



DIGITAL OIL FIELD AND DIGITAL TRANSFORMATION IN CNOOC INTERNATIONAL EUROPE

OGA Operator Technology Coordinators Meeting

23rd September 2019



Present

Vision

Objectives

Strategy

How

Focus Areas

Considerations

Challenges and Commitment

- *“This presentation includes “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995, including statements regarding expected future events, business prospectus or financial results. The words “expect”, “anticipate”, “continue”, “estimate”, “objective”, “ongoing”, “may”, “will”, “project”, “should”, “believe”, “plans”, “intends” and similar expressions are intended to identify such forward-looking statements. These statements are based on assumptions and analyses made by CNOOC Limited and/or its subsidiaries (the “Company”) in light of its experience and its perception of historical trends, current conditions and expected future developments, as well as other factors the Company believes are appropriate under the circumstances. However, whether actual results and developments will meet the expectations and predictions of the Company depends on a number of risks and uncertainties which could cause the actual results, performance and financial condition to differ materially from the Company's expectations, including but not limited to those associated with fluctuations in crude oil and natural gas prices, the exploration or development activities, the capital expenditure requirements, the business strategy, whether the transactions entered into by the Company can complete on schedule pursuant to their terms and timetable or at all, the highly competitive nature of the oil and natural gas industries, the foreign operations, environmental liabilities and compliance requirements, and economic and political conditions in the People's Republic of China. For a description of these and other risks and uncertainties, please see the documents the Company files from time to time with the United States Securities and Exchange Commission, including the Annual Report on Form 20-F filed in April of the latest fiscal year.*
- *Consequently, all of the forward-looking statements made in this presentation are qualified by these cautionary statements. The Company cannot assure that the results or developments anticipated will be realised or, even if substantially realised, that they will have the expected effect on the Company, its business or operations.”*



CURRENTLY HAVE

4G network

Downhole flow meters

Fibre Optic Distributed Temperature Pressure/Temperature Sensors

Smart multi-zone well completions

Physical Integrated System Models

Avalanche of data

External Predictive Process Monitoring Services

Internal Data Analytics Capabilities

New Data Mining Tools

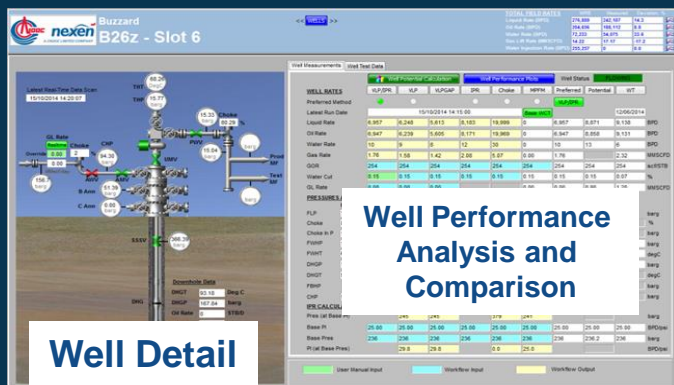
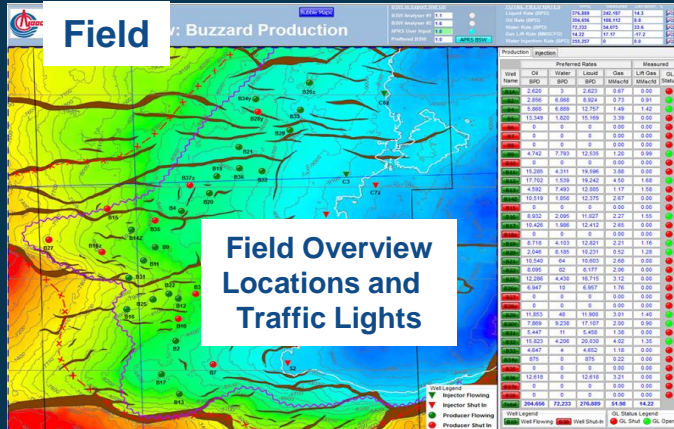
Collaborations with the OGTC

Mostly physical model driven optimisation / simulation system

Active dashboards / Alarm systems

Digital oilfield

(Optimiser + Visualiser)



