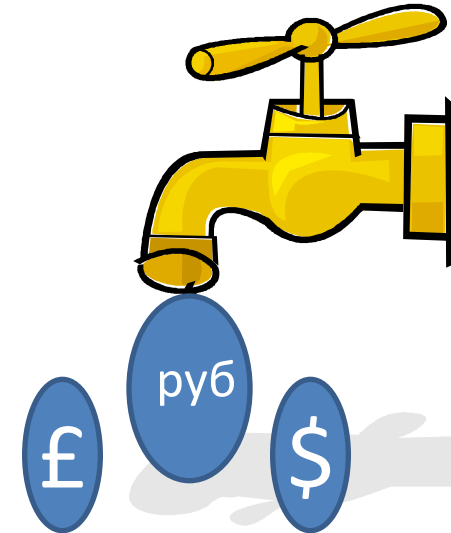


# Asset Lifecycle



## Leading to...

- Increased Industry Costs
  - Data Duplication
  - Data Redundancy
  - Staff costs
  - Operating Inefficiencies
- Quantifiable ?
  - ARC Advisory Group
    - NIST Estimate for Capital Facilities industry US\$15.8bn
    - CAPEX and OPEX costs - loss of 4.2% of installed costs. ..on going penalty of 2.8% in Return On Assets





