

# Minimising Project Risk & Maximising Outcomes for Mining Operations



**Rick van Driel**  
Solution Engineering Manager  
IFS Australia & New Zealand



**Martin Vetsby**  
Founder & Project Manager  
2MG Solutions



# Risks Facing Project & Asset Intensive Industries

- Quality Information
- Integration Complexity
- Implementation Risk

Who Is On First??





# This is IFS today

Today we are a global company, working with some of the world's largest businesses

Employees  
**+4,000**

Countries  
**50+**

Customers  
**+10,000**

Revenue 2020  
**\$1,135m**

AUD

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

Cloud revenue  
**+60%**  
vs 2019



# Core Verticals



**Energy, Utilities & Resources**

**Engineering, Construction & Infrastructure**

**Aerospace & Defence**

**Manufacturing**

**Service**

**Mining & Mining Services**  
**Mills & Metals**  
**Telecomm's**  
**Transmission & Generation**  
**Oil & Gas**

**Transportation, Infrastructure & Operations**  
**Ports & Terminals**  
**Water Supply & Treatment**  
**Power Generation**

**Engineering, Construction & Infrastructure**  
**Engineering Contractors (EPCI)**  
**Construction, Infrastructure & Industrial Services**  
**Shipbuilding & Maritime**

**Aerospace & Defence Manufacturers**  
**Airlines & Fleet Operators**  
**Defence**  
**In-Service Support**  
**Independent MRO**  
**Military Operators**

**Manufacturing**  
**Automotive**  
**Chemicals**  
**Discrete**  
**Manufacturing**  
**Food & Beverage**  
**Life Sciences**

**Service Industries**  
**Capital & Industrial Equipment**  
**High-Tech & Office Equipment**  
**IT Infrastructure & Professional Services**  
**Property & Commercial Services**  
**Retail Field Service Management**  
**Transportation & Logistics Management**

# Unparalleled Customer Advocacy



The true measure of **sustainable success** is how our customers feel about us, and how they rate us.

Across all of our solutions, we consistently have the **highest customer feedback scores**.

## EAM

### EAM RATING VS. COMPETITORS

**IFS: 4.4**

SAP: 4.3  
Oracle: 4.3  
Infor: 4.3  
IBM: 4.2

## ERP

### ERP RATING VS. COMPETITORS

**IFS: 4.7**

SAP: 4.3  
Microsoft: 4.2  
Oracle: 4.2  
Infor: 4.1

## FSM

### FSM RATING VS. COMPETITORS

**IFS: 4.9**

Salesforce: 4.5  
Microsoft: 4.5  
ClickSoftware: 4.5  
Oracle: 4.0





# IDC business value study: **EUR**

Choice pays off

**17**

Global study  
of IFS customers

**+17%**

Supply Chain Team  
Productivity

**+24%**

Finance Team  
productivity

**+7%**

Capital Asset Management  
Team productivity

“

**IFS helps us extend the life span of capital assets. It's around 10–15% longer because of higher maintenance quality and assessments.**

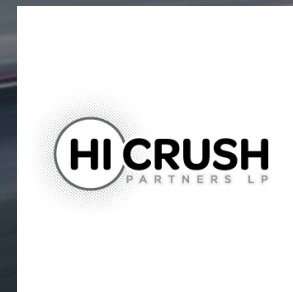
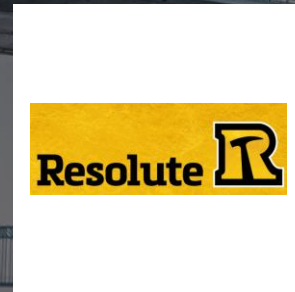
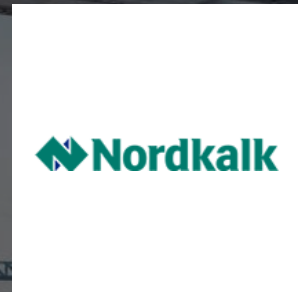
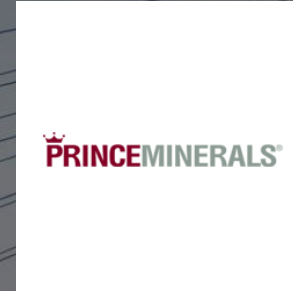
# Customers

We've helped all kinds of mining companies reduce costs, improve efficiencies and seize new opportunities for their business



*“Before implementation, Resolute evaluated a number of competing global ERP suppliers. We chose IFS because it was consistently strong across all the different areas, especially Asset Management”*

