

INDUSTRIAL IOT

IN THE TIME OF COVID-19: OIL AND GAS





CONTENTS

- 02 Methodology
- 04 Executive summary
- 06 Adoption
- 10 Connectivity
- 11 Data
- 12 Skills
- 14 Security
- 15 Investment

HOW MATURE IS IOT AT YOUR ORGANISATION?

Inmarsat's free IoT maturity tool helps you compare your organisation's IoT maturity with our respondents and your competitors. Your personalised report also explains what you need to do to improve your score.

www.inmarsat.com/iotmaturitytool

ABOUT INMARSAT

Inmarsat is the leading provider of global mobile satellite communications services. Since 1979, Inmarsat has been providing reliable voice and high-speed data communications to governments, enterprises and other organisations, with a range of services that can be used on land, at sea or in the air. Inmarsat operates around the world, with a presence in the major ports and centres of commerce on every continent. For more information, please visit www.inmarsat.com

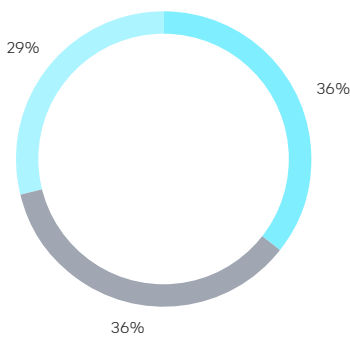
METHODOLOGY

The Inmarsat Research Programme is now in its fifth year, with this 2021 report providing an update on how the industrial Internet of Things (IIoT) is being adopted by organisations across the agriculture, electrical utilities, mining, oil and gas and transport and logistics sectors.

Specifically, this report looks at the impact of Covid-19 on IIoT adoption, as well as challenges related to connectivity, skills, security, data and investment.

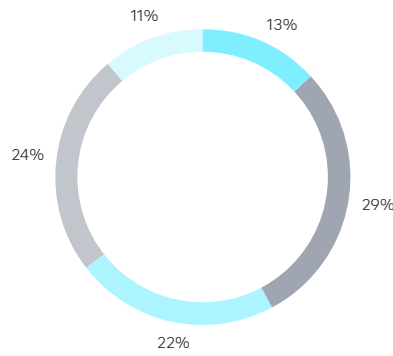
To understand this Inmarsat commissioned Vanson Bourne, a specialist technology market research company, to interview 450 respondents in early 2021, a year after the start of the pandemic.

Respondents work for organisations with at least 250 employees and are drawn from various global regions including the Americas, EMEA and Asia-Pacific. All of those surveyed are responsible for delivering IIoT initiatives at their respective organisations.



Respondents by sub-sector (%)

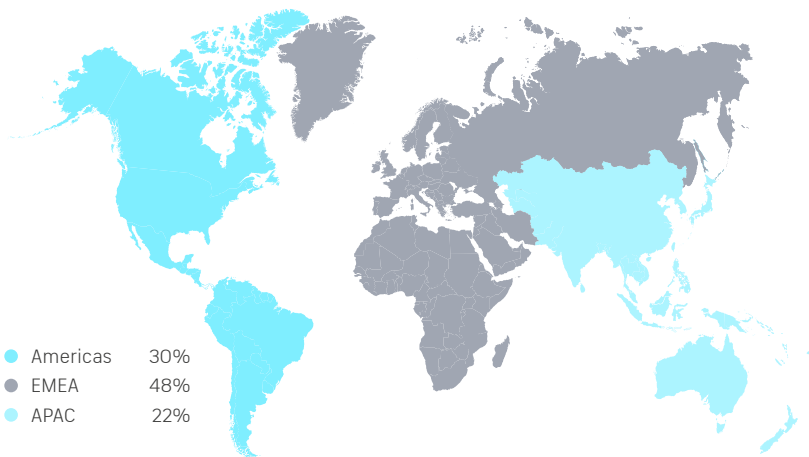
- Exploration
- Extraction
- Distribution



Respondents by size of organisation (%)

- 251-500 employees
- 501-1,000 employees
- 1,001-3,000 employees
- 3,001-5,000 employees
- More than 5,000 employees

Respondents by region (%)



- Americas 30%
- EMEA 48%
- APAC 22%

EXECUTIVE SUMMARY

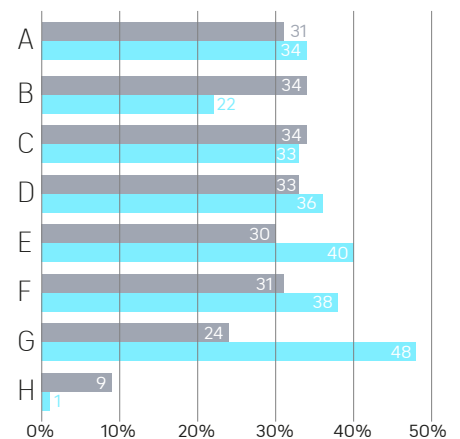
The oil and gas sector has fuelled industry, travel and virtually every other aspect of global economic and social activity for over a century, but faces the most challenging period of its existence. According to Deloitte, 'global oil demand fell by 25 per cent in April [2020]' due to the Covid-19 pandemic, and while it has rebounded it will remain below pre-Covid levels.¹ This vision of the future can partly be attributed to behavioural changes rendered on the world by Covid, which continue to impact our lives, although it is also the result of a macro-shift toward more sustainable fuel sources such as nuclear, hydro, solar and wind power.

