



Data exchange through TIE

How and what we receive from our Contractors.

Bent S Lund

Leading Engineer LCI

- 25 years in Equinor in Facility Life Cycle Information
 - Requirements Management
 - Application Portfolio Development
- Located in Trondheim, Norway



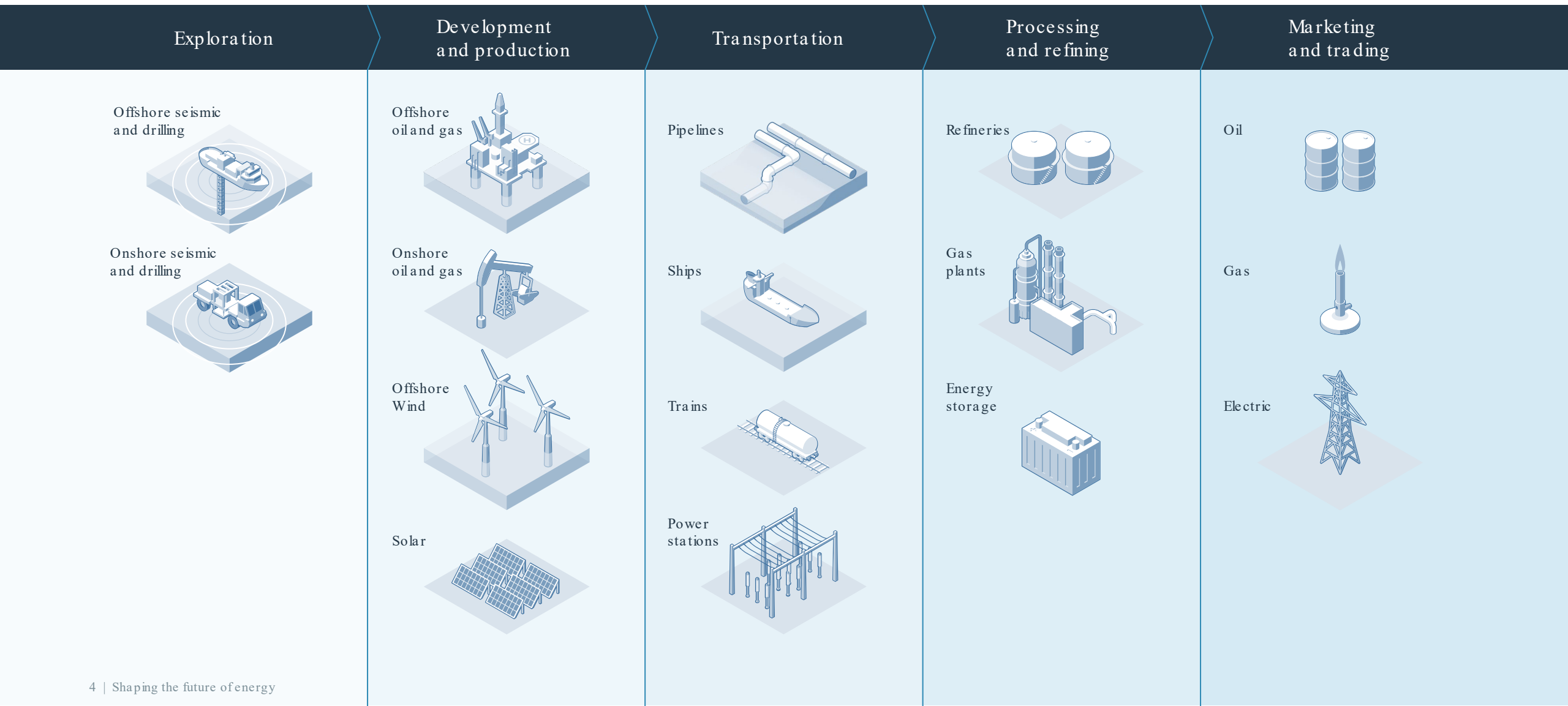


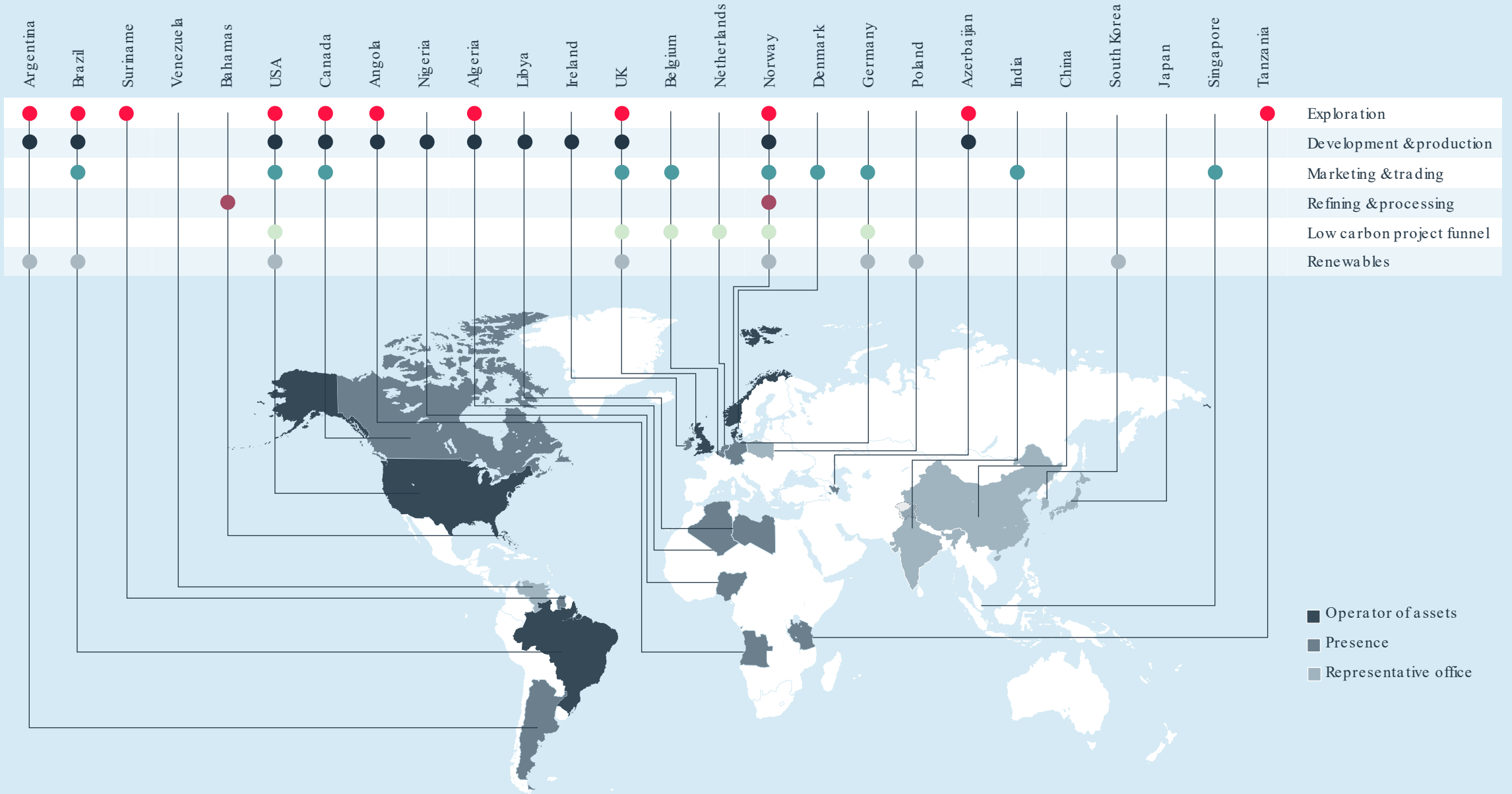
equinor

Transforming to a broad and global energy company

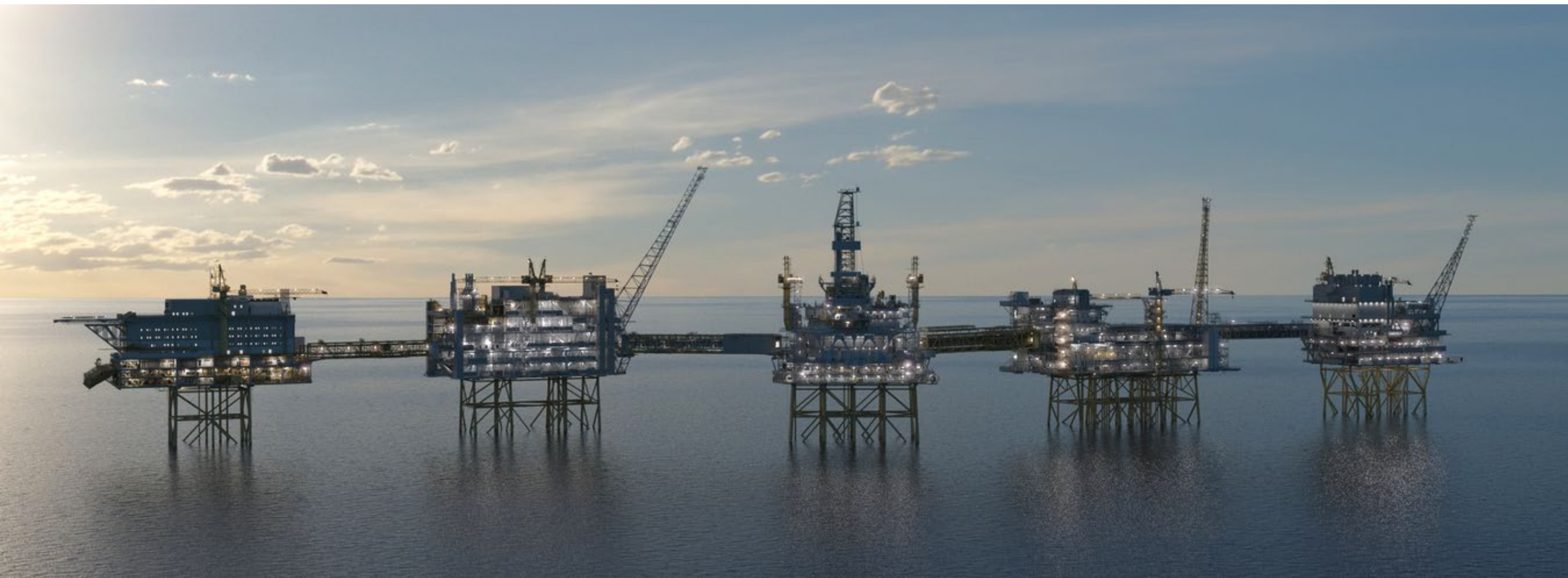
Equinor corporate presentation

Our value chain

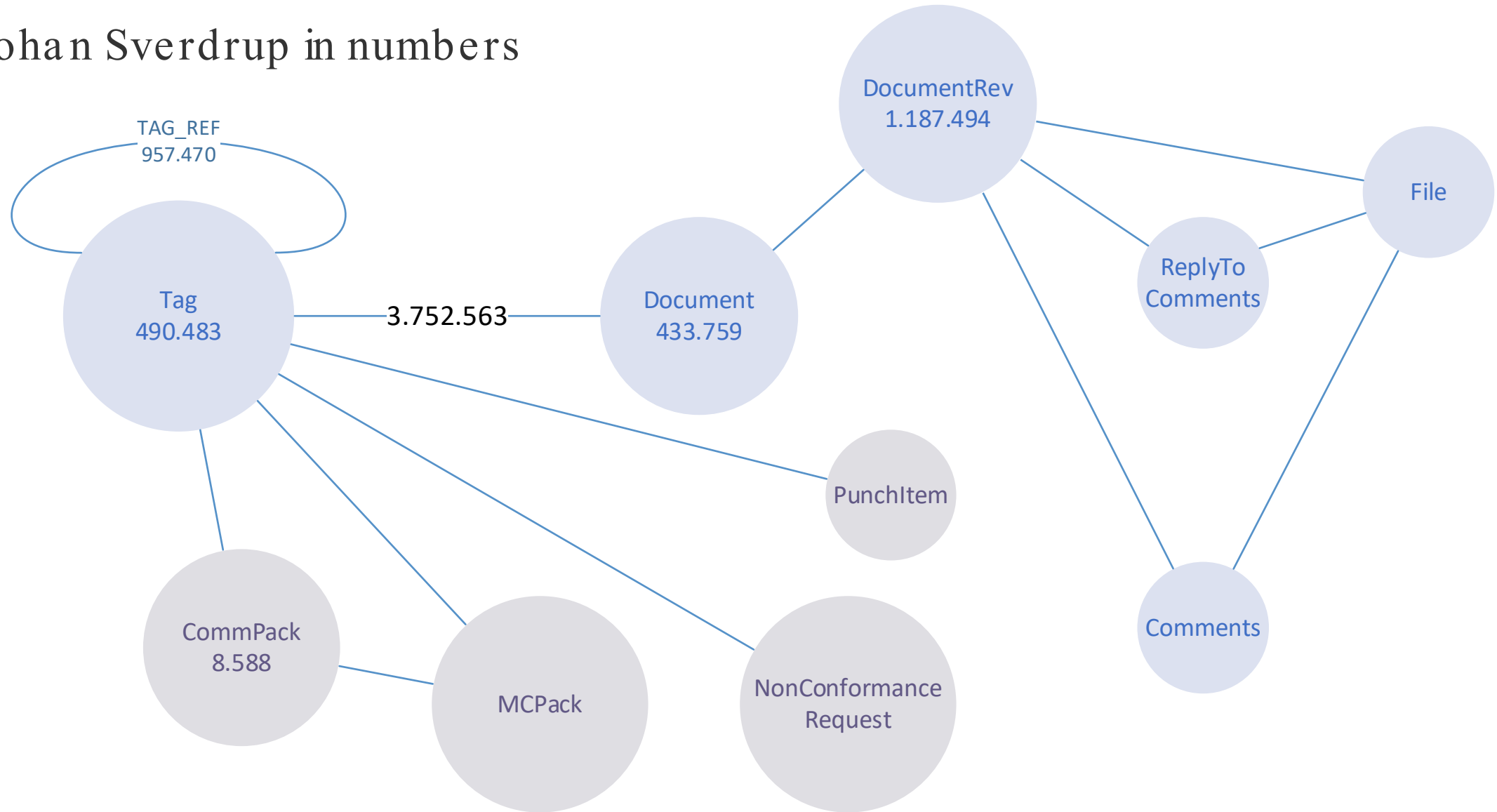




Johan Sverdrup field

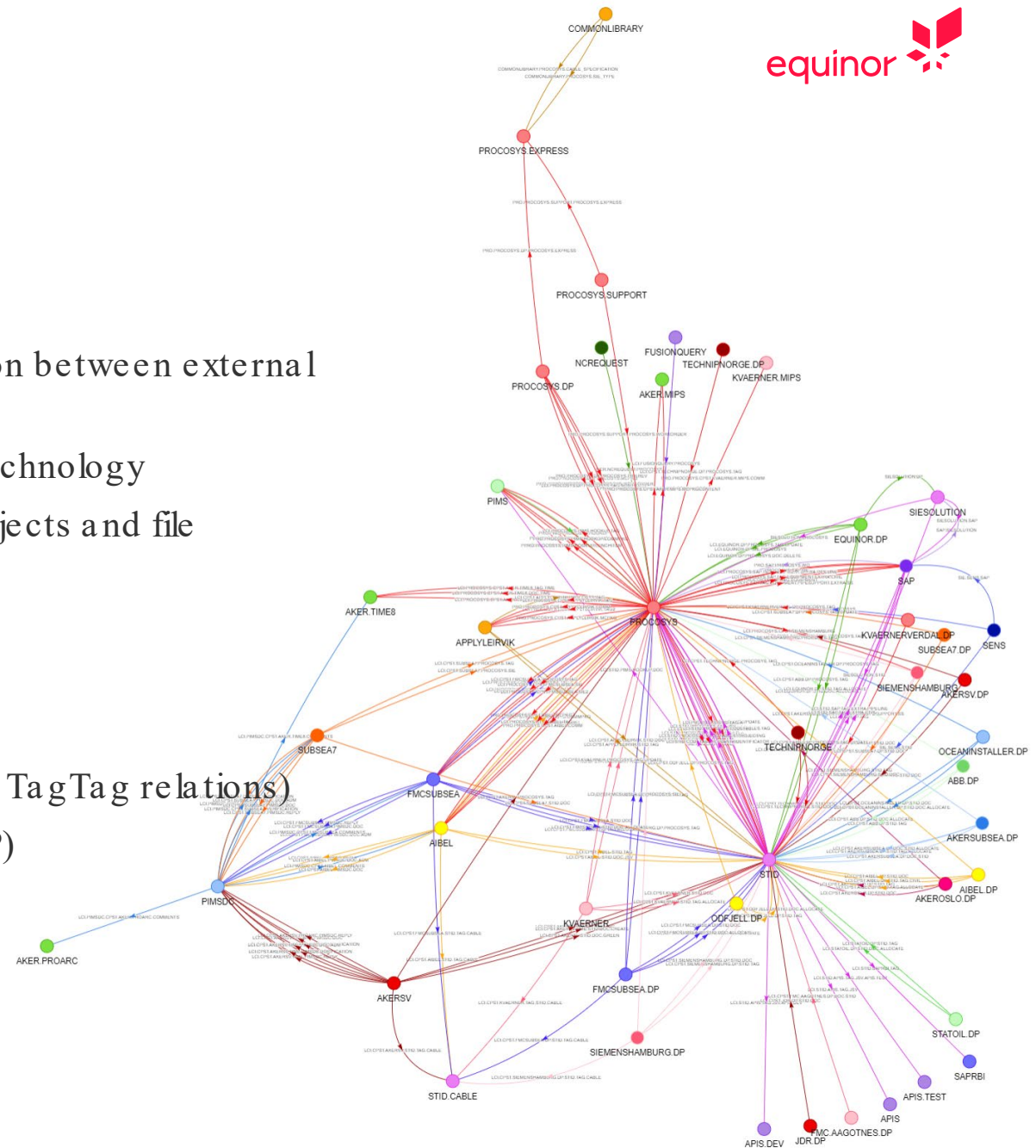


JSV – Johan Sverdrup in numbers



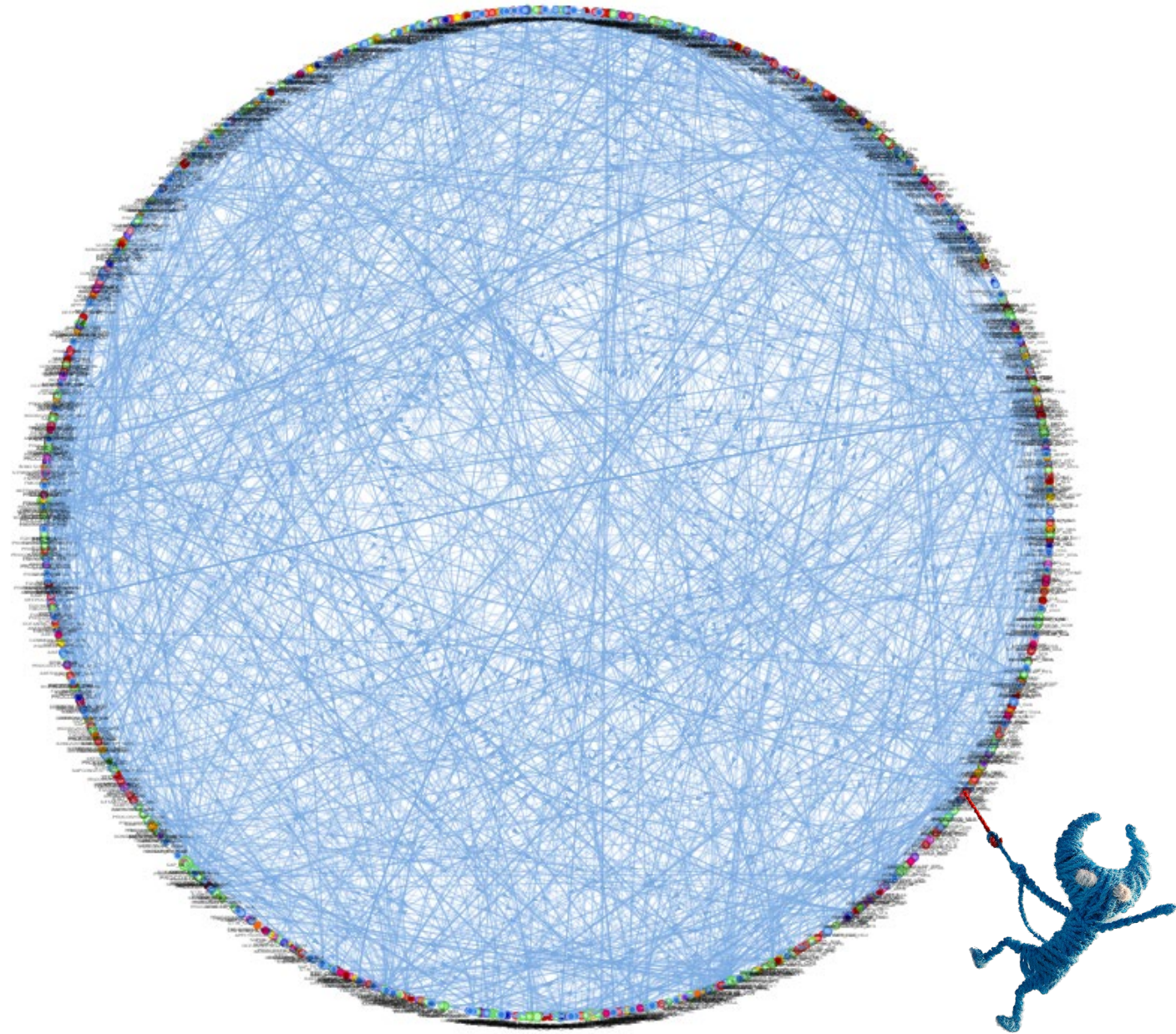
TIE – Technical Information Exchange

- Equinor developed exchange system for technical information between external parties and internal systems.
- Operational since 2012, major update 2022 TIE2 with new technology
