Doing More With Offshore Engineering Data – Aberdeen 2nd June 2014

Design Data Integration over E2E Asset Lifecycle and use in Joint Ventures

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Experience the commitment®

CGI is a Global IT and Business Process Services Leader

High-end business and IT consulting

68,000 professionals

10,000 clients across the globe

System integration, IT and business process outsourcing

400 offices, 40 countries around the world

Client satisfaction: 9.1/10
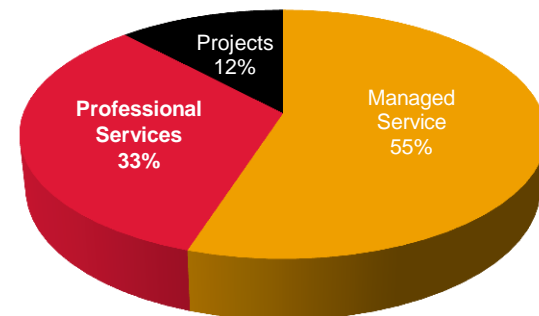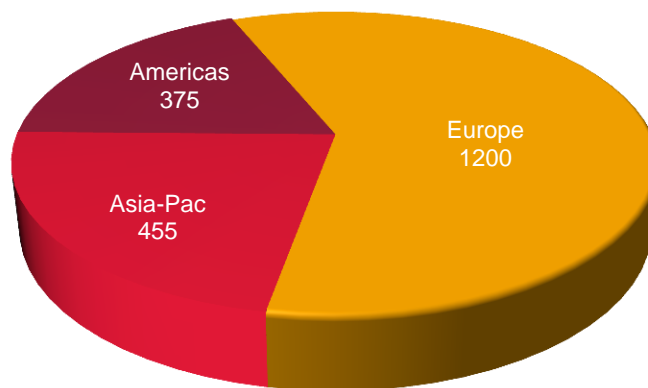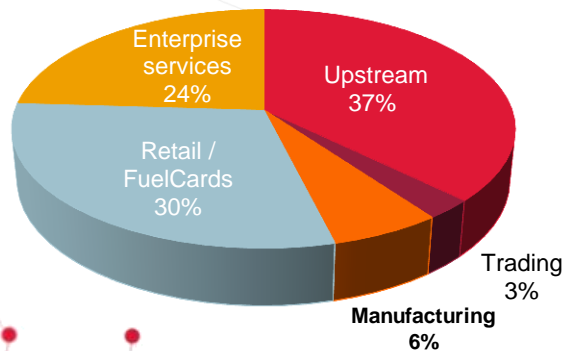
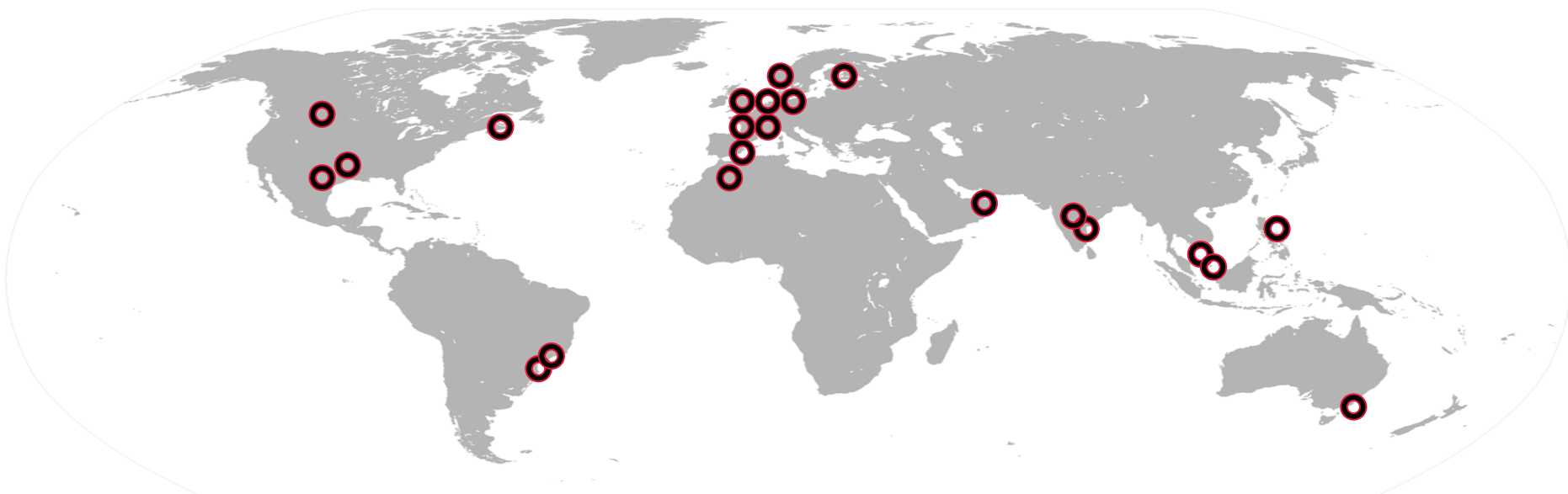100+ mission-critical IP-based solutions

