

# Integrated Project and Asset Performance Management in Railway Infrastructure

2022 Rail Infrastructure Asset Management Summit, London



## Presenter

## Bas Beemsterboer

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- 1992: F&B industry
- 1996: EAM Consultant
- 1999: Project Manager
- 2006: Director Presales
- 2018: Product Strategy
- 2022: EAM evangelist at IFS



# Session Agenda

- 1 Introduction
- 2 Infrastructure Sector Observations
- 3 Industry Challenges and Trends
- 4 How to Maximize the Opportunity

# Who are IFS?

# IFS - Specialist in Project and Asset Lifecycle Software Solutions

Employees  
**+5,000**

Countries  
**50+**

Customers  
**+10,000**

Revenue 2021  
**984**  
mUSD

Revenue growth  
**3x**  
Vs average market  
growth rate

Cloud revenue  
**+105%**  
vs 2020

# IFS Focus on Asset Lifecycle Industries

Design - Construct - Operate - Maintain

Infrastructure



Construction & Engineering



Energy & Utilities



Telecommunications



# Infrastructure - Construction, Engineering & Asset Owners

## Example Customers



# Customer Case Study

## Babcock Rail

Babcock International is using IFS as a full system across multiple business units. **Building, managing and maintaining** highly complex critical assets as part of multiple, high-value projects

- Customer since 2000, completed 4,630 projects with IFS software to date
- UK, Germany, US, Australia
- Single source of project status for staff and customers
- Priorities clearly visible in IFS Lobbies
- Easy to use for both daily and occasional users
- Improved efficiency with mobile work orders

**"IFS gives the customer confidence because all the materials, sub-contracts, costs and labour are all captured by the solution. The level of detail and ability to drill down if needed works for everyone involved."**

Barry Logan  
ERP Solutions Manager  
Babcock International

# Customer Case Study

## Babcock Rail



Consultancy



On-Track Plant



Rail Training

### Babcock's Rail Activities



Signalling



Telecomms



Track Projects



Track Renewals



From first implementing IFS as its financial solution 20 years ago, today Babcock International is using IFS as a full ERP system across multiple business units. Building, managing and maintaining highly complex critical assets as part of multiple, high-value projects, Babcock has completed over 4,630 projects with IFS software to date.

IFS is utilised across multiple business streams, with projects ranging from advanced manufacturing to ship refitting and engineering. Approximately 12,000 Babcock Marine engineers work across four main sites: Rosyth (Fife, Scotland), Bristol and UK Naval bases at Clyde (Faslane, Scotland) and Devonport (Plymouth).

The scope of work undertaken by Babcock is wide, and its scale is impressive. In Bristol, the design team develops new complex assets. Babcock's Rosyth facility assembled the UK's aircraft carriers, alongside other commercial work. In Devonport, Babcock looks after the nation's warships and submarines, and manages refits. And, as the Ministry of Defence commercial partner at HMNB Clyde, Babcock manages the base looking after Britain's nuclear assets.

Explains Sean Donaldson, Managing Director of Babcock Energy and Marine, and the Rosyth site: "We're involved in everything from managing critical infrastructure to delivering operational maintenance, upgrades and repairs to vessels. With 12,000 users across the Marine division, and up to 1000 online at once, we rely on IFS as our single point of truth."

**Driving industry standard compliance and reporting**  
Babcock uses IFS Applications to manage maintenance for assets on its sites, tracking both planned and reactive works. The team is currently introducing IFS reporting that will benchmark performance and against SPQ20 compliance, the industry standard maintenance specification for building engineering services.

#### About Babcock International Group

For more than a century, Babcock, the Aerospace and Defense company, has been trusted to deliver bespoke, highly-skilled engineering services. We help customers in the UK and around the world to improve the capability, reliability and availability of their most critical assets within the four market sectors of Marine, Land, Aviation, and Nuclear, underpinned by a deep understanding of technology integration, unique infrastructure, and specialist training.



Case study on Babcock's other projects on the IFS website



# Infrastructure Sector Observations

# Infrastructure Sector

## COVID impact

### NEW NORMALS ARE NOW THE NEW REALITY



Business Resilience & Risk



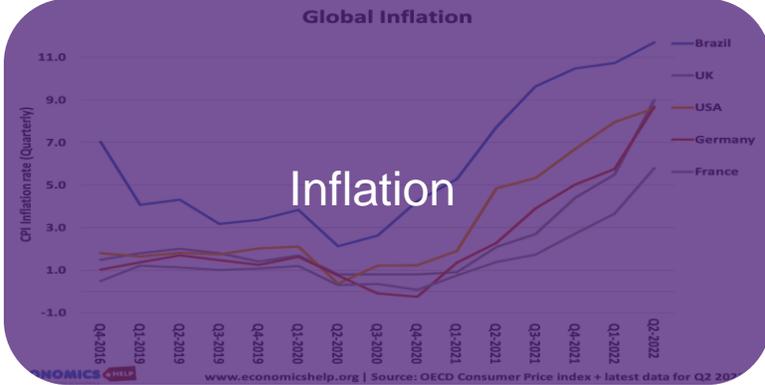
Customer Requirements



Business Models



Supply Chain and Sourcing



Inflation



Labor Availability

# Infrastructure Sector

Are you ready to take advantage of this mega trend ?

