Interface Management - Project Benefits, Results & Restarts

Experiences from EPC & Owner Projects

Webinar: July 22 at 11am CDT

Hosted by:

CII Construction Industry Institute®

CORE·WORX

Today's Presenters

Kelly Maloney
Sr Product Manager
Coreworx

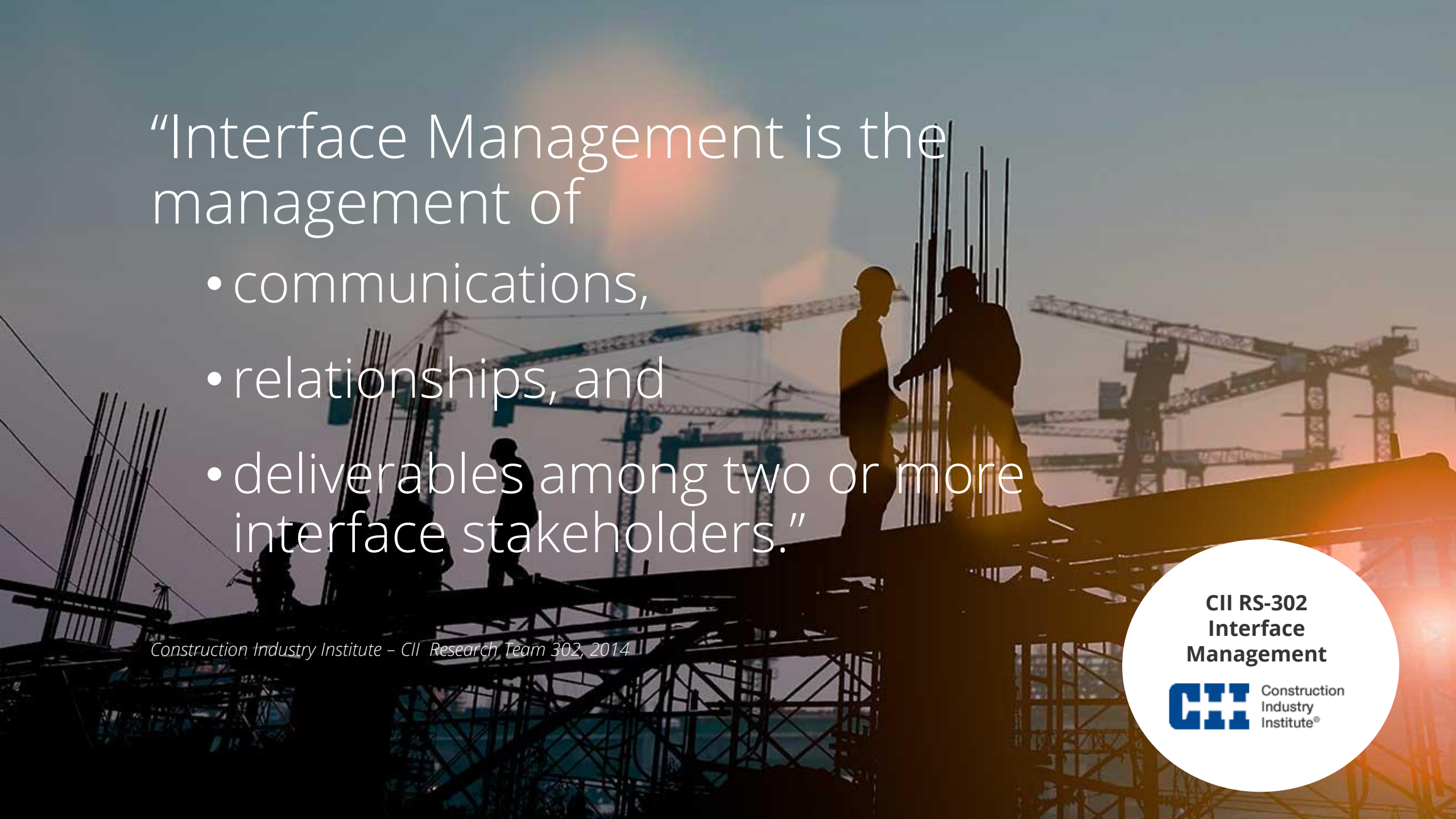
Michael Pappas
Associate Director
CII

Olivier Calas
Interface Manager
McDermott

Project interface management expertise from around the globe.

Today's Agenda

- **Results**: CII Interface Management (IM) Research Study Revisited
- **Benefits:** An overview of the IM Practice, a detailed description of McDermott's implementation, and a summary of benefits it provides
- **Restarts** – How interface management helps projects successfully manage through delays, shutdowns, & restarts
- Q&A



"Interface Management is the management of

- communications,
- relationships, and
- deliverables among two or more interface stakeholders."

Construction Industry Institute – CII Research Team 302, 2014

CII RS-302 Interface Management

Construction Industry Institute®

Why formal interface management?

18%

Average cost growth
for projects without formal Interface Management

4%

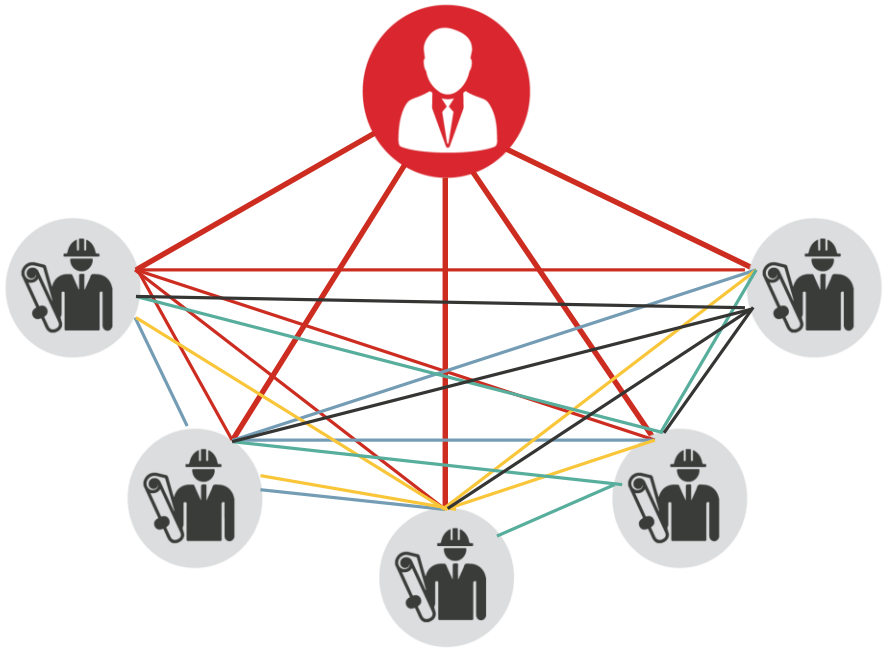
Average cost growth
for projects with formal Interface Management

CII RS-302 Interface Management

Construction Industry Institute®

Interface Management Benefits

- **Manage Growth**
  - Clear scope definition
  - Early identification & resolution of potential change
- **Improve Accountability**
  - Increased visibility to interface agreements improves performance
- **Ensure Scope Delineation**
  - Identify gaps & overlap in contractor scope ahead of time
- **Reduce Rework**
  - Early identification of engineering & construction clashes
  - Improved notification of changes to key activities



Manage collaboration between scopes of work to mitigate cost & schedule risk

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Project Information Management & Controlled Collaboration

Interface Management

Document Control

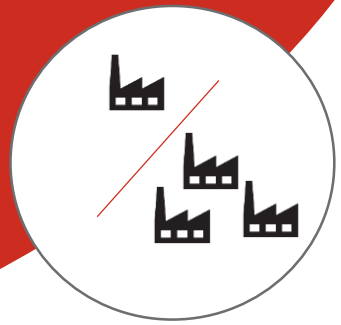
Project Collaboration

Improve compliance, gain insights, and reduce risk.