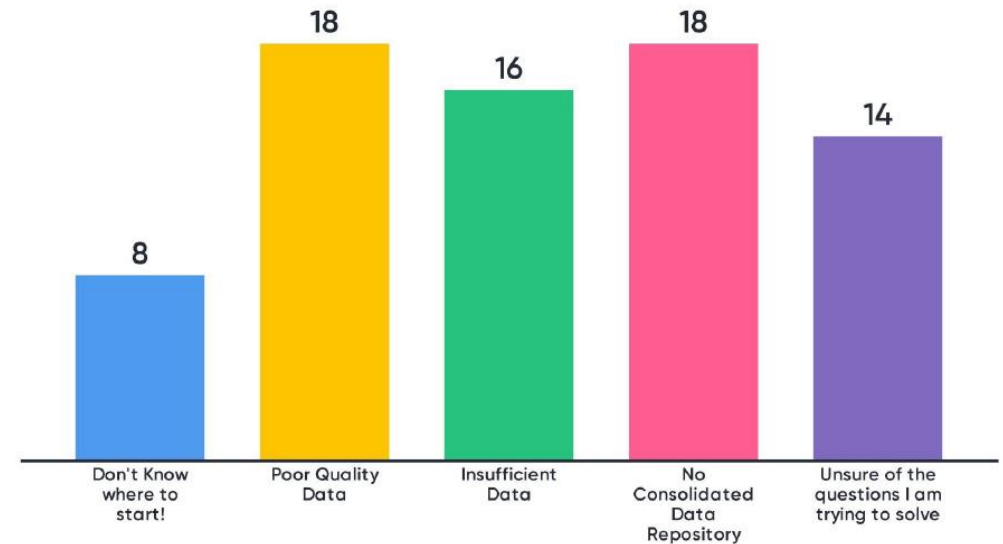
Jodie Hatch, Chief Technology Officer Resolute Mining Limited.



# Quality Information

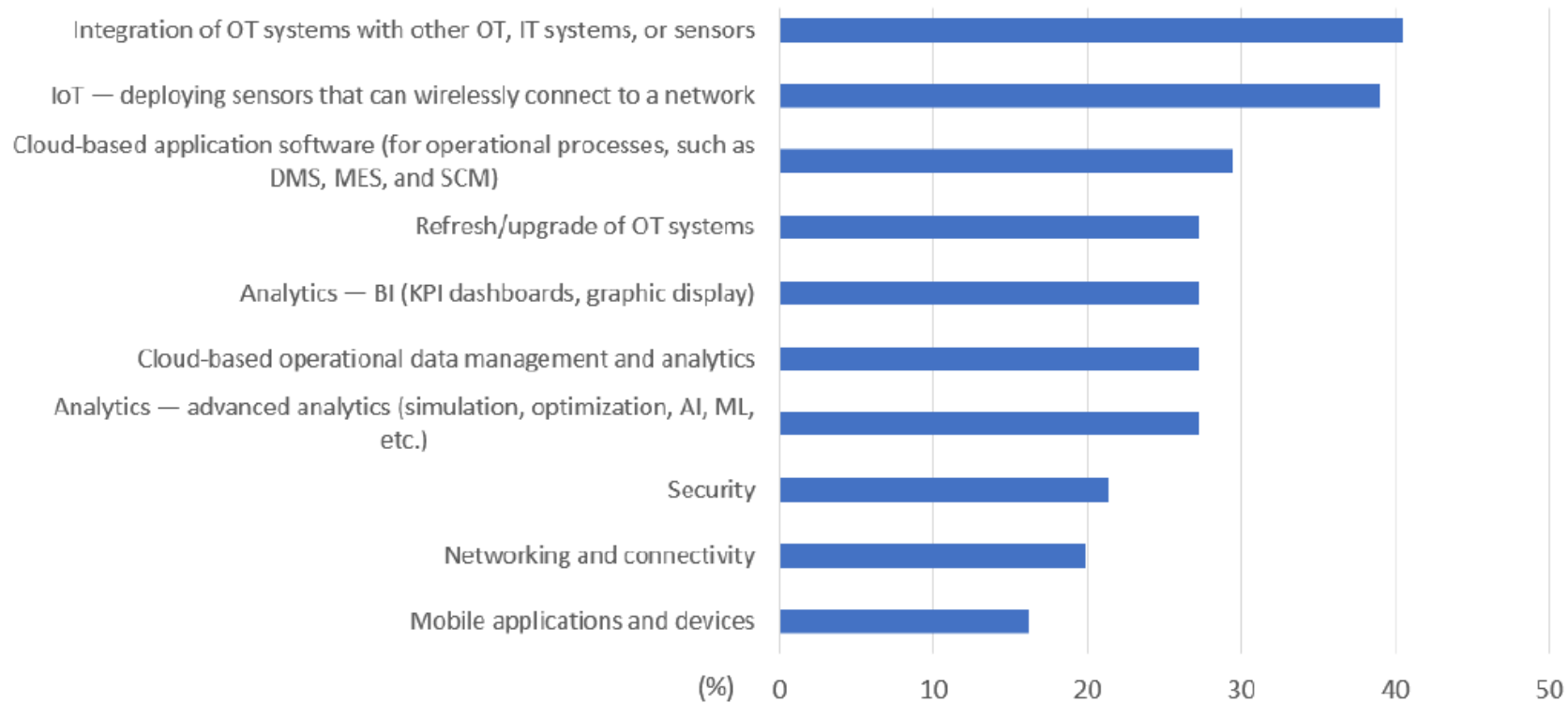
- Data Capture
- Data Governance
- Leveraging Data
- Security

What is the Biggest Challenge you face with regard to Data.