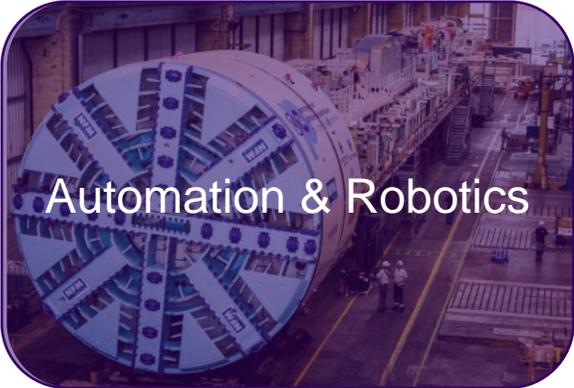
## NEED TO ACT AND CHANGE



# Infrastructure Sector

Technology – the critical enabler

## TECHNOLOGY - THE CRITICAL ENABLER



# Industry Trends & Challenges



**Contractor Integration**



**Digital transformation**



**Full asset lifecycle support**

# Contractor Integration

# Overcoming challenges

## Construction and Engineering Contractors



**Competition**

**Aging workforce & skills shortage**

**Poor productivity**

**Low margins**

**Poor project delivery performance**

**Low investment in technology**

**Material Supply Shortages and Inflation**

# Overcoming challenges

## Internal and External Mobile Workforce

The screenshot displays the IFS mobile workforce management software interface. At the top, there are navigation tabs for 'Orders', 'Workers', and 'Map'. Below the navigation is a map of a city area with various streets and landmarks. The map is overlaid with a network of colored lines (blue, purple, orange) representing routes or assignments. A large, semi-transparent text overlay reads 'WORK FROM THE MAP'. Below the map, there are two data tables: 'Workers' and 'Vehicles'. The 'Workers' table has 15 entries, and the 'Vehicles' table has 0/21 entries. At the bottom left, there are status indicators for 'Alert'.

Worker Name	Available	Appointments	In Coverage	Incomplete Crew	Curr
Bleau, Joana (jbl...)		0			0
Bonnington, Alyci...		0			0
Boyle, Alan (abo...)		0			0
Corwin, Byron (b...)		0			0
Chaderton, Ben		0			0

Vehicle Name	Vehicle Type	Last Fix Date/Time	GPS Lock	Last Known ...	Occupants	Driver Phc
Chimpanzee - ...	Bucket Truck	08/31/2022 11:24	●	0 MPH		
Cougar - FED...	SnowPlow	08/31/2022 11:24	●	9 MPH		
Elephant - DA...	Truck	08/31/2022 11:24	●	0 MPH		
Giraffe - CBA052	Line Truck	08/31/2022 11:24	●	0 MPH		
Gorilla - 84754F	Bucket Truck	08/31/2022 11:24	●	0 MPH		



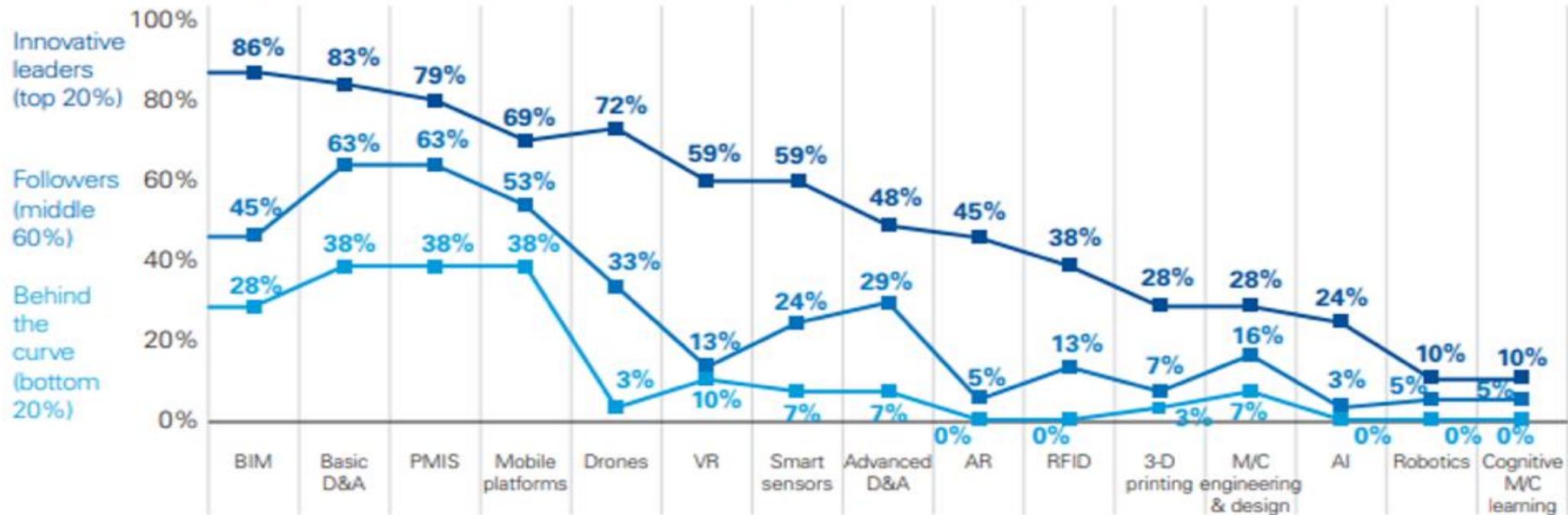
# **(More) Digital Transformation**

# Innovation

## Digital transformation

**Figure 4: Innovative leaders are ahead in implementing technology**

Percentage of companies that implemented each technology



n=155

Source: Future-Ready Index: Leaders and followers in the engineering & construction industry

