Fulfilling the Asset Management Information Lifecycle

GeoBIM 2016

Intelligent Facility Management Transforming Data into Information

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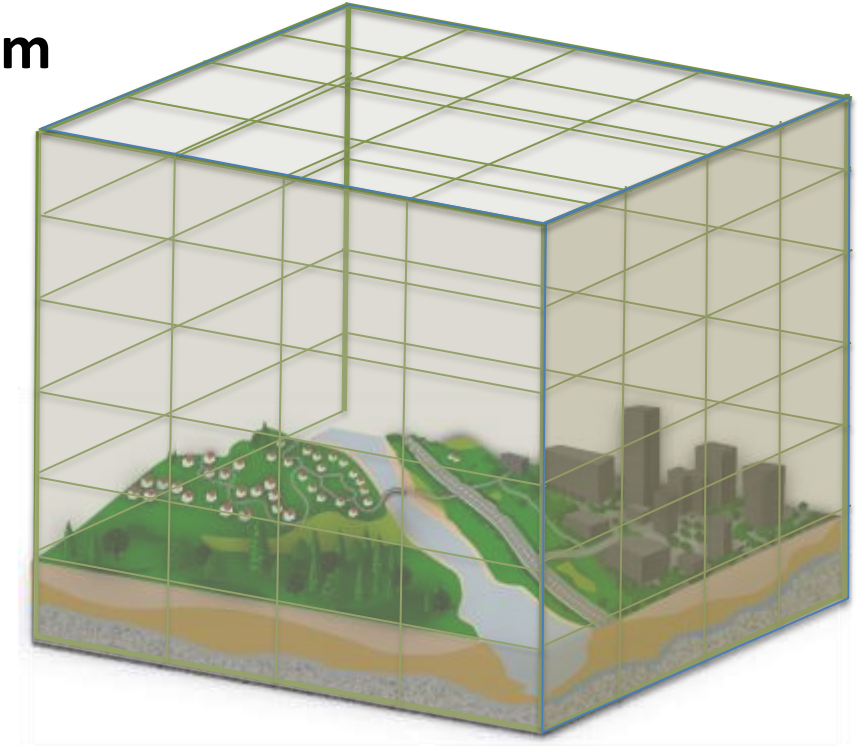
buildingSmart International InfraRoom

Asset Managers Requirements for BIM

Delivering what Information Asset Managers can Trust & what they Need



The Silo Issue

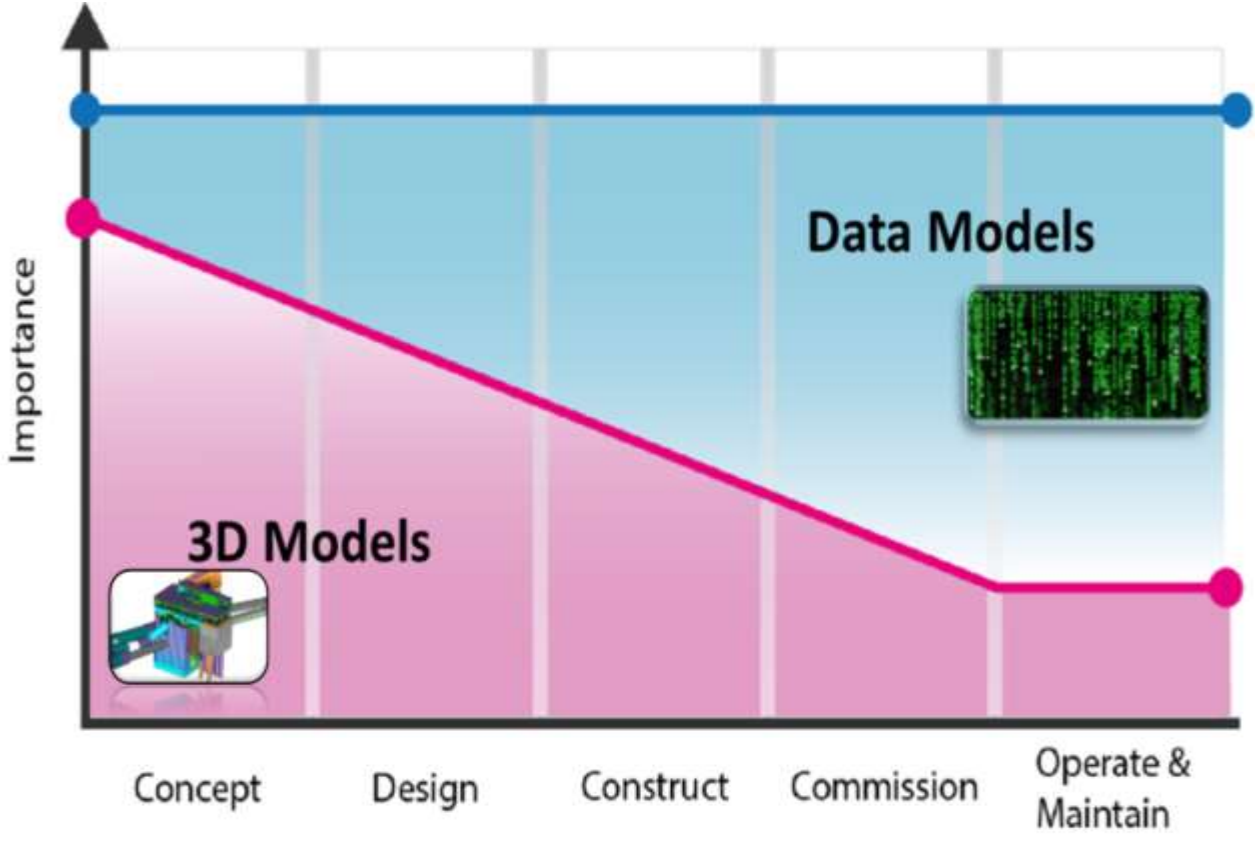
- Discipline Silos
- Technology Silos

GIS **BIM** **AIM**

INFORMATION

Graphical / Non-Graphical Models

- Information
- Data environment
- Data integrity
- Collaboration
- Technology
- Asset life-cycle
- New processes
- New project culture