# Top Priorities for Investment



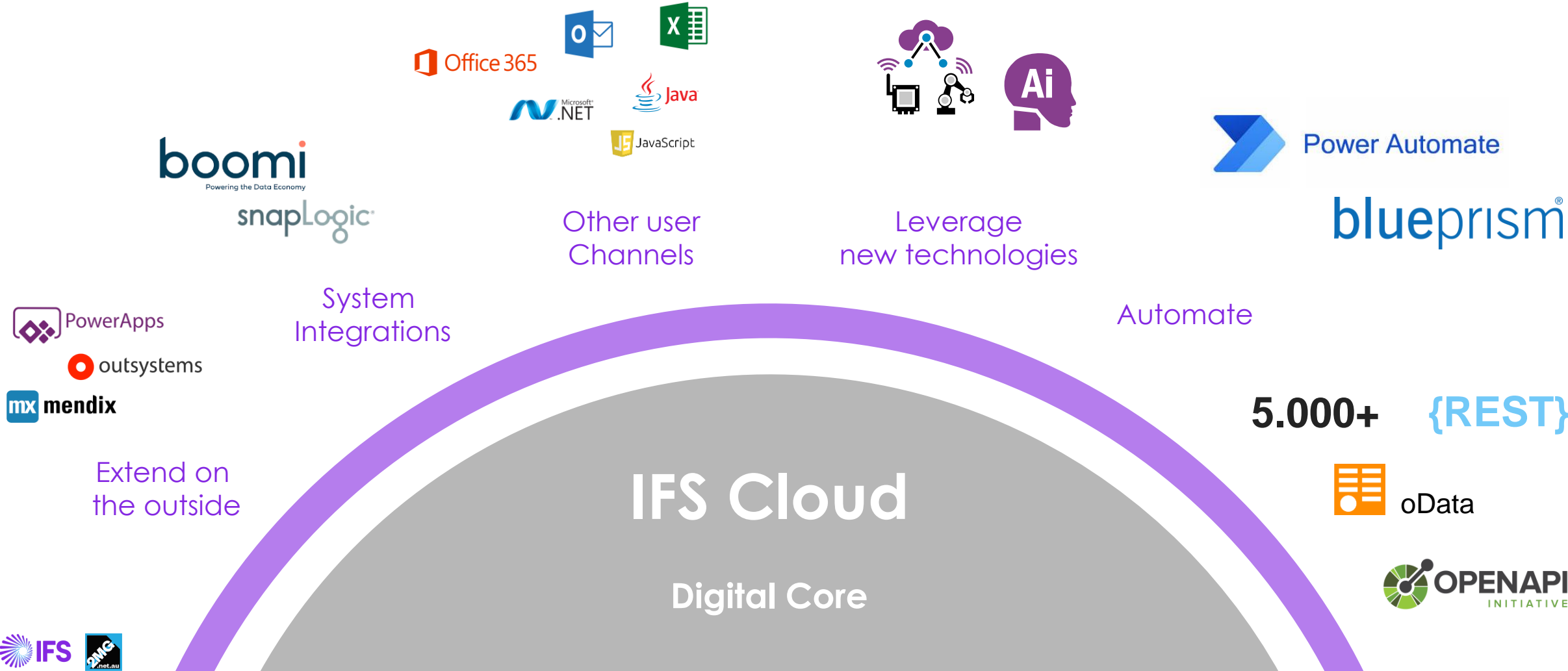
## Notes:

- n = 136 for Asia/Pacific
- BI stands for business intelligence; DMS stands for distribution management system; MES stands for manufacturing execution system; and SCM stands for supply chain management.

Source: IDC *Insights Worldwide IT/OT Convergence and OT Security Survey, 2020*

# Connect and Integrate

With IFS Cloud as your Digital Core



# Supporting Digital Transformation

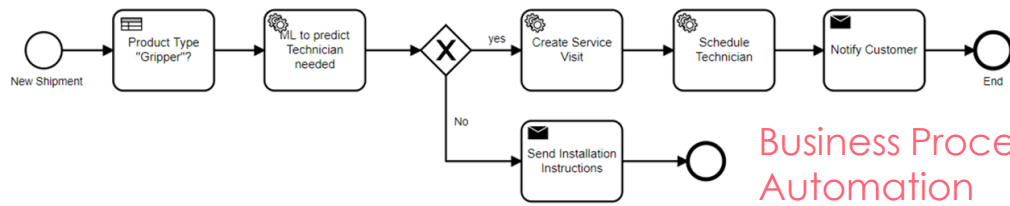
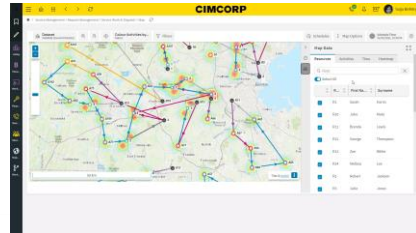
## Innovation Embedded

- Embedded into real industry scenarios
- Remove complexity, cost, time, risk
- Better productivity, experience, quality
- Unique capabilities
- Platform application services, easily applied across multiple use cases