\*Source: KPMG - Global construction survey 2019

# Industry Trends

## Digital Transformation

### Digital Twins

- Past, present and future
- Asset, Process or Organization
- GIS, CAD, BIM



### Contextual Intelligence

- Knowledge management
- Digital work instructions
- Visualization 2D/3D



### Simulation & Optimization

- Scheduling & Optimization
- Scenario Simulation
- Event Management



### Augmented & Mixed Reality

- Connected Worker
- Remote Assistance
- Impact the Metaverse



### Automation & Robotics

- (Business) Process
- Automation
- Orchestration
- Robotics Integration



### Internet Of Things

- Artificial Intelligence
- Predictive Algorithms
- Machine Learning

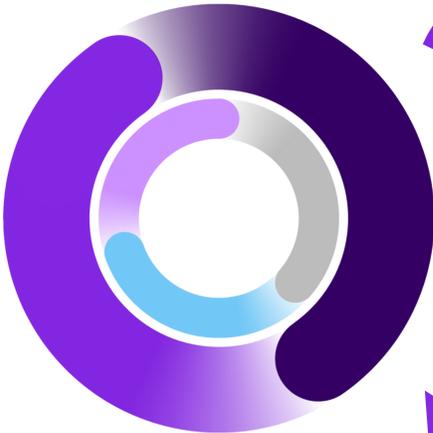


# Complete Asset Lifecycle Management

# Asset Life Cycle Management

## Project Performance Management

- Design
- Build
- Commission

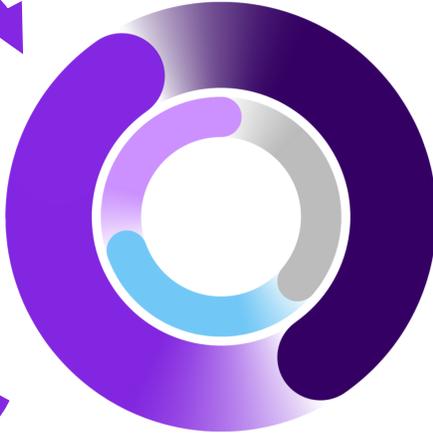


Asset Management requires integration of activities **across the whole life cycle**, not just consideration of individual life cycle stages. This focus on integration particularly affects the design phase, which can determine as much as **80% of the total life cycle cost** as well as a large portion of its environmental and social impact

*– from ISO55K An Anatomy of AM*

## Asset Performance Management

- Operate & Maintain
- Optimize
- Decommission

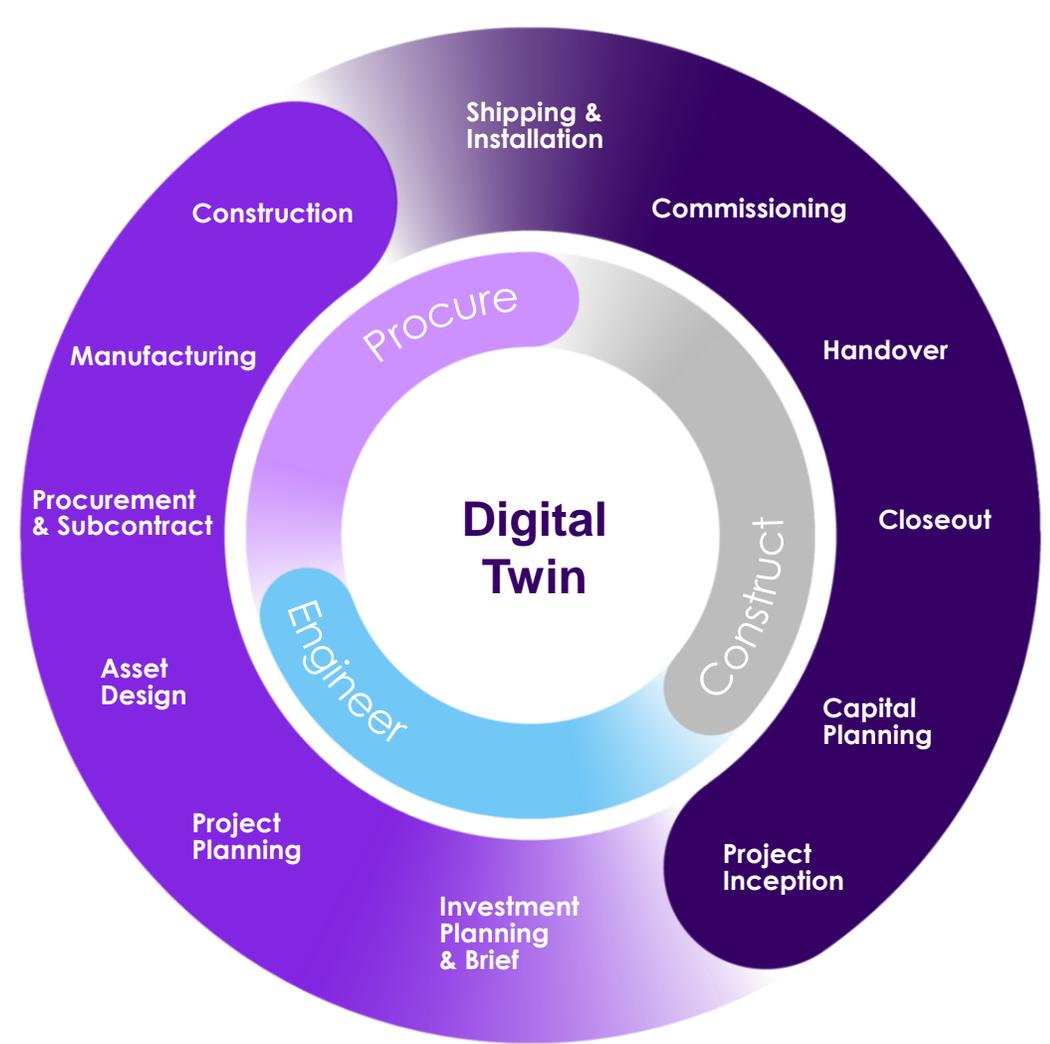


# Project Performance Management

## Asset Life Cycle Stages:

- Design
- Build
- Commission

**Project Performance Management (PPM)** is the process of creating, implementing, and managing projects that contribute to the performance of an organization and its strategy. Rather than focusing on task execution, project performance management is about the bigger picture