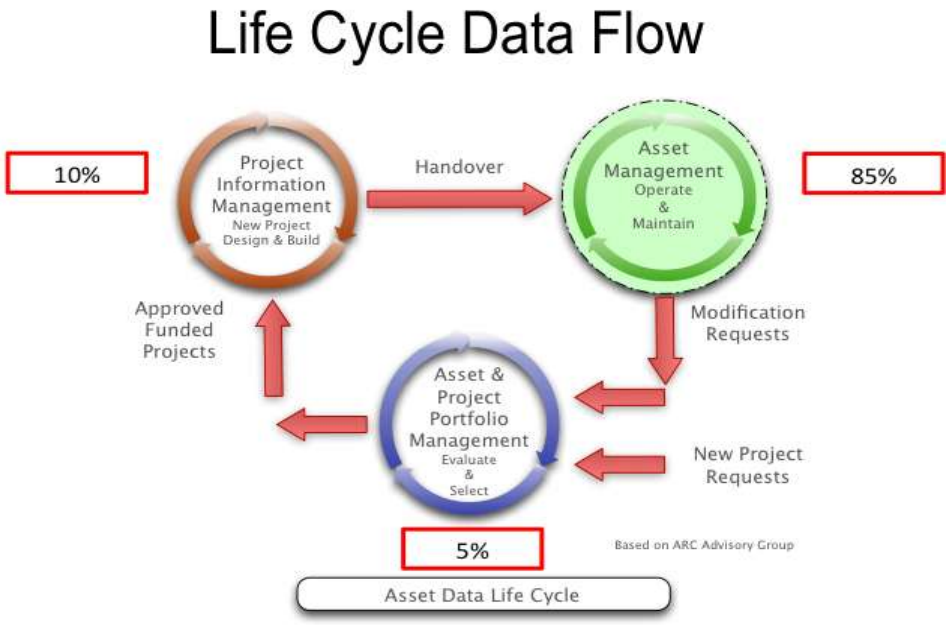


In Infrastructure

THE ASSET IS THE BUSINESS

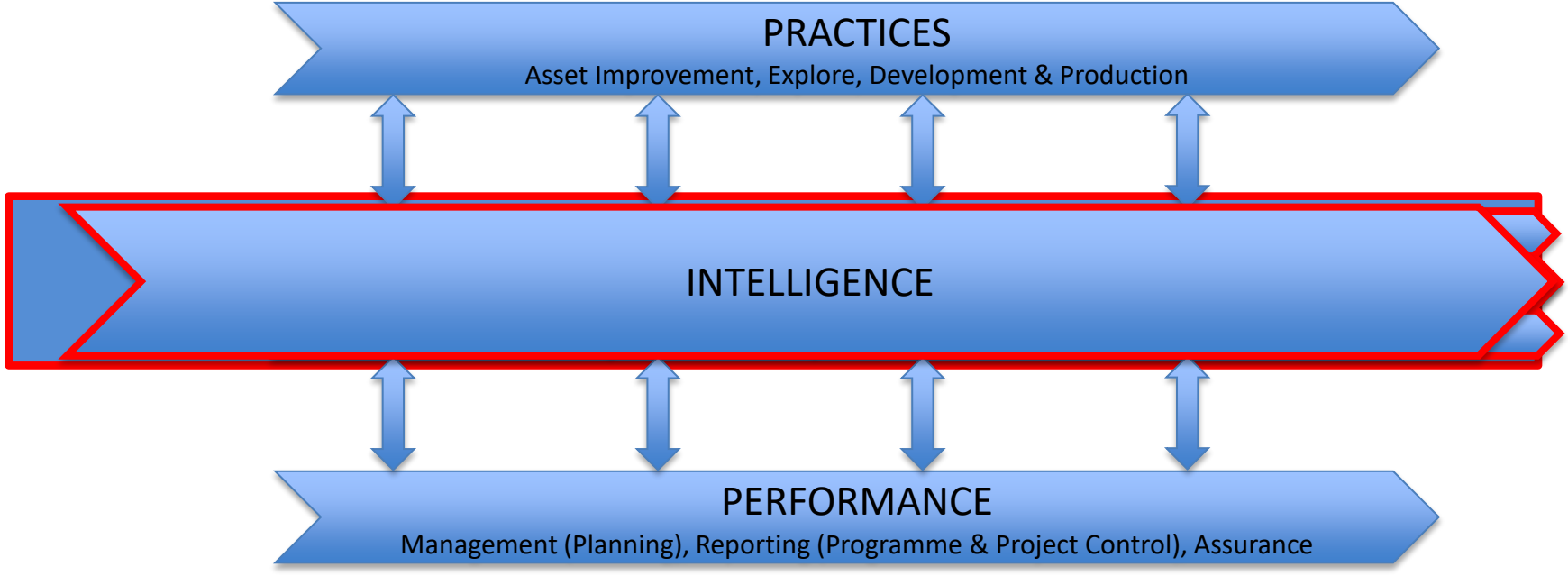
Life Cycle Information

Asset information needs to cover the Life Cycle of an asset hence information captured and managed should cover the asset life cycle and not just one phase such as design or construction.



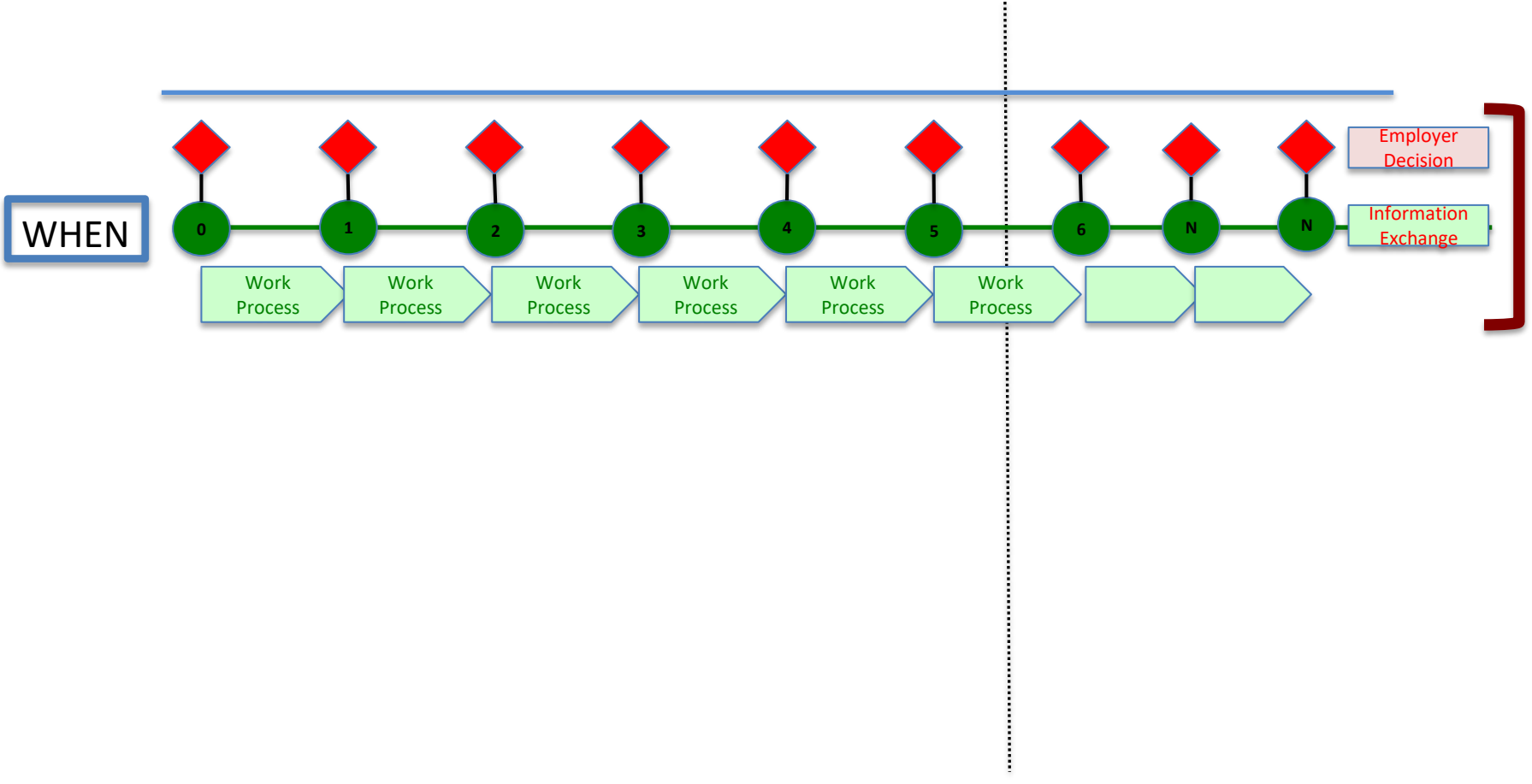
An asset begins life at conception not when its built and handed over