• Well Operating Envelopes

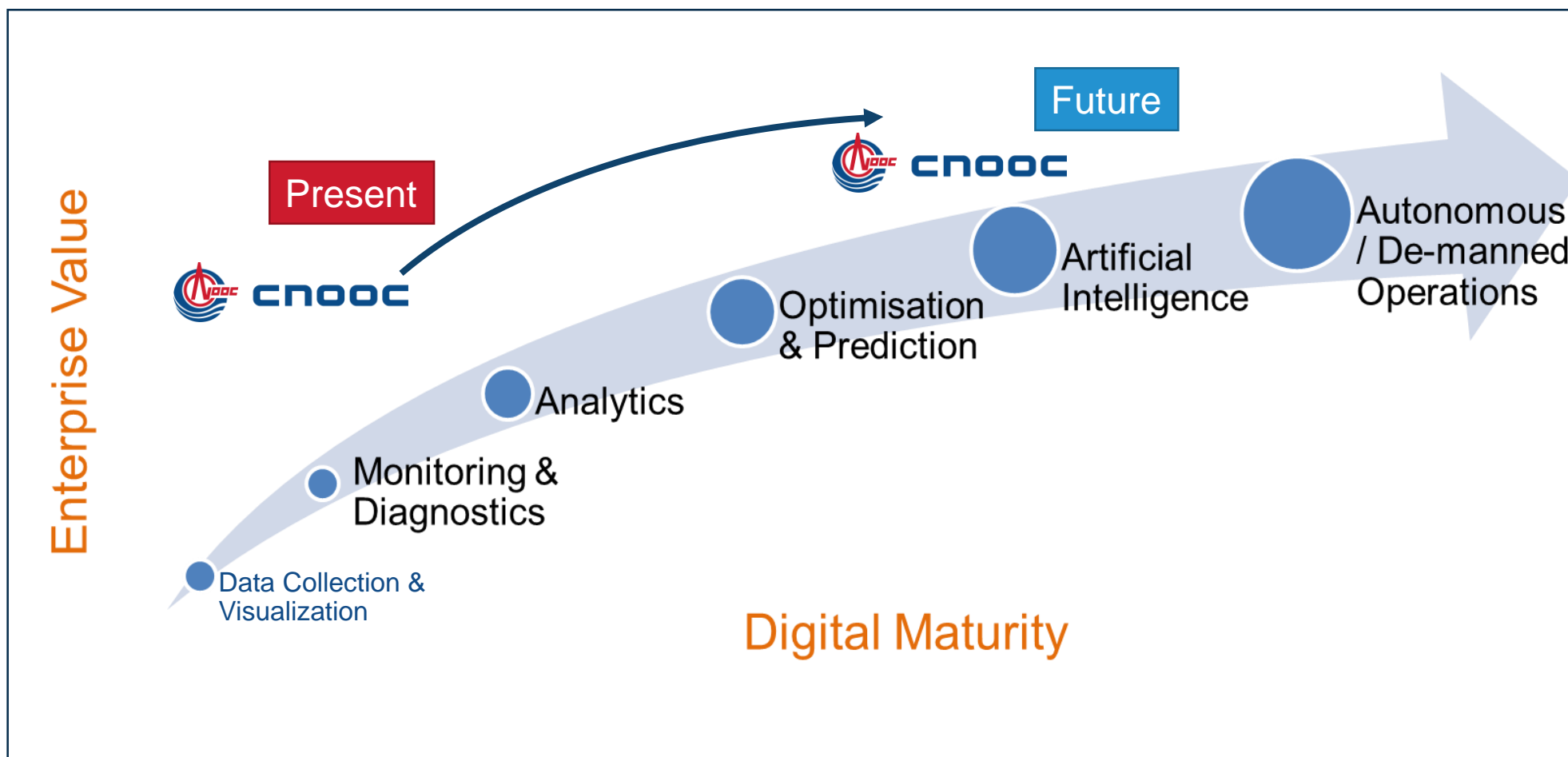
• Automated Value Add Workflows

• What If Scenarios & Simulations

• System Performance Plots

- Diagnostics
- Real-Time Optimisation
- Forward Planning
- Forecasting
- Well Rate Allocation
- Well Tests Validation
- WI management
- Gaslift Optimisation
- Debottlenecking

- To leverage the full potential of digital technology to deliver the regional business key results of CNOOC International.
- To transform the way we work through digital transformation.



Embrace the 4th Industrial Revolution to shorten/accelerate exploration and development cycles with a view to achieve our 2025 growth targets.

Harness the significant opportunity to leverage our data for decision making.

Increase the efficiency of our work processes.