- Provides end-to-end integration exchange of JSON/XML objects and file attachments.
- Provides Excel-templates and web portal for manual upload
- Objects described by:
 - TR3111 LCI Requirements - Data Content and Transfer (Tags, Documents, DocumentReview, TagDoc relations, TagTag relations)
 - ISO 15926-13 Integrated asset planning life-cycle (ILAP)
 - CommPkg, NonConformanceRequest, WorkPack



TIE endpoints

- 121 external and internal application endpoints
- 738 subscriptions
- Average of 100.000 messages/day
- Rule based processing of messages



Site	<input type="text" value="JSV"/>	Object name	<input type="text"/>	Receipt status	<input type="text" value="Select..."/>	Action	<input type="text" value="Select..."/>
Source system	<input type="text"/>	Object type	<input type="text" value="TAG"/>	Project	<input type="text"/>	Transfer Code On Object	<input type="text" value="Select..."/>
Target system	<input type="text"/>	Classification	<input type="text" value="ELECTRICAL_FIELD"/>	Package id	<input type="text"/>	Metadata Transfer Code	<input type="text" value="Select..."/>
TIE Source User	<input type="text"/>	From date	<input type="text" value="5 Jun 2022 12:30"/>				
TIE Target User	<input type="text"/>	To date	<input type="text"/>				
Max messages	<input type="text" value="200"/>	<input checked="" type="checkbox"/> Show only latest message per object				Data source	<input checked="" type="radio"/> Fast <input type="radio"/> Master

Retrieved 200 messages with 200 receipts for a total of 200 rows (click header to change sorting)

LINK	ID	M.S	OBJECTTYPE	CLASSIFICATION	OBJECT NAME	SITE	PROJECT	SOURCE SYSTEM	MESSAGE TIMESTAMP	ACTION	RECEIPT STATUS	RECEIPT TIMESTAMP	TARGET SYSTEM	M.T.C	E.C	TAG STATUS