## Remote assistance



## Embedded Scheduling

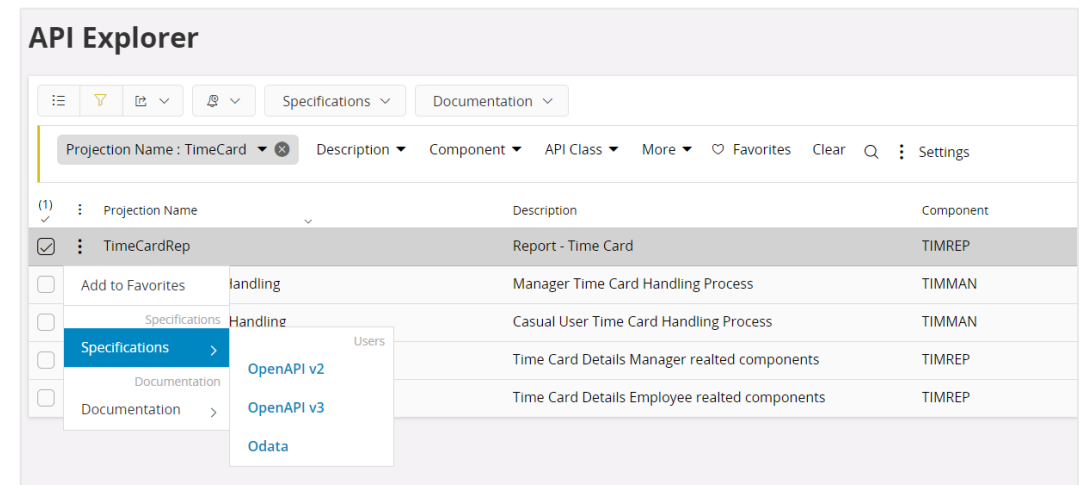


Business Process Automation

...ML service, IoT, ...and more

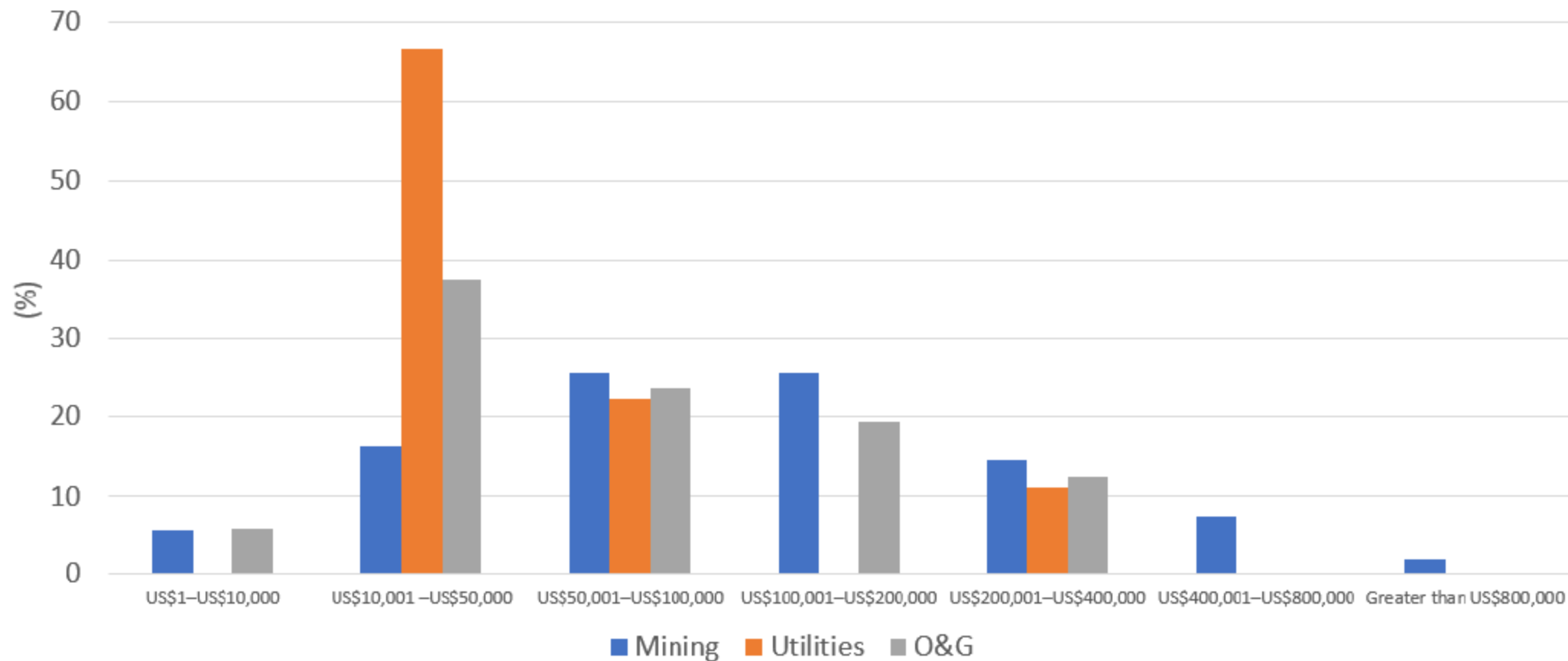
## Open to extend, connect, integrate

- Open access to data, media
- 100% open RESTful APIs
- API parity
- Dedicated development team for extensibility





## Cost of Unscheduled Downtime in Asia/Pacific (Mining, Utilities, and Oil and Gas)



Note: n = 136 for Asia/Pacific

Source: IDC *Insights Worldwide IT/OT Convergence and Operational Technology Security Survey, 2020*