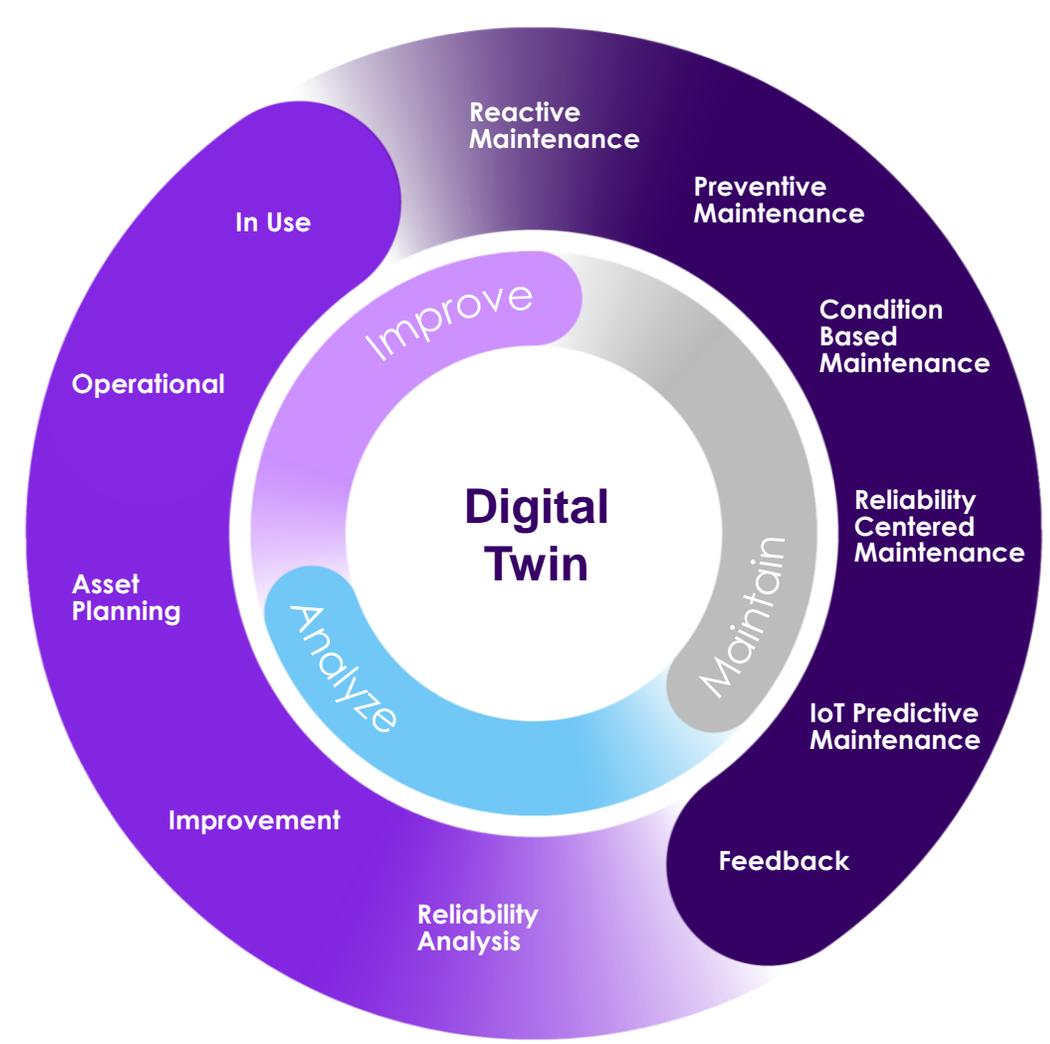


# Asset Performance Management

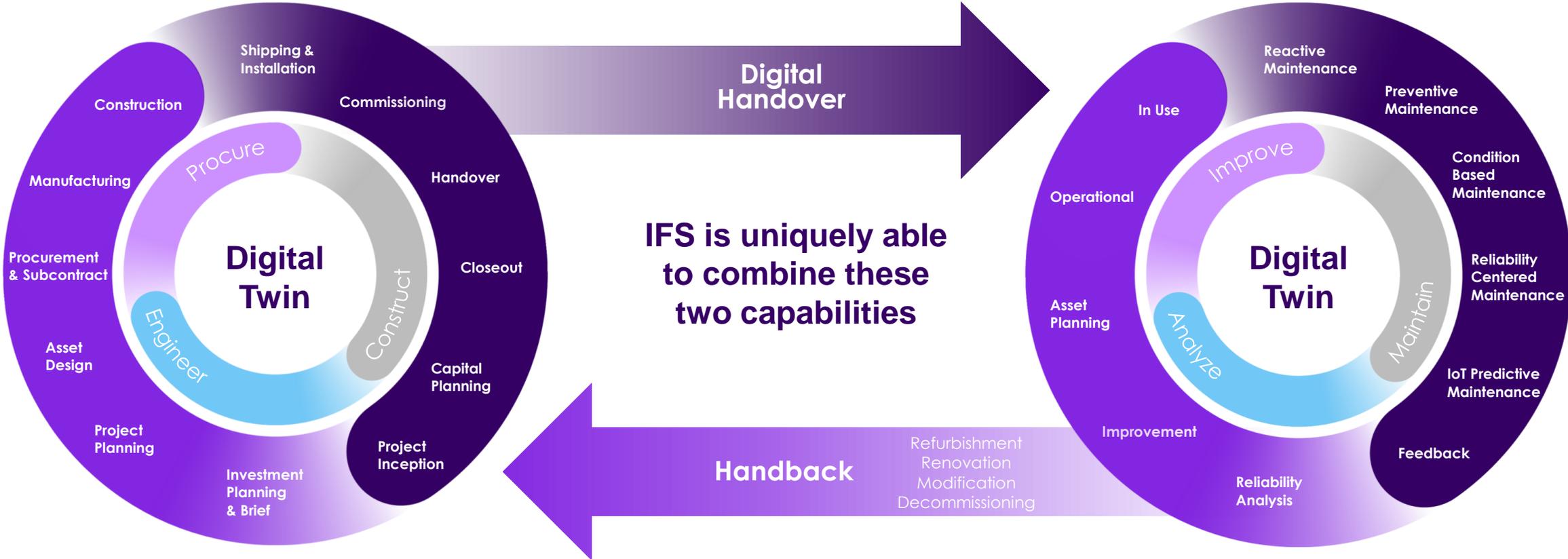
## Asset Life Cycle Stages:

- Operate & Maintain
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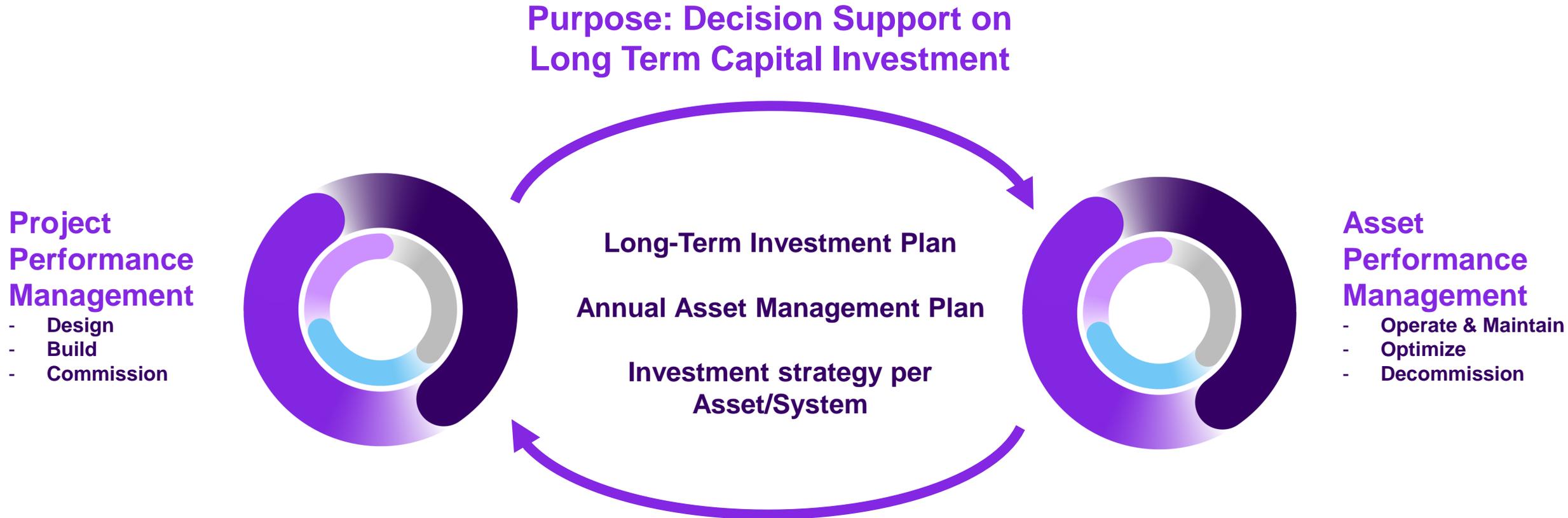
**Asset Performance Management (APM)** is an approach to managing assets that prioritizes business objectives in addition to traditional asset reliability and availability goals. APM has become a primary enabler of digital transformation for asset management among industrial companies



# Asset Life Cycle Management



# Taking EAM further: Asset Investment Planning

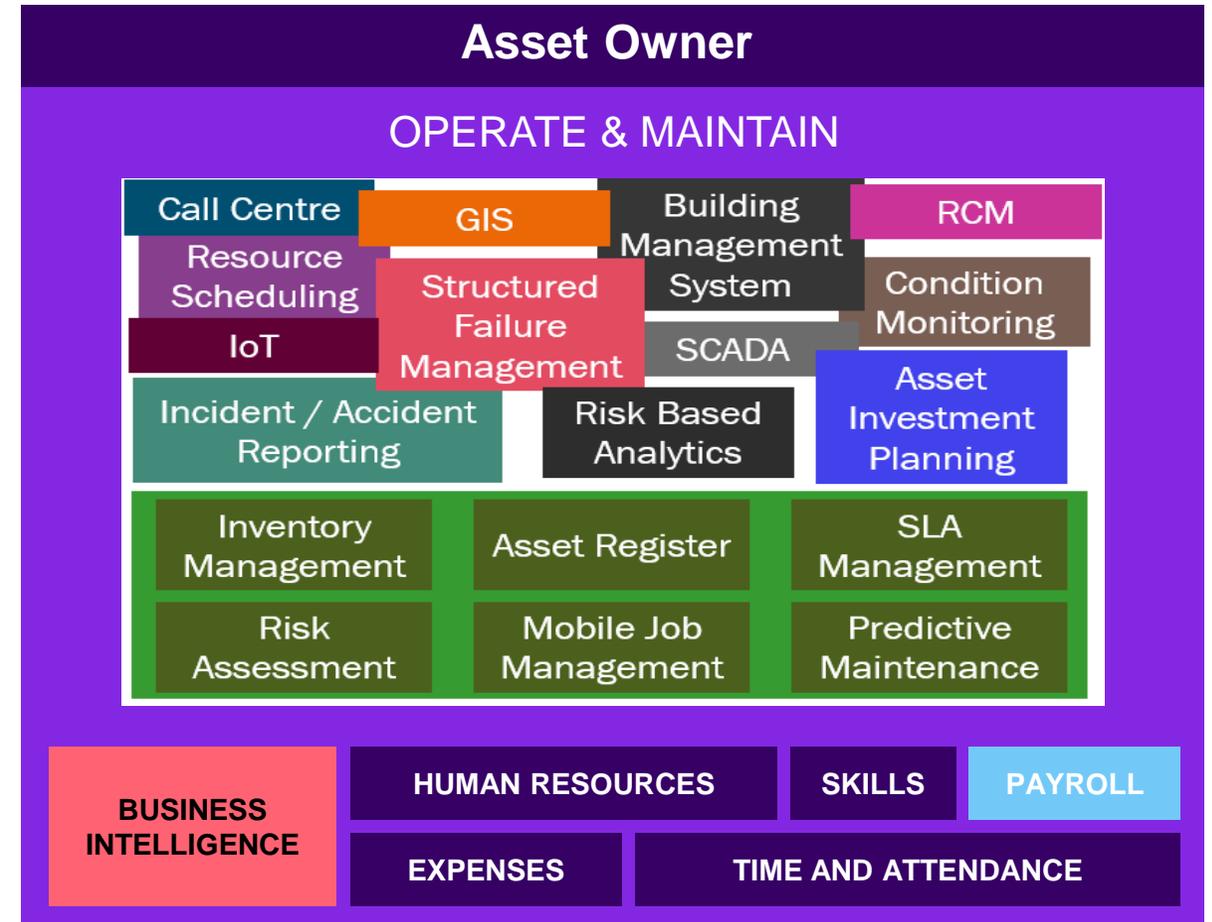
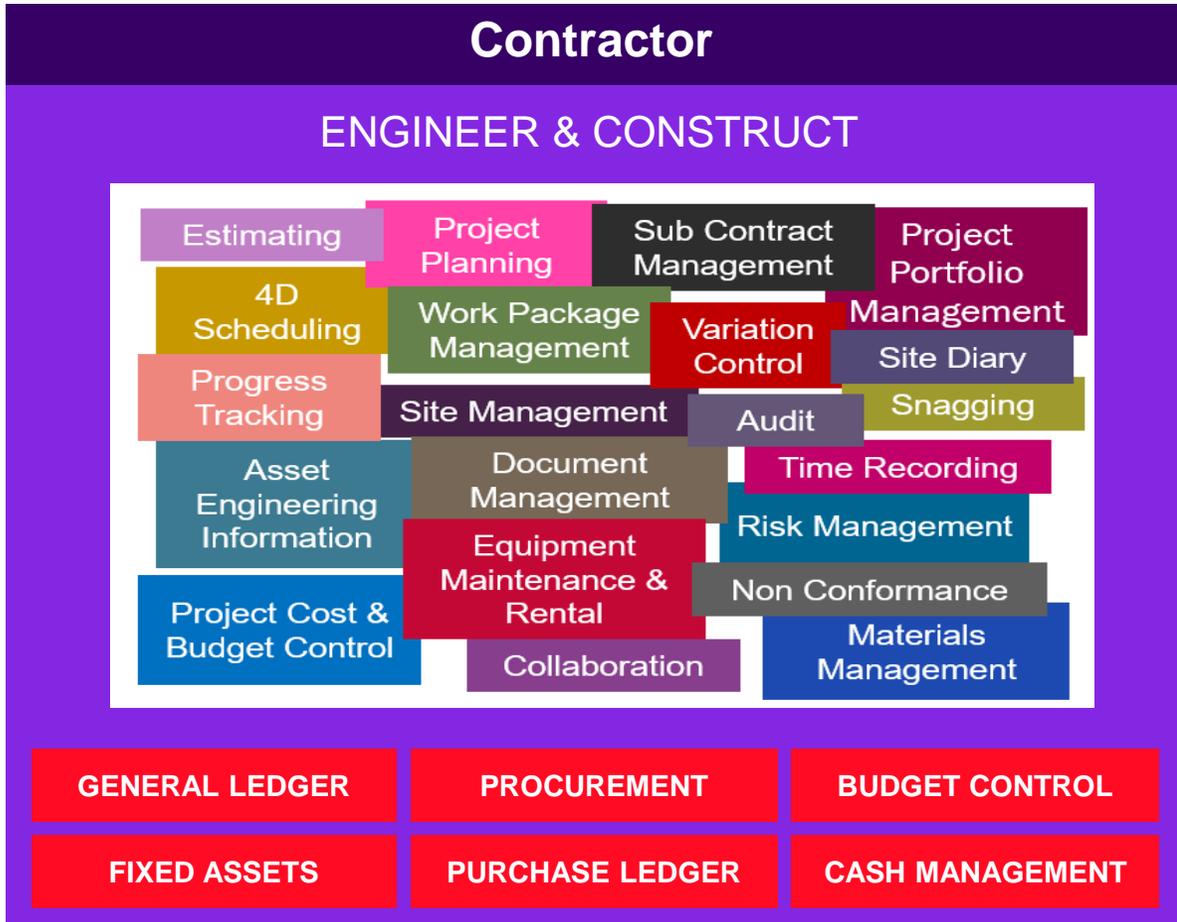