While parts of the world are reducing their reliance on hydrocarbons, other areas will continue to rely heavily on them, and the industry will continue to be a significant economic force irrespective of the pressures it currently faces. To succeed in the face of this pressure, the sector will have to innovate and is likely to see some consolidation as a result. The good news is the oil and gas sector has a history of innovation and has been moving head-on to meet these challenges for a while, though the pace and investment

to adopt these technologies has now increased due to the pandemic. Those companies that best utilise technologies to optimise their operational models will carve out profitable paths in the years ahead.

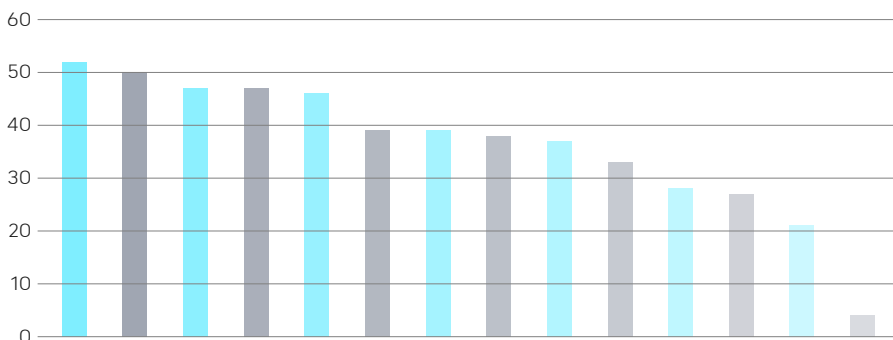
Even without Covid, there are numerous challenges facing the sector at all stages of the value chain. Within the last decade, technology advances have made it possible to unlock more oil from old fields. At the same time, higher oil prices have made it economical for companies to go after reserves that are harder to reach. Businesses exploring new sites are faced with the challenge of more inaccessible, unsafe locations to work in, leading to organisations harnessing automated technology to make data driven decisions quickly and efficiently. Once production sites have been established, extractive processes need to be sharpened to be as efficient as possible to maximise profits, with efficiencies particularly important while supply outstrips demand. Midstream distributors transporting oil and gas through pipelines also need to work out ways to deliver as much product as possible, without leakage or incident.

"Extractive processes need to be sharpened to be as efficient as possible to maximise profits."



What barriers, if any, does your organisation face in the deployment of IoT projects?

- A Lack of consistent and reliable connectivity
 - B Lack of available capital to invest in IoT projects
 - C A lack of in-house skills
 - D Lack of turnkey/off-the-shelf solutions
 - E IoT not being prioritised by the board
 - F Security implications
 - G Integrating IoT technology with existing platforms
 - H Not encountered any barriers at this stage
- Encountered in the deployment phase
● Encountered/expect to encounter this once deployed



What are the most important drivers for the deployment of IoT projects for your organisation?

● Cost efficiencies	52%	● Greater physical security	38%
● Improve environmental sustainability	50%	● Improve compliance/regulatory	37%
● Increase staff productivity	47%	● Greater automation	33%
● Reduced downtime	47%	● Improve customer experience	28%
● Greater supply chain insight	46%	● New revenue streams	27%
● Better decision-making	39%	● Lower insurance premiums	21%
● Improve health and safety	39%	● Other	4%

¹ <https://www2.deloitte.com/us/en/pages/energy-and-resources/articles/oil-and-gas-industry-outlook.html>

At all stages of the oil and gas lifecycle there is a well understood concern regarding the impact of the process on the environment, with sustainability a board-level priority. The reputational and financial damages resulting from a public incident are a key driver for deployment throughout the oil and gas value chain, with regulators and environmental agencies issuing harsh penalties for transgressions. Just as importantly, oil and gas occupies a strategic position powering the world's economic engine and is therefore under increased threat of cyber-attacks. In early 2021 the Colonial Pipeline ransomware attack took out half of the US East Coast's fuel supply, causing consumer petrol prices to spike and demonstrating how vulnerable oil and gas infrastructure is to bad actors.

The Internet of Things (IoT) is helping businesses overcome challenges at all stages of the production cycle: from the efficient analysis of samples and unmanned exploration rigs, to wellhead and artificial lift monitoring, to pipeline monitoring and vehicle telemetry. The ability to monitor, manage and automate remotely is critical to the success of the sector where so much of the activity goes on in inhospitable conditions. In many ways oil and gas was an early adopter of IoT technology, particularly for monitoring extraction, and it has delivered successful outcomes for the sector. However; the world's increasing interconnectivity is changing how IoT technology needs to be implemented and the increasing number of connected nodes opens up the sector to more cyber-security challenges.

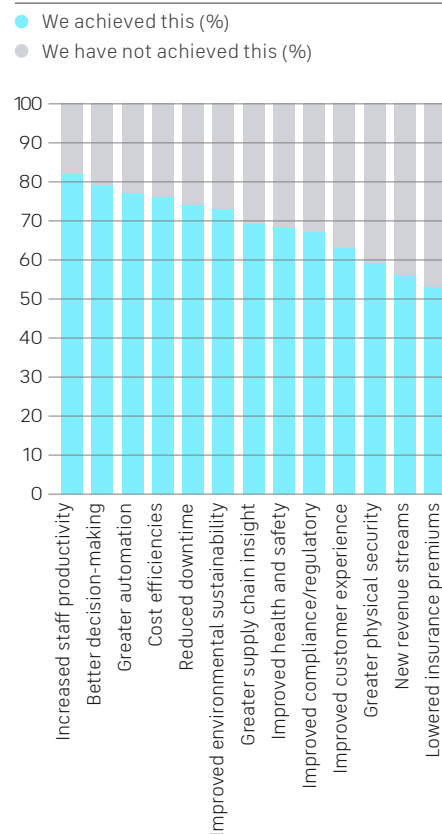
In order to respond to these challenges, a robust strategy is essential and our research found 49 per cent have a formal IoT strategy in place, which is the highest proportion of any of the sectors we surveyed. This rises as high as 56 per cent in North America and 65 per cent for those in the Middle East where some of the larger organisations we polled are based.

