



International  
Association  
of Oil & Gas  
Producers



# Digital Transformation Committee

**Oil and gas industry: Empowerment  
Through Digital**

JIP33 Conference, Stavanger, 2023

Rob Kelly, bp – DTC Chair

Milenija Stojkovic Helgesen, Equinor – DTC Vice-Chair

Keith Johnston, Chevron – DTC Vice-Chair

Lucyna Kryla-Straszewska, IOGP – Principal Manager



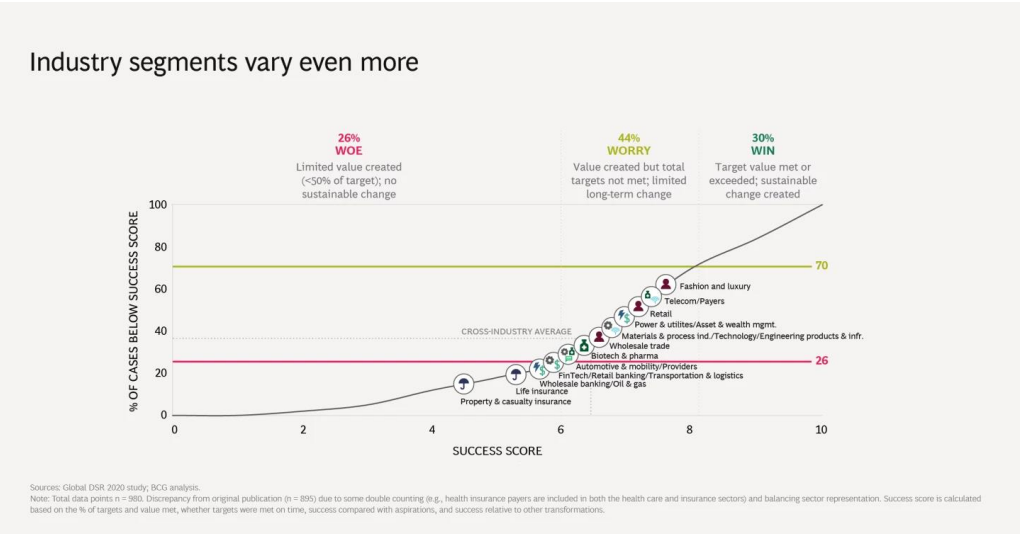
# “Change” vs “Transformation”

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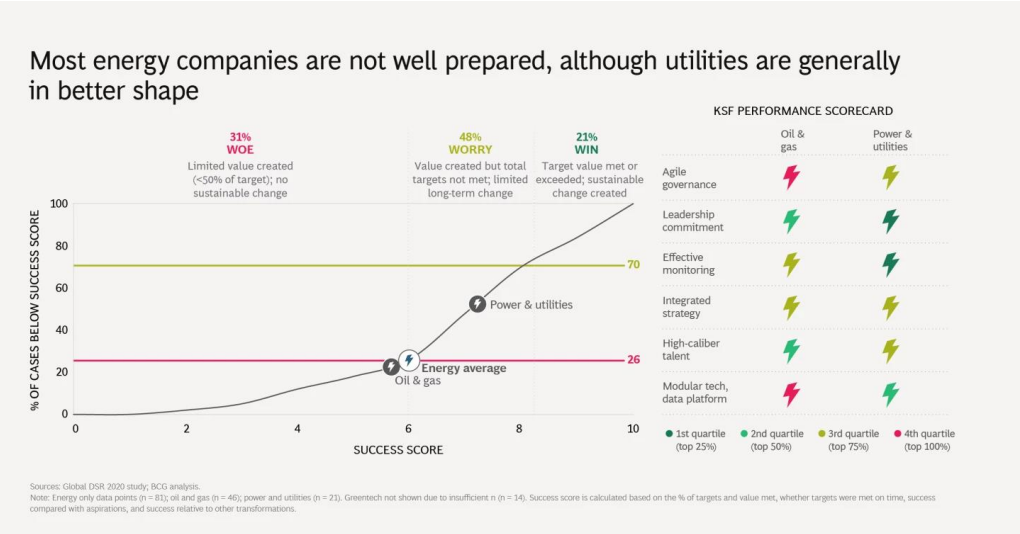
Although “change” is nothing new for this industry, it is important to recognize that there is a profound difference between “change” and “transformation”.