# Asset performance management



## EQUIPMENT DATA IS CONDITIONED

Sensor data is translated and conditioned for real-time monitoring and for automated observations using a third party software such as Crosser or PTC's Kepware



## DATA IS INGESTED

Data observations such as measurements, events, and alarms are ingested into IFS using the IoT Controller, fielded by one of several APM Models and stored in either the measurements or APM tables



## MEASUREMENT & ALARM TRIGGERS

Out of tolerance readings and alarms can generate warning messages and fault reports



## EQUIPMENT MONITORING VISUALIZATION

Asset Performance Lobby for Asset Managers containing My Assets and List of Physical Devices can be drilled down into individual asset performance details


# Equipment Data collection

## Asset Performance Details

Maintenance > Equipment > Asset Performance Management > Asset Performance Details

Machine Status	Current State Duration (Hrs)	Current State Occurrence Time
<span style="color: red;">● OFF</span>	216.61	9/21/20, 1:21 PM

Asset Image

Image 

Object ID	Description	Object Site
PM-311-PA-001	Feed Water Pump 001	70

Object Level: Operational Status In Operation

Object Id

**SUMMARY** | **AL ARMS**

**Measurements** | **Events**

From: 9/16/20, 12:00 AM To: 9/30/20, 1:58 PM Reset Clear

From: 8/20/20, 12:00 AM To: 9/8/20, 12:00 AM Reset Clear

Base Vibration (Average)	Flow Rate (Average)	Flow Volume (Total)	Availability	Current Speed	Last Production Halt
94.68 Hz	9.98 l/h	1517.2 m3	81.14%	0 RPM	-

Motor Current (Average)	Pressure Out (Min)	Temperature (Max)	Last Speed Change	Last Unplanned Stop	No. Of Unplanned Stops
24.9 A	100.1 Pa	50 Cel	-	20-08-26 09:28:02	1

Machine Status

Measurements

Events



# Equipment Data collection

## Asset Performance Details

Maintenance > Equipment > Asset Performance Management > Asset Performance Details

### Machine Status


Machine Status	Current State Duration (Hrs)	Current State Occurrence Time
<span>OFF</span>	217.34	9/21/20, 1:21 PM

### Object Details

Object ID	Description	Object Site
PM-311-PA-001	Feed Water Pump 001	70
Object Level	Operational Status	
Object Id	<span>In Operation</span>	

### Asset Image

Image



SUMMARY ALARMS

Alarms

From : 8/4/20, 12:00 AM To : 9/30/20, 2:42 PM Reset Clear

Last Critical Alarm	No. Of Cautionary Alarms	No. Of Conditional Alarms	Last Alarm Fault	Last Conditional Fault	No Of Alarm Faults
20-09-21 13:21:20	79	889	20-09-21 13:21:43	20-08-26 12:08:31	84
No. Of Critical Alarms			No Of Conditional Faults		
48			12		