Interface Management Clients

Any major project where multiple contractors must collaborate on

Oil & Gas, Infrastructure, Power, Rail, Wind, etc.



Project or Enterprise

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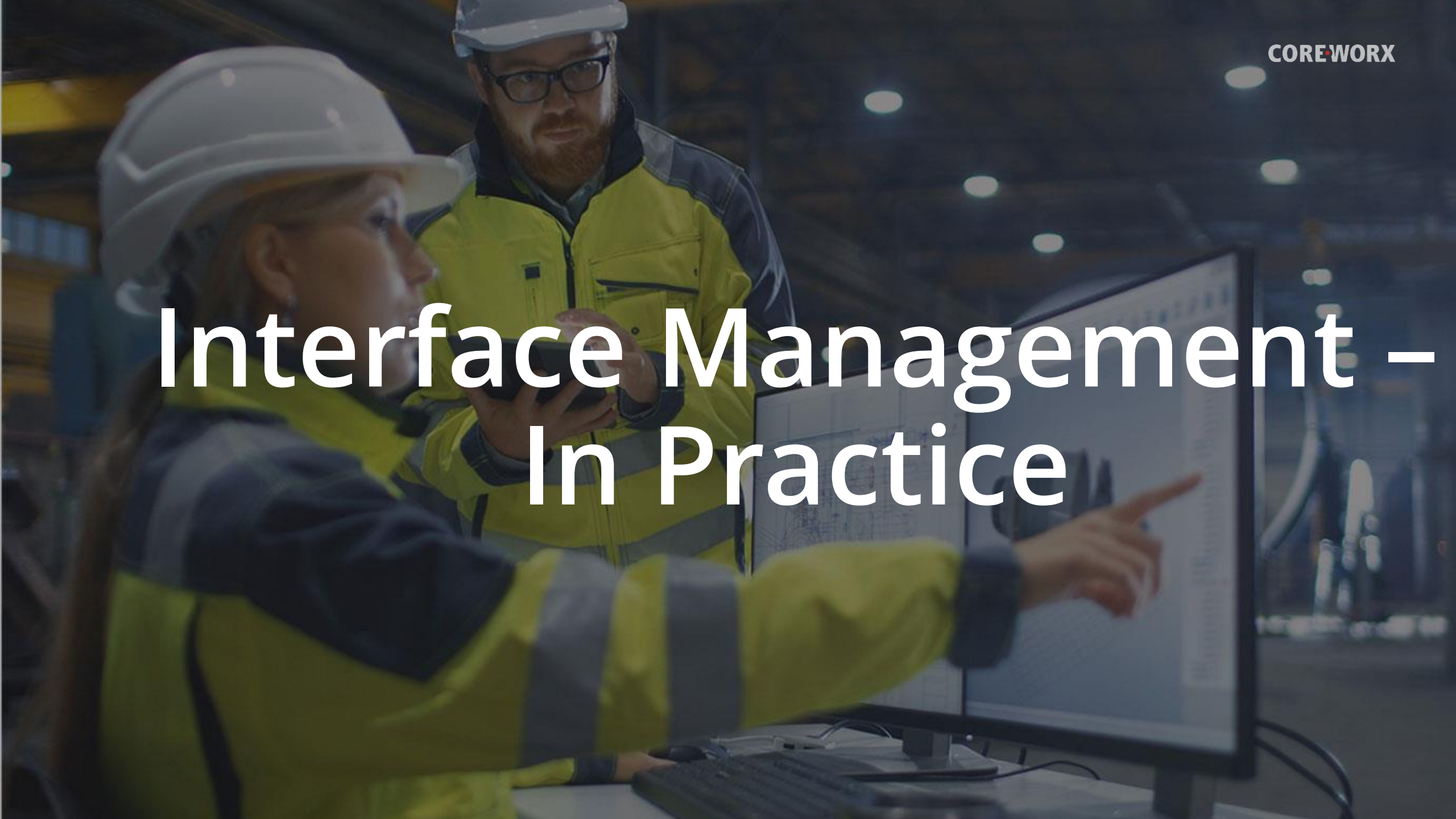
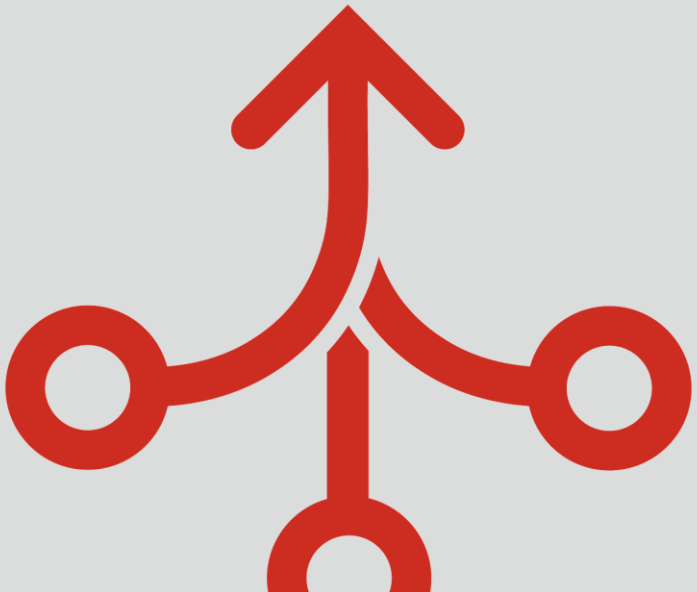
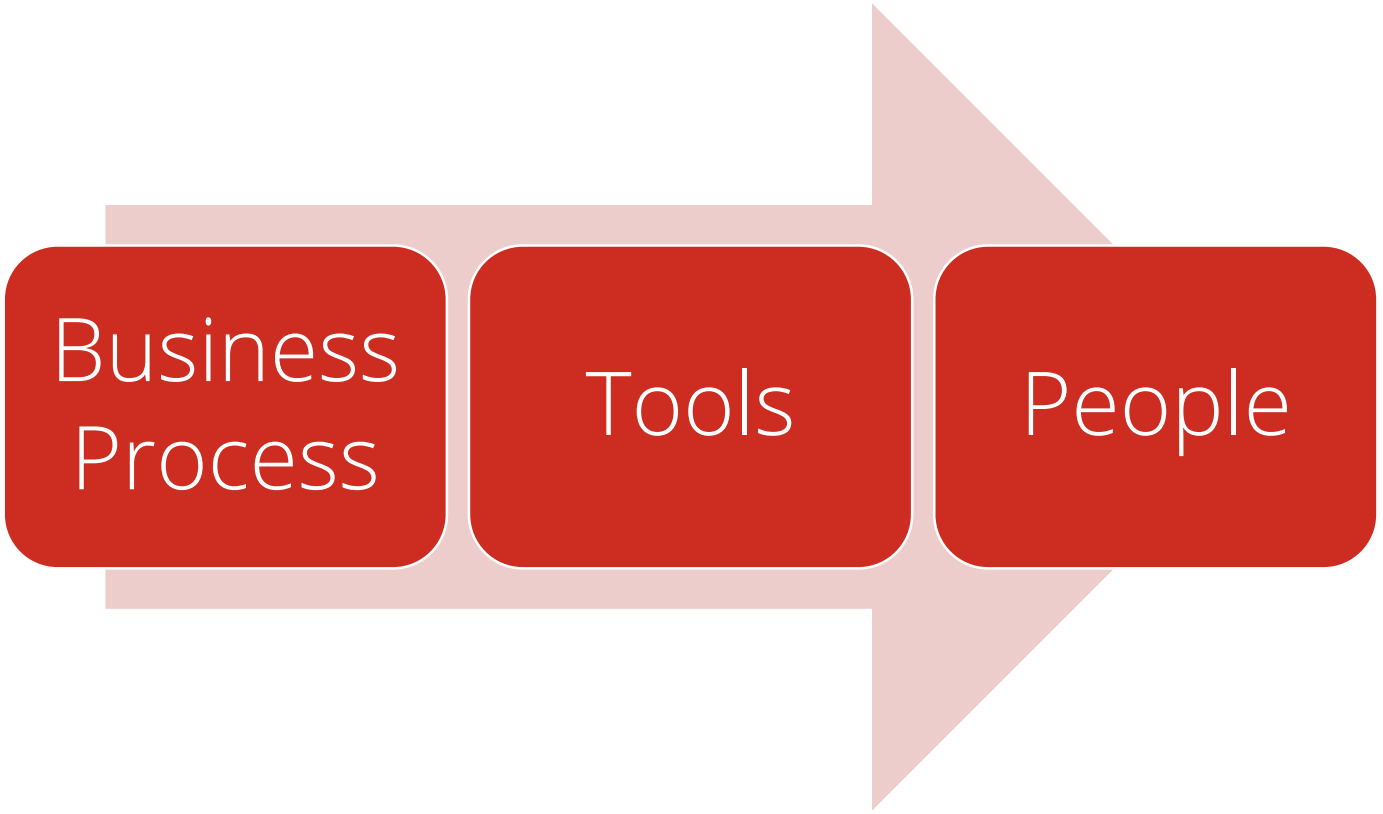