The oil and gas sector has been hit particularly hard by Covid-19, which is no surprise given the impact of global shutdowns on vehicle usage and aviation. In our survey, 42 per cent say the pandemic has negatively influenced their ability to operate; however those with an IoT strategy were less likely to say their business was negatively affected, thanks in part to IoT's ability to keep the value chain efficient. Oil and gas respondents were also slightly more likely to have accelerated deployment of IoT projects in response to the pandemic than the wider sample, demonstrating their faith in the technology to enable business continuity.

All in all, our research found the oil and gas sector to be at an inflexion point with a lot of change occurring to meet the challenges it faces. There has been a rapid increase in adoption over H2 2020 although further board prioritisation is needed to insure that it supports business operations optimally. The good news is investment beyond the resources of any other sector appears to be earmarked to support future growth and there are clear results and confidence in the technology to support oil and gas businesses.

From a connectivity and data standpoint the sector faces a number of challenges, though it demonstrates a level of maturity versus the sample, with the highest proportion of our respondents using backup connectivity to ensure continuous data collection and the highest number using real-time data collection. The sector is highly security aware and considered in the need to continue to improve its defences, though this varies by region. The Middle East and North America – two highly established regions for oil and gas production – are also more mature technologically than other regions we surveyed.

How would you score your organisation's achievement of expected benefits of IoT projects?



"49 per cent have a formal IoT strategy in place - the highest proportion of any sector we surveyed."

ADOPTION

Just under three-quarters of oil and gas respondents (74 per cent) have fully deployed at least one IoT project, with most of the remainder either currently trialling it or planning to do so in the next 12 months. 24 per cent have deployed at least one project in the last six months alone, demonstrating the importance oil and gas companies are attributing to the technology as a way to respond to industry challenges.

The drivers for deploying IoT projects further reflect the challenges faced by the sector. Cost efficiencies (52 per cent) was the top driver for adopting IoT, narrowly edging out improved environmental sustainability (50 per cent). That these two are the top drivers is entirely unsurprising given the board-level priorities of oil and gas companies. Better staff productivity was close behind on 47 per cent.

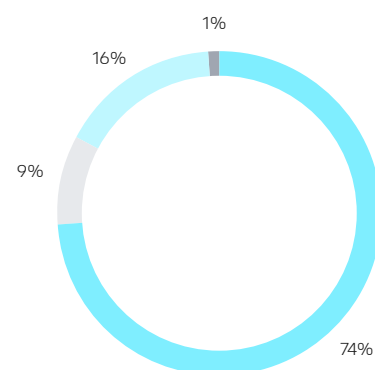
Perhaps reflecting the investments and relative maturity in the sector, the majority of organisations surveyed have achieved the benefits they set out to achieve with IoT projects. This was particularly the case for improved productivity (82 per cent), greater cost efficiencies (76 per cent), and better environmental sustainability (73 per cent). However, there are still certain areas that require more work to be done for oil and gas companies to achieve the expected benefits from IoT projects, such as using IoT to access new revenue streams (44 per cent not achieved) and improved physical security (42 per cent not achieved).

The most common use case, either fully deployed or in-trial, is pipeline monitoring (62 per cent) where IoT can be used to track flow rate, temperature and a

variety of other metrics, as well as physical security. This was followed by vehicular tracking, asset tracking and route optimisation (58 per cent) and well-head monitoring (56 per cent). Additionally, 50 per cent of respondents have either already deployed or are trialling IoT projects in people tracking to enhance health and safety, with this representing the largest growth area in the next year with over a quarter (27 per cent) planning to fully deploy in that time.

While the sector is relatively advanced in its adoption of IoT, it also faces a number of barriers that are hampering optimum results and in some cases causing projects to fail before full deployment. A lack of in-house IoT skills and a lack of capital are the top reasons getting in the way of successful project deployment (both cited by 34 per cent of respondents). A lack of turnkey solutions is next (33 per cent), followed by security implications and consistent and reliable connectivity (both with 31 per cent).