From : 8/11/20, 12:00 AM To : 9/30/20, 2:42 PM Reset Clear

Alarms

Auto Reported Faults

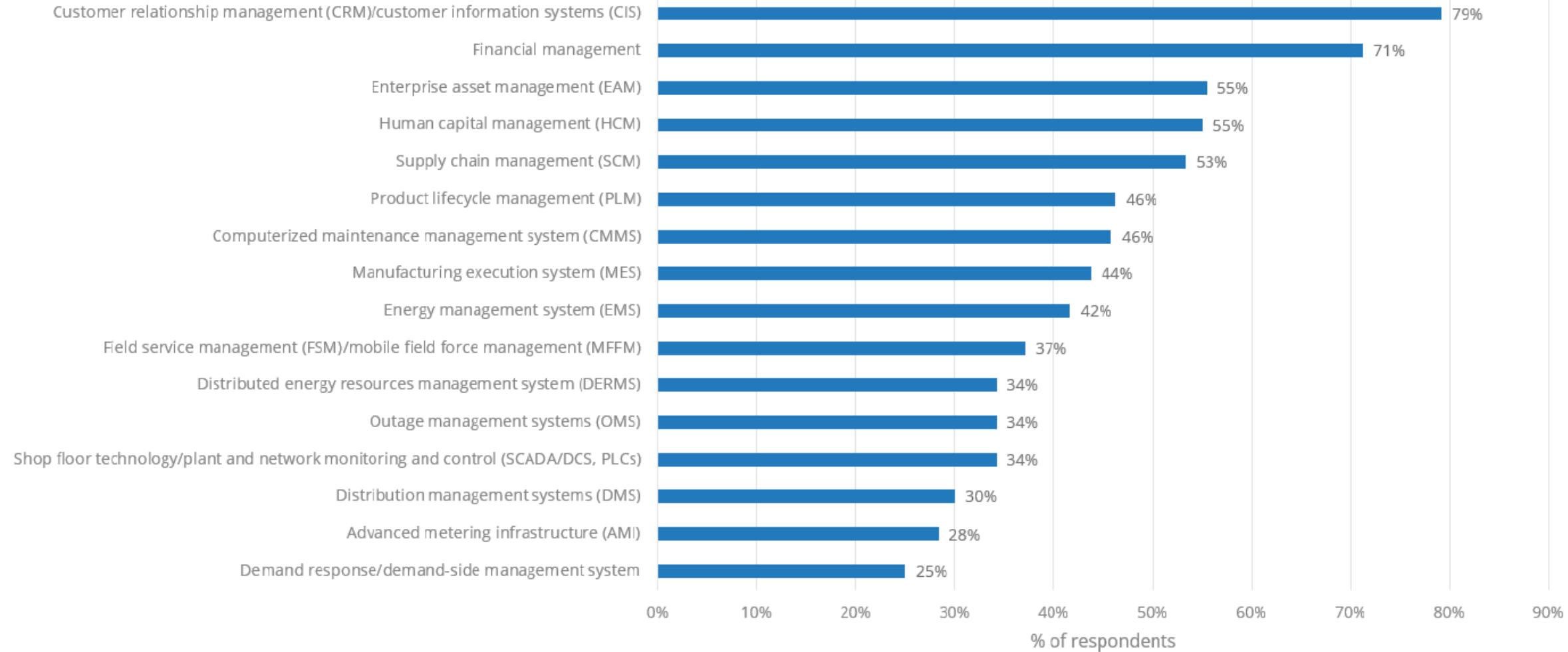
# Integration Complexity

*There are a multitude of solutions required to meet the complex nature of mining operations, as such data Governance and strategy must be at the forefront for the approach to Integration, as should be the need to remove the need for unnecessary integration.*

- Streamline Processes
- Optimise Production
- Gain Valuable Insight from Data
- Confident Exchange of Data
- Reduced Manual Intervention
- Increased Accuracy