While change generally refers to modifications or alterations that may be incremental or specific, transformation represents a comprehensive and profound shift that addresses a broader scope and involves a ***significant reconfiguration or rethinking***. Change is more focused on the outcome, while transformation is concerned with the overall nature and essence of the entity or system.

# Oil and gas industry: Empowerment Through Digital



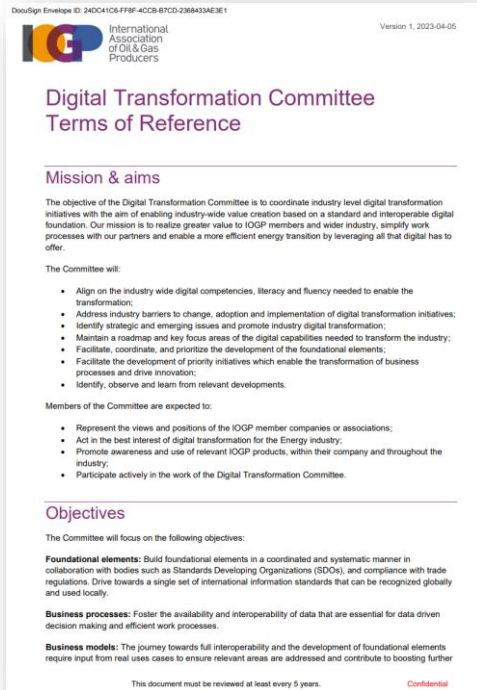
Mindset  
Lack of agility  
Dependency



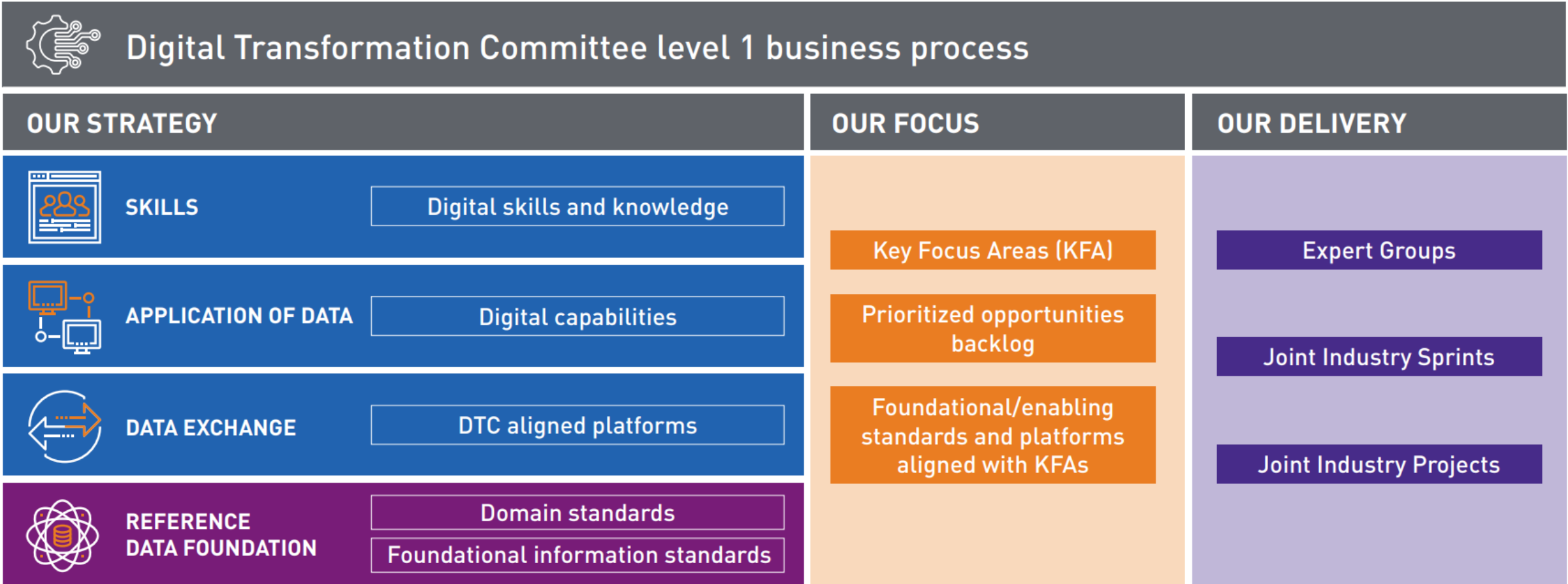
# Digital Transformation Committee



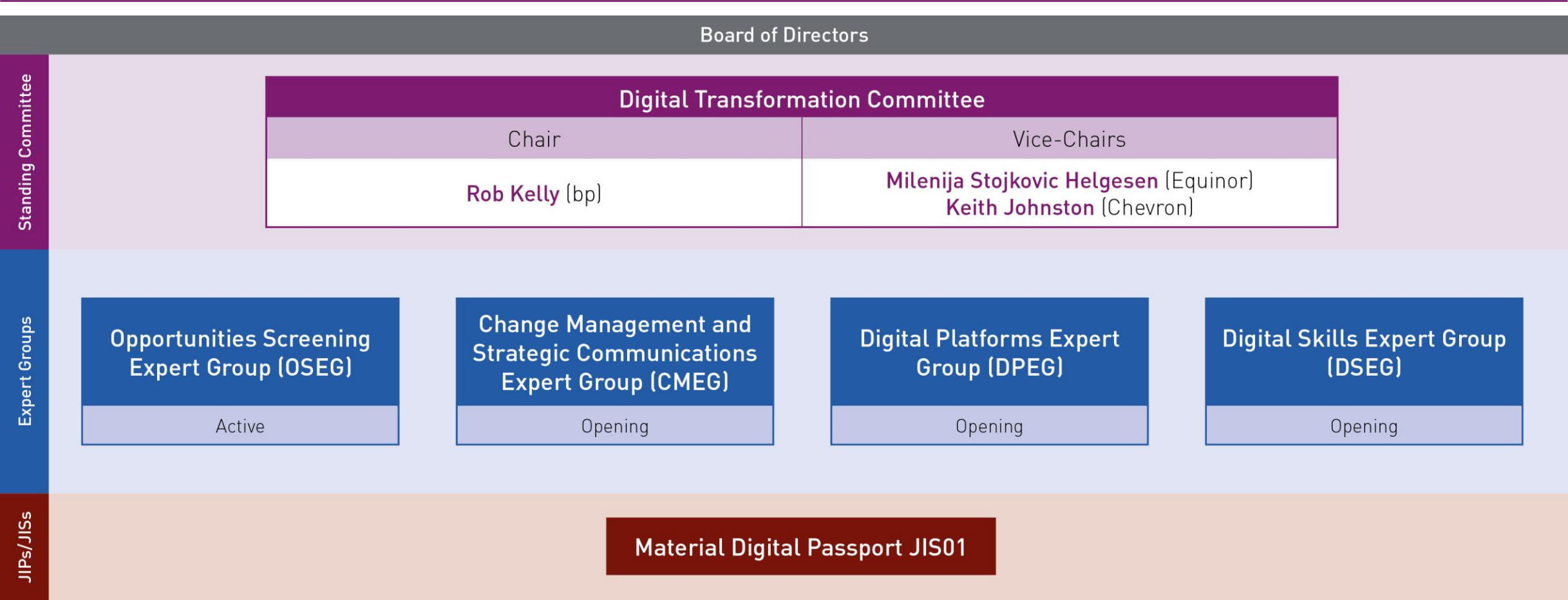
Digital Transformation Committee	
Chair	Vice-Chairs
Rob Kelly (bp)	Milenija Stojkovic Helgesen (Equinor) Keith Johnston (Chevron)



# DTC Level 1 Business process



# Structure

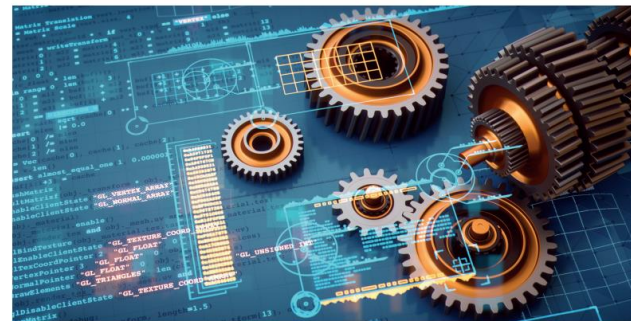


# Reports



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## IOGP Digital Transformation Committee 5 Year Strategy (2023-2027)



### 2023-2025 Key Focus Areas

## Digital Capabilities



#### Introduction

The digital capabilities required to transform the energy industry have many digital technologies available to enable business outcomes. Member companies envisioned what industry level transformation could enable for the energy industry, and the following goal was established for the digital transformation committee:

**Drive digital transformation of the energy industry by enabling value, ecosystem partnership, and sustainability through scalable, standardized and interoperable digital foundations.**

A Digital Capability is defined as the ability to utilize digital technologies and tools to achieve a desired business outcome. To do this requires technology, infrastructure, competencies and skills. The Key Focus Areas (KFAs) outlined in this section are focused on technology and infrastructure, there is a separate set of KFAs outlined for competencies and skills.