	794720904		TAG	ELECTRICAL_FIELD	B-92EL001-202-E05	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:45	UPDATE	✓ Successful	2022-08-19 12:04:51	PROCOSYS_JSV	EIS	D	
	794720905		TAG	ELECTRICAL_FIELD	B-92EL001-202-E06	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:45	UPDATE	✓ Successful	2022-08-19 12:04:53	PROCOSYS_JSV	EIS	D	
	794720906		TAG	ELECTRICAL_FIELD	B-92EL001-202-E07	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:45	UPDATE	✓ Successful	2022-08-19 12:04:55	PROCOSYS_JSV	EIS	D	
	794720907		TAG	ELECTRICAL_FIELD	B-92EL001-202-E08	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:45	UPDATE	✓ Successful	2022-08-19 12:04:57	PROCOSYS_JSV	EIS	D	
	794720908		TAG	ELECTRICAL_FIELD	B-92EL001-202-E09	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:45	UPDATE	✓ Successful	2022-08-19 12:04:58	PROCOSYS_JSV	EIS	D	
	794720909		TAG	ELECTRICAL_FIELD	B-92EL001-202-E10	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:45	UPDATE	✓ Successful	2022-08-19 12:05:00	PROCOSYS_JSV	EIS	D	
	794720910		TAG	ELECTRICAL_FIELD	B-92EL001-202-E11	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:45	UPDATE	✓ Successful	2022-08-19 12:05:02	PROCOSYS_JSV	EIS	D	
	794720911		TAG	ELECTRICAL_FIELD	B-92EL001-202-E12	JSV	LO265C.003	AIBEL_JSV	2022-08-19 12:00:46	UPDATE	✓ Successful	2022-08-19 12:05:04	PROCOSYS_JSV	EIS	D	
	793652948		TAG	ELECTRICAL_FIELD	D-82EL118-480-B02	JSV	LO265C.003	AKERSV.DP_JSV	2022-08-04 12:12:28	UPDATE	✓ Successful	2022-08-04 12:12:55	PROCOSYS_JSV	TIME	B	ASBUILT
	793727405		TAG	ELECTRICAL_FIELD	L-85EL403A-301-C01	JSV	LO265C.003	AKERSV.DP_JSV	2022-08-05 07:53:41	UPDATE	✗ Failed	2022-08-05 07:54:18	PROCOSYS_JSV	TIME	D	HISTORIC
	793727406		TAG	ELECTRICAL_FIELD	L-85EL403A-301-C02	JSV	LO265C.003	AKERSV.DP_JSV	2022-08-05 07:53:41	UPDATE	✗ Failed	2022-08-05 07:54:19	PROCOSYS_JSV	TIME	D	HISTORIC