# How to Maximize the Opportunity?

# A Digital Strategy for Asset Lifecycle Management is a Must Have

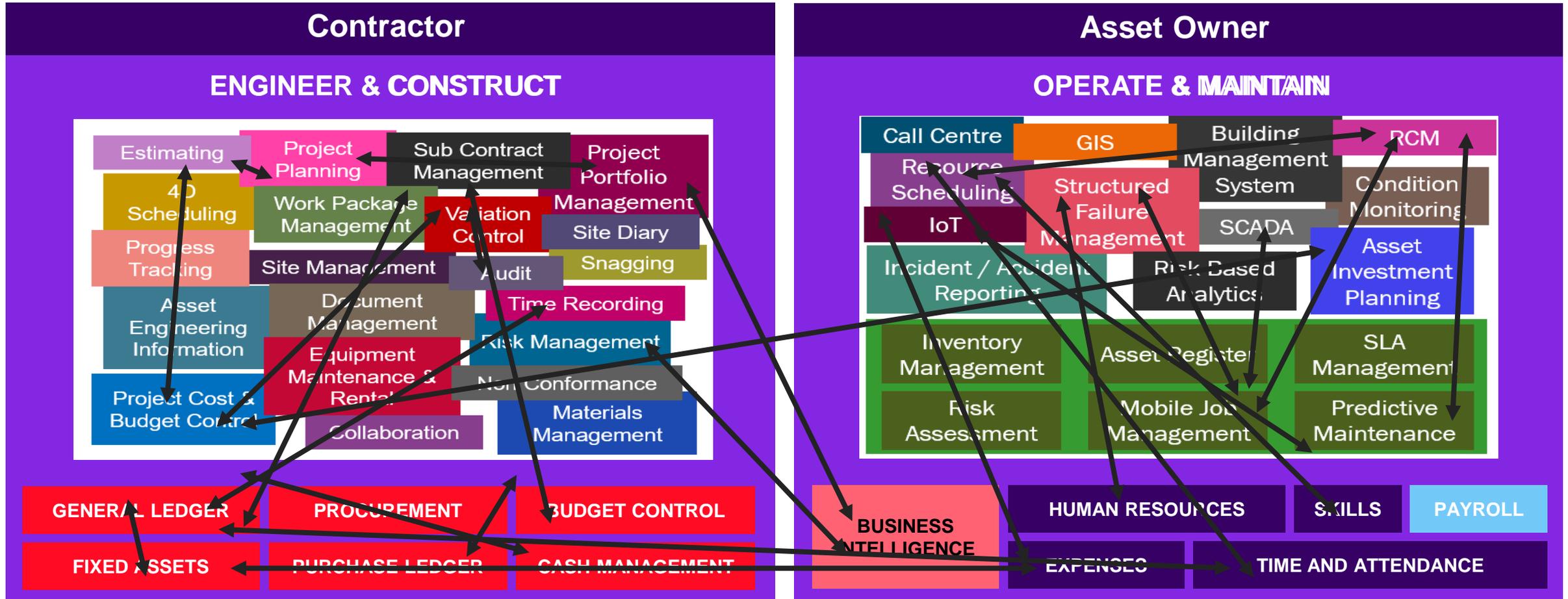
# Typical Infrastructure Systems Landscape