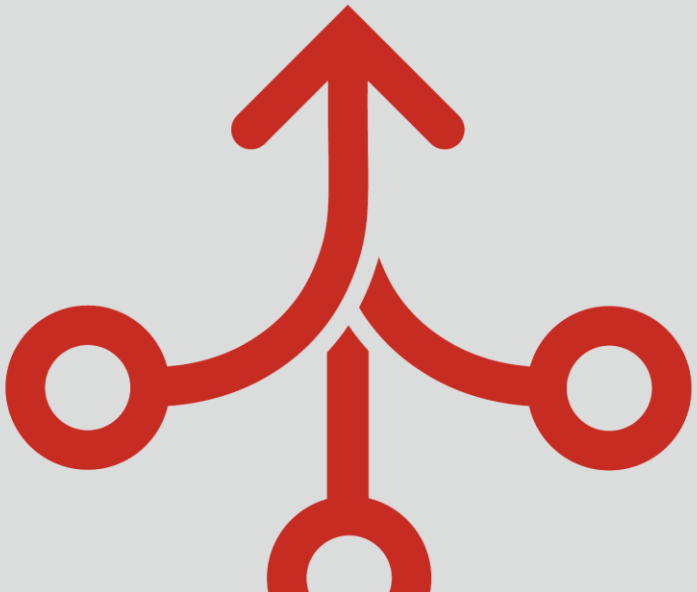
Interface Management – In Practice

Interface Management Best Practices





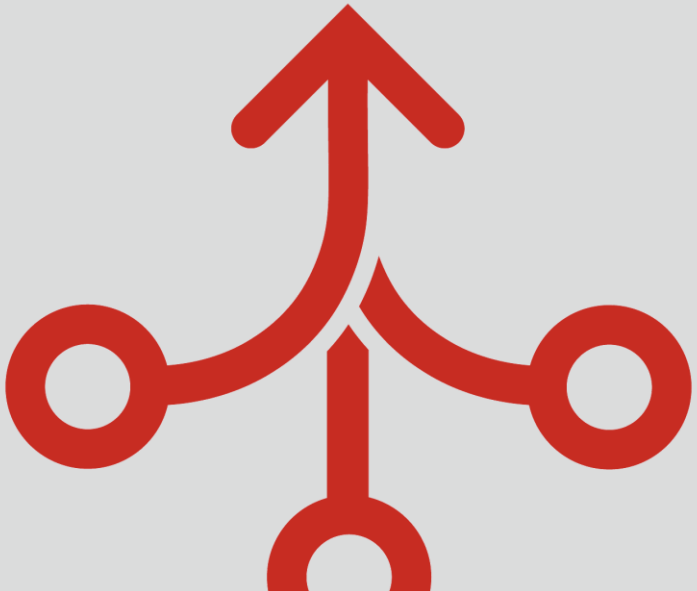
Interface Management Best Practices



Business Processes

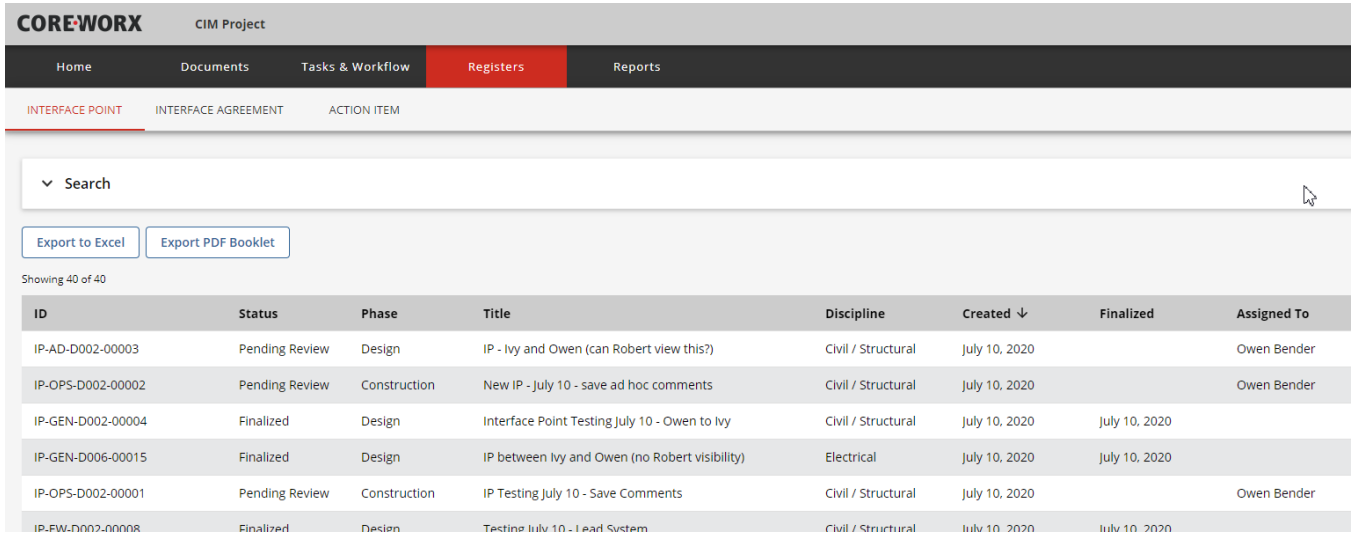
- Governance Model
- IM Strategy / Structure
- Policies and Procedures
- Communication Strategy