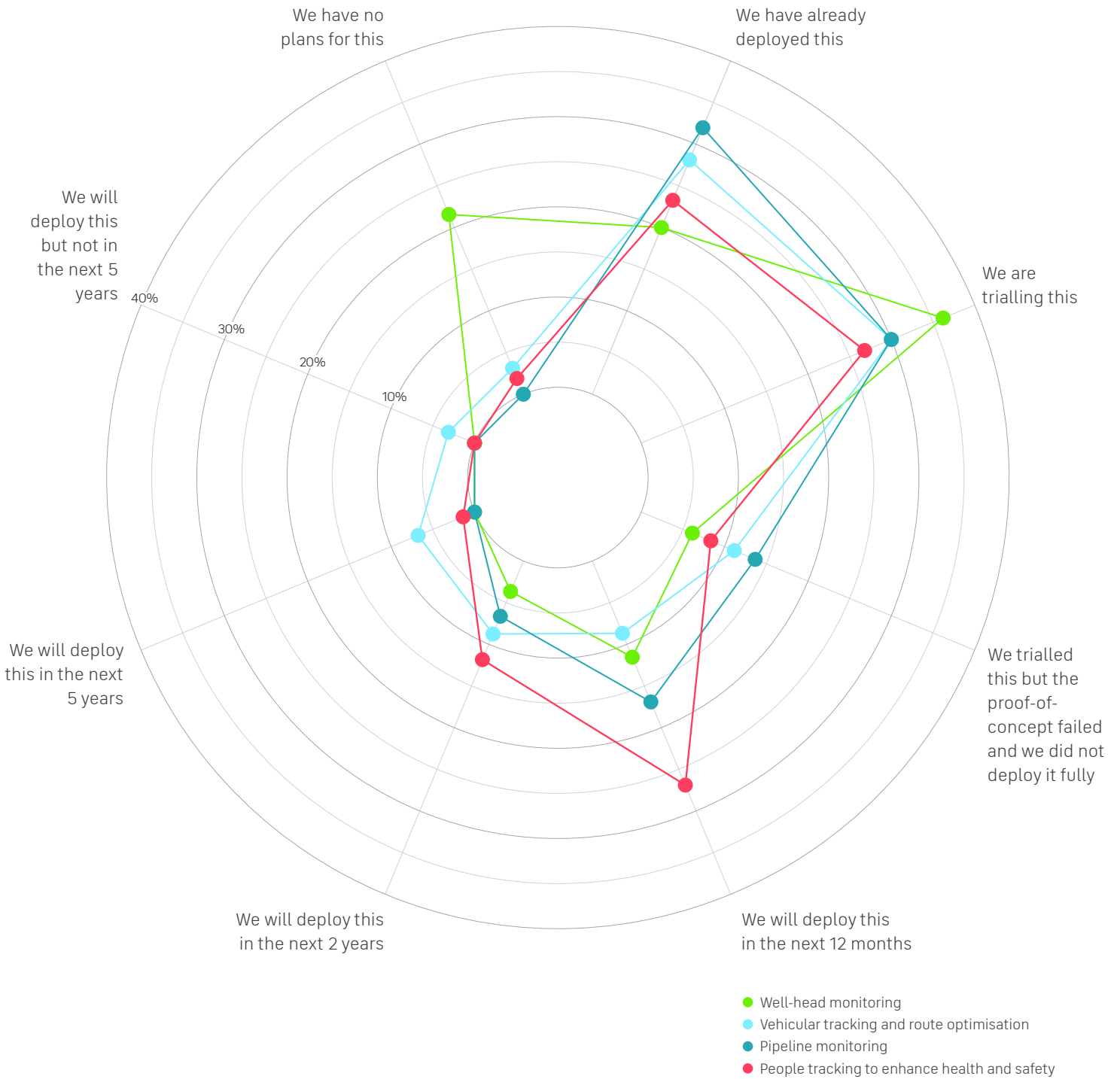
Once projects are deployed the biggest barriers to success were stated as integrating IoT technology with existing platforms (48 per cent), IoT not being prioritised by the board (40 per cent) and security implications (38 per cent). Some of the challenges regarding the integration of IoT technology with existing platforms is likely to relate to the older generation machine-to-machine (M2M) technologies that many oil and gas companies have used, but which need to be updated to reflect the increasingly interoperable networks that IoT is increasingly reliant on. A potential lack of board prioritisation of IoT will need to be addressed to ensure that IoT is well equipped to help overcome the challenges facing the sector.



What is your current status in terms of deploying IoT projects?

- Fully deployed
- Currently trialling
- Planning to trial within 12 months
- Planning to trial in 18 months - 2 years

What IoT projects has your organisation already deployed and what will your organisation deploy in the future?







CONNECTIVITY

The oil and gas industry needs to do more to put connectivity technologies to work according to the latest analysis by McKinsey. They argue 'advanced connectivity... could add up to \$250 billion of value to the industry's upstream operations by 2030.² Despite room for improvement in using connectivity to support IoT projects, there are some positive trends within the sector.

Satellite is the most widely used type of backhaul connectivity used in IoT projects (56 per cent), illustrating the demand for connectivity that works anywhere, in an industry where operations are remote and environments unforgiving. Predictably, it is more widely used by the exploration segment where certain types of satellite connectivity has inherent portability advantages. 80 per cent of respondents stated that satellite connectivity provides crucial support to their organisation's IoT communications networks. But to ensure, as ever, that businesses get the most from their satellite connectivity, the right form needs to be considered. For IoT dedicated use-cases frequencies like L-band are ideal, providing mobility, reliability.

Private cellular connectivity was the next most popular long range connectivity type (34 per cent), only slightly more widely used than public cellular connectivity (33 per cent). Finally, fibre is also commonly used with 31 per cent of respondents indicating they use it for IoT projects. While terrestrial connectivity clearly has a role to play, 44 per cent of respondents say these connectivity types do not fulfil their needs in terms of helping them deploy IoT projects.