### 2023-2025 Key Focus Areas

## Digital Competencies and Skills



**The oil and gas industry is poised for a groundbreaking transformation. With the increasing adoption of digital technologies such as artificial intelligence (AI), digital twins, and automation capabilities, the industry has entered a new era of efficiency, productivity, safety, and sustainability.**

To fully harness the power of these transformative digital technologies, organizations are seeking to identify and cultivate the skills that will drive this digital revolution.

As one of its first major tasks, the IOGP's Digital Transformation Committee (DTC) held a workshop with member organizations from across the industry to create a library of digital competencies and skills needed to support the digital transformation of the industry.

# DTC Key Focus Areas



## Safe Sites

Enables increased safety and reliability of worksites through the use of AI, robotics, and process automation solutions that allows personnel to operate and maintain sites remotely and rely on technology to detect deficiencies and anomalies in processes before incidents occur.



## Digital Twinning

Enables the creation of digital replicas of assets, processes, and systems for the purpose of simulating, monitoring, and optimizing performance. This focus area will be targeted to workflows in the project lifecycle and enabling project lifecycle digital twins.



## Additive Manufacture

Enables the production of complex components and structures via 3D printing, allowing for the creation of custom-designed parts that are tailored to specific requirements, resulting in reduced cost and carbon footprint and enhanced performance and reliability.



## GHG Data and Standards

Enables the collection, analysis, and reporting of greenhouse gas (GHG) emissions data associated with the production, transportation, and consumption of oil and gas resources, allowing for the managing and reduction of carbon emissions, ensuring compliance with regulations, and promoting sustainability.