Interface Management Best Practices



Tools

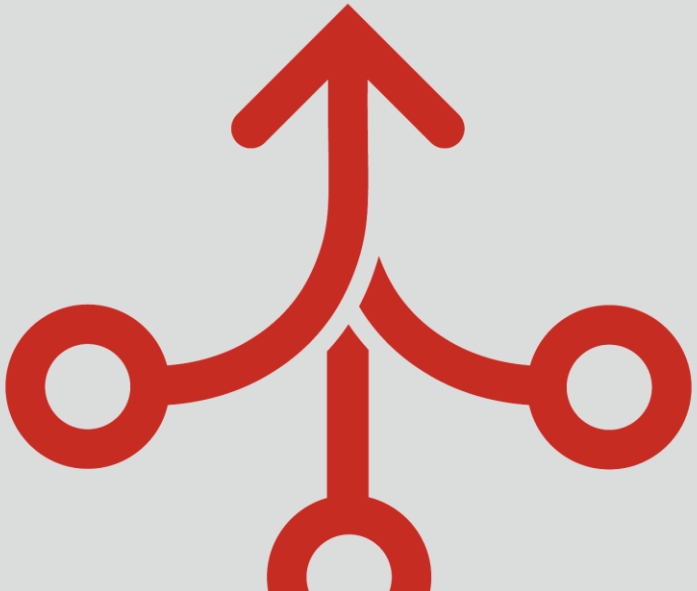
- Master Interface Plan
- Interface Register



ID	Status	Phase	Title	Discipline	Created ↓	Finalized	Assigned To
IP-AD-D002-00003	Pending Review	Design	IP - Ivy and Owen (can Robert view this?)	Civil / Structural	July 10, 2020		Owen Bender
IP-OPS-D002-00002	Pending Review	Construction	New IP - July 10 - save ad hoc comments	Civil / Structural	July 10, 2020		Owen Bender
IP-GEN-D002-00004	Finalized	Design	Interface Point Testing July 10 - Owen to Ivy	Civil / Structural	July 10, 2020	July 10, 2020	
IP-GEN-D006-00015	Finalized	Design	IP between Ivy and Owen (no Robert visibility)	Electrical	July 10, 2020	July 10, 2020	
IP-OPS-D002-00001	Pending Review	Construction	IP Testing July 10 - Save Comments	Civil / Structural	July 10, 2020		Owen Bender
IP-EW-D002-00008	Finalized	Design	Testing July 10 - Lead System	Civil / Structural	July 10, 2020	July 10, 2020	

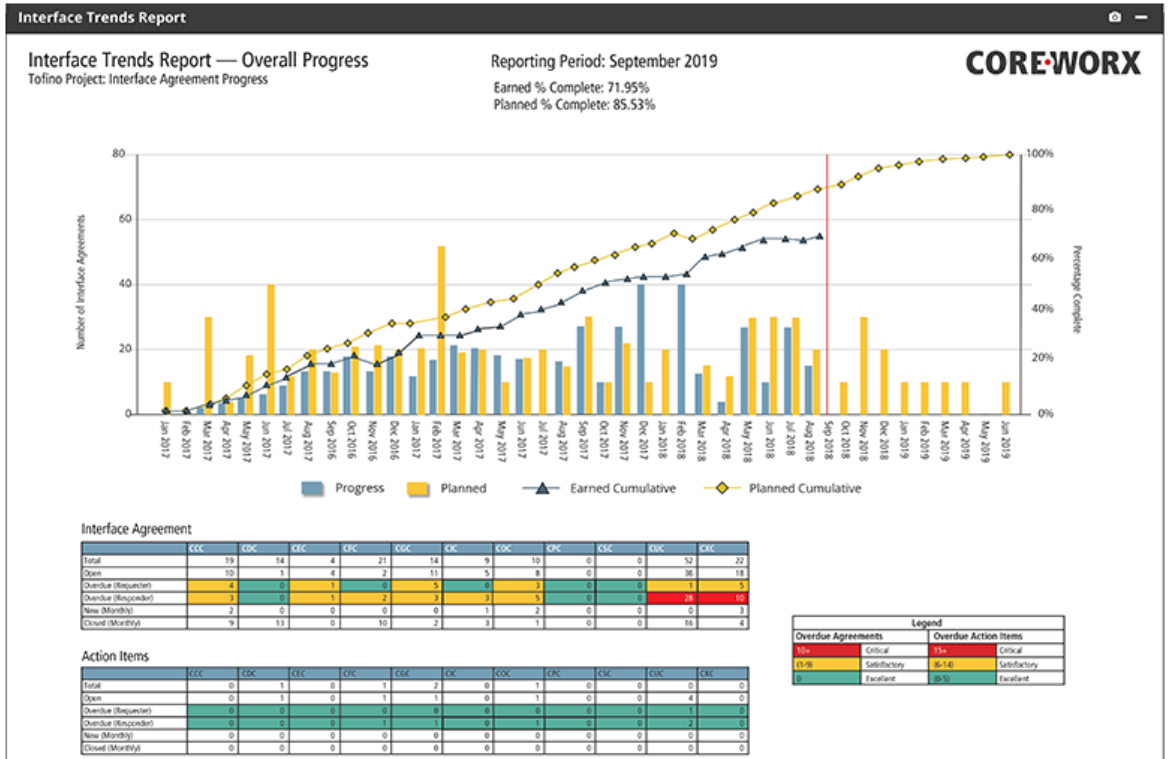
- ✓ Central location
- ✓ Transparency
- ✓ Visibility
- ✓ Ensures audit trail
- ✓ Workflows ensure compliance