$10.1B annualized revenue

World's 5th largest independent IT and BPS firm

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The CGI footprint in Oil & Gas
(over 2000 professionals from 24 locations)

Pie chart 1:
- Upstream 37%
- Enterprise services 24%
- Retail / FuelCards 30%
- Manufacturing 6%
- Trading 3%

Pie chart 2:
- Europe 1200
- Asia-Pac 455
- Americas 375

Pie chart 3:
- Managed Service 55%
- Professional Services 33%
- Projects 12%

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Some of what we do for our partners …

CGI manage over 500 critical E&P applications

L2S JV Finance

North Sea helicopter & PoB are managed by CGI software

Refinery Process Control Automation managed globally

European Fuels Delivery scheduling

Employee pensions managed service in Europe

Monitoring software for manufacturing processes

HSSE compliance tracking software

Manage divestments valued at over $5bn and over 6,000 staff

Retail site pricing managed by CGI software

1.2bn Fuel Card payments transactions p.a.

4

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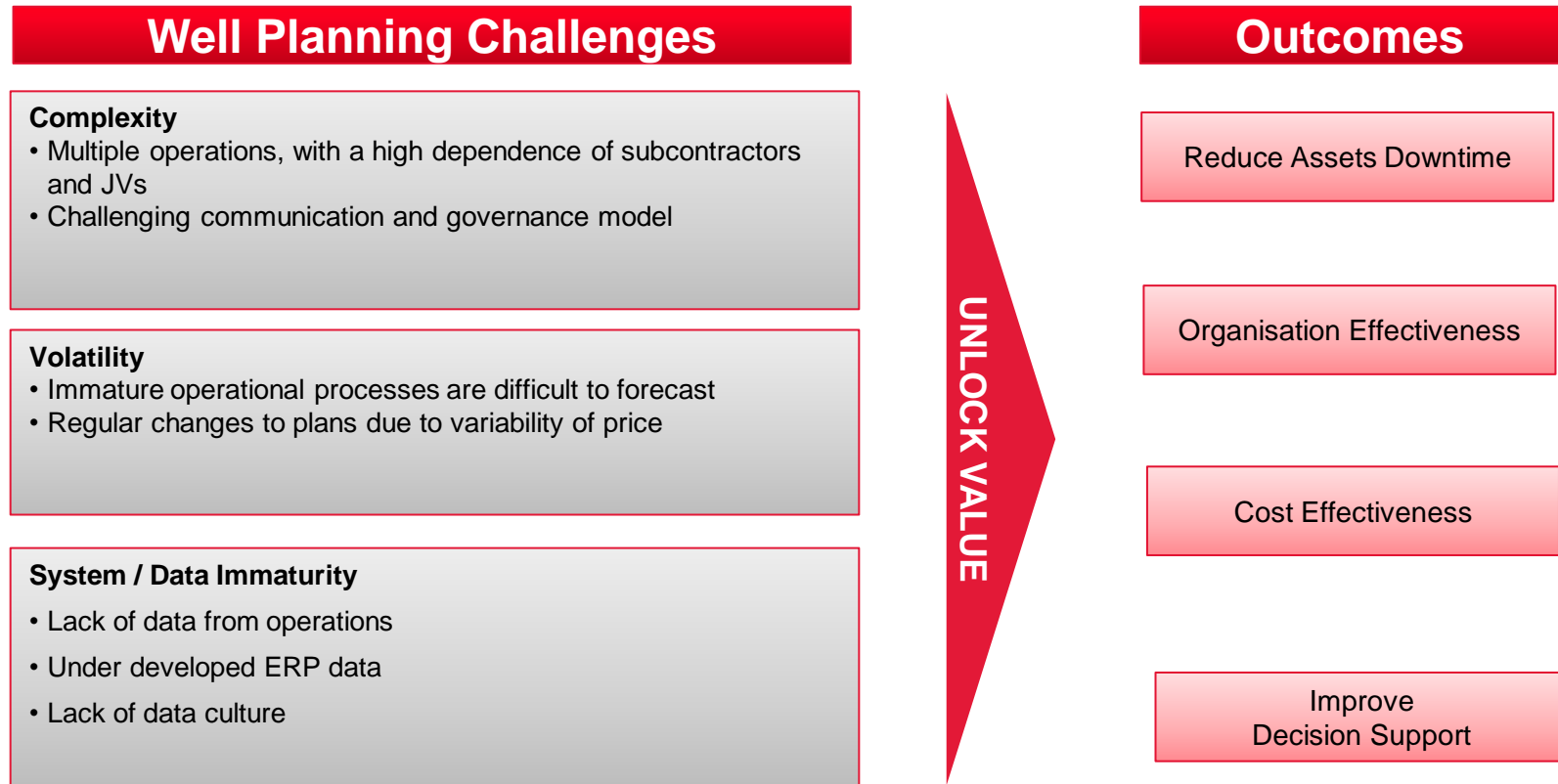# Design Data Integration over E2E Asset Lifecycle