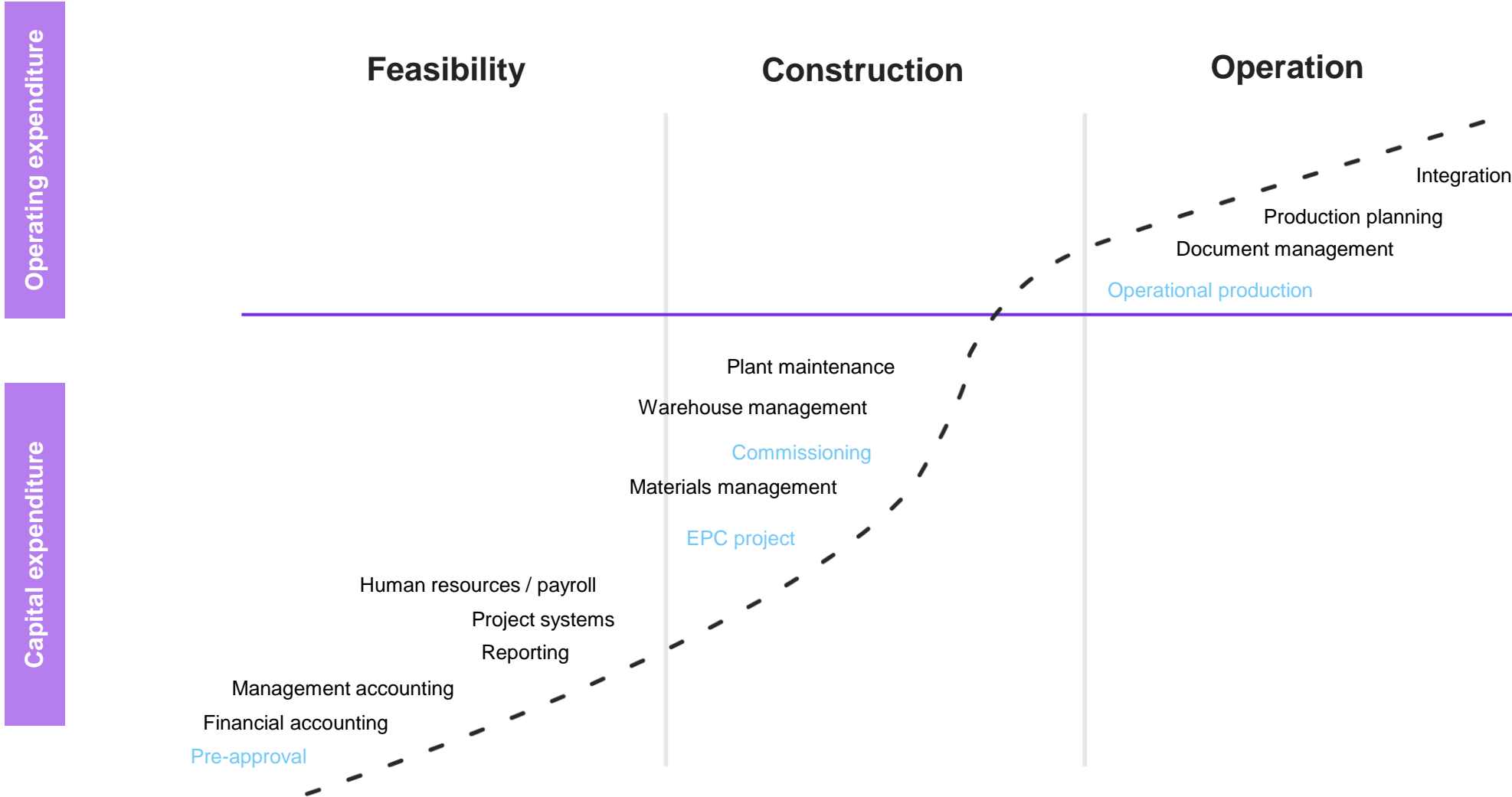
# Typical Integrations with ERP Systems



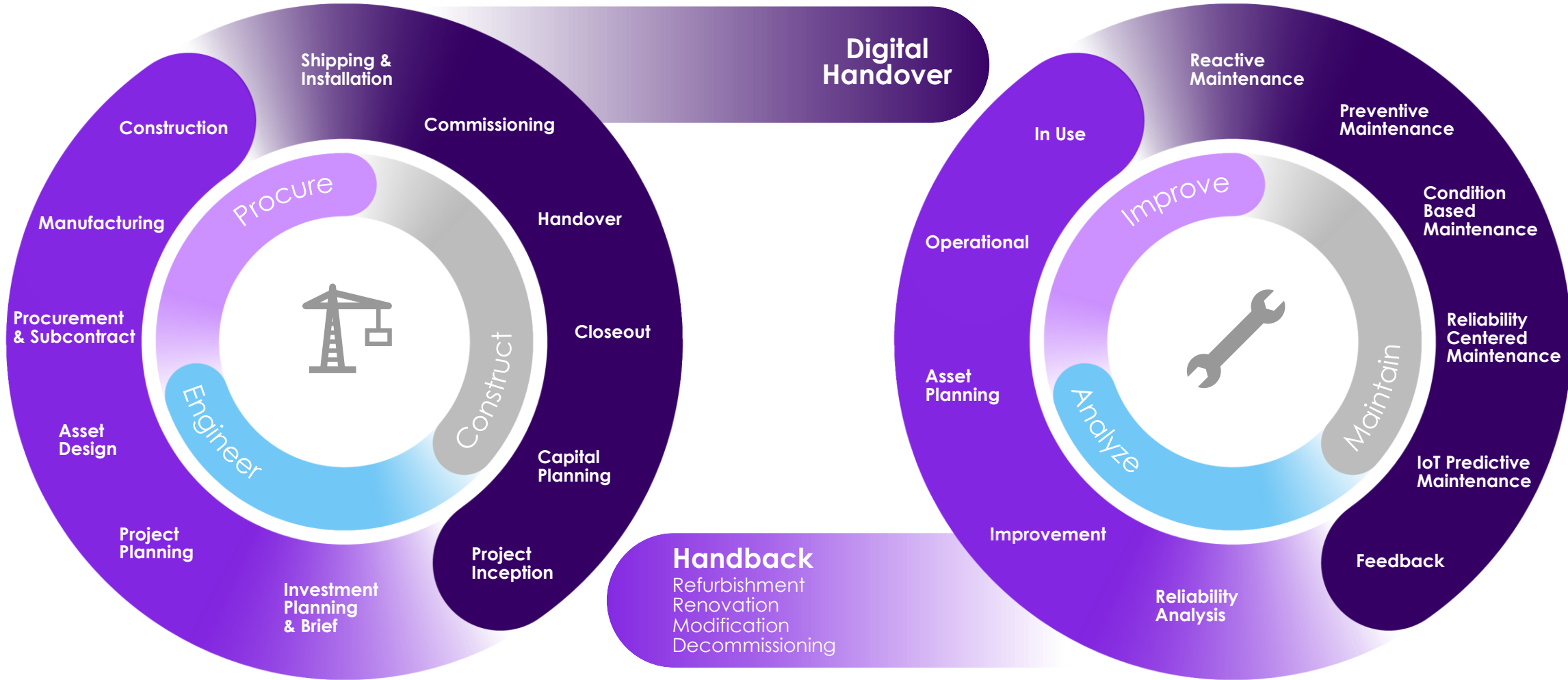


# Need title / reason for being here if we use

Life of mine



# Integrated Project & Asset Lifecycle Management



Construct

Operate & Maintain

Customer relationship management	Commerce	Finance	Human capital management	Projects	Procurement	Manufacturing	Supply chain management	Service management	Asset management	Aviation maintenance
Proactive customer engagement	Catalog management	Accounting rules	Employee & organization management	Engineering and design	Strategic planning	Sales & operations planning	Demand forecasting	Planning & forecasting	Asset planning & realization	Multi-horizon planning
Omni-channel contact center	Trade agreements	General ledger & parallel accounting	Recruitment	Sales & subcontract	Supplier relationship management	Material & resource planning	Supply chain planning	Call & case management	Asset operations & maintenance	Fleet management
Lead management	Storefront	Fixed assets	Qualifications development & training	Contract change management	Sourcing	Visual planning & scheduling	Warehouse management	Contracts & warranties	Asset performance management	Line/forward maintenance
Opportunity management	Storefront connectors	Accounts payable & receivable	Health and safety	Project planning & follow up	Operational procurement	Product estimate management	Inventory replenishment	Schedule optimization & dispatch	Maintenance planning	Airframe maintenance, repair & overhaul
Contact management		E-invoicing	Expense management	Resource management	Contract management	Configure & make to order	Sales order	Service order management	B2B contracting	Complex assembly maintenance, repair & overhaul
Campaign management		Project finance	Time & attendance	Project manufacturing	Supplier self-service	Discrete manufacturing	Shipment management	Mobile worker productivity	GIS integration	Component maintenance, repair & overhaul
Engagement studio		Cash flow	Employee & manager self service	Construction & installation		Batch process manufacturing	Rental management	Service logistics	Document management	Disconnected operations
Automation & self-service		Business planning	Payroll integration	Project financial control		Repetitive manufacturing		Contractor management		Technical content management
		Consolidation		Project reporting & invoice		Quality management				Aviation material support
		Financial reporting & analysis		Risk management		Sustainability management				Quality, reliability & compliance