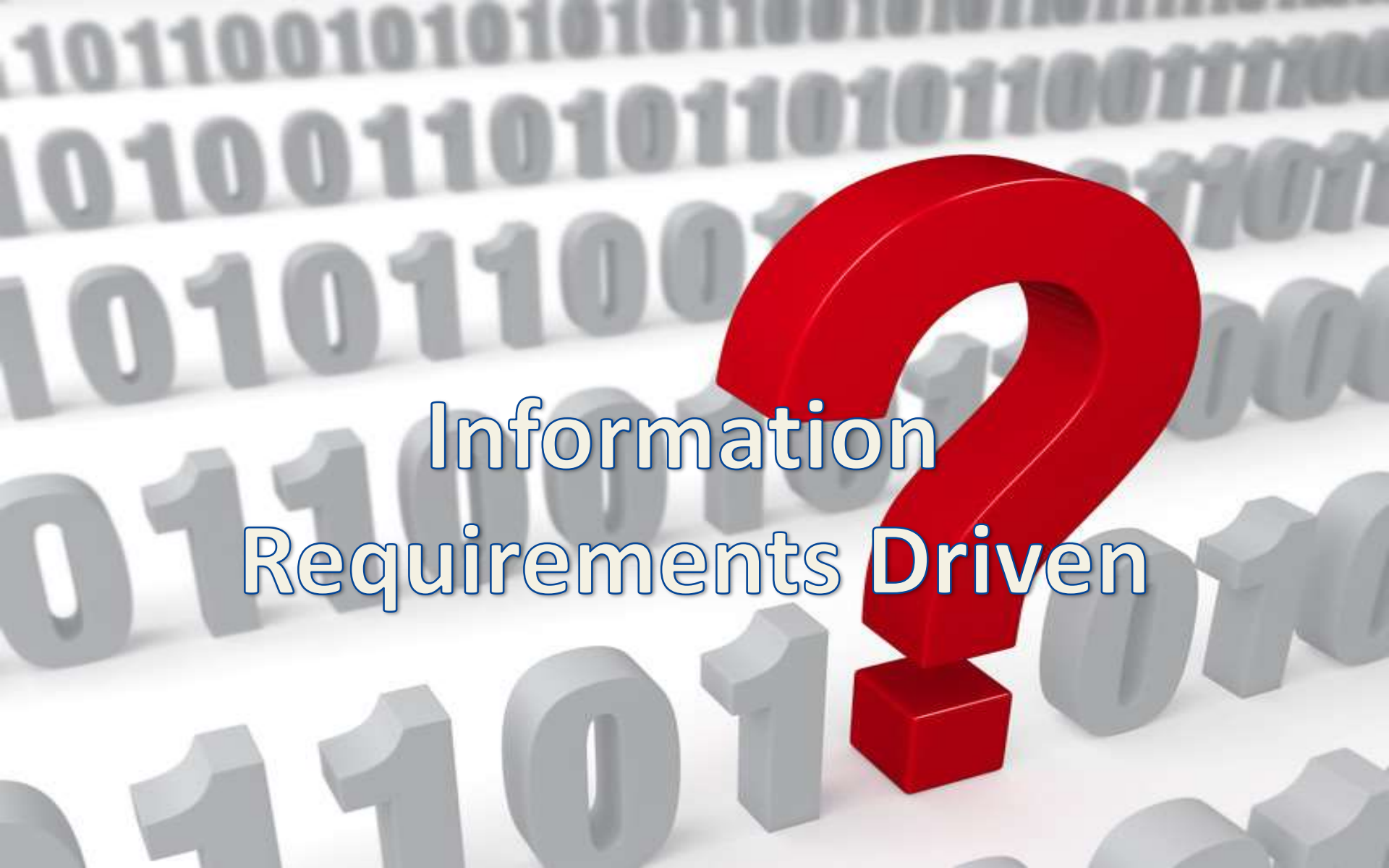
The Information/Intelligence Spine

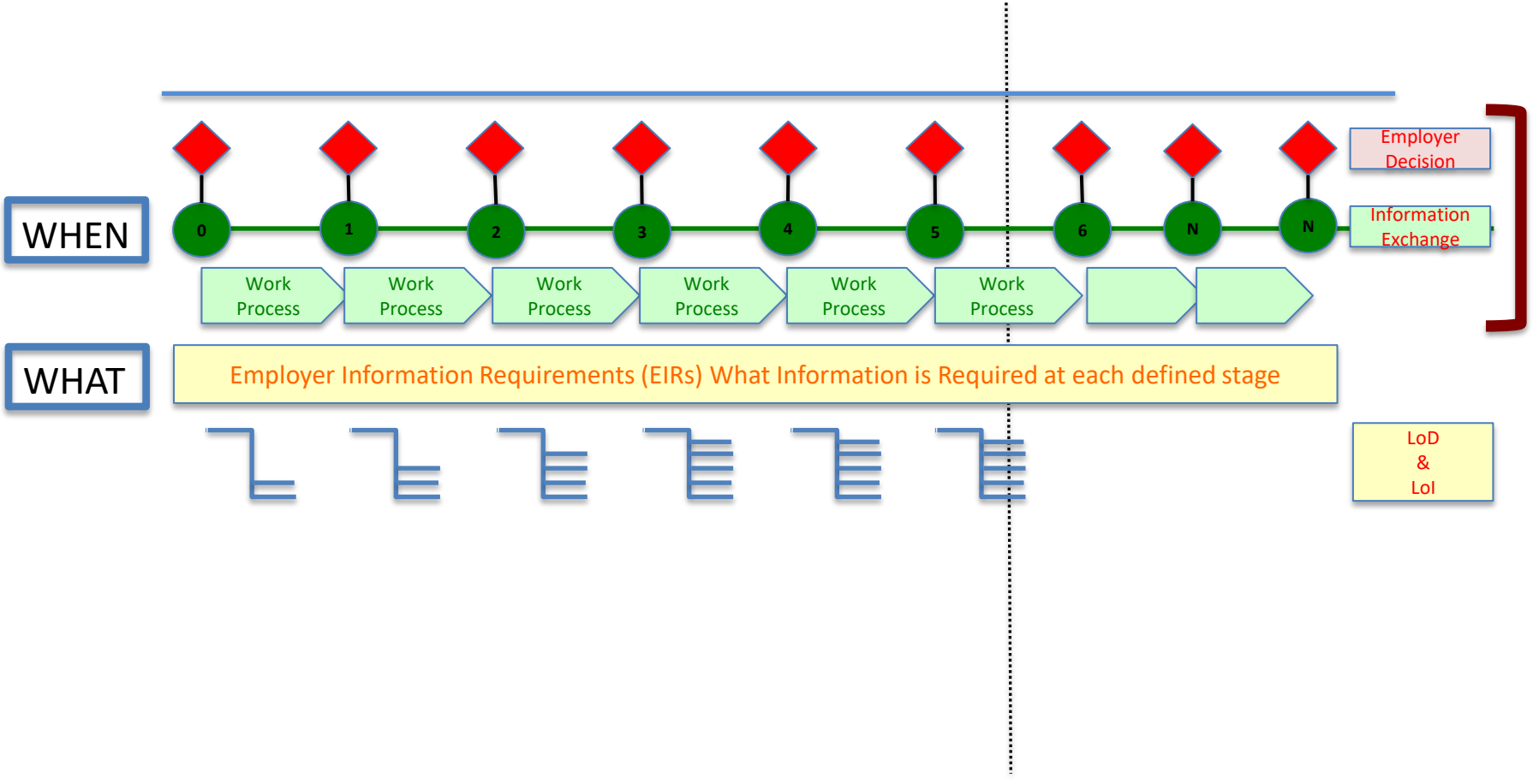


When

When - Plan of Work Stages




Information
Requirements Driven


WHEN
0
1
2
3
4
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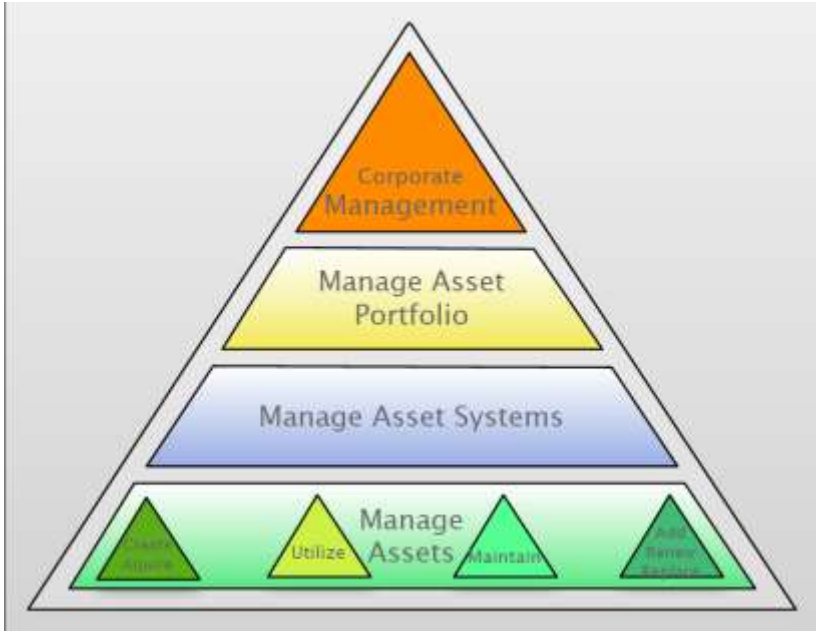
6
N
N
Employer Decision
Information Exchange
Work Process
Work Process
Work Process
Work Process