In terms of edge connectivity Wi-Fi figures most prominently with 47 per cent using it. While newer styles of Wi-Fi support more advanced features it may not be the best option for all edge use cases, particularly due to contention

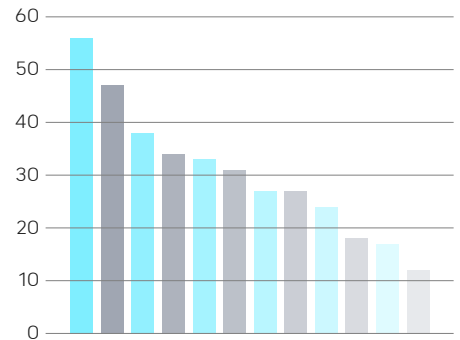
issues. Perhaps more appropriately, Long Range Wide Area Networks (LoRaWAN) and Bluetooth Low Energy (BLE) are also widely used by 27 per cent of respondents respectively.

66 per cent of respondents have experienced issues implementing IoT projects due to connectivity limitations, with 78 per cent stating they experienced problems during the trial and proof of concept phase. 61 per cent have seen disruption after deployment. To illustrate the importance of reliable connectivity 82 per cent agree that IoT projects have become much more successful since solving their connectivity challenges.

Mission critical data collection requires always on connectivity, with lost data potentially leading to outages bringing production to a halt and cost implications running into the millions of dollars. This is comparatively well understood within the oil and gas sector - compared to the others we surveyed - with 49 per cent of respondents indicating they use a backup connectivity type to keep data transfer going in the event of an outage. An additional 34 per cent continue collecting data offline, while 17 per cent will pause all data collection completely until the original connection is restored leading to lost data. 70 per cent of organisations in APAC use backup connections rather than offline data collection or pausing the process; this high proportion of respondents is also reflected in the largest companies (more than 5,000 employees).

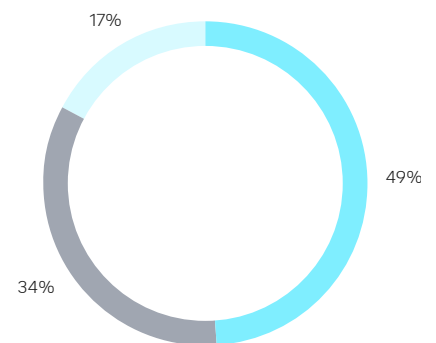
When making a choice on connectivity type, oil and gas decision-makers take a number of attributes into consideration, of which security (49 per cent), network coverage (47 per cent) and reliability (46 per cent) are the top three. The prioritisation of secure connectivity underlines the increased risks that the sector faces, with only electrical utilities respondents rating this more of a

necessity. All three attributes are however highly desirable in IoT connectivity and their choice again signals the maturity of the respondents in the sector.



What connectivity types does your organisation use in its IoT projects?

● Satellite	56%
● Wi-Fi	47%
● Radio	38%
● Cellular (private)	34%
● Cellular (public)	33%
● Fibre	31%
● LoraWAN	27%
● Bluetooth Low Energy (BLE)	27%
● NB IoT	24%
● Sigfox	18%
● Zigbee	17%
● Other	12%



In remote areas away from terrestrial communication, what do you do if unable to connect to your chosen connectivity type.

- Use a backup connection type to continue
- Continue collecting data offline until the connection is restored
- Pause all data collection until connection is restored

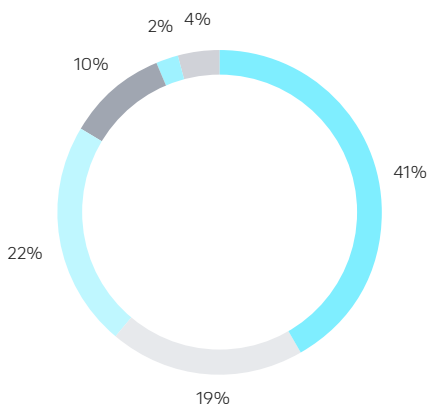
² <https://www.mckinsey.com/industries/oil-and-gas/our-insights/how-tapping-connectivity-in-oil-and-gas-can-fuel-higher-performance>

DATA

The all-important data produced in IoT projects needs to be in the right format, in the right hands, at the right time to be optimally turned into insight. Oil and gas professionals surveyed listed a variety of reasons why they struggle to leverage IoT data as effectively as possible. As is common across all sectors examined in this report, security is front of mind for many (53 per cent). This is followed by a lag between data collection and availability (52 per cent), a lack of IoT data strategy (34 per cent) and not having the skills to properly extract and use data (34 per cent). Security concerns are much more prominent for those working in exploration (69 per cent), and less so for those in distribution (38 per cent), with a similar trend seen with a lack of an IoT data strategy and data skills shortages.

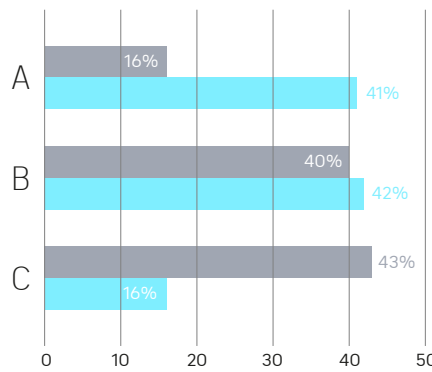
IoT strategies are important to govern the flow of data inside and outside an organisation. Privacy is evidently front of mind in the approaches to data sharing within the sector: oil and gas respondents contain the lowest proportion saying they share IoT data outside the organisation (16 per cent). 40 per cent of respondents stated they currently make IoT data available to anyone in the organisation, while 43 per cent limit access to a select number of departments within the business. Given the highly sensitive nature of some data and a lack of data strategy in some areas, this might be prudent but a rationalised sharing strategy will help optimise value chains in the future and help the sector achieve its goals. This point is understood amongst 41 per cent of respondents who indicate they will make data available to external parties in the future.

