



2021 VIRTUAL

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Hatch



What is being done currently is not working

Plan/Concept/Design

- + Design environment not integrated; multiple sources of data
- + Requirements not well defined, derived, or decomposed making V&V near impossible
- + Ill-defined design scopes; scope gaps
- + Lack of interdisciplinary coordination and collaboration
- + Too often there is a focus on tools over process
- + Configuration Management is ad-hoc or disparate and inconsistent
- + Document Control is “assumed” to be working
- + Review & Approval processes are static, frustrating and expensive

Construct/Commission/Test

- + System certification and integration not considered at design level
- + Regulatory requirements not captured or met
- + No traceability between the requirements and deliverables making V&V contentious
- + Interfaces between stakeholders not well defined or managed
- + Interfaces within project teams not well defined or managed
- + Lack of change management and baseline control
- + Multiple data entry requirements with no single source of truth

Operate/Maintain

- + Reconfiguration and restructuring of data and information at handover
- + Incomplete or missing handover data
- + Operators & Maintainers not connected with requirements and/or design processes
- + Tensions between contractors seeking to optimize CAPEX and operators / maintainers seeking to optimize OPEX



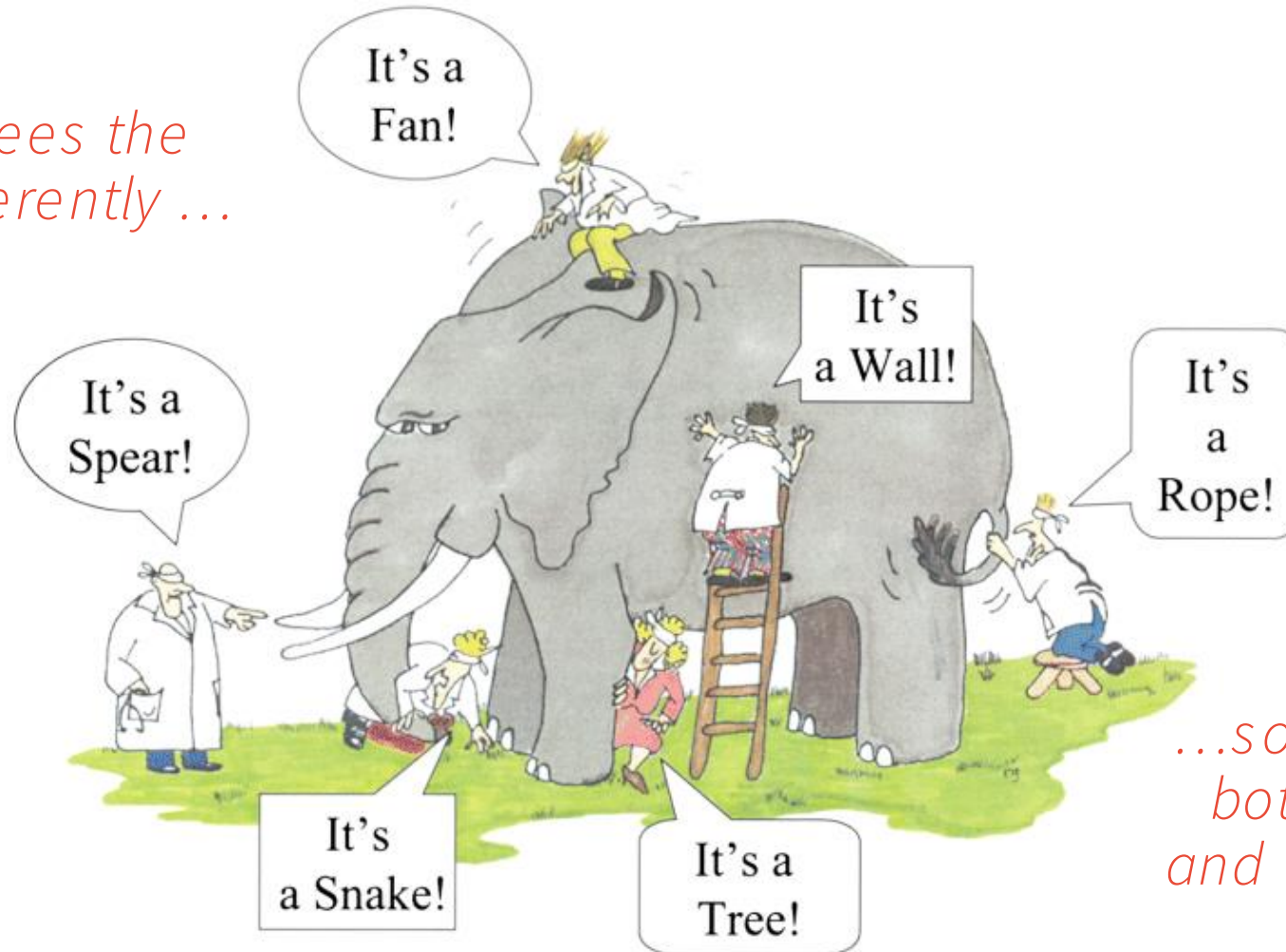
Why it's not working





Why it's really not working ...