Fragmented Engineering Data & Documentation Accessibility Challenges

Organisations today face multiple challenges in abstracting the maximum value from their data management systems:

- Data is scattered over the enterprise, not only among different
  - applications, but also in different formats and among different line of business
- Multi-layered systems landscape and peripheral applications make it difficult for data to flow smoothly
- Plurality of applications, data sources, and business processes (including third parties networks) make the decision making process less dynamic and demand a robust governance model to ensure all components are effectively integrated
- Keep data sage and secure while requiring collaboration and information sharing across organisations add to the growing complexity

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Our Approach in Responding to those Challenges – An Integrated Life Cycle Management Framework

Well Planning Challenges

Complexity
- Multiple operations, with a high dependence of subcontractors and JVs
- Challenging communication and governance model

Volatility
- Immature operational processes are difficult to forecast
- Regular changes to plans due to variability of price

System / Data Immaturity
- Lack of data from operations
- Under developed ERP data
- Lack of data culture

UNLOCK VALUE

Outcomes

Reduce Assets Downtime

Organisation Effectiveness

Cost Effectiveness

Improve
Decision Support

Concrete, base lined, and agile methods to deploy CGI solutions in a scalable and cost effective ecosystem

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Voice of the Assets – A Value Based Framework

Assets are able to talk to each other, and adapt and self heal based on intelligent data transmission, life cycle responsiveness and service levels compliance

Smart Assets — Listen to your assets: using sensor technology and mobility channels , they will transmit data on their condition, exchange intelligence, so you can address issues before they arise

Insight and Value — Maximise the value from your assets and workforce, pinpointing areas of focus and providing the right information to make effective decisions

Real Time Processing & Integration — Maximise the value from your assets and workforce, pinpointing areas of focus and providing the right information to make effective decisions

With the convergence of new generation apps and business management systems, we jointly work towards:
- Optimising your operations
- Managing risks
- Achieve concrete results without compromise

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Smart Offering - Digital & Mobility

By extending enterprise asset management to mobile devices, we help leading organizations in the energy sector to realizing significant benefits across upstream, oil-field service, and downstream operations:

Domain	Scope	Services & Solutions
Asset Management	• **Drill rig and well maintenance** • **Work order management,** • **Assets and inventory management** • **Engineering data management**	• **Offshore and onshore assets maintenance** • **Work order management,** • **Assets and inventory management** • **Engineering data management**
Inspections, Monitoring, and Assessment	• **Fire, safety, and security inspections** • **Remote digital document access** • **Platform turnarounds**	• **Real-time data surveillance (OSI Pi), for example, production optimization** • **GPS. geographic information system (GIS) , radio-frequency identification (RFID) – vehicle, asset, and personnel tracking**
Regulatory Compliance	• **Environmental Assessment** • **Capacity extensions and retooling** • **Partner collaboration** • **Data privacy and neutrality**	• **GPS; GIS; vehicle, asset, and personnel tracking** • **Life safety systems** • **Mobile training solutions**
Materials Management	• **Procurement, reordering, and stock transfer orders** • **collection and quality assurance and quality control inspections** • **Stocking; and issuing**	• **Ruggedized mobile devices to collect, update, and synchronize (in real time or batch) to back-end ERP and EAM systems** • **Mobile apps for supply and rental inventory management**

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CGI Enterprise Asset Management Framework

Strategy & Investment

Planning

| **Design & Construct** | ⭐ **Operate & Maintain** |

| Plan | Start | Operate | Monitor | Document | Continuous Improvement | OPTIMISE |

| ⭐ **Risk Management** | ⭐ **Maintenance & Outage** |

| Equipment | Performance | Document |

Mobile Workforce Management ⭐

Assess & Improve ⭐

Decommission & Dismantle

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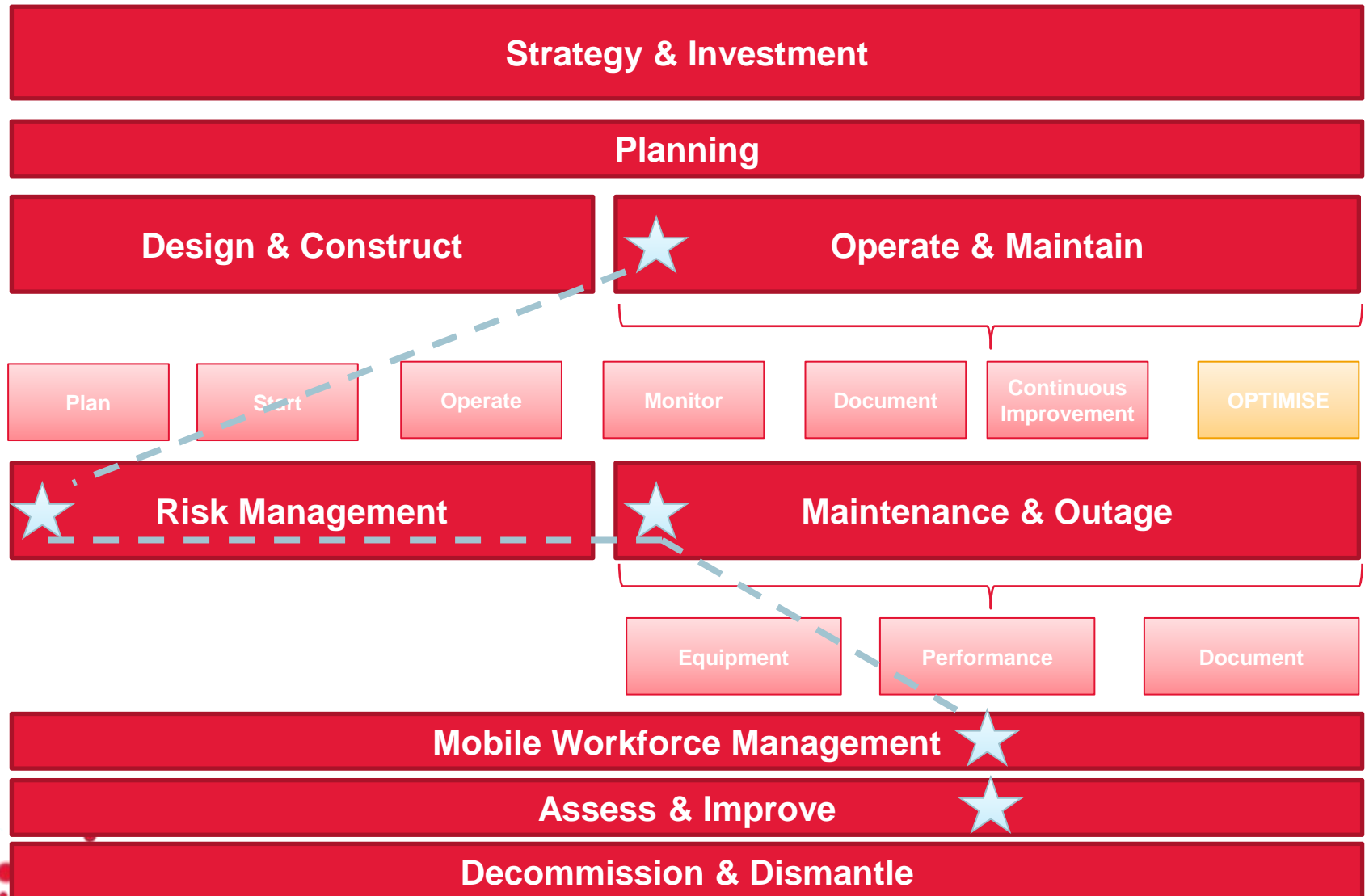
Asset Availability & Performance