Objects & attributes

Message details Open in new tab

Message id: 600183b3-3a03-483a-94cd-5dd072aaddcd Copy

Name: B-43PX001-M01-S01
Type: TAG
Classification: ELECTRICAL_FIELD
Site: JSV
Project: LO265C.003
SourceSystem: AIBEL_JSV
Links: [🔗](#) [👉](#)

Datasource
 Fast
 Master

Details JSON XML Logs 3 Receipts 1

Interface 12 Collapse

NAME	VALUE
SequenceId	789872259
Guid	600183b3-3a03-483a-94cd-5...
MessageStatus	Processed
ObjectType	TAG
ObjectClass	TAG
Classification	ELECTRICAL_FIELD
ObjectName	B-43PX001-M01-S01
Site	JSV
Project	LO265C.003
SourceSystem	AIBEL_JSV

Attributes 24 Collapse

NAME	VALUE
Name	B-43PX001-M01-S01
ENGINEERING_CODE	A
DISCIPLINE_CODE	E
REMARK	(NULL)
INST_CODE	JSV
CONTR_CODE	AI
CONTRACTOR_INSTALLATION	AI
PO_CALL_OFF	AI01
GAS_GROUP	IIC
IP_GRADE	IP66

Metadata 1 Collapse

NAME	VALUE
TRANSFER_CODE	EIS

Relations & payload

DATE_INSTALLED	2021-10-06
DESCRIPTION	Local Control Station for Mot...
Method	UPDATE

Files 0

No files.

Relationships 0 — Collapse

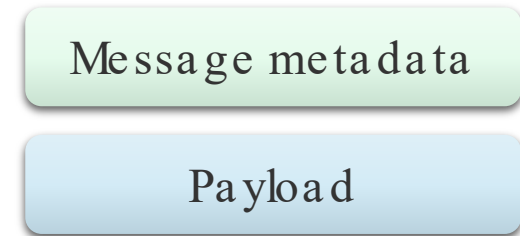
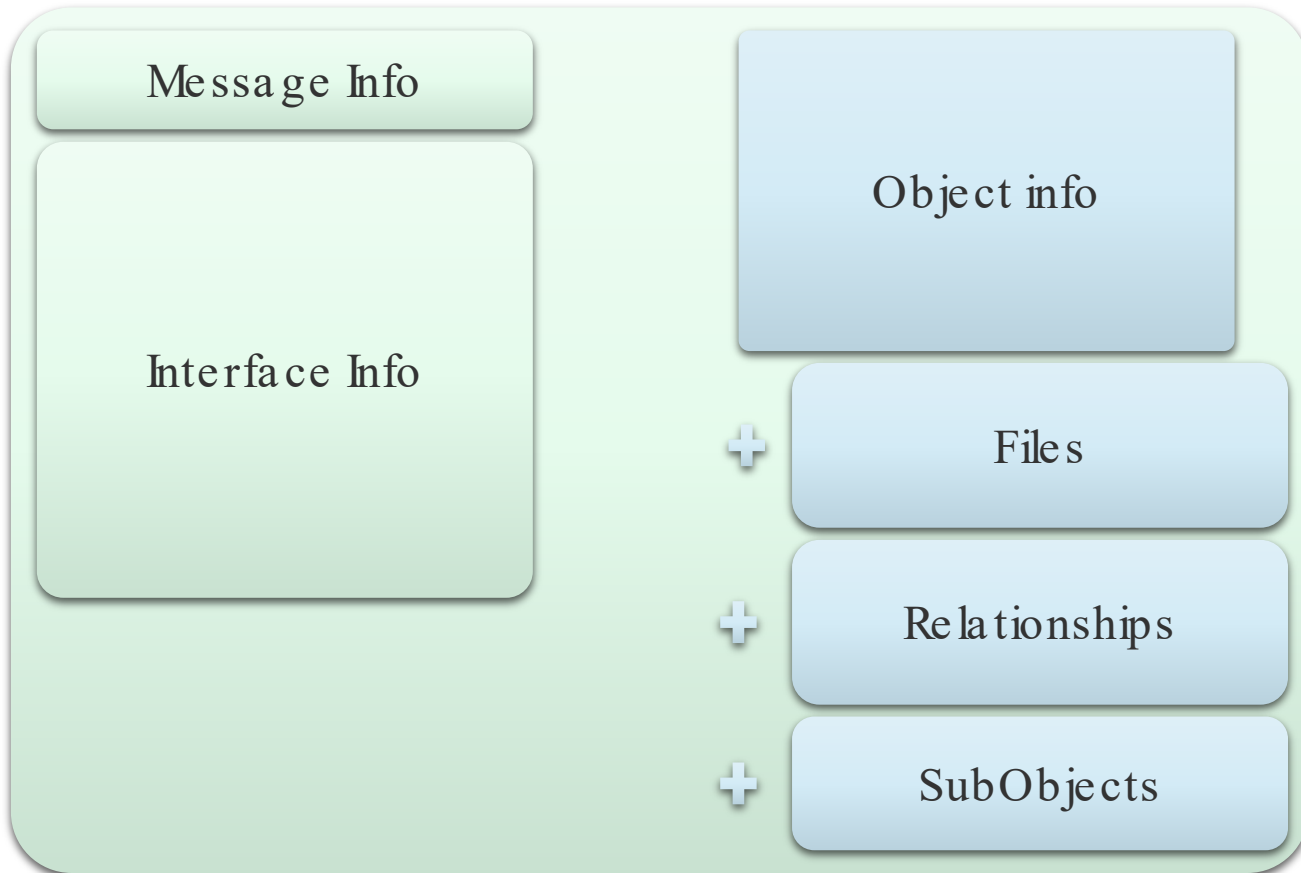
NAME	METHOD	OBJ1-NAME	OBJ1-CLASS	OBJ2-NAME	OBJ2-CLASS
TAG_MOUNTED_ON	CREATE			B-43PX001-M01	TAG
TAG_DOCUMENT	CREATE			C152-AI-EI198T-XB-04003-01	DOCUMENT
TAG_DOCUMENT	CREATE			C152-AI-EI198T-XD-04003-01	DOCUMENT
TAG_DOCUMENT	CREATE			C152-AI-E-RA-00012	DOCUMENT
TAG_DOCUMENT	CREATE			C152-AI-EI198T-XT-04010-01	DOCUMENT
TAG_DOCUMENT	CREATE			C152-AI-EE047T-XT-00009-01	DOCUMENT
TAG_DOCUMENT	CREATE			C152-AI-EI198T-VB-00003	DOCUMENT
TAG_MANUFACTURERMODEL	CREATE			CEAG	MANUFACTURERMODEL