Interface Management Best Practices

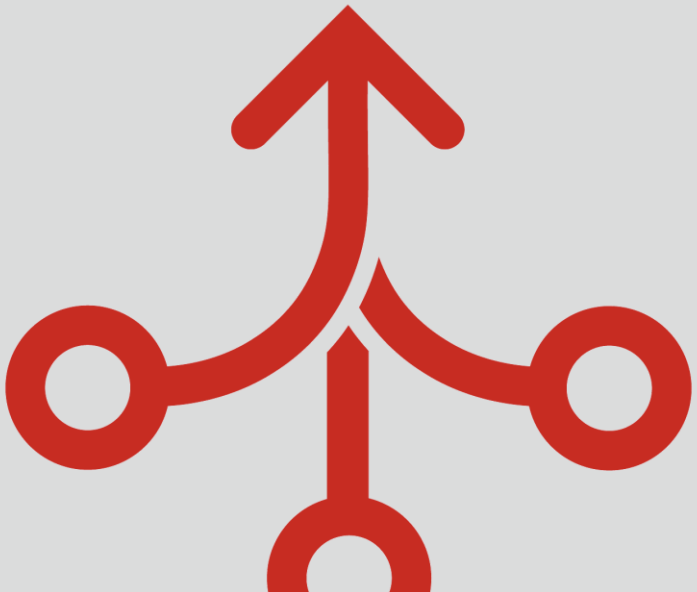


Tools

- Interface Control Documents / schematics
- Communication Matrix
- Reports
- Schedule



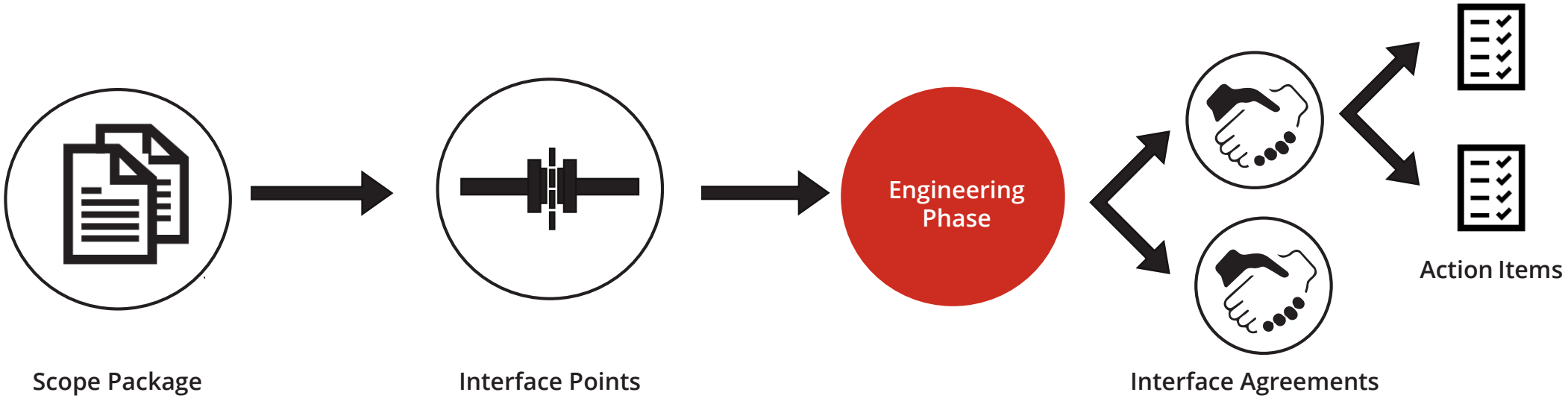
Interface Management Best Practices



People

- Who are the Players?
  - Management / Project Director
  - Interface Manager / Coordinators
  - Internal / External Parties
- Organization Culture
  - Leadership support
  - ‘Champion’

Coreworx Interface Management



Scope Package: Topsides

Interface Point: Export Riser A Riser/TRS Piping Interface Top of Shaft

Interface Agreement: Subsea requests that Topsides provide material specification of TRS riser

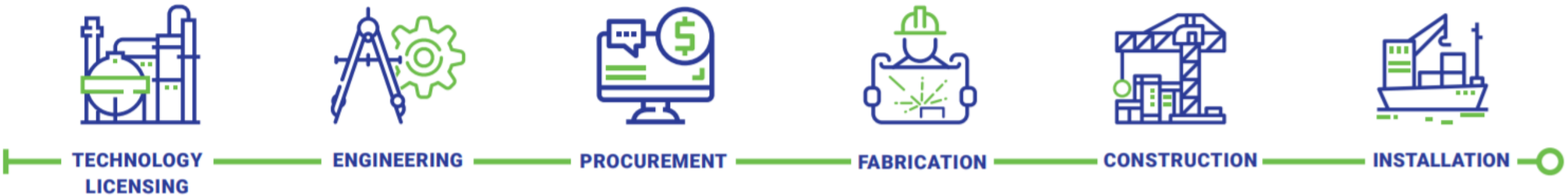
Action Item: confirm that the temp of the welding process will not have an impact on the flexible

Action Item: define the height of the hook up spool

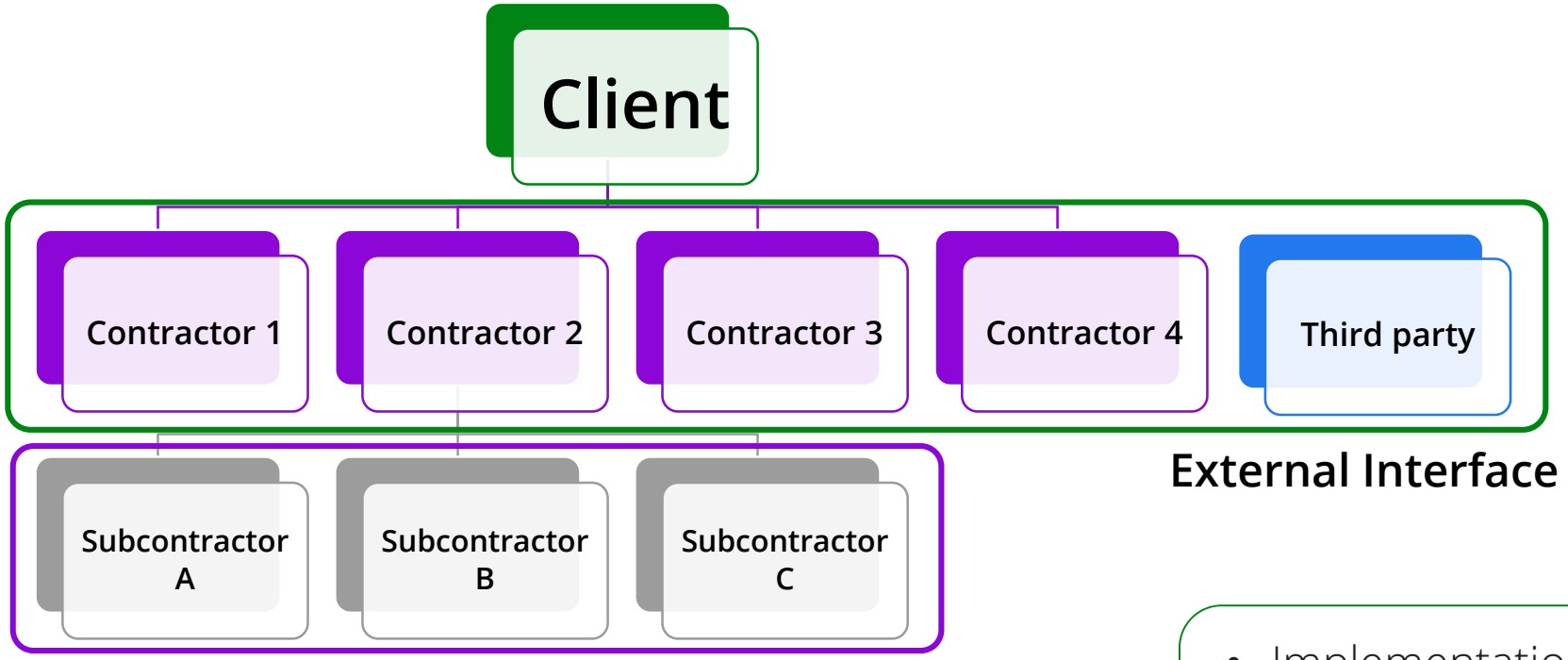
Interface Management in Offshore Project