Condition Monitoring

Supervision of the asset in Real Time data

Symptom → **Signal Processor** → **Detection** → **Prognosis** → ◇ → **Prognosis**

Condition Reporting Tool

Detailed Report Providing the Operator with:
- What/Where is the problem?
- What is the type/severity of the problem?
- How did the problem occur? (Root cause)
- Who is the correct operator/role type to fix the issue?

Notify

Monitoring

Symptom → **Symptom** → **Symptom** → **Symptom** → **SAP /Maximo**

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Asset Optimisation Benefits

The Voice of the Asset
A Value Based Framework

Smart Assets "Listen"		Insight & Value $$$ + Resources		Real Time Processing & Integration	
Asset Optimisation for a single Interface for operations, maintenance, engineering & asset availability/utilization	**Time & Cost Reduction** though reduced time to repair & fix via optimised and lean workflows & processes	**Automatic Monitoring of Maintenance Conditions** via real time monitoring & KPIs	**Asset wide adoption of predictive & Proactive Maintenance Strategies**	**Consistent Reporting of Asset Health**	**Regulatory Compliance Embedded within Framework**

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For other CGI Materials and Information …

http://www.cgi-group.co.uk/oil-and-gas/upstream/enterprise-asset-management

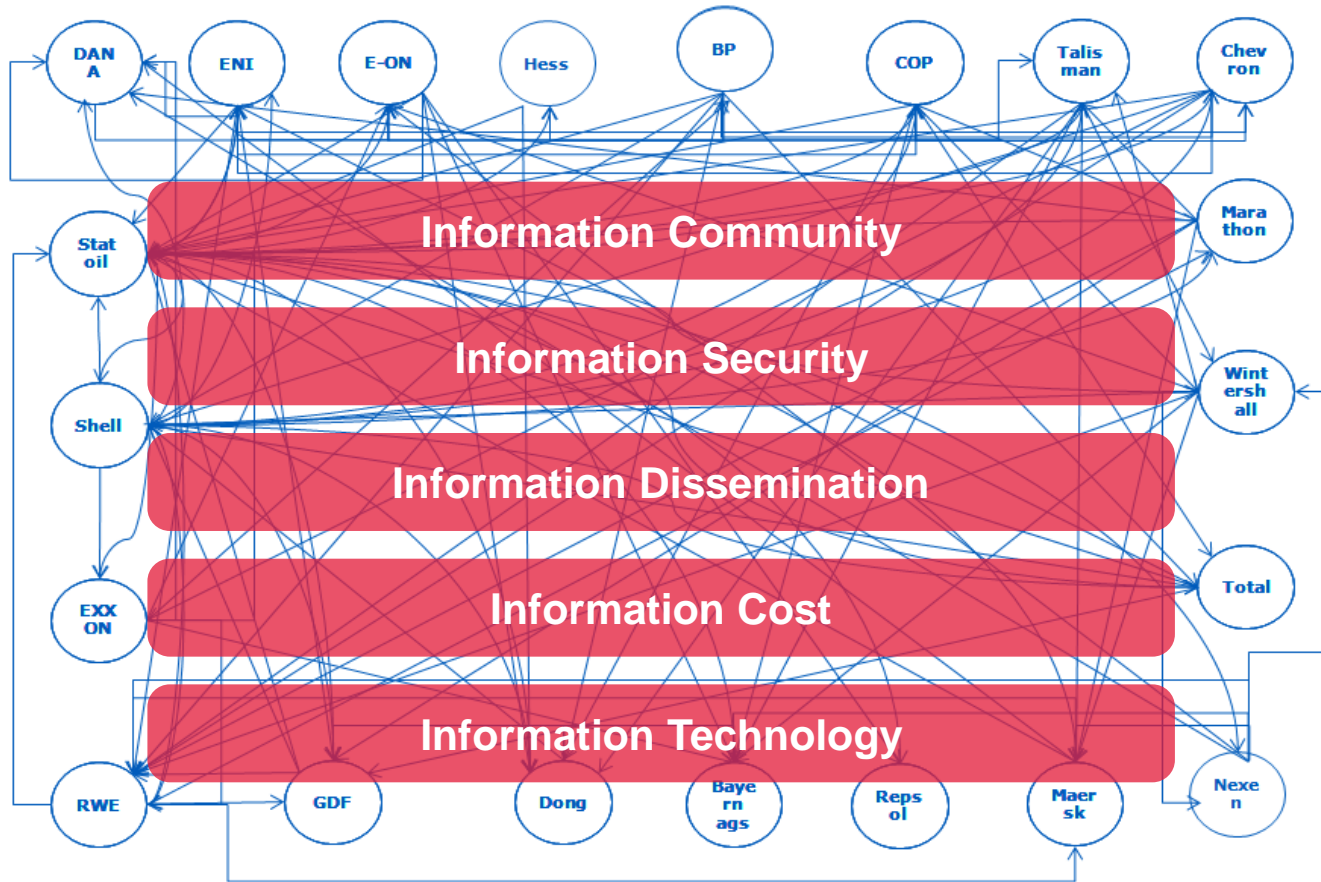http://www.cgi-group.co.uk/article/the-institute-of-asset-management-iso55000-launch

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Sharing engineering data across Joint Ventures

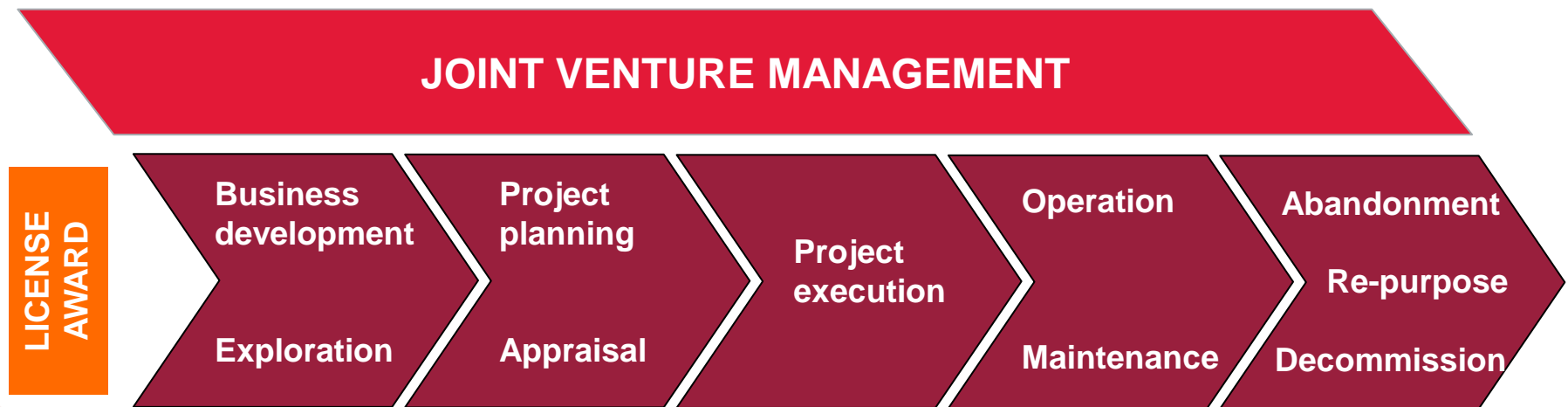# Coordination & collaboration challenges for Joint Venture Management

Licence2Share (L2S) based in the cloud safely and securely simplifies access to and integration of common data sets, using industry led practise and process.