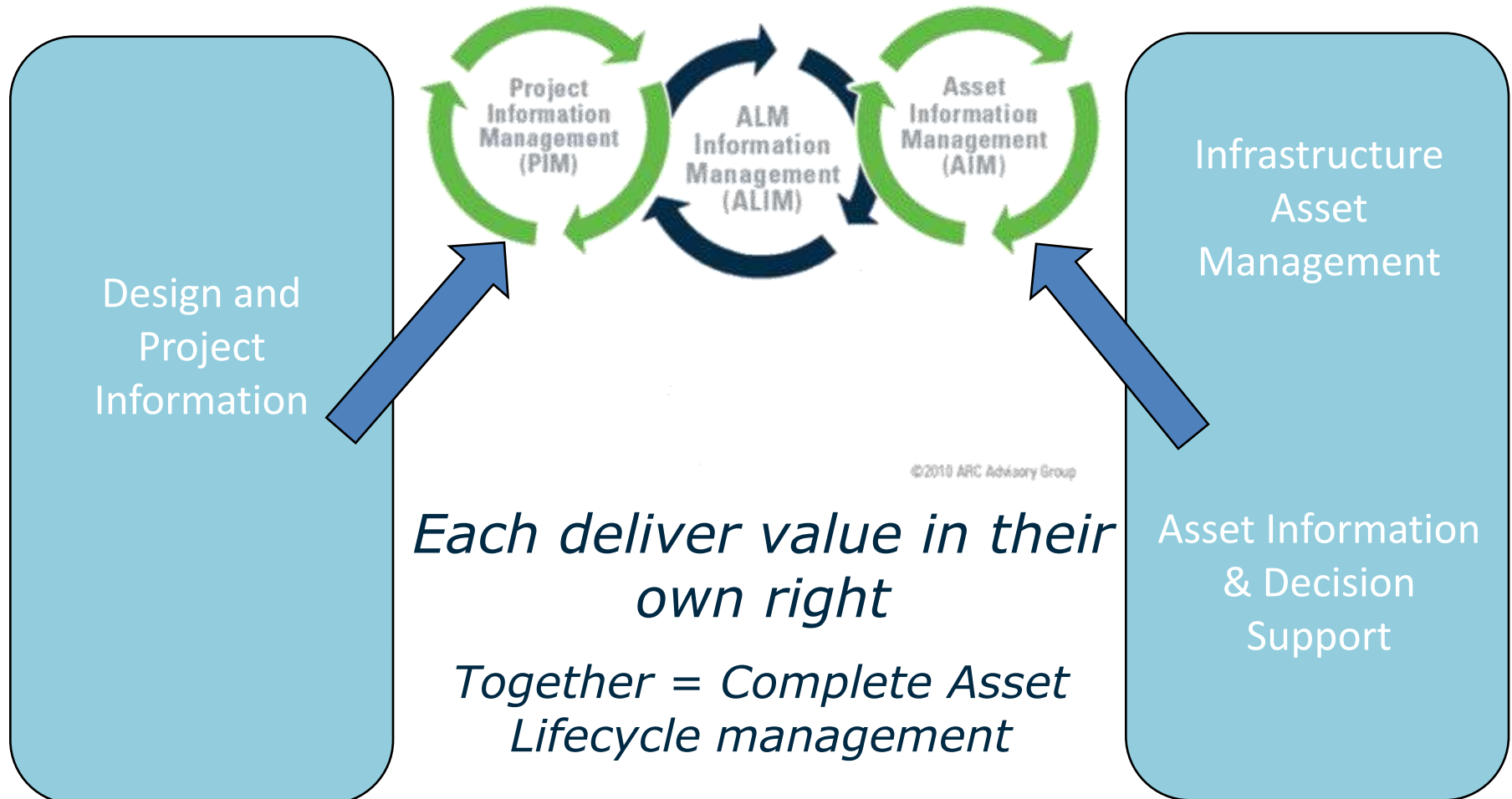


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- **Moving to an Assetwise approach**
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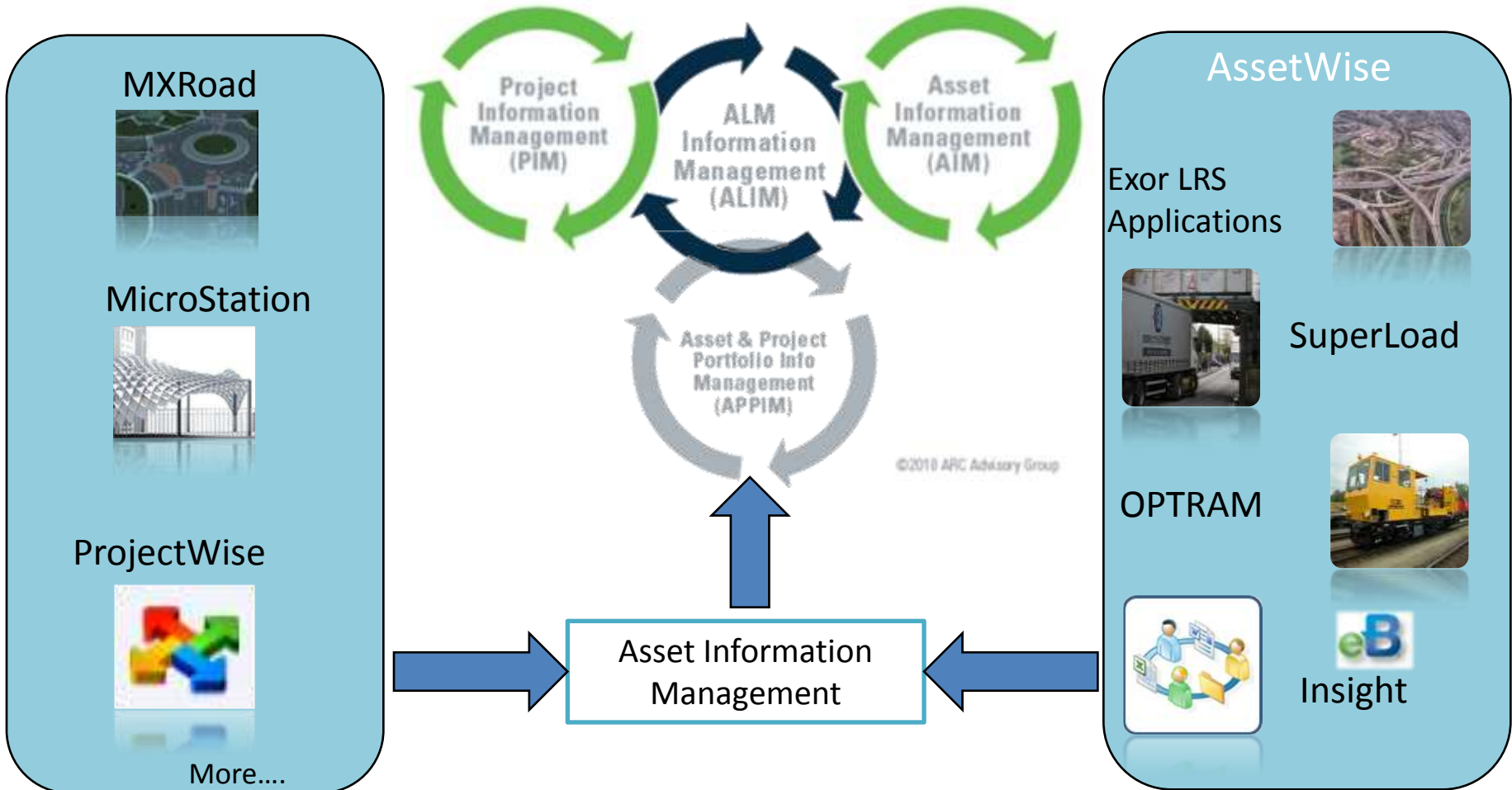