## Disjointed Business System Landscape



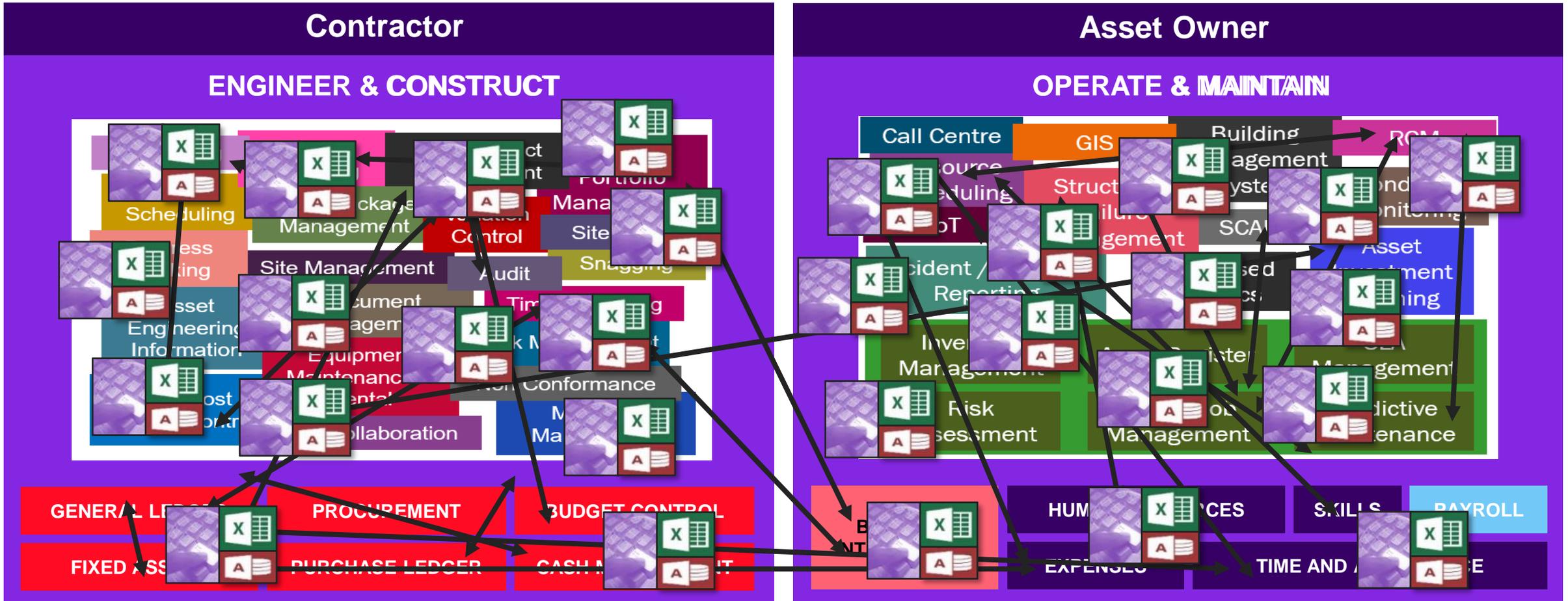
# Typical Infrastructure Systems Landscape

## Disjointed Business System Landscape



# Typical Infrastructure Systems Landscape

## Disjointed Business System Landscape



# World class system - Asset Lifecycle Management

## Simplified Ecosystem Landscape

### IFS Digital ERP Backbone

Business Development	Pre-Contract & Estimating
Commercial	Engineering
Project Management	Purchasing & Inventory
Construction & Erection	Project Cost Control
Plant Hire & Maintenance	FM & Service
Production	Shipping
Factory Maintenance	Document Control
Quality	HSE
Human Resources	Finance

### IFS Digital EAM Backbone

Asset Management	Work Management
Asset Performance	Asset Design & Engineering
Sub Contract Management	Purchasing & Inventory
Equipment Maintenance	Equipment Rental
Project Management	Project Cost Control
Construction & Refurb	Document Control
Quality	HSE
Human Resources	Finance

IFS CLOUD FOR ASSET LIFECYCLE

# World class system - Asset Lifecycle Management

Simplified Ecosystem Landscape

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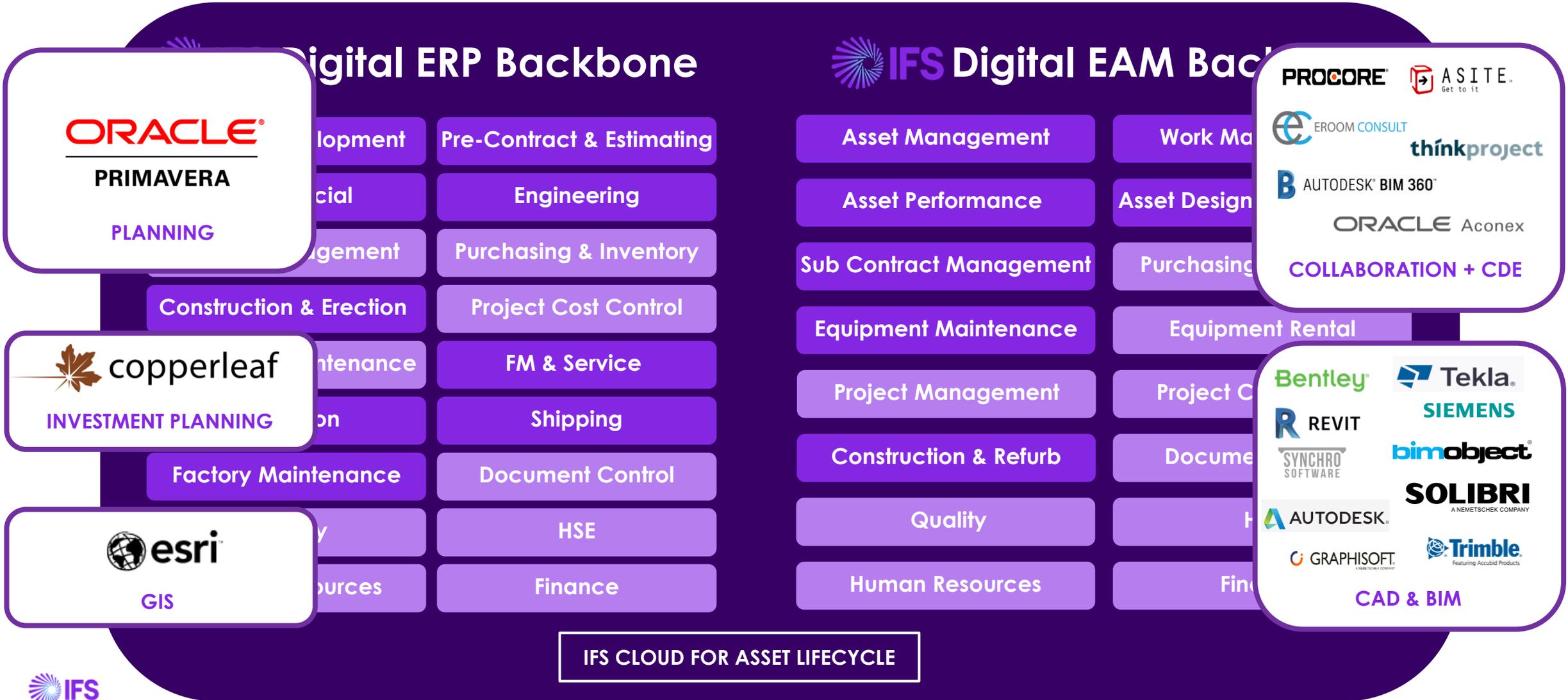
## IFS Digital EAM Backbone

