

Is transformation on your agenda, or running it?

Accelerating digital disruption:
Lessons from the field to the office

SIS Global Forum September 17th, 2019



The better the question. The better the answer.
The better the world works.



The transition to less carbon intensive fuels and energy sources is creating massive uncertainty in the market

- When will oil demand peak and after it peaks how fast will it decline?
- What happens to pricing and investments in a flat or declining demand environment?
- Will hardening investor sentiment against fossil fuel related industries impact our ability to raise capital?
- Can energy sourced from coal be rapidly replaced by gas?
- How long can gas compete with renewables/storage?
- Can we decarbonize our energy production system?
- How will geopolitical uncertainty impact the transition?

What Energy Future should we plan for?

What is “energy transition”?

EY’s six Ds of the energy transition:

- 1** | **Decarbonization**
- Growth of renewables
 - Gas as a bridge fuel
 - Decreasing carbon intensity of energy production

- 2** | **Diversion to Power**
- Growth of electric vehicles
 - Power as the fastest growing end-use sector

- 3** | **Developing markets**
- Non-OECD countries driving growth
 - Highly cost-sensitive and lack of established infrastructure

- 4** | **Decentralization**
- Distributed generation (wind, solar, cogen and small modular nuclear power)
 - Electricity storage

- 5** | **Design for efficiency**
- Production, transport, and usage increasingly more efficient
 - Impact on Oil Demand

- 6** | **Digitalization**
- Driving force of change
 - Automation, AI, Cloud, Mobility and Data
 - Optimization and complex decision- making

How is the sector responding?

- 1 Produce as cheap and effectively as possible**

Relentless focus on cost and efficiency — **enabled by digital technology** — maintain focus on hydrocarbons
- 2 Maximize the value of molecules produced**

Integrated business model (petrochemicals, downstream, trading)
- 3 Build optionality into portfolio**

Investing threshold amount in renewables; allowing divestment and curtailing without significant financial repercussion
- 4 Be more trustworthy**

Engage with stakeholders using fact based approach. This requires the industry to be able to share reliable and trusted information.

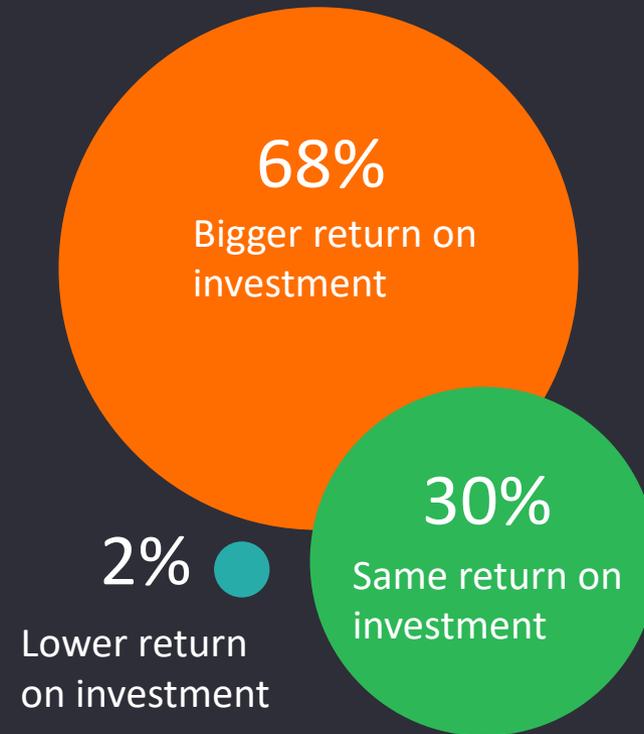
Increasing investment ... but leadership alignment critical

A majority of respondents are eager to invest more in digital, with urgency to contain costs and deliver a bigger return on capital.