Work Process
Work Process
WHAT
Employer Information Requirements (EIRs) What Information is Required at each defined stage
LoD & LoI

Decisions Driven by Information Requirements

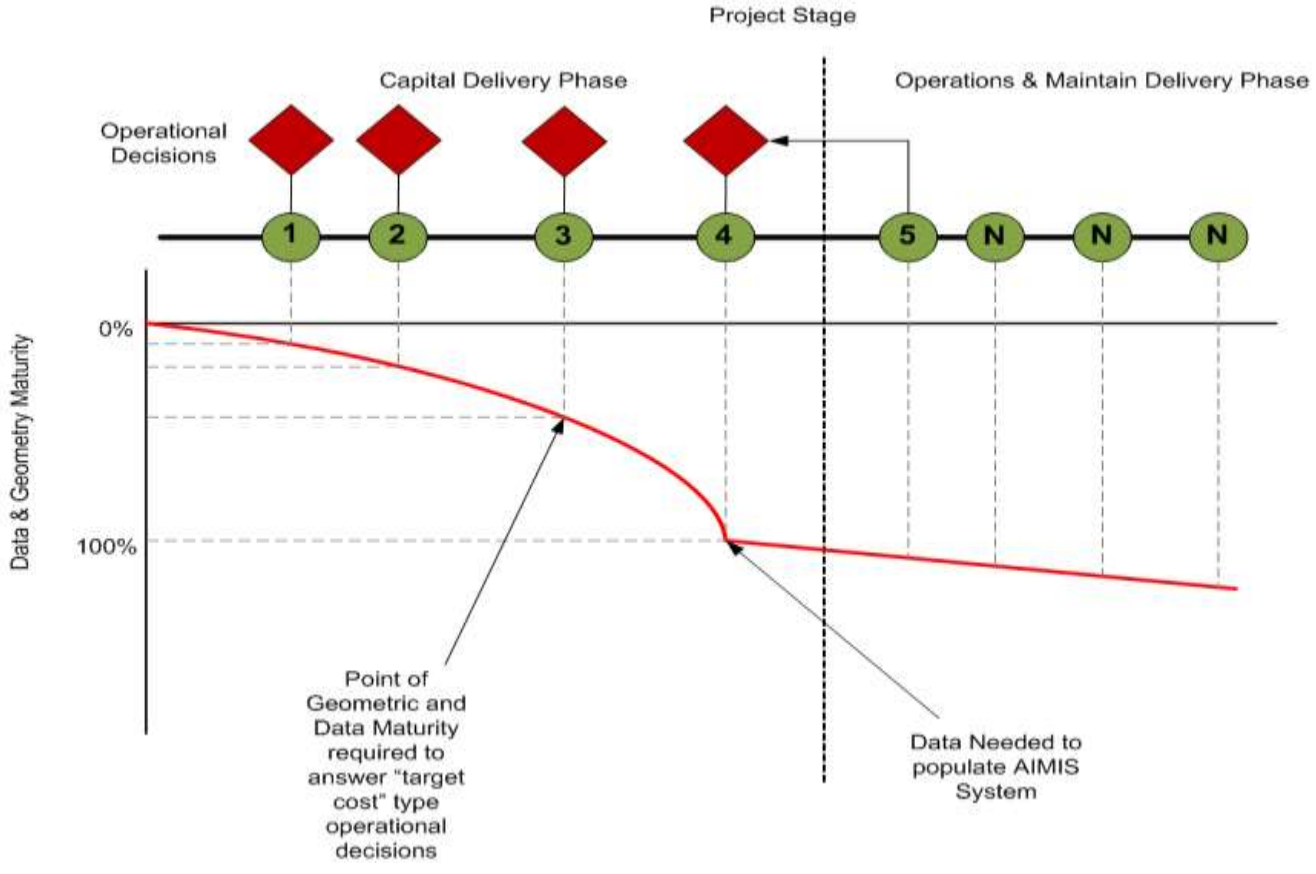
- Plain Language Questions (PLQs
- Drive out requirements
- Lead to Information Delivery that can be tested for content and completeness
- Inform the delivery decision process