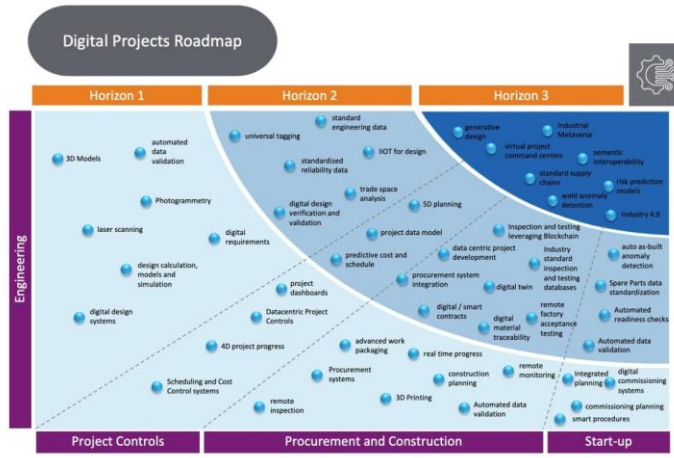
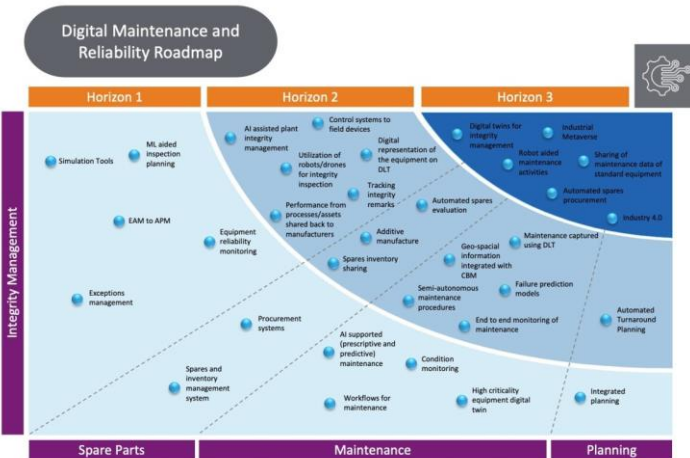
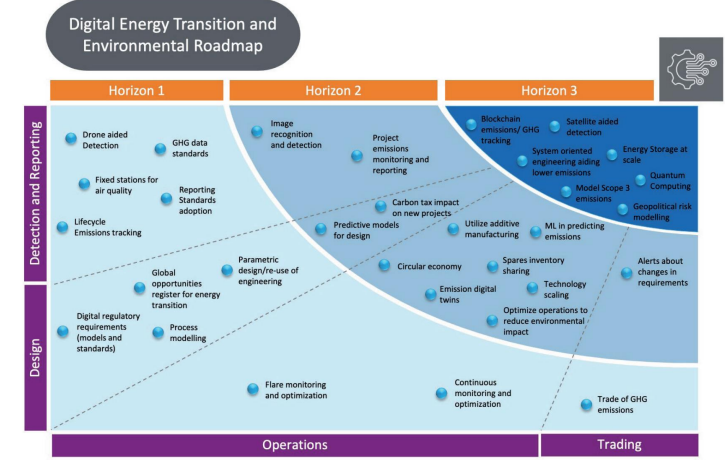
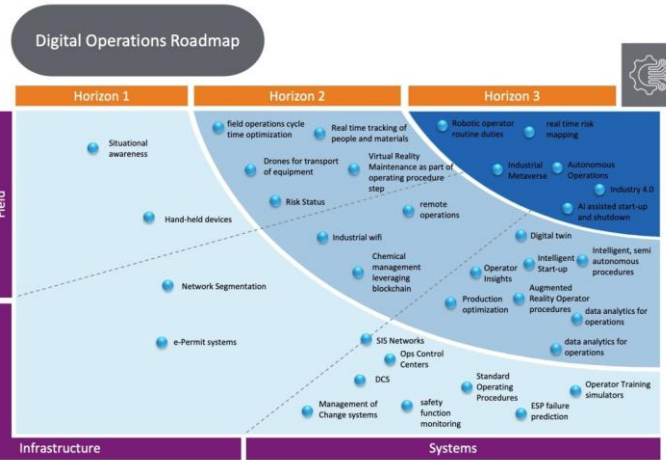
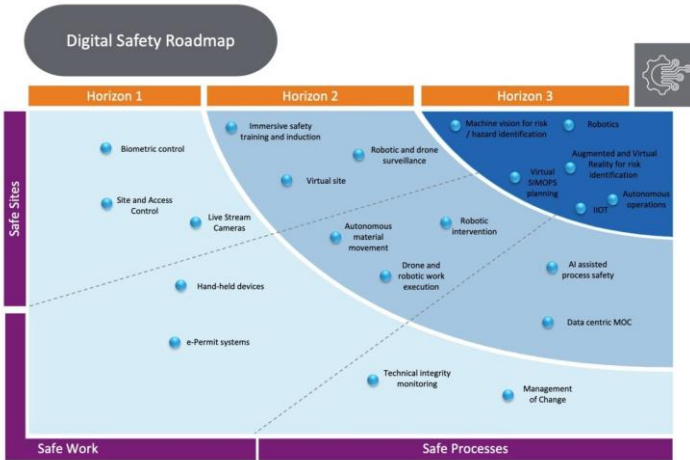


## Interoperable Engineering Data

Enables standardization, streamlining, consolidation, and management of technical engineering data crucial for effective decision-making, collaboration, and optimization of engineering in the energy industry. Enables an energy industry ecosystem which is interoperable.