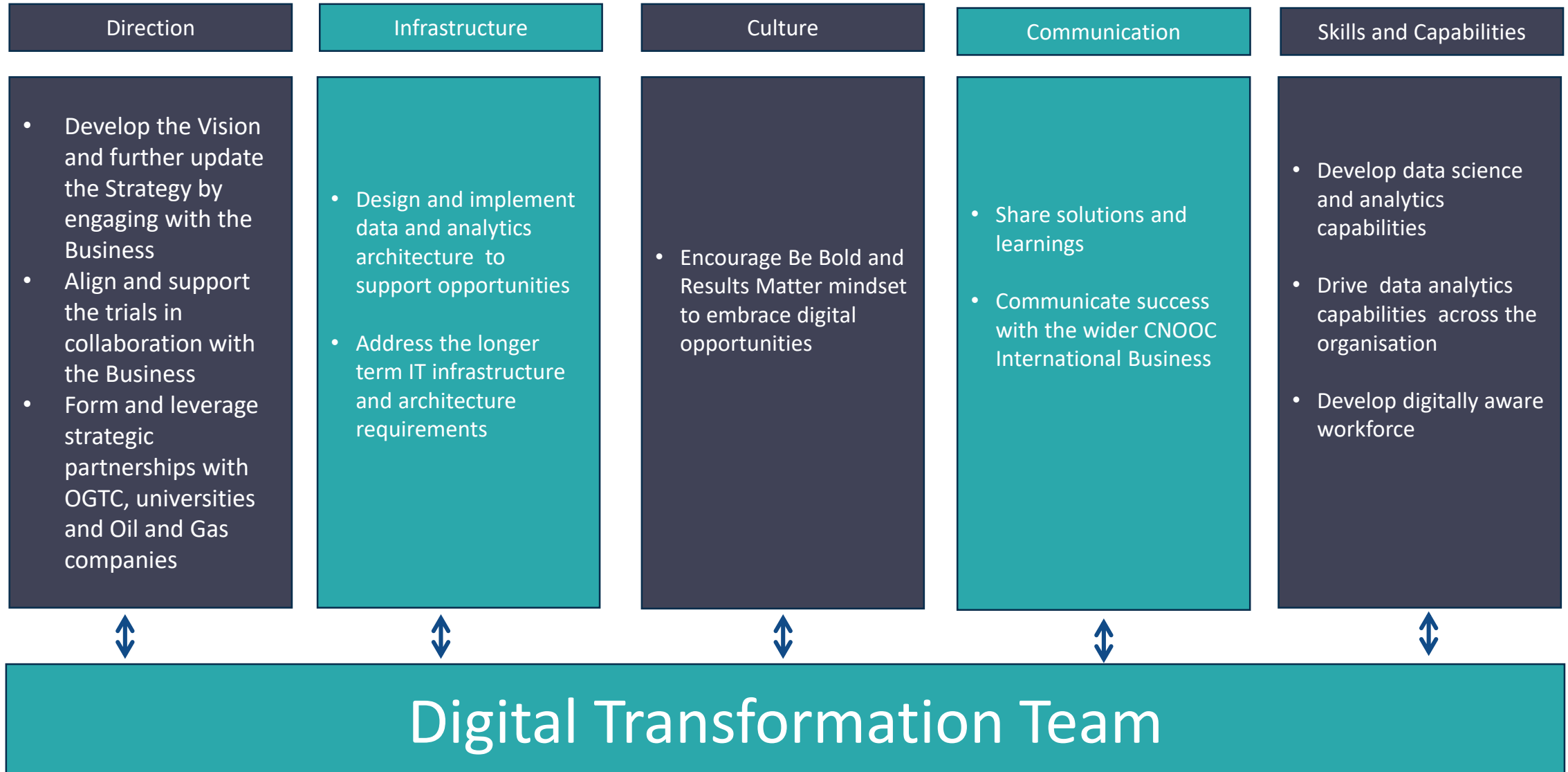
Transform CNOOC International to:

- a “fastest-follower” digital maturity level
- make digital transformation a core part of how we run the business

Drive our strategy, talent and culture in alignment with our Business Strategy.

Impact key business deliverables to maximise value.

Transform the way we work through Digital Technologies



EMBRACING THE DIGITAL REVOLUTION

At CNOOC International, we have launched a Digital Transformation strategy in the U.K. that will harness the power of data and digital technology to deliver our key business results and growth targets.

Digital Transformation helps achieve our 2025 growth targets by accelerating the exploration and development cycle, and strengthening our reputation as a partner of choice.