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IFS CLOUD FOR ASSET LIFECYCLE

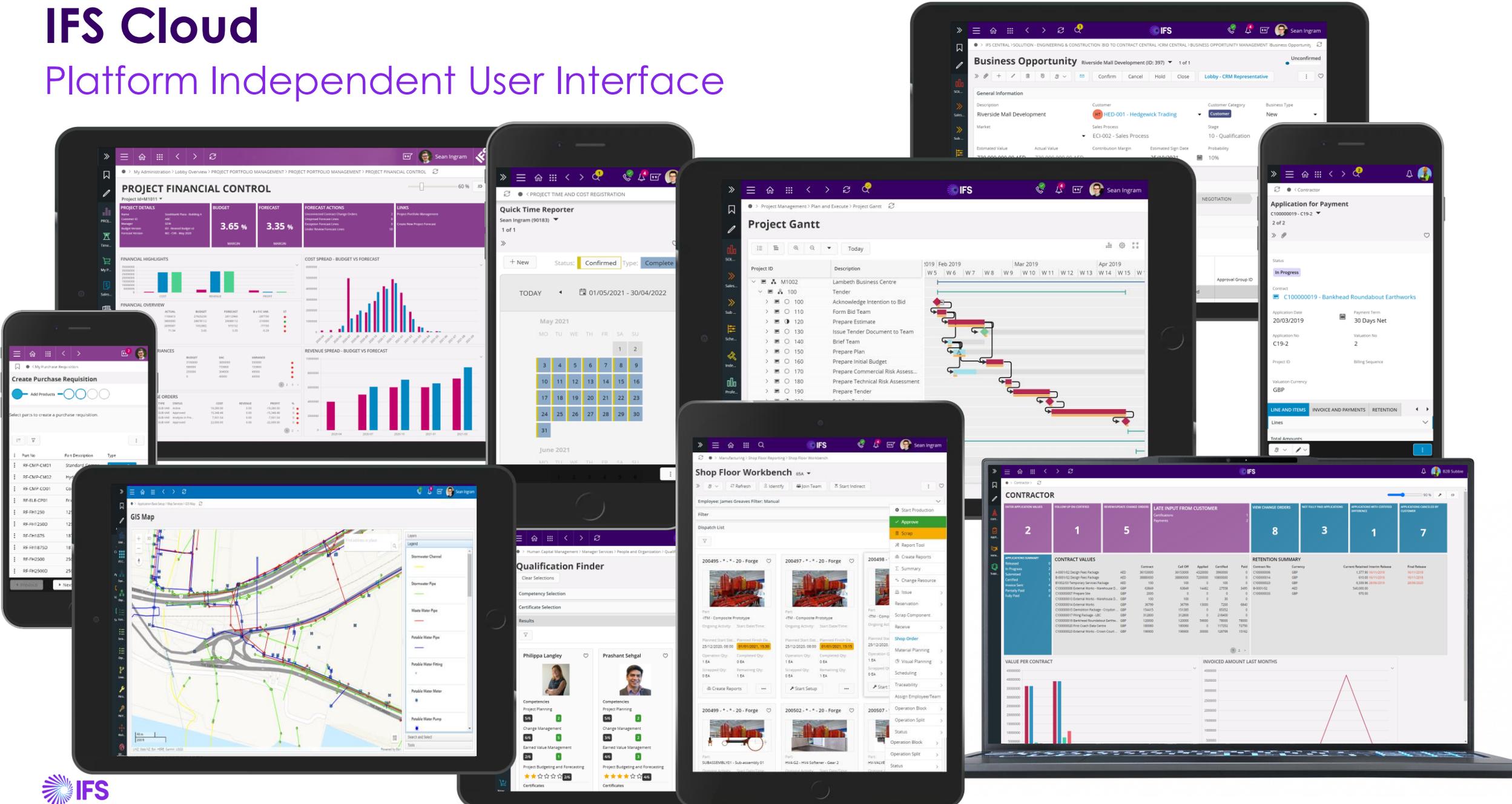
# World class system - Asset Lifecycle Management

## Simplified Ecosystem Landscape



# IFS Cloud

## Platform Independent User Interface



# Infrastructure Sector

Are you ready to take advantage of this mega trend ?

## NEED TO ACT AND CHANGE



Stable and Predictable Revenue Streams



Asset Lifecycle Service Providers



Asset Outcome Based Models



Industrialized Construction



Asset Performance Optimization



Efficiency and Effectiveness



Agility



Informed Decision Making

# Thank you for attending!

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