Analysing the intervals at which data is collected, oil and gas is ahead of the curve in terms of real-time collection (41 per cent, compared to a wider sample average of 30 per cent), with this interval well ahead of any other we examined. The Middle East and North America are even further ahead in this area, recording 70 per cent and 43 per cent respectively. The largest companies also demonstrate a similar commitment to real-time data collection, with 49 per cent of those with over 5,000 employees doing so. An important next step is for other regions and smaller organisations to catch up, as more frequent data collection makes it easier for organisations to optimise their operations and respond to shifts in demand.



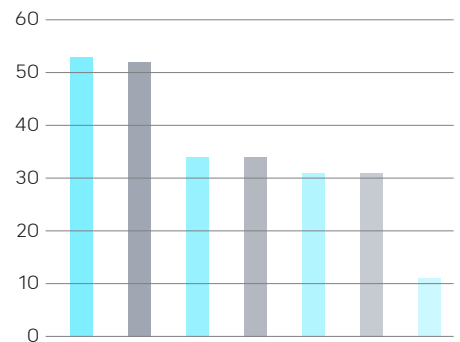
At what intervals do you typically gather IoT data points?

- In real-time
- Within half an hour
- Hourly
- Every two hours
- Every four hours
- Daily



To what extent does/will your organisation share non-sensitive IoT data?

- A It is available to anyone in the organisation, or our partners, to access and use
 - B It is available to anyone in our organisation to access and use
 - C It is only available to certain departments involved in the IoT project
- Currently ● In the future



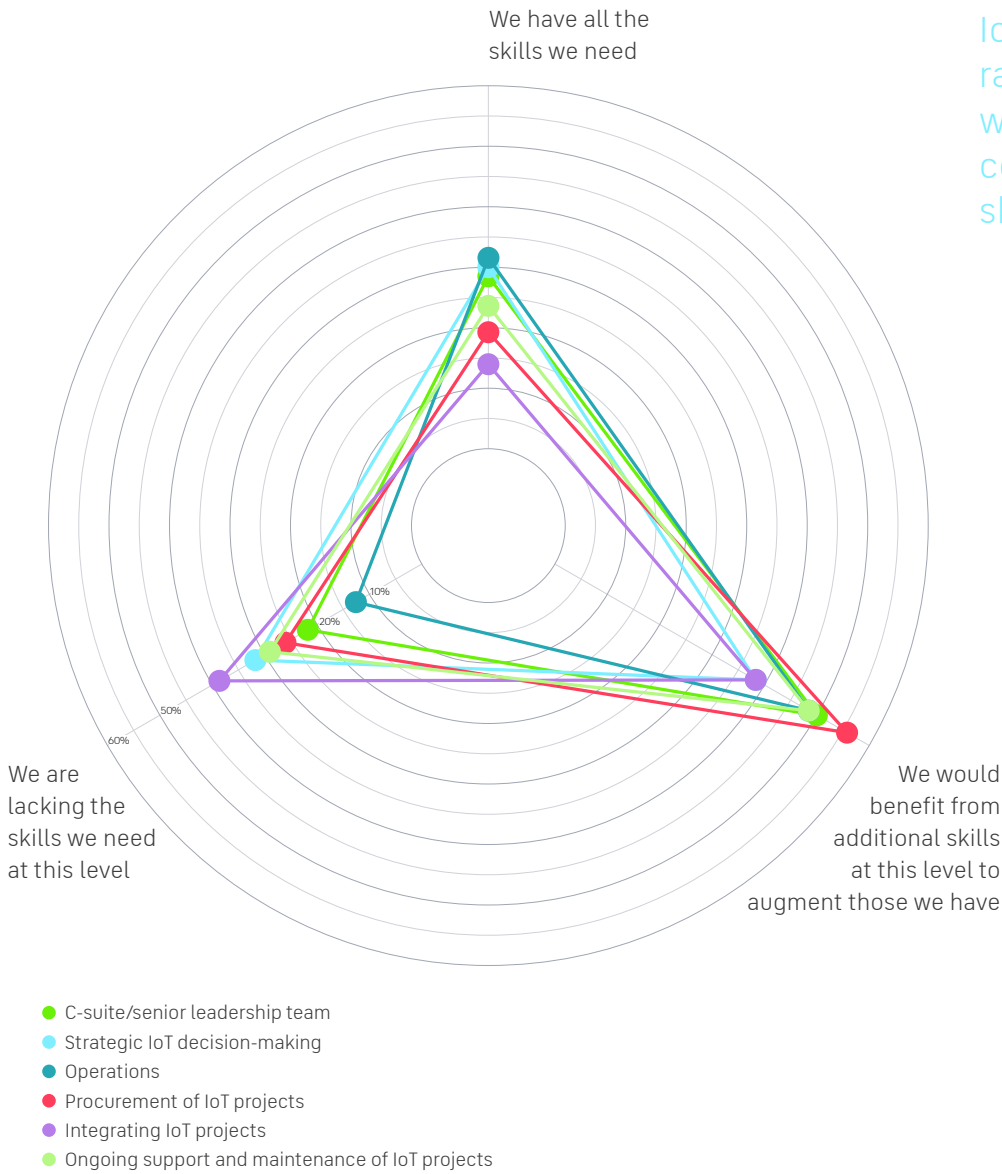
What barriers prevent your organisation from using data optimally?