PRODUCTION

Equipment and system failures are anticipated and prevented

Sustainable, best-in-class production efficiency

Data driven, predictive maintenance of our offshore assets



DATA INTEGRATION

Combining and delivering trusted data

Data silos removed and context added

Foundation for deeper analytics and actionable insights



SEISMIC PROCESSING

4D seismic surveys processed in days, not months

Geomodel update close to real time

Well planning cycle significantly reduced



DIGITALLY ENABLED TECHNICIAN

Offshore personnel enabled via technology, removing non-value adding tasks

Data and onshore support available instantly

Wearables ensure safe access to applications



ALL-IN COSTS

Utilising leading-edge data science methods to improve reservoir imaging and management

EXPLORE

APPRAISE

DEVELOP

OPERATE

ABANDON

Data Driven Cognitive Basin Analysis

OBN/ Better Seismic Acquisition

Faster Seismic Cycle

Predictive Operations Management &
Production Optimisation

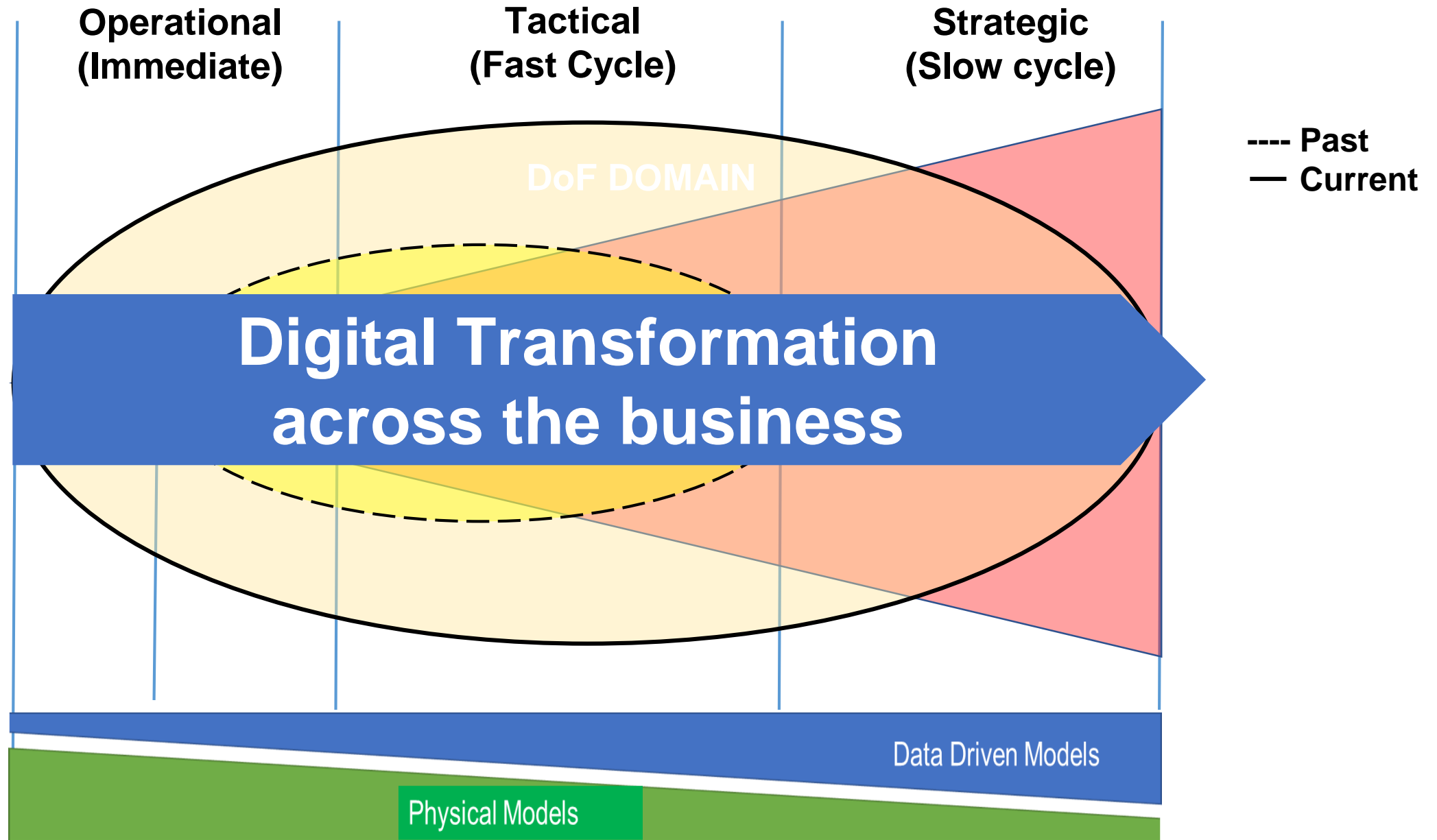
RBI/ RBM /Predictive Condition Monitoring