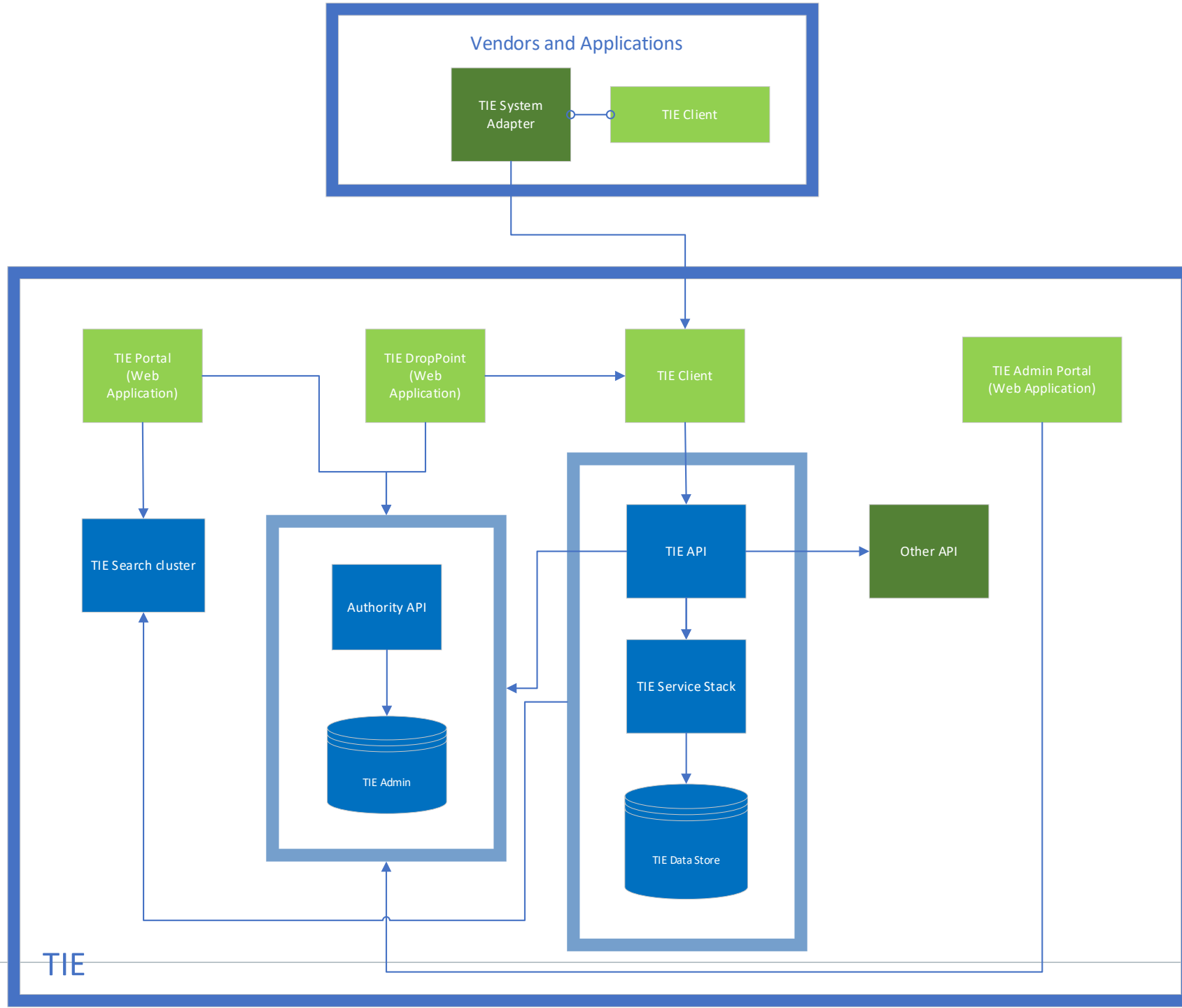
Sub-objects 0

No sub-objects.

[Open in new tab](#) [Close](#)

Message structure





TR3 111 LCI Requirements – Data content and Transfer

Requirements: LCI Requirements - Data Content and Transfer

Classification: Internal

Requirements Status: ✔ Relevant
Version: 8.0

TR3111 LCI Requirements - Data Content and Transfer

Project development
Requirements, TR3111, Version 8.0,
Owner: Magnar Otøy
Author: Eric Otsaba

Document replaces version 7.0

Relevant versions:

- 6.01 (2017-06-23 10:52)
- 7.0 (2018-02-21 14:47)
- 8.0 (2022-08-23 16:11)

Project development, Requirements, TR3111, Version 8.0
Page 1 of 100



Browse

Default List TR3111 base (0.0.0.12) beslu@equinor.com Tools

Tag class x

Functional Class: Tag class

Details Network Permissible Attributes Sub Classes Taxonomy Occurrences Extensions Languages

Details Level... Improve Layout Zoom to fit Filter by... Refresh Full Screen View

Browse

- Functionals
 - Tag class
 - Instrument Field
 - Telecom Field
 - Fire And Gas Field
 - Junction Box
 - Cable
 - Line
 - Main Equipment
 - Electrical Field
 - Manual Valves
 - Heat Tracing Cable
 - Circuit And Starter
 - Special Item
 - Civil
 - Pipe Support
 - Ducting
 - Signal
 - Function
 - Hose assembly
 - Penetration
 - Subsea Item
 - Facility activity
 - Other classes
 - Root Functional Class
 - Tag tag relations
- Physicals
- Generals
- Documents

Functional Class: Electrical Field

- Details
- Network
- Permissible Attributes
- Sub Classes
- Taxonomy Occurrences
- Extensions
- Languages

Identification

ID: ELECTRICAL_FIELD Name: Electrical Field

Description: The functional (Tag) class for electrical field equipment eg lighting fixtures, socket outlets

Corresponding Identifiers

CFIHOS id: CFIHOS-30000310

PCA id: RDS7160353

Properties Specific to Functional Class

Extends: Tag class

Naming Templates: +

Abstract:

Concept: Functional

Discipline: +

Life Cycle Type: +

Browse

- Functionals
 - Tag class
 - Instrument Field
 - Telecom Field
 - Fire And Gas Field
 - Junction Box
 - Cable