- Security/privacy concerns 53%
- Lag between data collection and data being available 52%
- Lack of IoT data strategy 34%
- We don't have the skills to extract/use data 34%
- Data is stored in an unusable format 31%
- There is such a large volume of data we struggle to utilise it 31%
- We are able to use data as effectively as possible 11%

SKILLS

Does your organisation have the skills needed to fulfil IoT projects at different levels?

"The additional skills that are needed to deliver IoT projects are wide-ranging in the sector, with a majority citing connectivity technology skills and security skills."



Earlier we outlined the biggest barrier impacting deployment was a lack of in-house skills, while the biggest barrier once the project was deployed was a lack of IoT prioritisation by the board. These challenges are again prominent as we look more closely at the skills required by organisations.

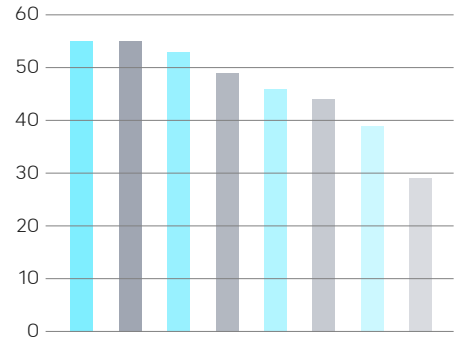
Our respondents stated that the area of the business they most lacked the skills in was around the integration of IoT projects (38 per cent), with only 14 per cent stating they have all the skills to do this effectively, again underlining some of the challenges faced around integrating newer connectivity methods with older systems. Close behind was strategic decision-making with 32 per cent indicating they are lacking the skills needed at this level, although conversely roughly a third (30 per cent) of the respondents actually stated they had all the skills they needed here. The lack of strategic decision making skills was most keenly felt in Russia and the Stans where only five per cent of respondents felt they had all the necessary skills.

The additional skills that are needed to deliver IoT projects are wide-ranging in the sector, with a majority citing connectivity technology skills and security skills (both 55 per cent). 53 per cent say better analytical and data science skills are required, 49 per cent need additional project management skills and 46 per cent want to see improved competencies in technical

support. Respondents working in exploration are more likely to cite security skills as a requirement (63 per cent), while those in distribution are less likely to do so (46 per cent). This hopefully suggests that they have already made steps to address potential vulnerabilities which would be as high, if not higher, with permanent pipeline infrastructure.

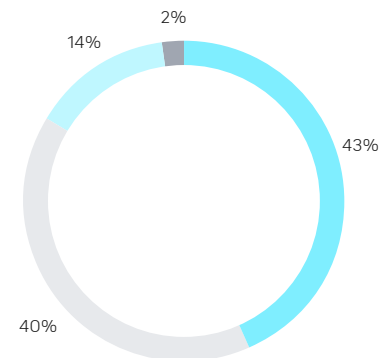
Purchasing decisions around IoT projects are most likely to be made by senior management, such as heads of departments (43 per cent), although C-suite executives (22 per cent) and middle management (24 per cent) are also involved.

Regarding off-the-shelf IoT solutions that meet the needs of oil and gas firms, there is a little more to be desired. Overall, 43 per cent are aware of solutions that can assist them in their IoT objectives, which is lower than the overall sample average of 50 per cent. A total of 54 per cent believe that external providers either only meet some of their needs or, worse, meet none of them at all. Finally, in terms of organisation size, mid-sized organisations tend to be more aware of off the shelf IoT solutions in the marketplace than smaller ones (58 per cent for companies with between 501 and 1,000 and 55 per cent for those with 1,001 to 3,000 employees). Overall, however, there is plenty for IoT providers to do to improve their offerings and build better connections with oil and gas companies.



What additional skills do you need to deliver IoT projects?

● Connectivity technology skills	55%
● Security skills	55%
● Analytical/ data science skills	53%
● Project management skills	49%
● Technical support skills	46%
● Strategic skills	44%
● Procurement skills	39%
● Database management skills	29%

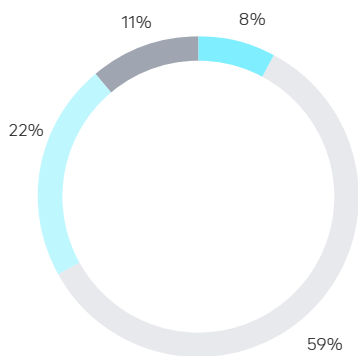


Are you aware of off-the-shelf IoT solutions that meet your needs?

- Yes, we are aware
- No, providers only meet some of our needs
- No, providers don't meet our needs at all
- Don't know

SECURITY

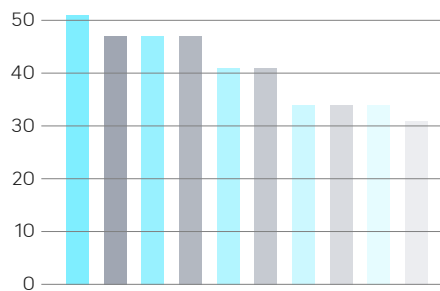
Security has cropped up consistently throughout this report as a major concern for oil and gas respondents, so examining exactly what these issues are will help the sector take remedial steps. Poor network security and the risk of external cyber-attacks are the two biggest fears, cited by a majority of 58 per cent and 54 per cent, respectively. Those working in exploration are particularly concerned about poor network security, with 72 per cent of respondents within the sub-sector citing this as one of the biggest challenges associated with the use of IoT projects within their organisation. Other key security challenges across the sector include insecure storage of collected data (48 per cent) and insecure or unencrypted edge networks (43 per cent).