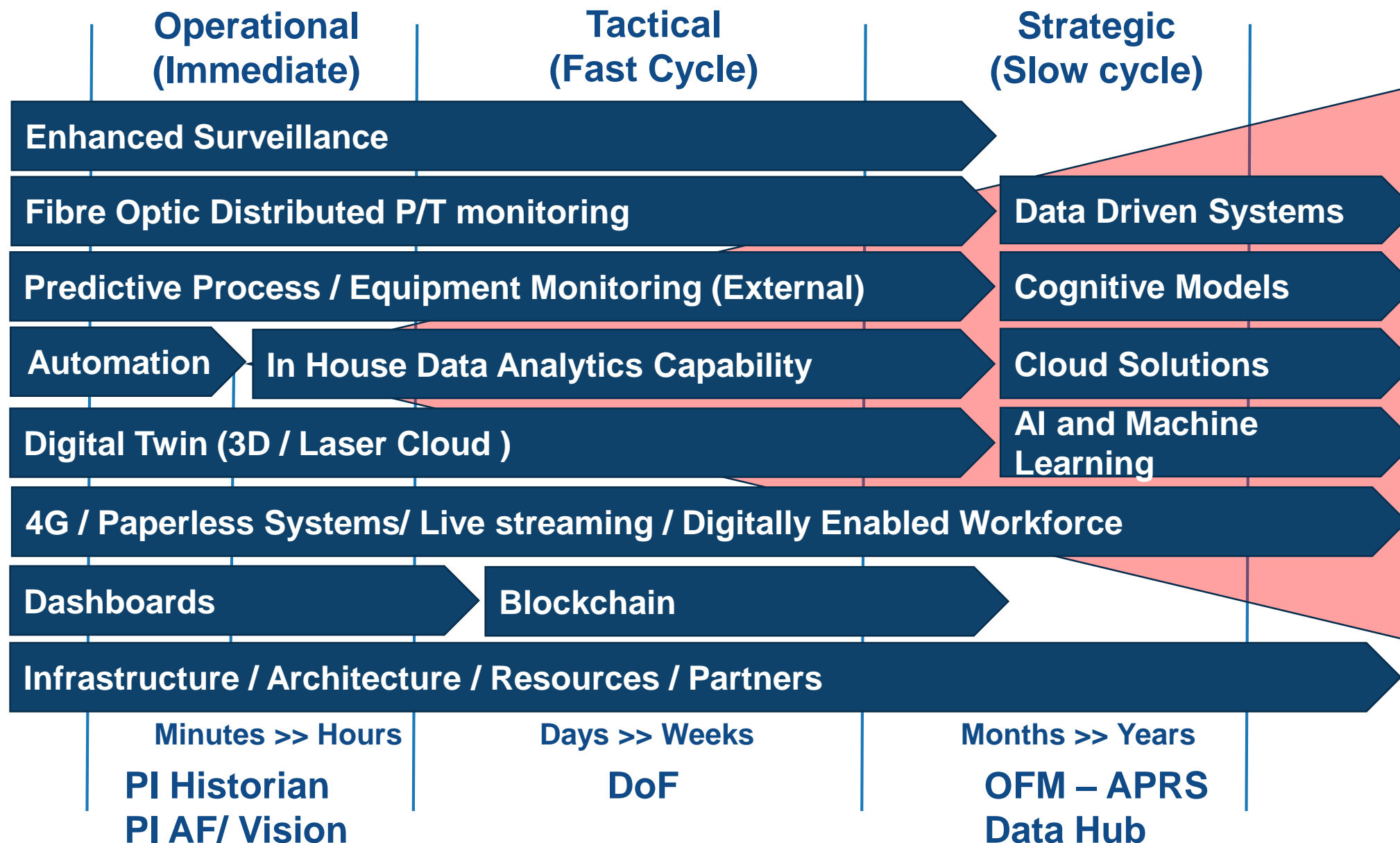
Data Driven Reservoir and Well Management

Virtual Asset Models and Onshore Control

Smart Facilities (NEW)

OGA & OGTC Collaboration / Knowledge Sharing with the Industry





- Resourcing
- Complexity
- Change Management
 - Culture Shift
 - Scalability
- Compatibility
- Sustainability

Committed to enable digital transformation for tomorrow while we deliver today