# AssetWise – Spans the Complete Lifecycle





# Delivering at the operational level...





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The City of Helsinki is in the process of developing a 3D digital model of the entire city that forms the basis of all

City of Helsinki



### Crossrail

#### LONDON, ENGLAND

#### Project Objectives

Connect the east and the west of London with new rail infrastructure;

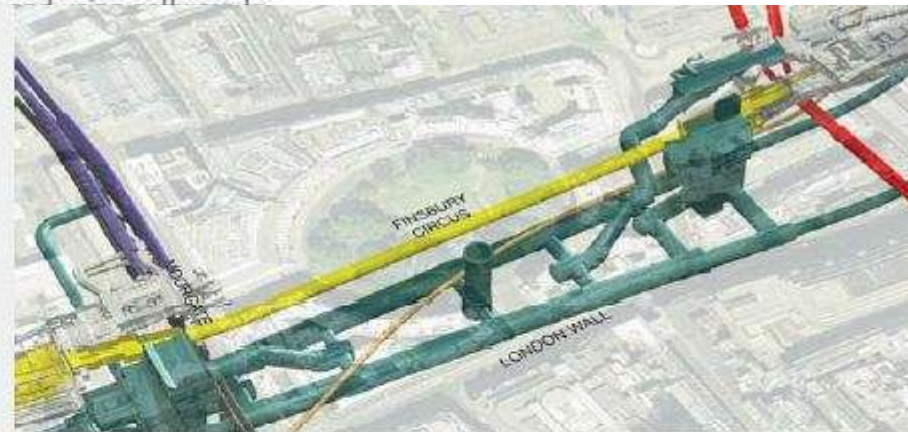
Establish effective coordination between the various agencies involved in the project.

#### Products Used

Bentley Geo Web Publisher, Bentley Map, MicroStation, ProjectWise,

The ambitious Crossrail network will substantially reduce travel time between London's major business districts and benefit more than 1.5 million people. Crossrail's project documentation as well as its designs were 3D from the outset. The project planners started with a complete survey of above and below-ground infrastructure using several techniques such as aerial images, laser scanning and ground radar. The designs are based on a 3D model of the existing infrastructure, which is the best way to deal with a project of such complexity.

The City of Montreal has been using Bentley technology for several years and has taken a leadership role in developing process-

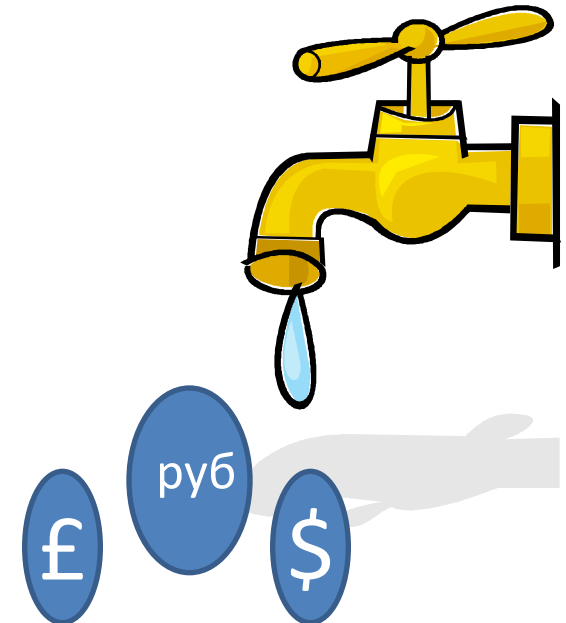


Existing rail tunnels and planned Crossrail infrastructure in 3D

# Summary

An Assetwise Approach to Road Asset Management leads to

- Integrating the Islands of Integration
  - Reduced Data Duplication
  - Reduced Data Redundancy
  - Effective Staff utilisation
  - Improvement in Operating efficiencies
  - Better Return on Asset investment





# Thank You