# Roadmaps



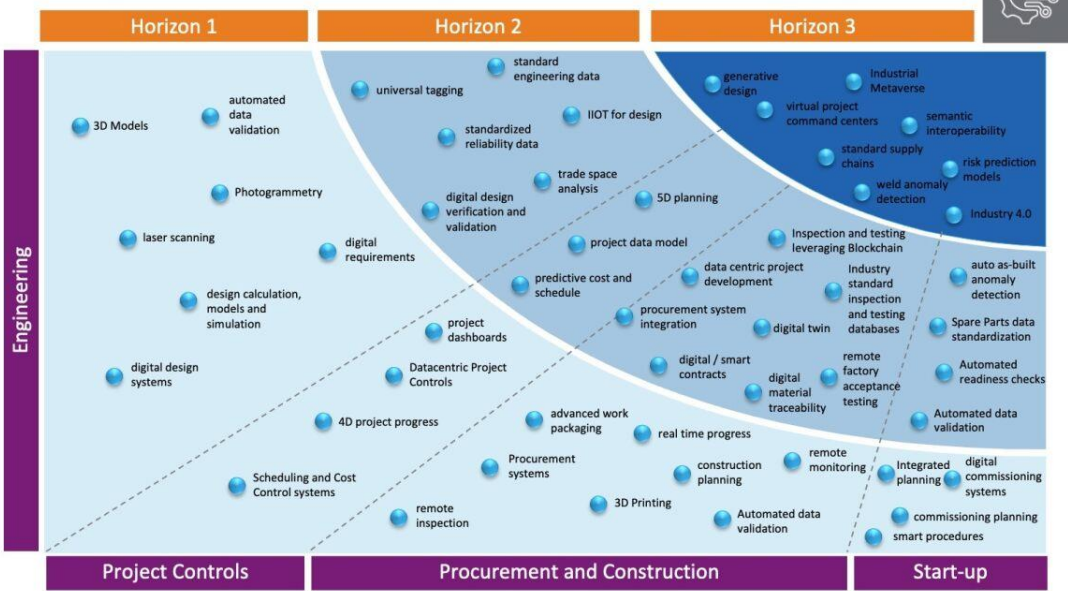
# Digital Energy Transition and Environmental Roadmap



# How do we maximize the value of the JIP33 standardization going forward



## Digital Projects Roadmap



# Summary

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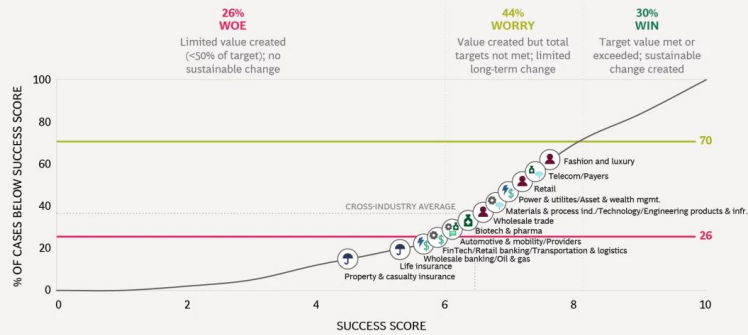
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**no one individual, no one company or organization can , nor it should claim that it could, answer to this challenge ALONE**

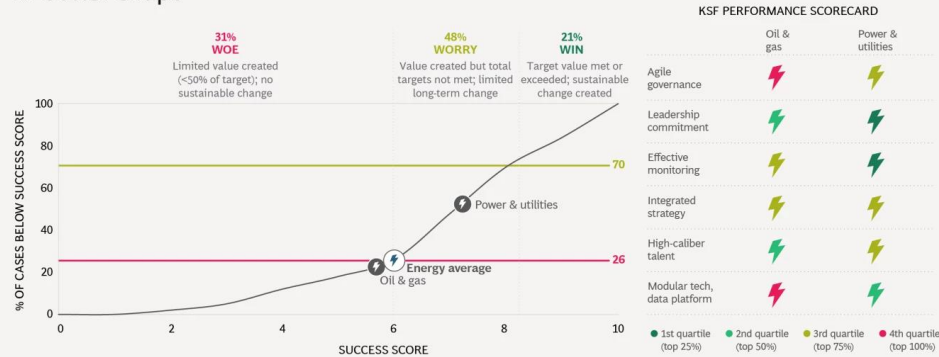
# Oil and gas industry: Empowerment Through Digital

## Industry segments vary even more



Sources: Global DSR 2020 study, BCG analysis.  
 Note: Total data points n = 980. Discrepancy from original publication (n = 895) due to some double counting (e.g., health insurance payers are included in both the health care and insurance sectors) and balancing sector representation. Success score is calculated based on the % of targets and value met, whether targets were met on time, success compared with aspirations, and success relative to other transformations.

## Most energy companies are not well prepared, although utilities are generally in better shape



Sources: Global DSR 2020 study, BCG analysis.  
 Note: Energy only data points (n = 81); oil and gas (n = 46); power and utilities (n = 21). Greentech not shown due to insufficient n (n = 14). Success score is calculated based on the % of targets and value met, whether targets were met on time, success compared with aspirations, and success relative to other transformations.



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Read more about the Digital Transformation Committee:  
<https://www.iogp.org/workstreams/engineering/digital-transformation>

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