# IFS solution

## Mining & Mining Services

### BUSINESS PROCESSES



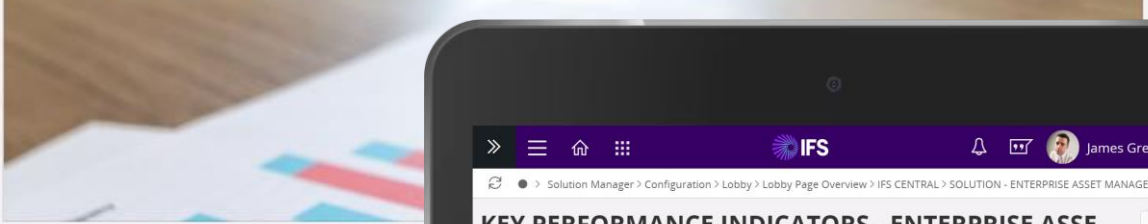
### APPLICATION SOLUTIONS



# SOLUTION - ENTERPRISE ASSET MANAGEMENT



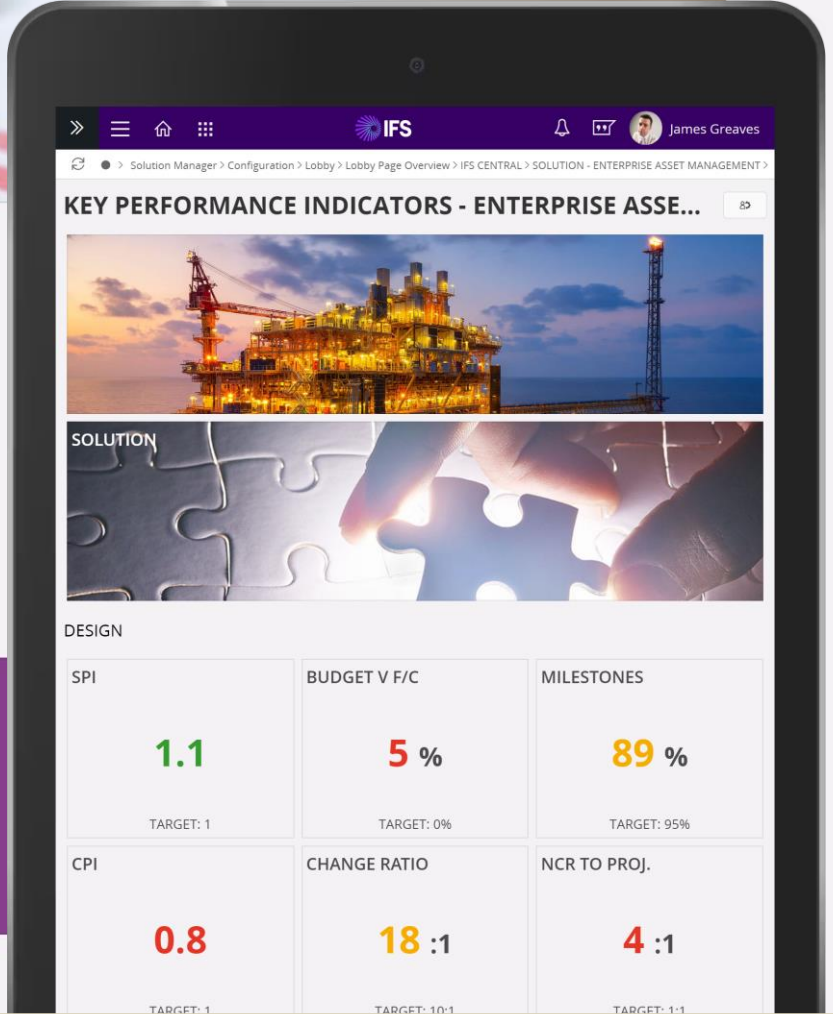
## KEY PERFORMANCE INDICATORS



### BUSINESS PROCESS



### SUPPORTING PROCESSES



Demonstration

# Implementation Risk

- Culture
- People
- Ownership
- Engagement





# Benefit Summary

- End-to-end Project & Asset Lifecycle Support
  - Including; feasibility, funding, construction, operations, maintenance & end of life
- Asset & Supply Chain Management
  - Deep EAM functionality for all mining assets including full management of fleet vehicles
  - Linear asset capabilities incl. seamless GIS integration for maintaining transport infrastructure plus environmental aspects of mining
- Financial Management & Reporting
  - Comprehensive multi-company, multi-currency integrated budgeting, forecasting and regulator compliance accounting solution
- Human capital Management
  - HS&E, incident, risk management plus recruitment, training, rostering and Time & Attendance







# Thank You

#MOMENTOFSERVICE