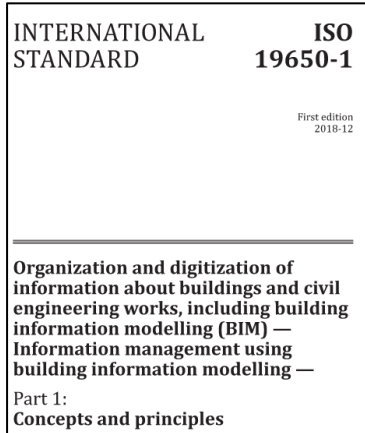
Everyone sees the problem differently ...



...so how do we see both the elephant and its components?



New Global Information Management Framework



- 2007 - BS1192 = dominant “BIM” standard in industry
- 2018 – BS1192 elevated to ISO 19650
- Industry rapidly adopting & aligning

Information management for the asset lifecycle

- **Information** Management for RAIL projects in the context of **Organizational & Asset** Management
- Information is ‘**Federated**’ into one **Common Data Environment** (CDE) for all parties – engineer, contractor and owner
- Workflows (automated) are added to improve both **efficiencies and quality**



DPD™ Rail PaaS

PROJECT REQUIREMENTS

Requirements Management
Concept, Contract
Stakeholder,
System,
Subsystem, &
Architecture



CONFIGURATION MANAGEMENT

Continuous Global
Configuration
Management



Reporting

Real-Time Reporting,
Forecasting and
Analysis



VERIFICATION & VALIDATION

Integrated and
Digitally Connected
System Assurance



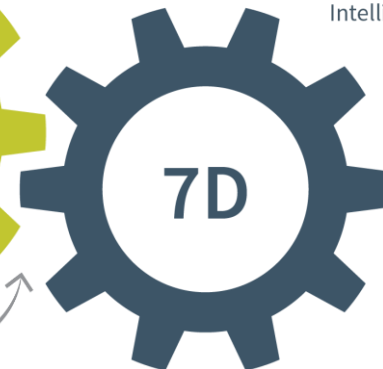
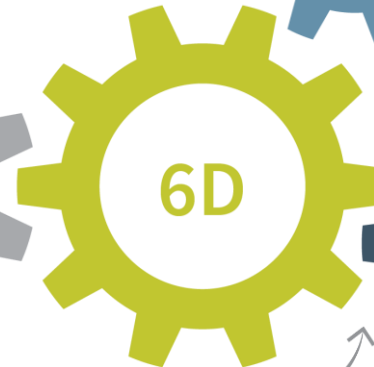
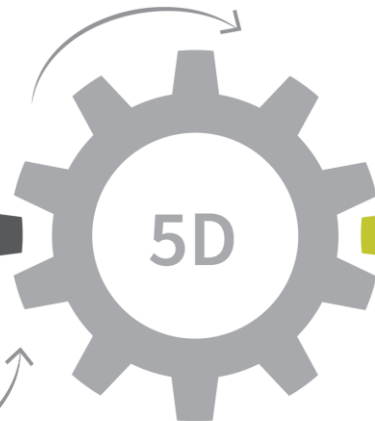
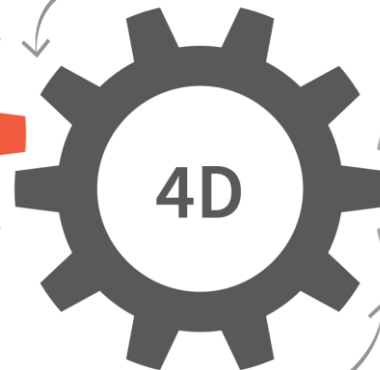
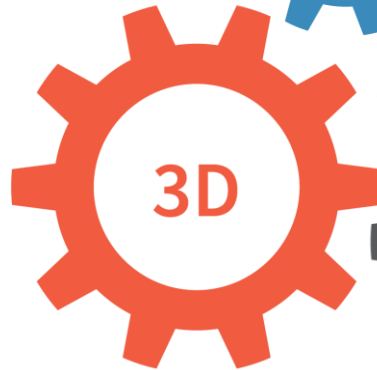
DIGITAL THREAD

Requirements
traced to data



INTELLIGENT MODELS

Spatial, Functional
& MBSE (Digital Twin)



DIGITAL TWIN

Asset
Intelligence



Project Information Model (PIM)

TIME

Schedule
Progress



COST

Quantities
Trends



HANDOVER TO OPERATIONS

Asset & Facilities
Management



Asset Information Model (AIM)

Play/Concept

Design

Build

Commission

Operate

Maintain

Optimize

Transform



It's not just about technology

Enterprise Transformation Services

Integrated products, processes, & services to enable digital transformation and digital EAM within organizations

Applied to
Programs:
Connected
Projects

Digital Systems Engineering Coordination

Workflows, processes, digital solutions, & integration services across the lifecycle of a project

Applied to
Projects:
Connected
Phases

Point Solutions

Point solution digital product or service for targeted use-case

Applied to Phases:
Planning, Design, Construction, or O&M