 - Line
 - Main Equipment
 - Electrical Field
 - Manual Valves
 - Heat Tracing Cable
 - Circuit And Starter
 - Special Item
 - Civil
 - Pipe Support
 - Ducting
 - Signal
 - Function
 - Hose assembly
 - Penetration
 - Subsea Item
 - Facility activity
 - Other classes
 - Root Functional Class
 - Tag tag relations
 - Physicals
 - Generals
 - Documents

Functional Class: Electrical Field

Details
Network
Permissible Attributes
Sub Classes
Taxonomy Occurrences
Extensions
Languages

ID	Name	Data Type	UoM Req...	Measure Class	Validation Type	Validation Rule	Discipline	Presence
MAIN_SYSTEM	Main System	String						
SEQUENCE	Sequence	String						
Group: Administrative								
CONTR_CODE	Contr Code	String						Required
PROJECT_NO	Project No	String						
ENGINEERING_CODE	Engineering Code	String			Enumeration	EngineeringCo...		Required
DATE_INSTALLED	Date Installed	Date						
PO_NO	Purchase order	String						
CONTRACTOR_INSTALLAT...	Contractor installation							
PO_CALL_OFF	PO call off							
Group: Main attributes								
INST_CODE	Inst Code	String						Required
PROJECT_CODE	Project Code	String						Required
TAG_NO	Tag No	String						Required

+ Add Maturity Level: Default

Q&A

- beslu@equinor.com

Data exchange through TIE for THTH 16.10.2023

Bent S. Lund
Leading Engineer LCI

© Equinor ASA

This presentation, including the contents and arrangement of the contents of each individual page or the collection of the pages, is owned by Equinor. Copyright to all material including, but not limited to, written material, photographs, drawings, images, tables and data remains the property of Equinor. All rights reserved. Any other use, reproduction, translation, adaptation, arrangement, alteration, distribution or storage of this presentation, in whole or in part, without the prior written permission of Equinor is prohibited. The information contained in this presentation may not be accurate, up to date or applicable to the circumstances of any particular case, despite our efforts. Equinor cannot accept any liability for any inaccuracies or omissions.