Information Management Requirement

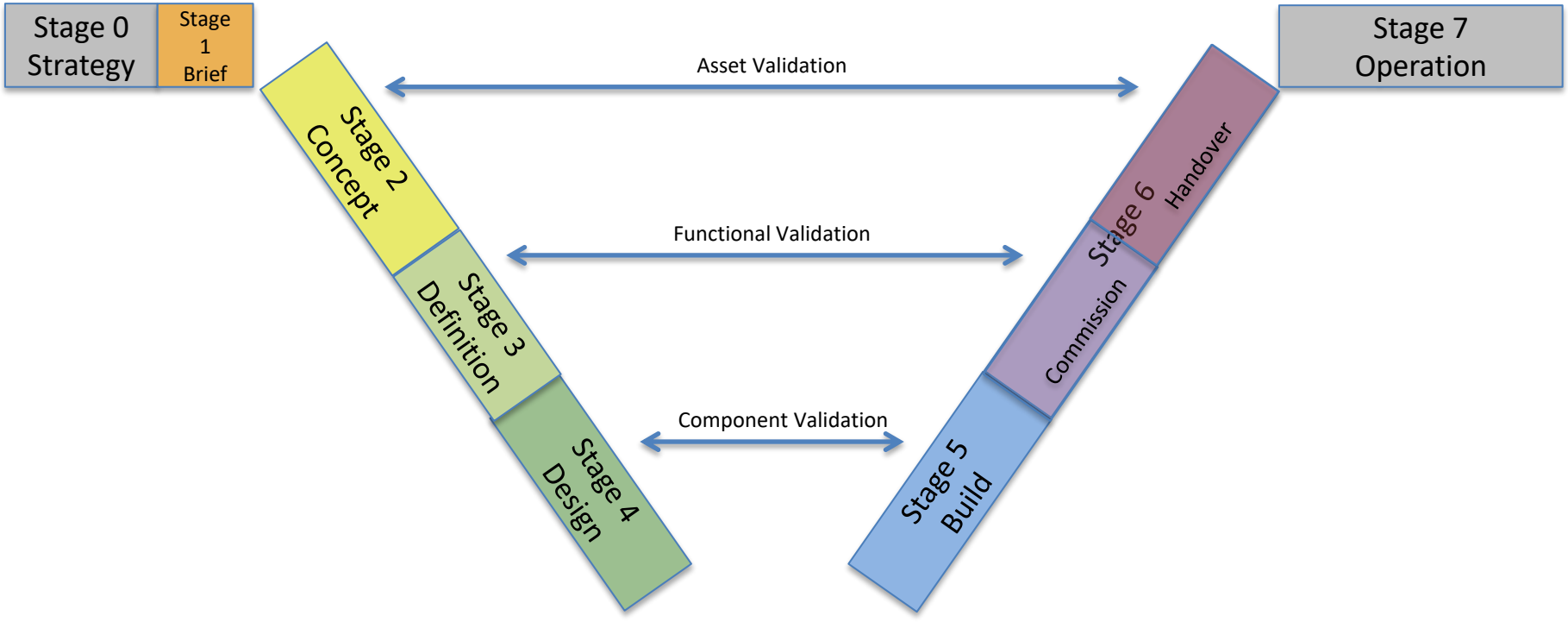
- Information management includes:
  - Organisation Strategy Management
  - Tactical Portfolio Management
  - Operational Management
  - Day to Day Maintenance
  - Asset Acquisition
    - Strategy
    - Concept
    - Design
    - Construct
    - Commission