MCDERMOTT

- Multinational engineering, procurement, construction and installation company
- Main contractor for multiple offshore mega project (Scarborough, Tortue, Cassia sea…)
- From engineering to installation
- Implementation of interface management system

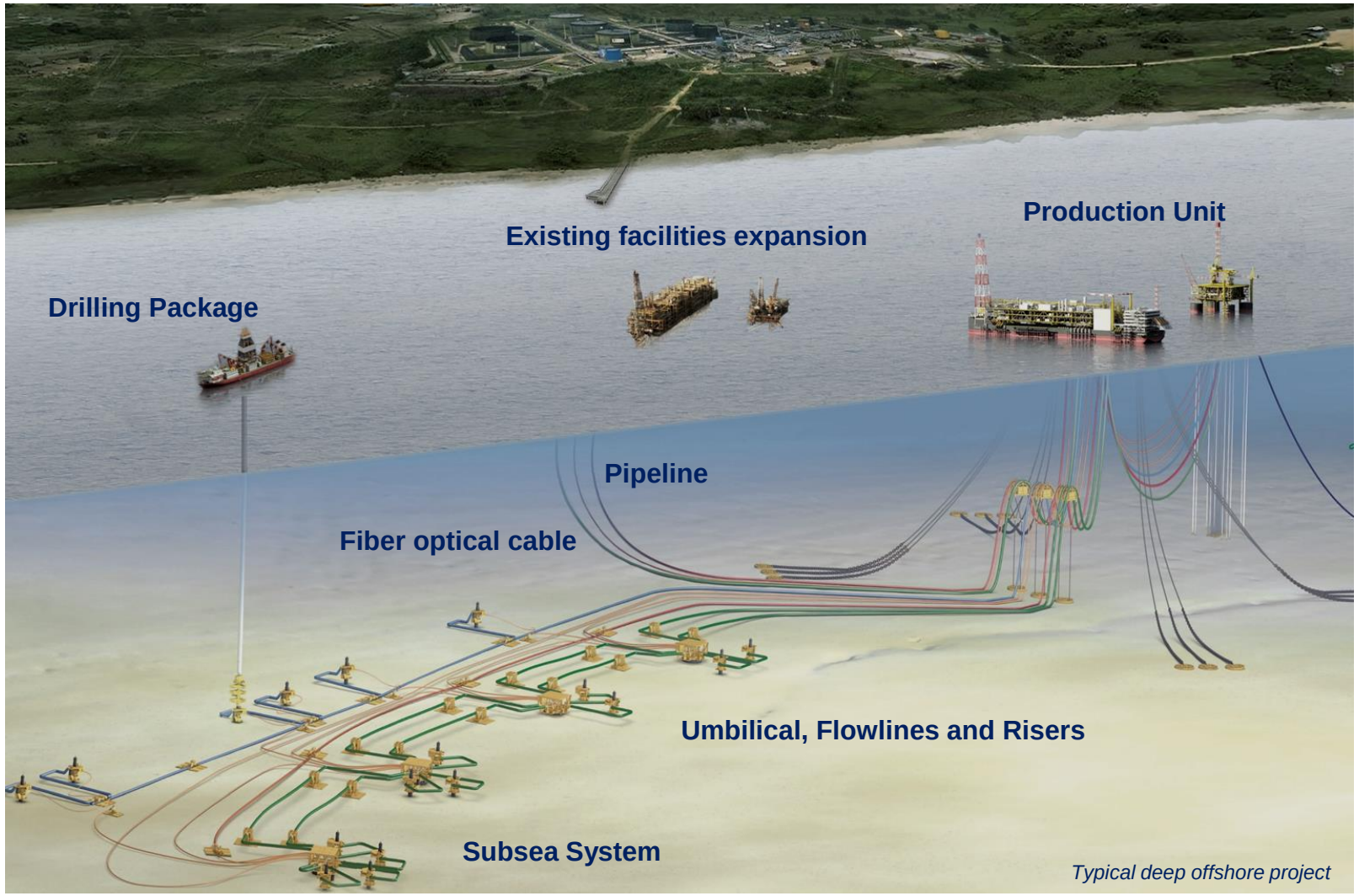


Project Interfaces Overview



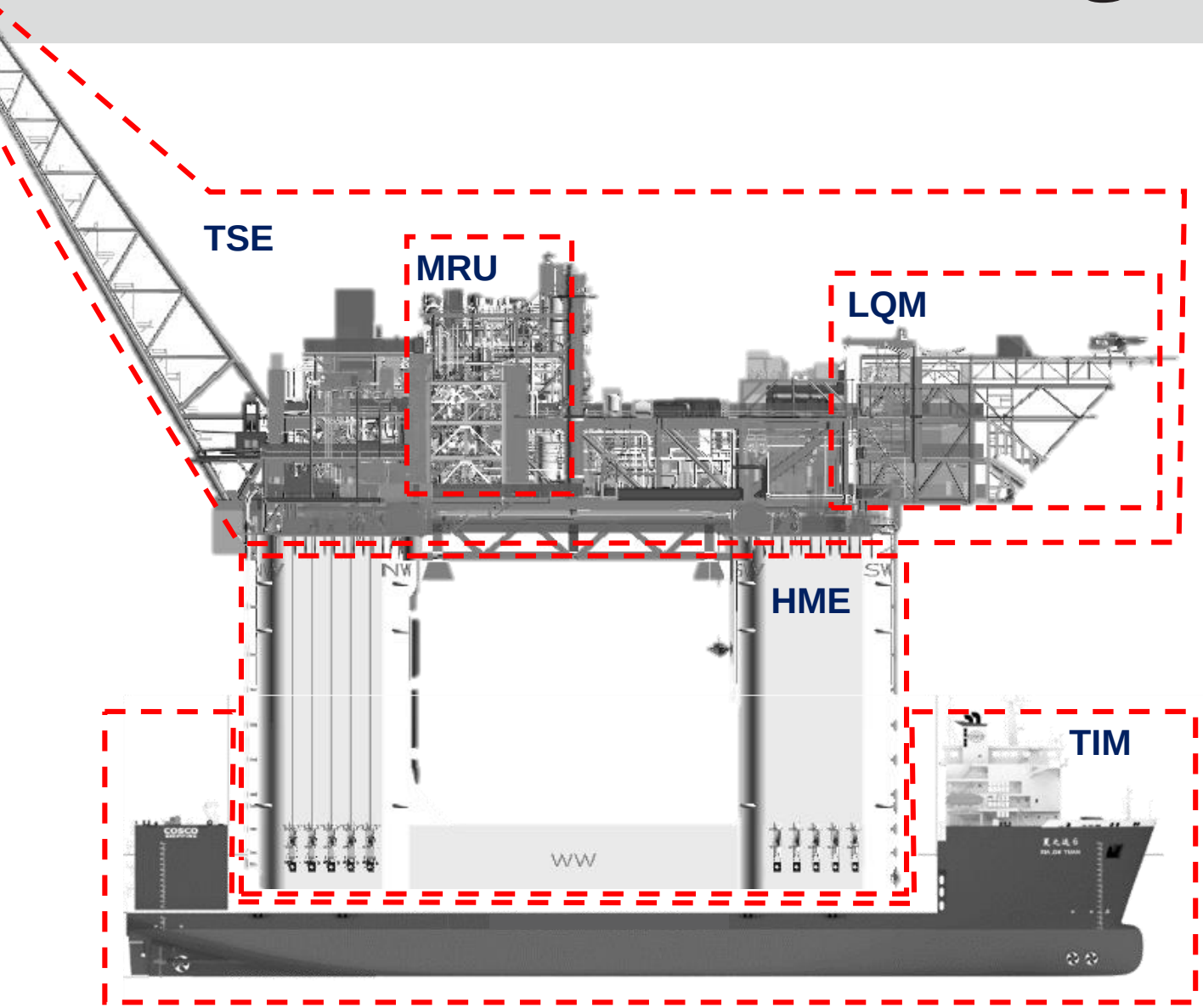
- Implementation by Client or Main Contractor
- Integration of project stakeholders
- Large number of parties:
  - Complexity
  - High volume of communication
- Confidentiality among parties