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Joint Venture Management - Overview

> **Joint venture management is one of the largest administrative processing areas within the upstream oil and gas industry**

- Affects the full life cycle of a field, and all parts of the organisation
- Essential for effective management of producing assets
- It is a separate process area with its own unique requirements
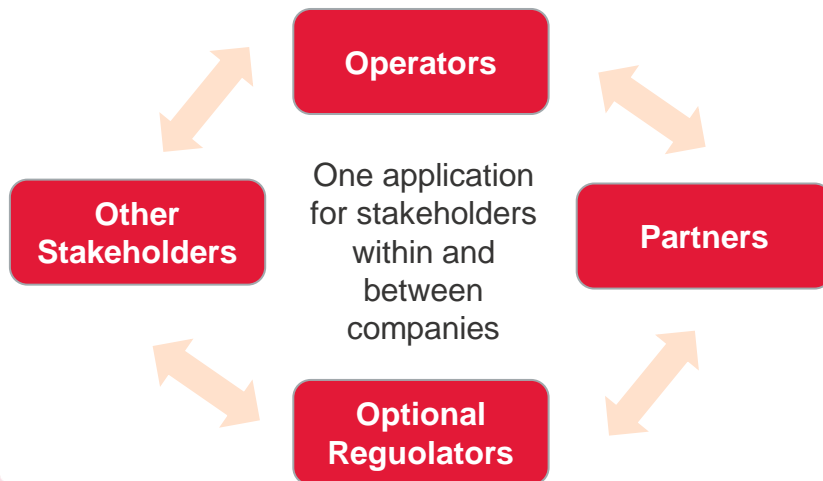
JOINT VENTURE MANAGEMENT

LICENSE AWARD

Business development	Project planning	Project execution	Operation	Abandonment
Exploration	Appraisal		Maintenance	Re-purpose / Decommission

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JV Management & Collaboration Solution

L2S License2Share

An industry solution used to maintain information and provide workflows to ensure compliance throughout the lifecycle of a joint venture

Enables collaboration and content sharing…

Operators

Other Stakeholders

One application for stakeholders within and between companies

Partners

Optional Reguolators

…as a best practise that…

- Improves information quality an d flow
- Lowers costs for each individual operator
- Introduces best practise processes in licences/permits life cycle information management

…without…

- Impacting competition between companies or joint ventures
- Reducing Information Security

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Enabling governance and trust

Transparency through holistic collaboration and data sharing

Functionalities
- License management
- Data management
- Document management
- Integrated calendar/email
- Voting Mechanism

Any type of information can be shared between two or more parties

- Contract data
- Production data
- Drilling data
- Incident data
- HSE data
- Other relevant governance data to manage compliance process

JV participants decide level and type of information to be shared

Created by the industry for the industry

Some key drivers for establishing a collaborative Oil and Gas arena for Joint Ventures in the UK