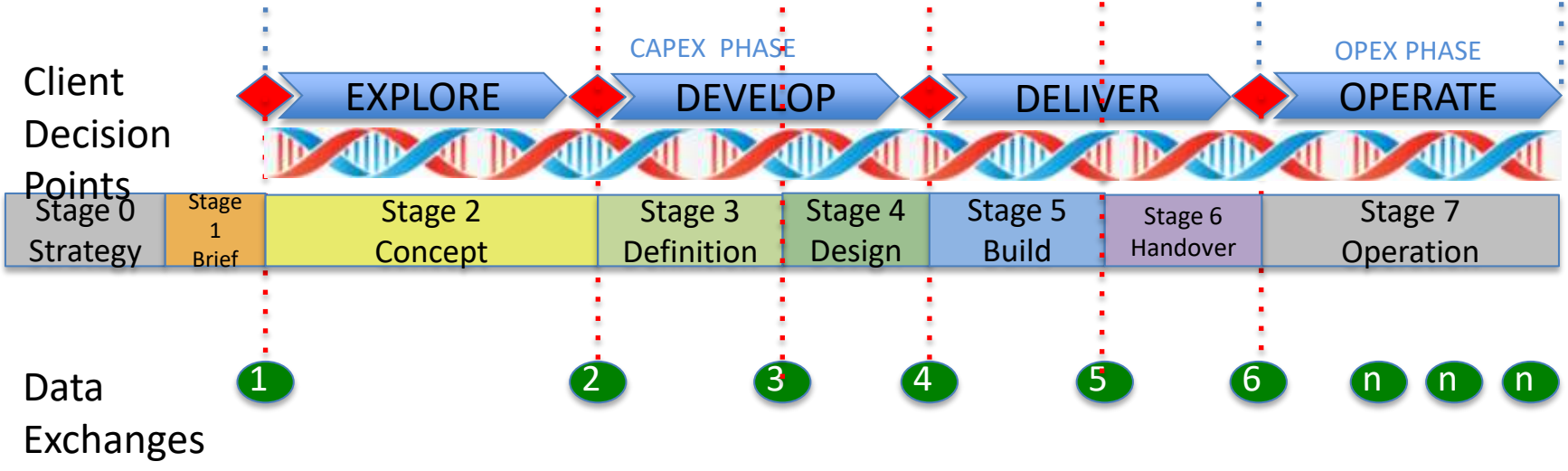


Progressive Information through the Stages



Systems Approach to Information Delivery




CAPEX PHASE
OPEX PHASE
Client Decision Points
EXPLORE
DEVELOP
DELIVER
OPERATE
Stage 0 Strategy
Stage 1 Brief
Stage 2 Concept
Stage 3 Definition
Stage 4 Design
Stage 5 Build
Stage 6 Handover
Stage 7 Operation
Data Exchanges
1
2
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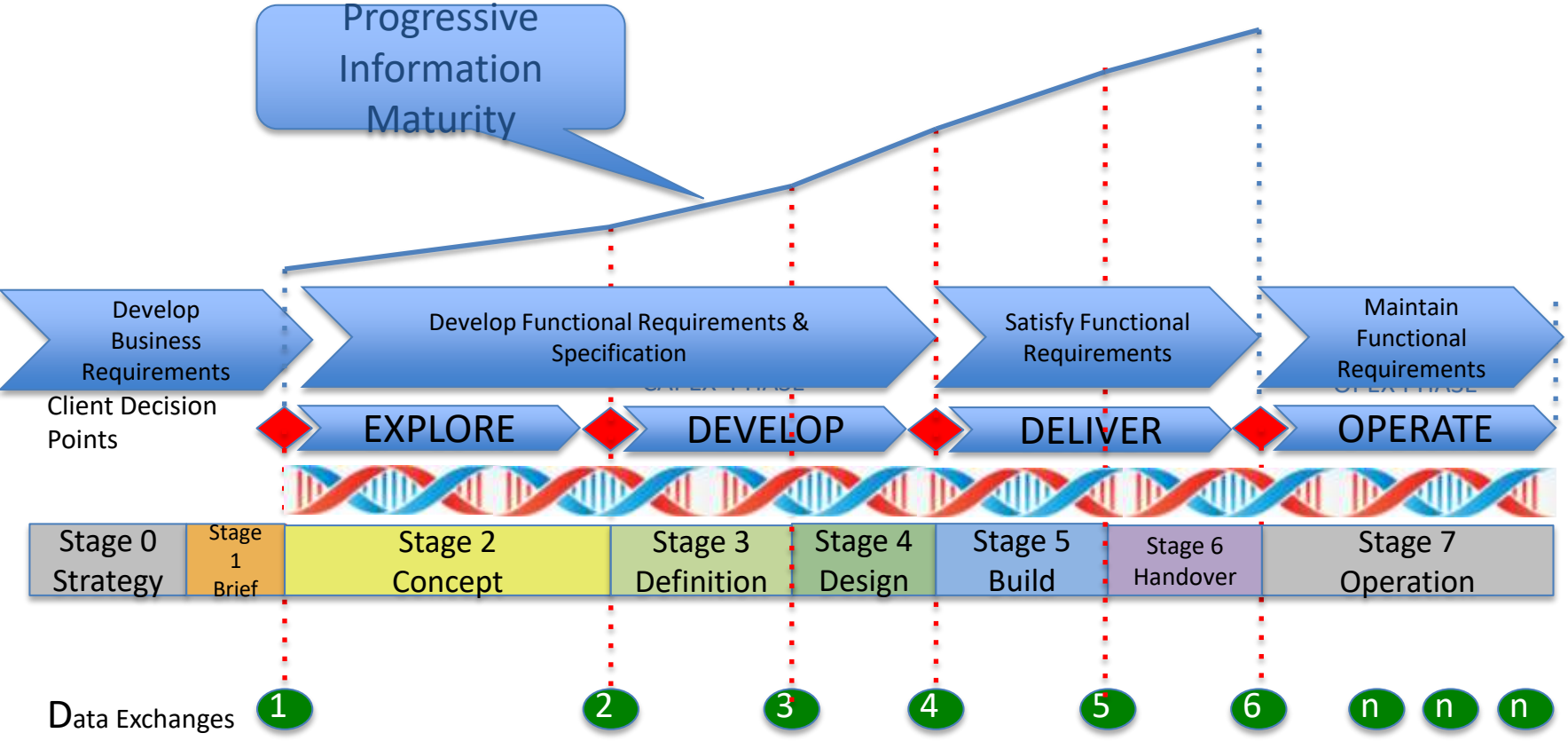
n


Progressive Information Maturity
Develop Business Requirements
Develop Functional Requirements & Specification
Satisfy Functional Requirements
Maintain Functional Requirements
Client Decision Points
EXPLORE
DEVELOP
DELIVER
OPERATE
Stage 0 Strategy
Stage 1 Brief
Stage 2 Concept
Stage 3 Definition
Stage 4 Design
Stage 5 Build
Stage 6 Handover
Stage 7 Operation
Data Exchanges
1
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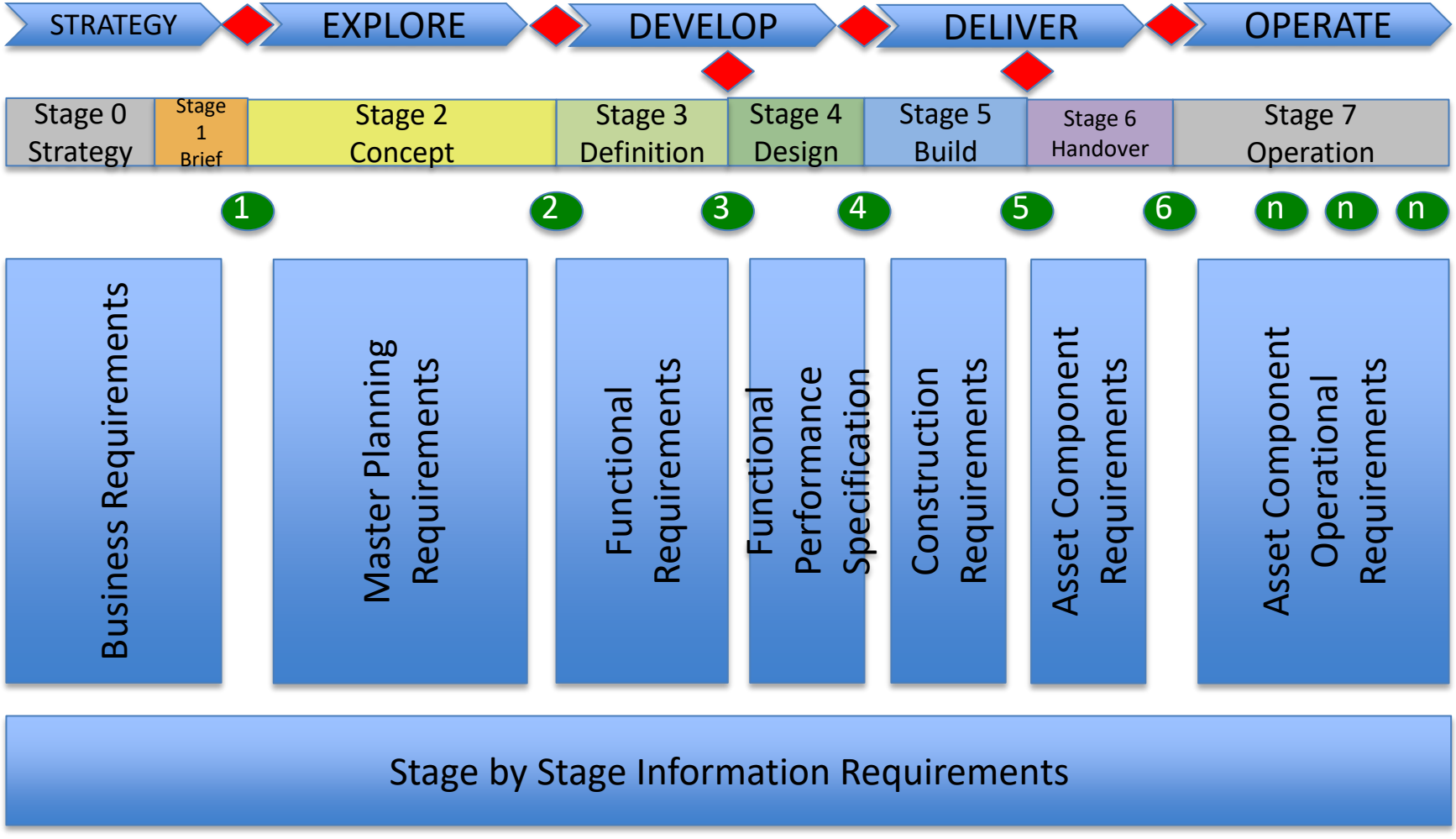
STRATEGY
EXPLORE
DEVELOP
DELIVER
OPERATE
Stage 0 Strategy
Stage 1 Brief
Stage 2 Concept
Stage 3 Definition
Stage 4 Design
Stage 5 Build
Stage 6 Handover
Stage 7 Operation
1
2
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Business Requirements
Master Planning Requirements
Functional Requirements
Functional Performance Specification
Construction Requirements
Asset Component Requirements
Asset Component Operational Requirements
Stage by Stage Information Requirements