External Contracting Parties



- Up to 10 contractors or more
  - Different knowledge
  - Different location
- Package sub-division
  - Phase (engineering / procurement / installation)
  - Expertise
    - Pipeline shore crossing
    - Offshore installation

Internal Contracting Parties

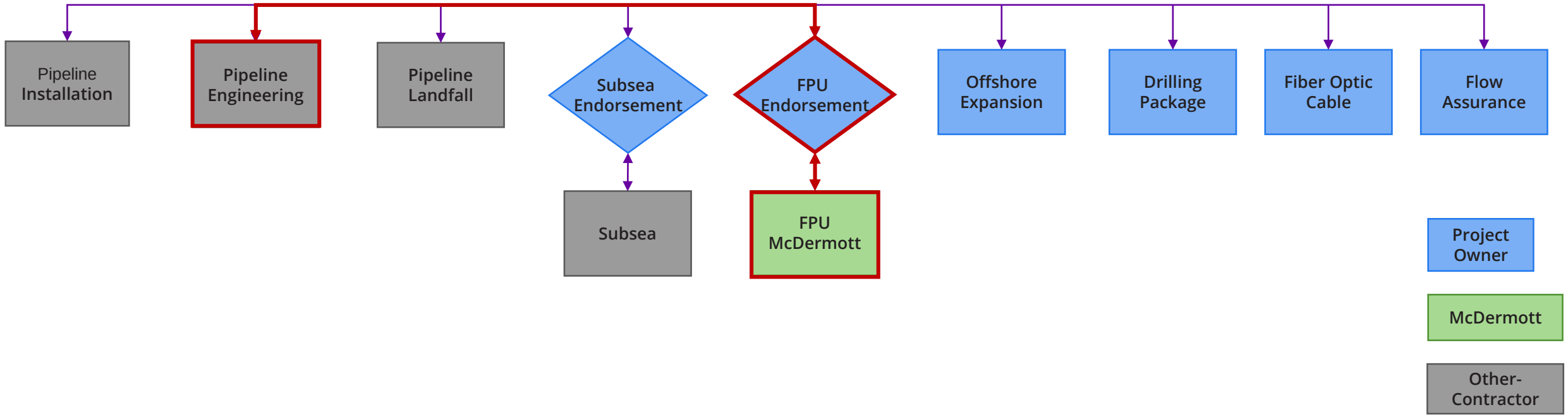


FPU - Contracting parties

TSE	**Topside Eng.**
TIM	**Offshore Installation**
HME	**Hull & Mooring Eng.**
MRU	**MEG Recovery Unit**
LQM	**Living Quarter**

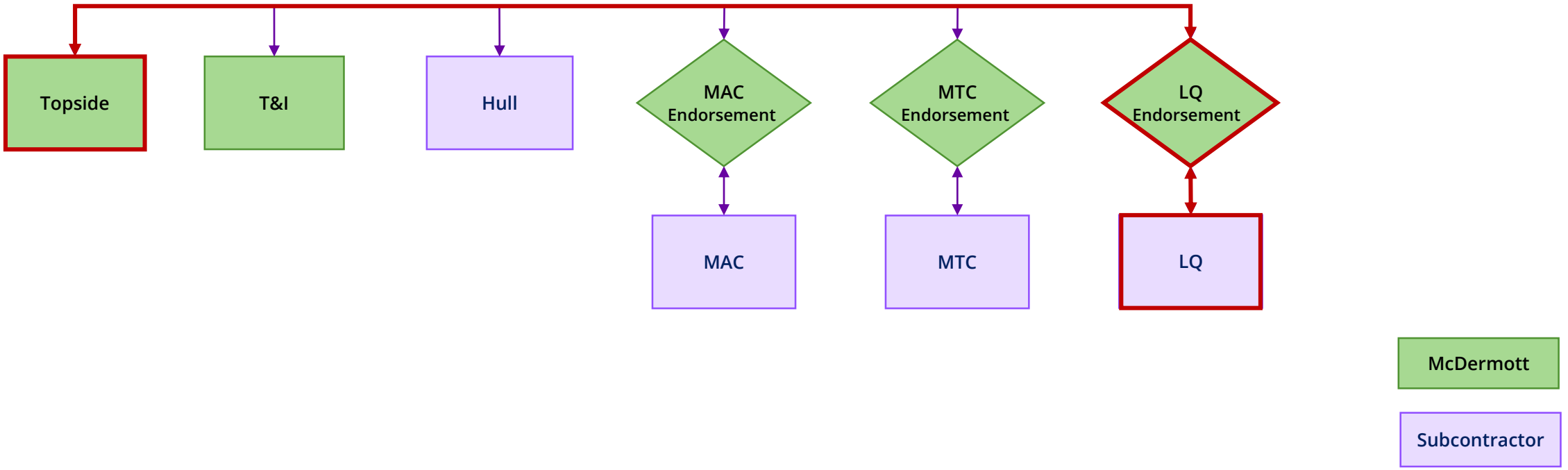
- Subcontractors / vendors
- Engineering centre (discipline / module)
- Join venture partners…