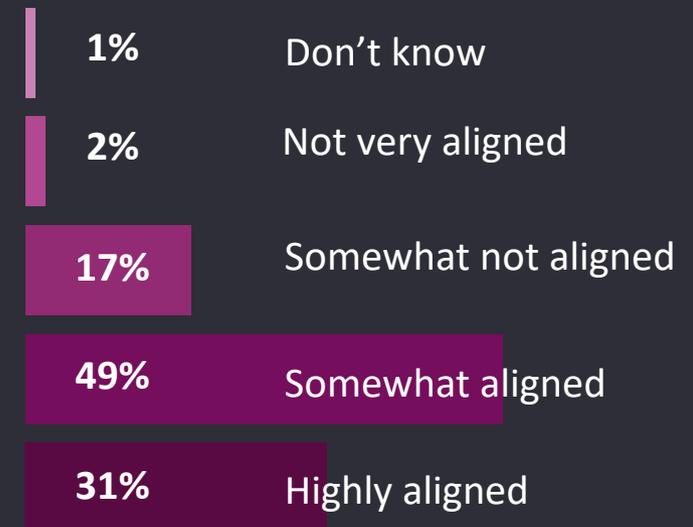
89%

Nearly 9 in 10 respondents expect their investment in digital tools to increase over the next two years, with a **quarter foreseeing a significant increase**

Return threshold for digital investments

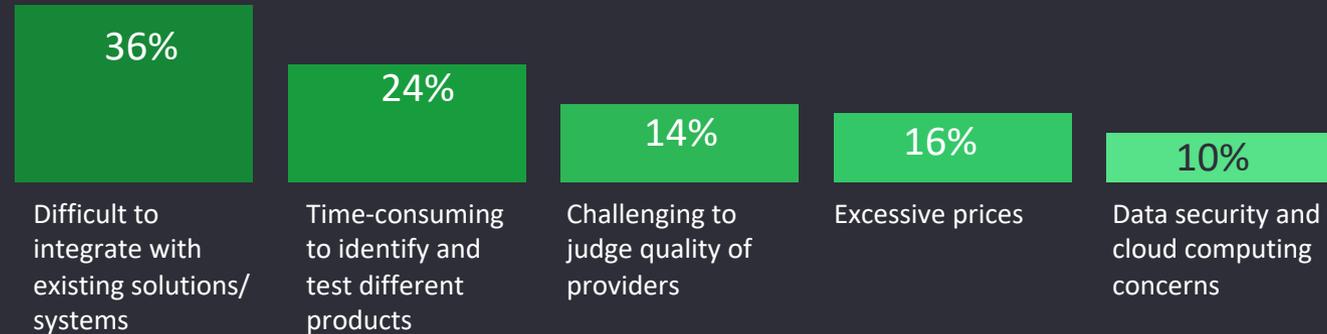


Alignment of respondent's vision for the company's digital technology investment with the views of other senior management



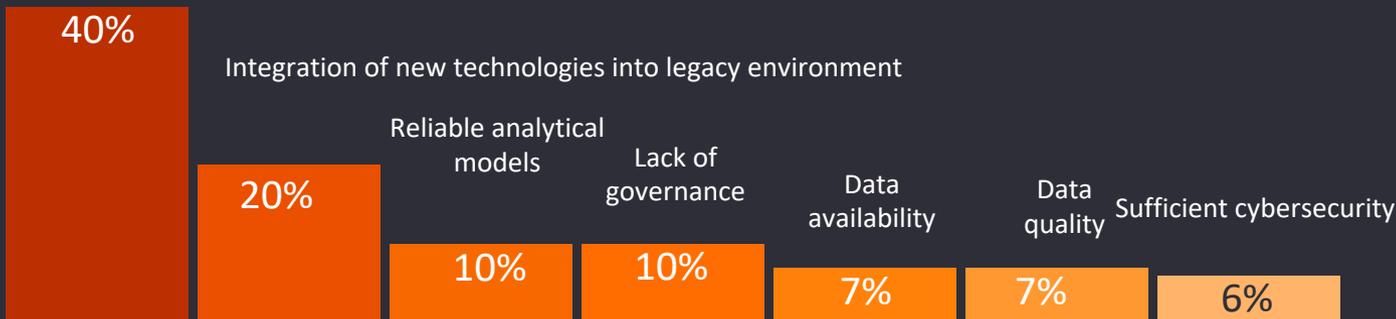
Speed to value counts more than ever ... but challenges exist

Biggest challenge or barrier to using service providers for digital technology applications

