

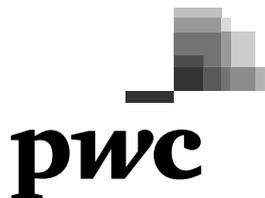
strategy&

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Digital transformation opportunities for Russian Oil & Gas companies

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*Lessons learnt from international
players*



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Agenda

1

What is digital transformation?

2

What does this mean for the Oil & Gas industry?

3

What are the implications for Russian players?

Digital transformation is about redefining the business model

Digital transformation is the **use of digital technologies to change a business model** and provide new value-producing opportunities

Gartner

Digital transformation is the continuous process by which enterprises adapt to or **drive disruptive changes in their customers and markets** by leveraging digital competencies

 **IDC** | ANALYZE THE FUTURE

“Digital” is not just about new technologies, but about new ways of improving business performance

In its operations the Oil & Gas industry experienced limited changes over the last decades...

Changes in automotive industry over the last 50 years



Changes in Oil & Gas industry over the last 50 years



Source: PwC Strategy & analysis

... but now it is time to capture the emerging digital opportunities...

Key drivers of the transformation



Need for operational improvements

Focus on cost and investment discipline due to lower oil prices



Emergence of technologies

Constant cost reductions of new digital technologies facilitating their broad adoption

Digital opportunities in the Oil & Gas industry

Big Data

Advanced analytics to optimize planning, operations and supply chain

Machine learning

Predictive maintenance to reduce costs and downtime

Automation

Remote and centralized monitoring to minimize human involvement

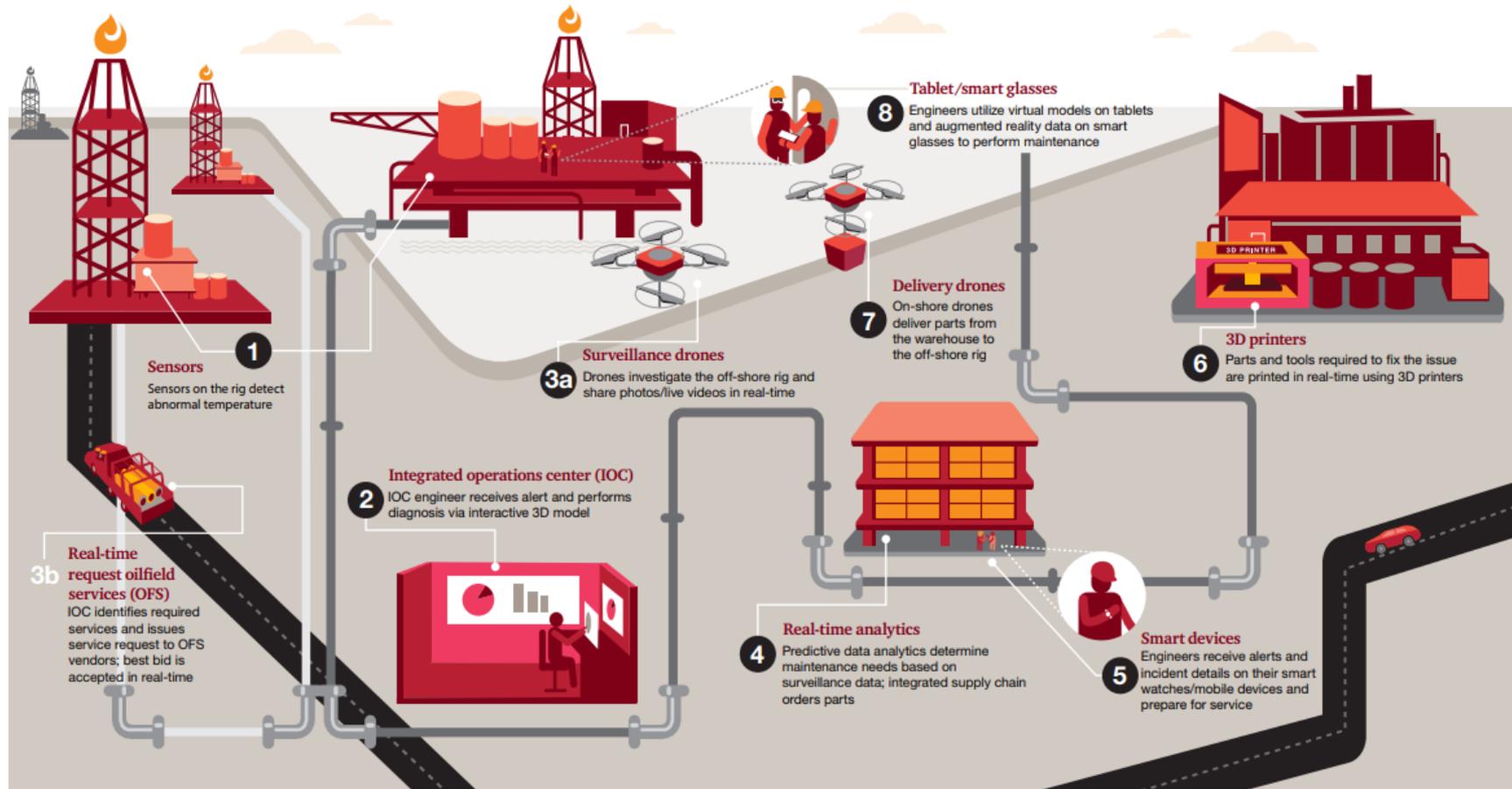
Cloud platforms

Improved reliability, uptime, mobility and speed of processes

Digital collaboration

Providing information to engineers in real time to accelerate decision making

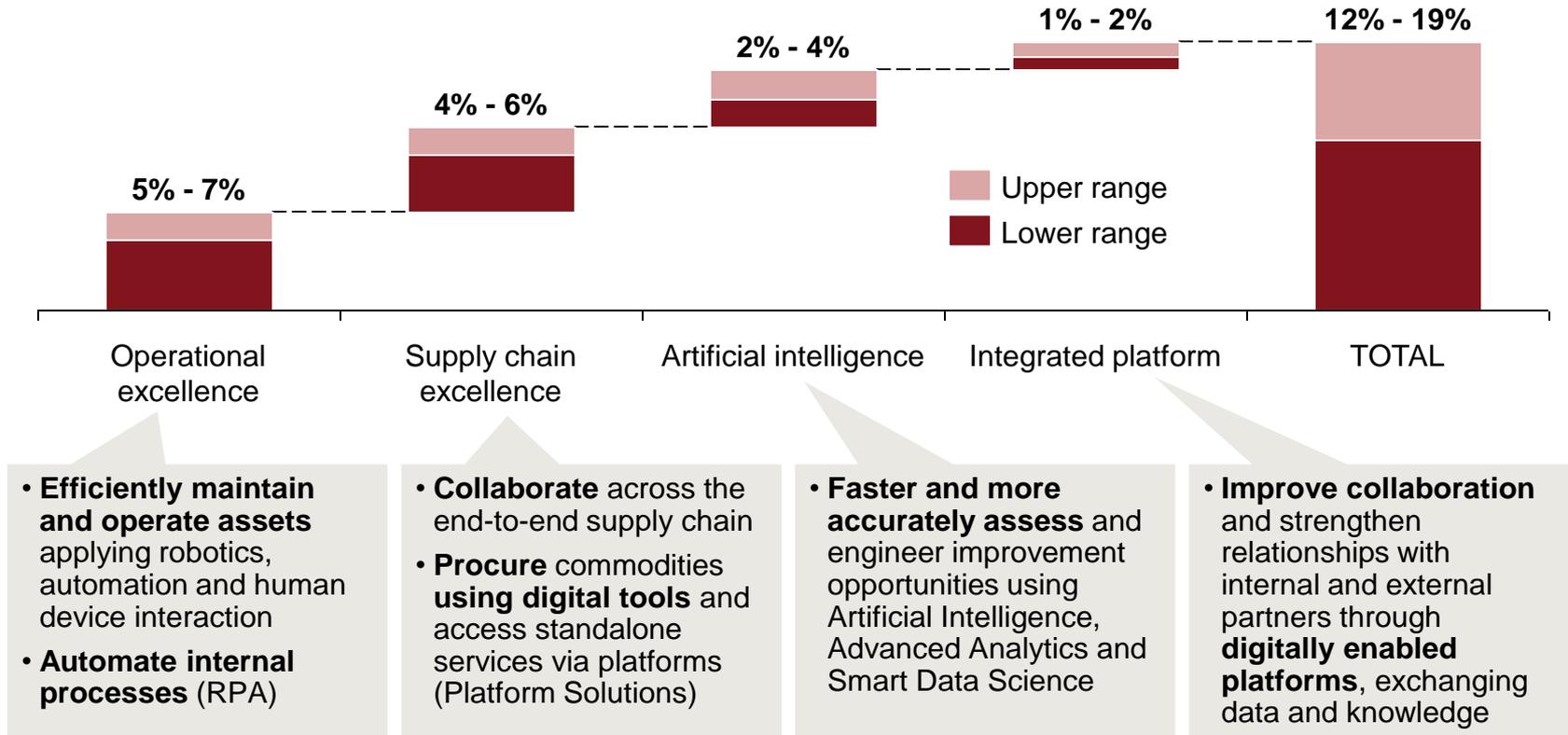
...to achieve the vision of a digitally integrated value chain