Increasing Information Level of Definition & Maturity through Stages

EXPLORE | DEVELOP | DELIVER | OPERATE

1 2 3 5 6 n n Data Exchanges

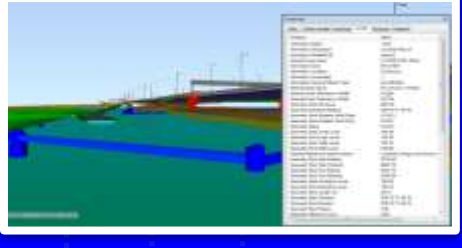
Information & Detail

Facility

Primary Asset/System

Element/ Component

Operational Asset



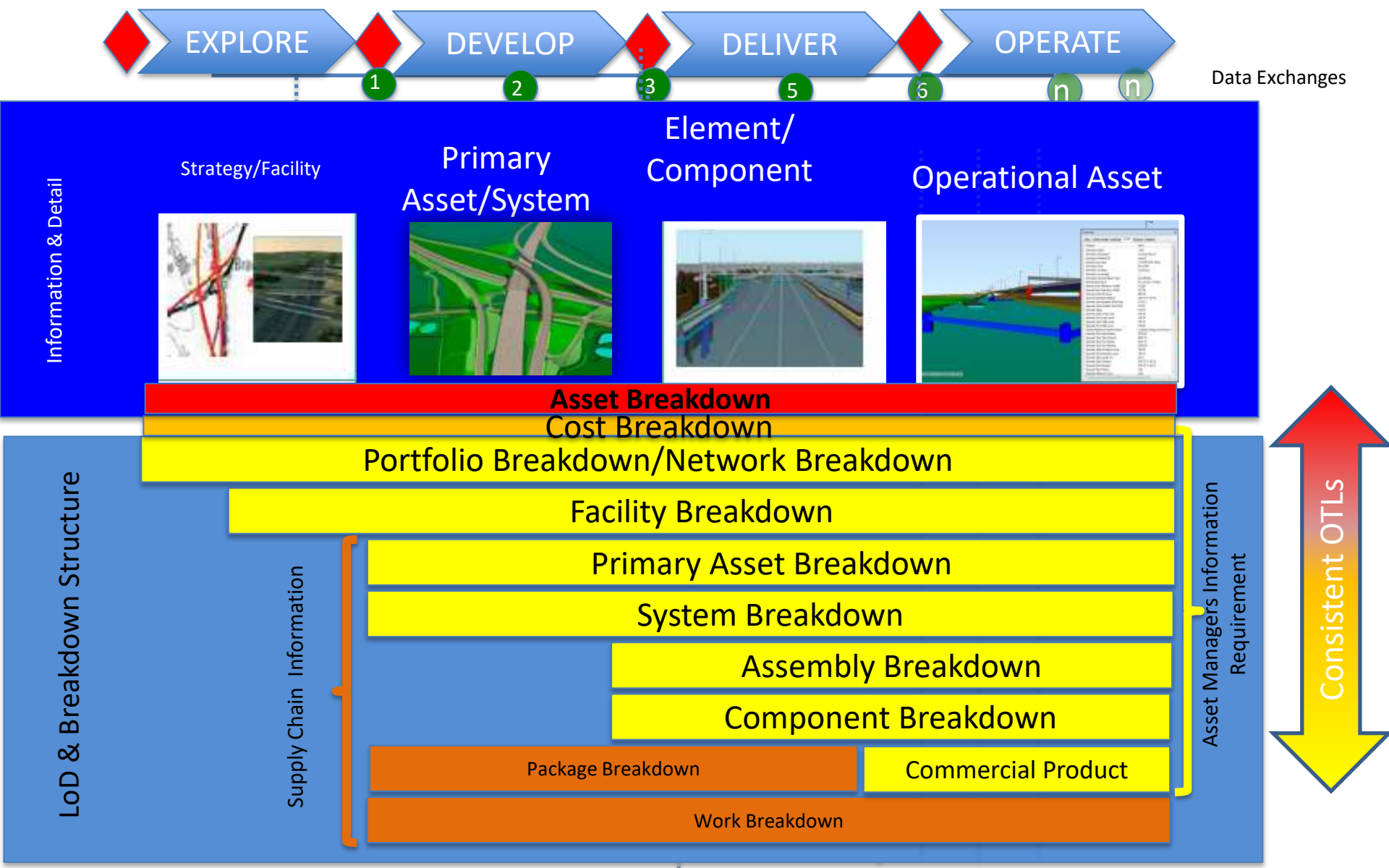
Breakdown Structure

FBS (Facility)