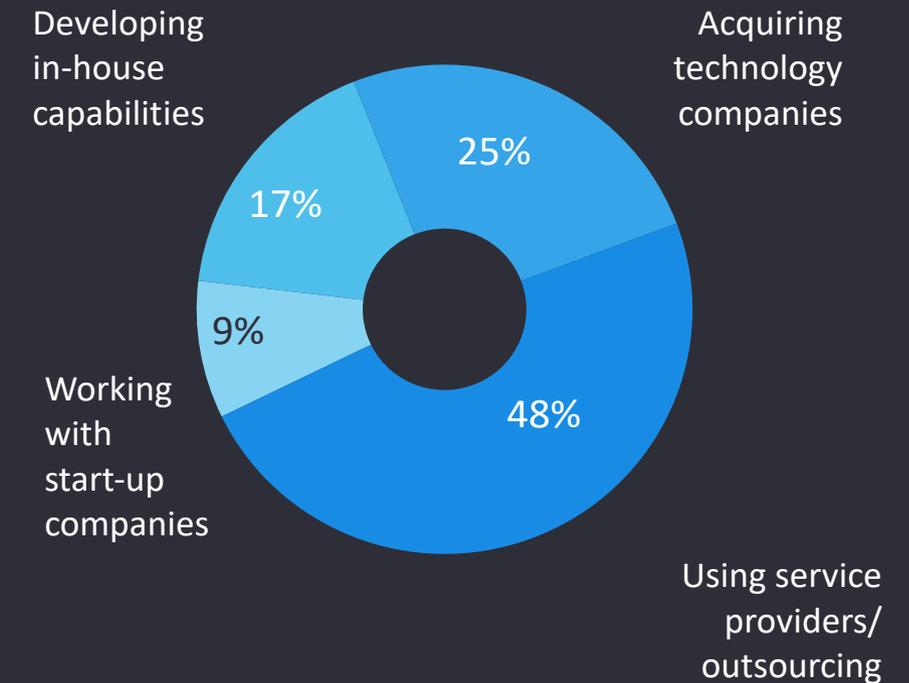


Greatest technical challenge respondent's companies face in adopting new digital technologies

Integration of multiple new technologies and new platforms

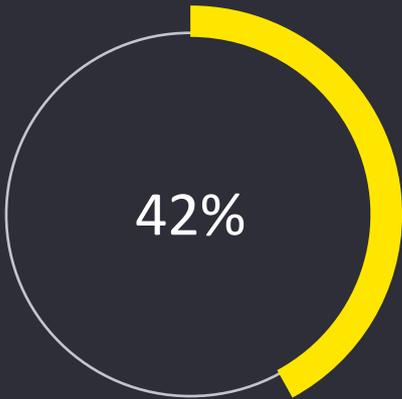


Percentage of respondents' digital technology spend devoted to different types of investment

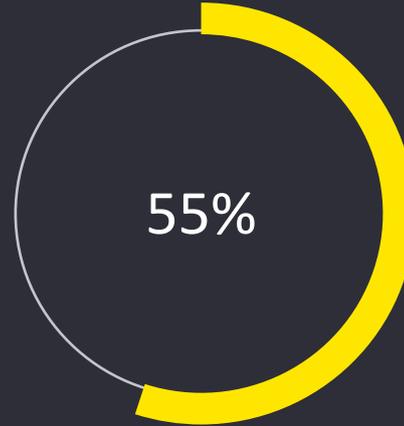


Creating a sustainable digital culture

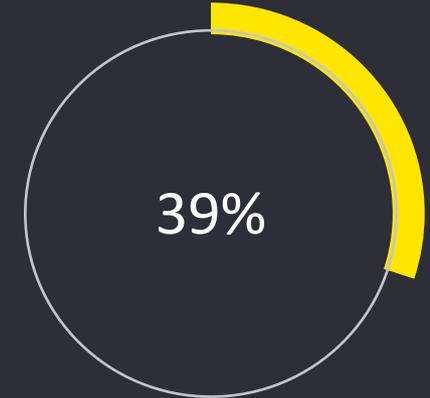
One of the keys to the oil and gas industry's growth ambitions lies in unleashing capital expenditures on technology and creating a culture of change around digital. It is critical to attract the right kind of builders and innovators into tech teams, and to give them the space to operate and the tools to bridge the gap.



42% of oil and gas executives say their **top priority** in digital technology investment is to **find efficiencies**



55% said their **priority** when investing in new technology will be **on the operations side** of their business



39% said it can be a valuable opportunity to foster an internal **culture of innovation**

In summary — driving value through business transformation and digitization

Energy transition: a question not of if but **when**, the oil and gas industry must transform itself to succeed.
Digitalization is the **enabler**

Alignment: senior leadership must be aligned on the vision and business value for their company's digital program

Speed to value: speed counts more than ever. Companies need to develop shorter cycle times and plan for shorter time to payback

Culture and change management: it is critical to attract the right kind of builders and innovators into tech teams, and to give them the space to operate and the tools to bridge the gap

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