LEGISLATION AND REGULATION IMPOSED THROUGH AUTHORITIES AND ENTERPRISES

STANDARDISATION OF WORK PROCESSES

MANAGED AND SHARED COST OF SOLUTION DEVELOPMENT

Ensuring compliance with (and reporting with confidence on) laws and regulations, wider stakeholder management
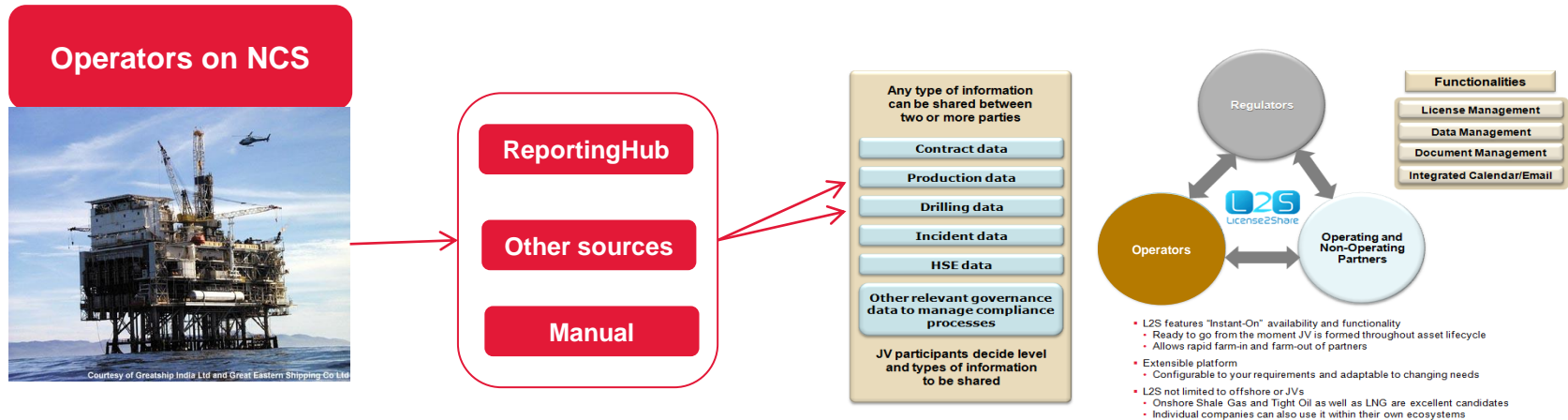
Delivering processing efficiencies, maintaining governance and controls for managing the full life cycle

Preventing re-invention, collaborative industry approach and shared long term investment for the future

This collaborative approach reduces business risks

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Engineering Data in License2Share

Operators on NCS

Courtesy of Greatship India Ltd and Great Eastern Shipping Co Ltd

ReportingHub

Other sources

Manual

Any type of information can be shared between two or more parties
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JV participants decide level and types of information to be shared

Regulators / Operators / Operating and Non-Operating Partners

Functionalities
- License Management
- Data Management
- Document Management
- Integrated Calendar/Email

- L2S features "Instant-On" availability and functionality
  - Ready to go from the moment JV is formed throughout asset lifecycle
  - Allows rapid farm-in and farm-out of partners
- Extensible platform
  - Configurable to your requirements and adaptable to changing needs
- L2S not limited to offshore or JVs
  - Onshore Shale Gas and Tight Oil as well as LNG are excellent candidates
  - Individual companies can also use it within their own ecosystems

Content
- Design Documents tracking changes through life
- Operational & Maintenance Reports
- Inspections, Monitoring, and Assessment Records
- Regulatory Compliance Reports

Advantages
- Archived during live cycle of Joint Venture (> 10 years), findability
- Secured reporting area for partners and authorities, audit trail
- Supports M&A, Divestments, Decommissioning : DataRoom
- Manages governance around production reporting

Examples other Content
- Project Information
- Drawings
- HSE
- Financials
- Contracting
- General Meeting Records

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By The Industry, for The Industry

- EPIM – Exploration & Production Information Management, owned by 40 oil companies/operators

- Worldwide 80 companies and over 7,5000 users work wit the services delivered by EPIM

  - 8 countries

  - 4 continents

  - >14000 meetings

  - > 3M documents

  - >750 leases (JVs)

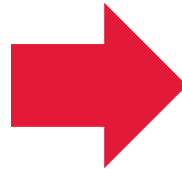- Licence2share is a cloud service, available today

Benefits

Issues
Multiple applications for different information needs – silos of data
Secure, easy to access, content management
Stakeholder collaboration Cost effective and time efficient intra-JV reporting
Individual solutions are costly to develop, maintain and enhance

Benefits
One Application
Complete coverage of content
Support information sharing between stakeholders
Cost and time savings efficiency
Cost effective platform

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For more information

http://www.cgi-group.co.uk/case-study/license2share

http://www.license2share.com/

http://www.epim.no/license2share

Thank you

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