Primary Asset PBS
System SBS

System SBS
Assembly ABS
Component CBS
Package BS
Work BS

Asset BS


EXPLORE
DEVELOP
DELIVER
OPERATE
1
2
3
5
6
n
n
Data Exchanges
Information & Detail
Strategy/Facility
Primary Asset/System
Element/ Component
Operational Asset
Asset Breakdown
Cost Breakdown
Portfolio Breakdown/Network Breakdown
Facility Breakdown
Primary Asset Breakdown
System Breakdown
Assembly Breakdown
Component Breakdown
Package Breakdown
Commercial Product
Work Breakdown
LoD & Breakdown Structure
Supply Chain Information
Asset Managers Information Requirement
Consistent OTLs

Object Type Libraries/AD4s

Crossrail

ASSET DATA DICTIONARY DEFINITION DOCUMENT (AD4)
L152 – DIAPHRAGM WALL

Document Number: CRL1-XRL-Z3-ADDSD-CR001-50031
Document Revision: 2.0

Document History:

Revision:	Date:	Prepared by:	Checked by:	Authorised by:	Reason for Issue:
1-0	02-03-12	Nick Mildmay-White	Julian Schwarzenbach	Ross Denten	First Issue
2.0	23-Apr-2013	Nick Mildmay-White	Kirsten Martindale	Ross Denten	Standardisation of Attribute Names and New Branding

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2 Asset Tag Identification Rules

Assets will be identified as required by the Asset Identification Standard in the following format:

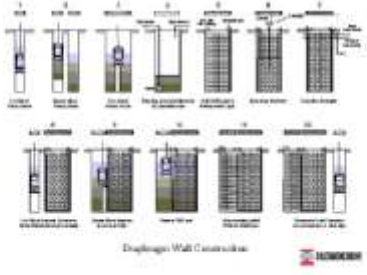
<LCS Code>-<Function Code>-<Incremental number to ensure uniqueness>

e.g. C125-BRS-12345

Diaphragm Walls are constructed of a number of individually poured sections with joints between each section. Each individual section/pour does not constitute an individual asset. The Asset will constitute a continuous run of individual sections/pours. The asset would be deemed to have finished at the last section/pour or where the wall meets a corner (with another wall).

Diaphragm wall = 1 Asset to be Tagged

2.1 Example Images



Diaphragm Wall Construction

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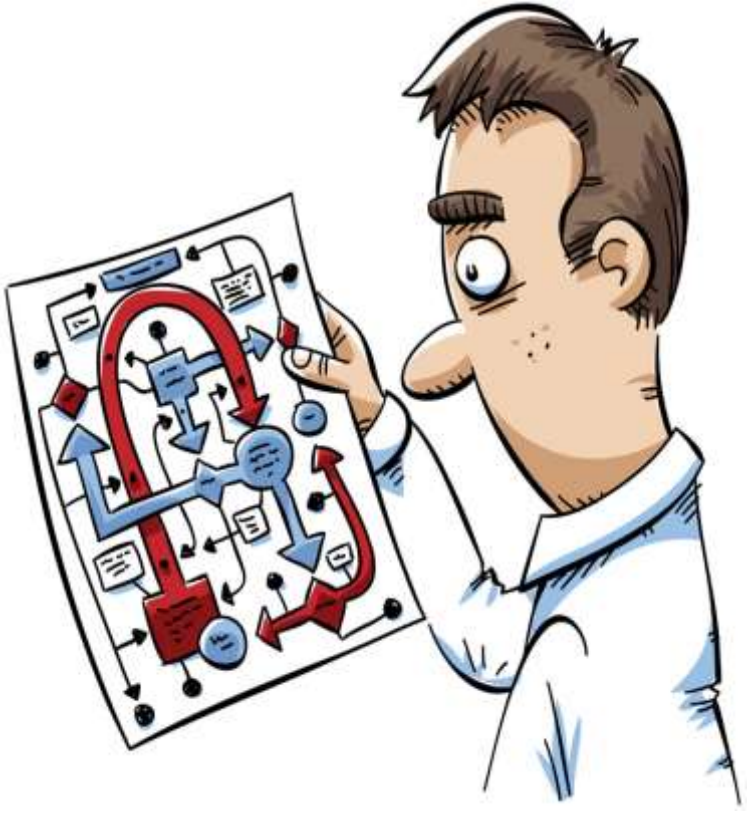
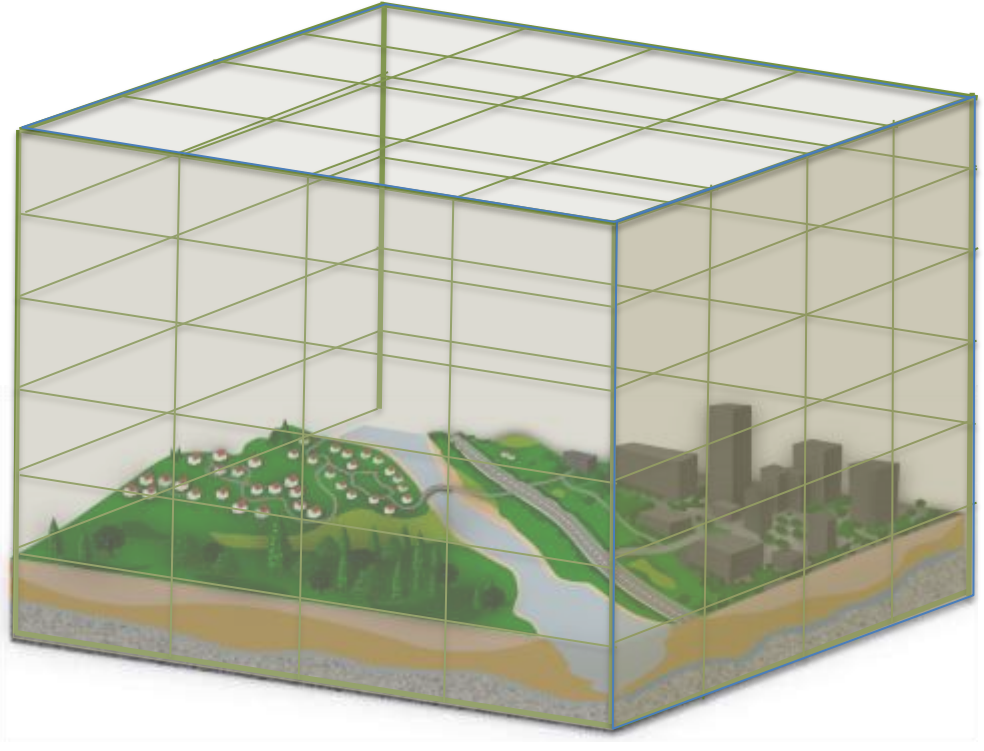
How - Process





Trusted Information

- Process Supported
- ISO 19650 pending process standard
- Validated – Verified Information
- Data creation
- Data Capture
- Coordination
- Checked in Process

Mahalo
Koszonom
Obrigado
THANK
YOU
Danke
Gracias
Merci
Multumesc
Спасибо
Takk
Рахмет
Prasom
Dziekuje