History

• 2015: Formation of the Information Standards Subcommittee (ISSC) as part of the IOGP Standards Committee

• 2018: Subcommittee started looking at digitalization initiatives with the formation of the Global Equipment Hub taskforce

• 2019: TOR formally changed to include “digitalization” as part of the scope of the subcommittee

• 2020: Name changed from ISSC to DISC recognize the change of scope
**Vision**: Optimize business efficiency and effectiveness across the O&G industry and the supply chain through **high-quality digitalization and standardized information**.

**Focus**: Establishing a **common agreed framework and prioritization** for *digitalization* and support development of preferred *information standards* that are used by the Oil & Gas industry.

**Through partnerships**: drive the availability, maturity and utilization of foundational digital solutions and preferred information standards

**Meetings**: Teleconference every month
Overview of DISC

1. Standards Availability and Maturity
2. Standards and Digitalization Influencing
3. Standards and Digitalization Adoption

International Association of Oil and Gas Producers

Standards Committee

Digitalization & Information Standards Subcommittee

- GEH Task Force
- PLM Task Force
- IDR Task Force

- JIP 33
- JIP 36 (CFIHOS)
- Requirements Digitalization
- Operator Preferred Standards

4. Global Equipment Hub
5. Product Life-cycle Management
6. Industry Digitalization Roadmap
## DISC Members

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<tr>
<th>Company</th>
<th>Role</th>
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<tr>
<td>BP</td>
<td>Ken Dunn (Chair)</td>
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<tr>
<td>CHEVRON</td>
<td>Vic Samuel (Vice chair)</td>
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<td>EQUINOR</td>
<td>Robert Skaar (Secretary)</td>
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<td>CHEVRON</td>
<td>Emile Coetzer (Comms)</td>
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<td>EXXONMOBIL</td>
<td>Erin Jones (Initiatives)</td>
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<td>SHELL</td>
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Tackling the Digitalization Challenge

Digitalization Solution Seeding
- Identify, define and progress a plan for development and deployment of industry-level digitalization initiatives

Digitalization and Standards Adoption
- Develop a program to assist IOGP members and the industry adopt digitalization solutions and information standards. Actively promote and facilitate adoption.

SDO Influencing and Alignment
- Work with key information Standards Development Organization (SDOs) to drive industry priorities, resolve overlaps and close standards gaps

Standards Analysis and Usage
- Undertake research and analysis of the key information standards to determine their maturity, suitability. Identify a set of preferred standards and actively communicate results to IOGP members
The Digitalization and Information Standards Subcommittee (DISC) are supporting the following list of standards:

| ISO 19128 | Geographic information |
| ISO 8601 | Date and time |
| ISO 80000 | Quantities and units |
| ISO 639 | Code for name of Languages |
| ISO 3166 | Country codes |
| ISO 4217 | Code for currencies |
| ISO 55000 | Asset management |
| ISO 14224 | Petroleum maintenance data |
| ISO 15926 | Common digital language |
| ISO 19008 | Standard cost coding system |
| ISO 18101 | Oil and Gas Interoperability Technical Specification |
| IEC 61360 | Standard data element types with associated classification scheme for electric components (Common Data Dictionary) |
| IEC 61987 | Data structures and elements in process equipment catalogues |
| IEC 62683 | Low-voltage switchgear and control gear - Product data and properties for information exchange |
| ISO 22745 | OTD |
| IEC 62541 | OPC UA, Open Platform Communication Unified Architecture |
| IEC 62769 | Field Device Integration |
| IEC 62832 | Industrial-process measurement, control and automation - Digital factory framework |
| IEC 63280 | Automation engineering (MTP) |
| IEC 63131 | System control diagram |
| IEC 61131 | PLCopen |
| IEC 61499 | Generic model for distributed control systems |
| IEC 62714 | Automation ML |
| IEC 62443 | Security |
| IEC 62890 | Life-cycle and Value Stream |
| IEC 62264 | Enterprise Control System Integration |
| IEC 61512 | Batch Control |
Digitalization Themes

Theme #1: Data Foundation

- Standards for data domains
  - Project Control
  - Engineering
  - Procurement
  - Construction
  - Installation
  - 3D models
  - Spare Parts
  - Contracts
  - Logistics
  - Commissioning

Theme #2: Data Exchange

- Exchange of data
  - API layer
  - Platform enabling data integration

Theme #3: Data Application

- Application of data
  - AI Training
  - Digital Equipment Passport
  - Generative Engineering
  - Smart Legal Contracts
  - Digital Twins
  - Global Equipment Hub
  - Digitally-enabled AWP
  - Product Lifecycle Management
  - Data-centric Project Controls
  - Digital Requirements Management
Key collaborations

The digital initiatives that are recommended to receive priority in this roadmap have in common that they have technical interdependency as well as organizational interdependency i.e. success will require partnering between industry organisations. Three key interdependencies are highlighted in the figure below, between WEF, Open Group OSDU and IOGP DISC. The technical interdependency comes through data standardization being a prerequisite for an open platform to function and providing a launch pad for new applications and services. The organizational interdependency comes through the complementary roles and capabilities between WEF, Open Group and IOGP.

Other important collaborations in the Data Foundation theme, are those with Standards Development Organizations and Construction Institutes.
Areas of Focus

- Engineering
- Facilities
- 3D models
- Digital Twin
- Project Planning and Control
Global Equipment Hub

**Objective:**

Improve the efficiency, quality and completeness of manufactured equipment information (including JIP33 equipment)

**Requirements:**

- Get the information directly from the OEM
- Only get the information for each model once
- Only validate the information once
- Be able to search to find equipment meeting a specification

**Components:**

- **Information Package Definition** – influence CFIHOS thinking, get an MVP issued
- **Package Certification** – encourage a secondary market for this
- **Package Discovery and Retrieval** – federation or set up a “registry” service
PLM Task Force

• PLM Taskforce Terms of Reference:
  • **Mission:** Digitization is increasingly changing business outcomes and is impacting all aspects of project delivery and the supply chain. Product Lifecycle Management is one technology which creates the potential to develop process solutions supporting integrated project delivery. There is a risk that the benefits of these approaches will be hindered by fragmentation in industry adoption and lack of connectivity between software and solution environments.
  • **Outcomes:**
    • Capture lessons from other industries who are more advanced in using PLM technology to develop a common ecosystem
    • Strategy paper outlining how Oil & Gas could achieve an equivalent outcome
    • Development of an infrastructure map identifying enabling standards
Digitalization Roadmap TF

**Objective:**

- Identify a strategic framework for and the key elements of an oil and gas Digitalization strategy. Review industry initiatives and identify gaps and overlaps. Develop a roadmap with milestones. Drive alignment of initiatives, resources and money, to position the industry to be more productive and efficient.

**Deliverables:**

1. Digitalization strategic framework (fourth industrial revolution, other industries, society, technology, international initiatives)
2. Digitalization Strategy: vision, objectives, goals, key elements and scenarios (the actual strategy)
3. Digitalization Strategy Roadmap: strategic digitalization initiatives and how they relate
4. Digitalization Strategy Action Plan: actions to be executed and monitored

**Request**

- In-principle endorsement for the establishment of a task force to develop an IOGP Digitalization Strategy under ISSC (TOR to be developed and approved by Standards Committee)
- Suggest potential participants (ie resource commitment)
- Involvement from Standards Committee for input and review
Digitalization and Information Standards Subcommittee (DISC)

Please feel free to contact us for more information

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