

# Digital Energy Journal Forum 2019 Kuala Lumpur

## Digitalisation in Exploration

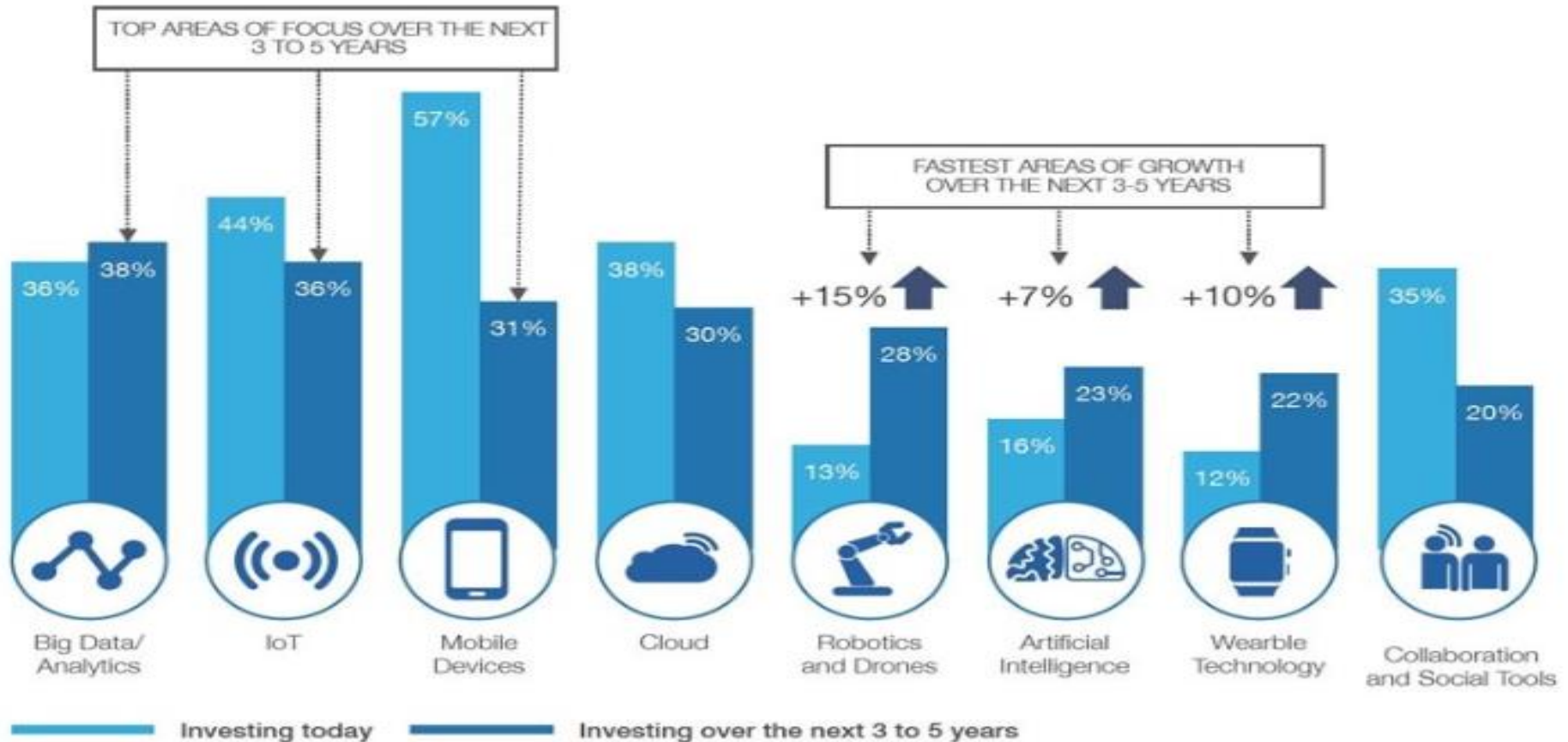
### Chairman's Introduction

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# The Digital Transformation Initiative (DTI) is a project launched by the World Economic Forum in 2015 as part of the System Initiative on Shaping the Future of Digital Economy and Society.



Investments in digital technologies: The percentages in the bars are the proportion of oil and gas companies surveyed.  
(Source: [Accenture, The 2016 Upstream Oil and Gas Digital Trends Survey](#))

# Putting a value on digital transformation

This value-at-stake analysis aims to assess the potential for digitalisation in the oil and gas sector to unlock benefits for the industry, its customers and society more generally over the next decade (2016-2025). Key findings from this analysis include the following:

- Digital transformation in the oil and gas industry could unlock approximately \$1.6tn of value for the industry, its customers and wider society.
- This total estimated value from digitalisation can further increase to \$2.5tn if existing organisational/operational constraints are relaxed, and the impact of ‘futuristic’ technologies, such as cognitive computing, is considered (for which there is insufficient evidence to make a definitive value assessment at this time).
- Digitalisation has the potential to create around \$1tn of value for oil and gas firms.
- Digital transformation in the industry could create benefits worth about \$640bn for wider society. This includes approximately \$170bn of savings for customers, roughly \$10bn of productivity improvements, \$30bn from reducing water usage and \$430bn from lowering emissions.
- Environmental benefits include reducing CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) emissions by approximately 1,300 million tonnes, saving about 800 million gallons of water, and avoiding oil spills equivalent to about 230,000 barrels of oil.



# Four themes are central to the digital transformation of oil and gas over the next decade:

- ***Digital asset life cycle management:*** New digital technologies combined with data-driven insights can transform operations, boosting agility and strategic decision-making, and resulting in new business models.
- ***Circular collaborative ecosystem:*** Applying integrated digital platforms enhances collaboration among ecosystem participants, helping to fast-track innovation, reduce costs and provide operational transparency.
- ***Beyond the barrel:*** Innovative customer engagement models offer flexibility and a personalised experience, opening up new revenue opportunities for oil and gas operators, and new services for customers.
- ***Energizing new energies:*** The digitalisation of energy systems promotes new energy sources and carriers, and supports innovative models for optimising and marketing energy. To remain relevant to customers, the oil and gas industry must understand the full impact of these changes on the broader energy system.