Interface Management System - External

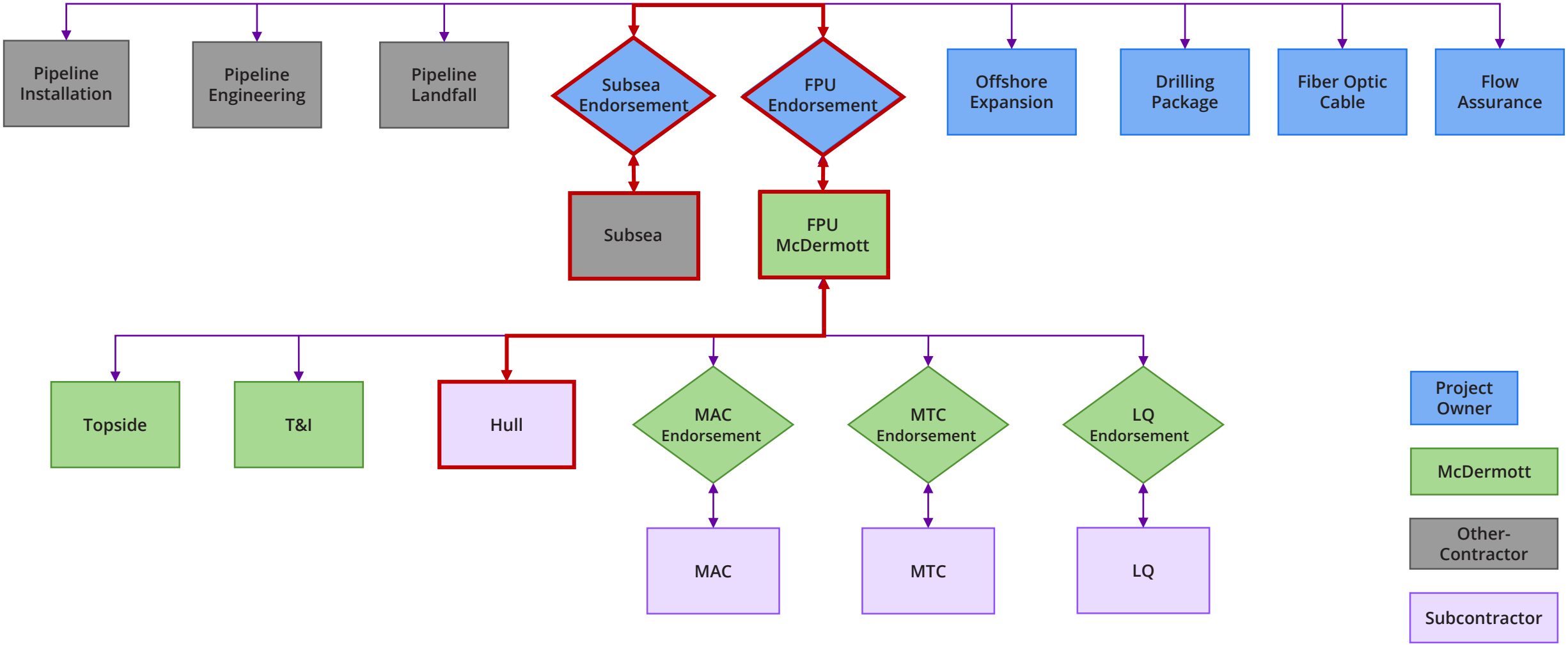


- Endorsement bring additional level of control
- Contractor represented by the Project Owner

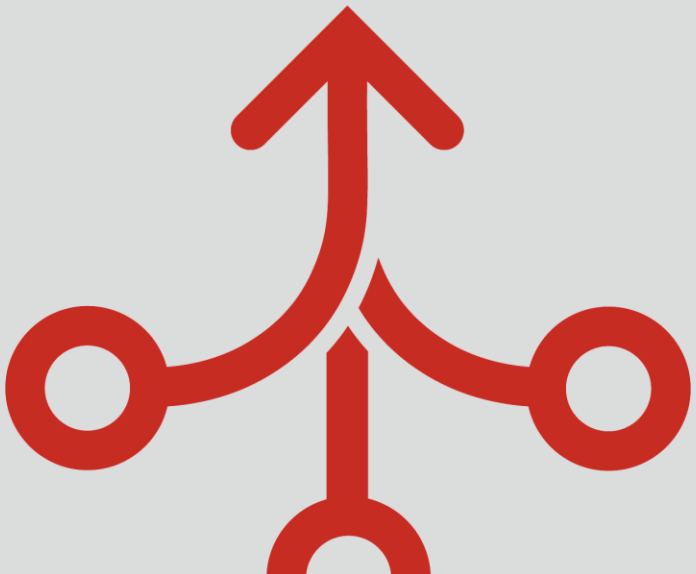
Interface Management System - Internal



Interface Management System



Interface Manager in the Project



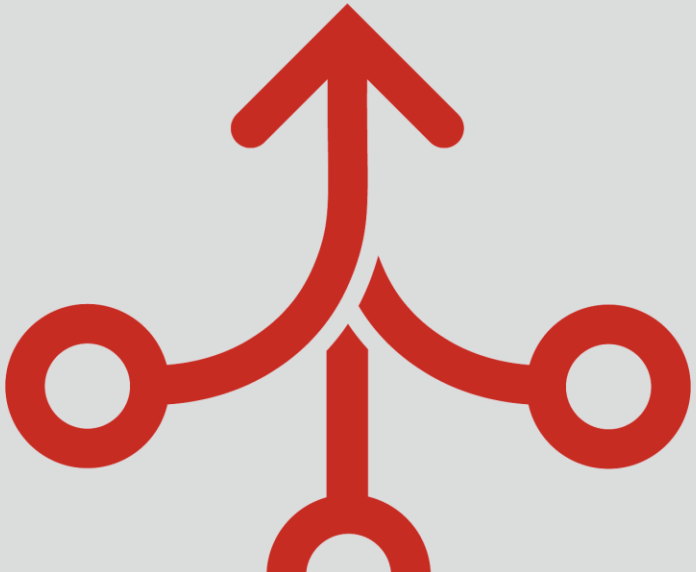
- Tools and Procedure
  - Interface Management Plan
  - Batteries limit definition
  - Communication tool
  - Meeting and Workshop
- Team involvement
  - Using proper communication channel – track record
  - Implementation is a team work
- Automated workflow
  - Speeding the communication process (overdue, notification)
  - Avoiding mistake

Project Delays, Shutdowns & Restarts

Project Realities of Covid-19

- Project shutdowns & restarts
- Revised schedules
- New project practices
- New regulatory requirements

Project Change Preparation



Change of phase FEED to EPC

Slowing down

Stopping activity for later restart

Turn over / change of team or location
Change of contracting parties
Interface system

- Clean-up system for restart : interface register
- Closing open action / request
- Adding contextual information
- Workflow need to be adapted

IM Helps Project Finish On-Time Despite Major Challenges

Contractor Turnover

- 6 year project duration
- High probability

Early Greenfield / Brownfield Operations

- Maintain safe handover of tie-ins

Environmental / Weather

- Risk of floods / forest fires
- Activity and / or site shutdown

Critical Milestones

- Field sequencing of multiple contractors

IM: Benefits, Results & Restarts

Benefits:

- Formal scope delineation & responsibilities at interfaces = reduction in interface rework and errors ($$)

Results:

- CII research study: 4% cost growth with IM versus 18% cost growth without
- Interface management has been proven to help achieve planned completion schedule despite major project challenges and delays

Restarts:

- When facing delays, interface management informs team all work completed (and how) and provides details for rapid restarts

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Q&A

Thanks for joining us today

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