Source: PwC Strategy & analysis

Digital transformation results in significant efficiency improvements

Efficiency Increase from Digitization (% saving on total OPEX)



Lower OPEX leads to higher recoverable reserves!

Source: PwC Strategy & analysis

An integrated approach is required to unlock the full potential of digital transformation

BP's approach to digital transformation



The Connected Upstream

Vision to be the leading digital Upstream company

Intelligent Monitoring

- 2000km fibre optic systems linking offshore operations to onshore monitoring centres
- Assess equipment, detect faults

System Optimisation

- SIRAAJ – digital field planning
- APEX – production optimisation 24/7
- Modelling physical constraints and adjusting flows

Predictive Analytics

- ARGUS – cloud hosted wells data platform
- Data on 2,500 wells
- Single source of data to assess individual wells for engineers

Digital Foundation

- ‘Data lake’ of 1 petabyte+
- One billion data records from operations fed into the data lake daily

Importance of Partnerships

- GE collaboration
- Schlumberger partnership (well construction)

IT Building Blocks

- Cloud based platforms (scalable)
- Global Monitoring Centres

Culture

- ‘Boot camp’ training (data analytics)
- Digitally savvy workforce

Source: corporate website, PwC Strategy& analysis

Oil & Gas players have still a long way in their digital transformation journey...

Digital transformation stages



Examples

- **BP** created digital labs to develop technologies and cooperate with start-ups. It also partners with GE and Schlumberger to co-develop certain applications
- **Statoil** created digital center of excellence to develop technologies in automation, big data processing, etc.
- **Gazprom Neft** is integrating big data based analytics in the whole value chain (from drilling to fuel retail) to increase production efficiency and improve customer experience
- **Rosneft** entered into a partnership with GE to develop digital technologies

Source: corporate websites, PwC Strategy& analysis

...which can be achieved following three principles

Implications for Russian Oil & Gas players from international experience

**Digital transformation
is a must**

- Digital transformation is one of the key drivers for increasing efficiency in Oil & Gas
- Implementing digital transformation requires an agile approach – constant piloting and roll-out of multiple initiatives

Partnerships are key

- It will be essential to engage into partnerships
- Partnerships should be with the oil-service companies as well as start-ups/large digital players

**Digital needs to be part
of the organization**

- There needs to be clear organizational accountability for the digital transformation
- Maximum impact can only be achieved through constant cross-functional collaboration

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