Which of the following statements are accurate regarding the security of your IoT projects?

- We have robust cyber-defences
- Our defences are good but could be stronger
- We need much better cyber-defences
- Our cyber-defences need to be vastly improved

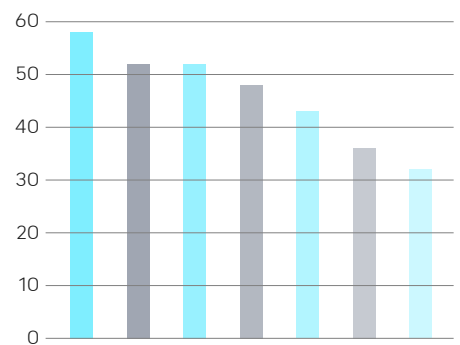
Overall, 92 per cent of oil and gas respondents believe their IoT defences could be more robust, with 11 per cent hoping to see a major overhaul. Perhaps driven by an informed security-conscious mindset, only 8 per cent of respondents stated that their organisations' IoT solutions have robust cyber-security defences from end-to-end in compliance with the relevant ISO standard. This was significantly lower than in other sectors we surveyed but may well be an indication of an increased understanding of the potential risks. Respondents from Russia and the Stans were most likely to indicate their cyber-security defences have not been a priority and could be vastly improved, which suggests a major problem that needs to be resolved for companies within the region.



What changes have you made to address IoT security concerns?

- Creation of an internal IoT security policy 51%
- Investing in new security technologies 47%
- Training employees on IoT 47%
- Upgrading existing security technologies 47%
- Creation of an external IoT security policy for suppliers and partners 41%
- Communicating to customers on the use of IoT 41%
- Partnering with a third party 34%
- Hiring skilled staff 34%
- Securing physical assets such as sensor nodes 34%
- Implementing a backup connectivity network 31%

The positive news is that the sector is heavily engaged in efforts to improve the situation. Popular measures include creation of an internal IoT security policy (51 per cent), upgrades to existing security technology, investing in new security solutions and training employees to better understand IoT (all 47 per cent). Those working in exploration – the sub-sector most concerned about digital security – are generally more engaged than those in extraction or distribution in building better defences. Two-thirds (66 per cent) of exploration respondents have already created an internal IoT security policy and 63 per cent invested in new security technologies, which shows their priorities are in the right place. In terms of accessing the requisite security skills Russia, the Stans and the Middle-East are more likely to look for support from a third party rather than bringing those skills in house as with the rest of the World.



What are your biggest IoT security challenges?

- Poor network security 58%
- Risk of external cyber-attack 52%
- Potential mishandling/misuse of data by employees 52%
- Insecure storage of data collected 48%
- Insecure/unencrypted edge networks 43%
- Supplier/partner data regulation compliance requirements 36%
- Internal data regulation and compliance requirements 32%

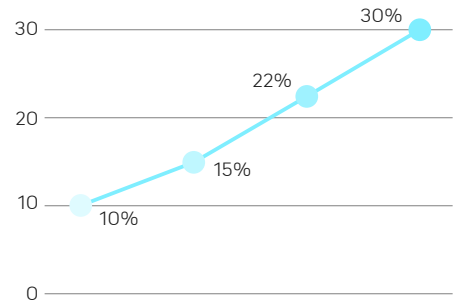
INVESTMENT

The average investment in IoT projects per organisation in the oil and gas sector is estimated to be \$3,247,753 over the next three years, which represents the highest average of any sector we surveyed. A further 11 per cent of respondents are expecting to spend in excess of \$5,000,000, also the highest largest number amongst our respondents. As would be expected, the smaller organisations have a lower planned spend than the average, while the biggest companies expect to commit the most (an average of \$7,100,000 for those with more than 5,000 employees). Given the huge global appetite for oil and gas products, these large budgets come as no surprise.

Like the other sectors we surveyed, it is clear that IoT has taken centre stage as a lever for optimisation. Respondents indicated they will dedicate more budget to IoT projects than others such as big data analytics, cloud computing or next generation security over the next three years. This trend is particularly evident in the Middle East where 13.6 per cent of

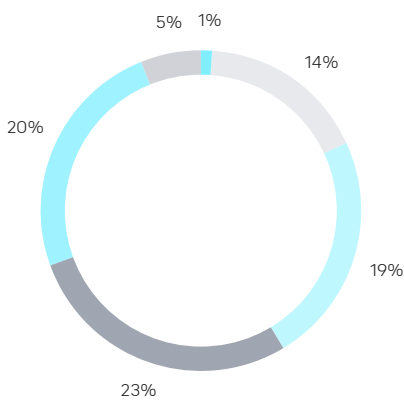
budgets will be spent on IoT in the next three years, while conversely, companies based in Russia and the Stans will only spend 5.3 per cent on IoT, preferring to invest in cloud computing and big data.

Complementing the sector's willingness to invest is a keen awareness of how IoT engagement can save the business money in both the short and long term. Currently, the average estimated saving for the business is 10 per cent, with this expected to rise to 15 per cent in 12 months. These short-term benefits are strong in themselves, but it is after three and five years where respondents feel they will truly reap the rewards, estimating an eventual cost saving of 30 per cent. Larger oil and gas organisations (more than 5,000 employees) expect to see even greater savings in the long term, expecting an average of 32 per cent in five years. Companies are clearly confident in IoT's ability to improve their business, but the next steps will be to make sure these aims are achieved in practice.



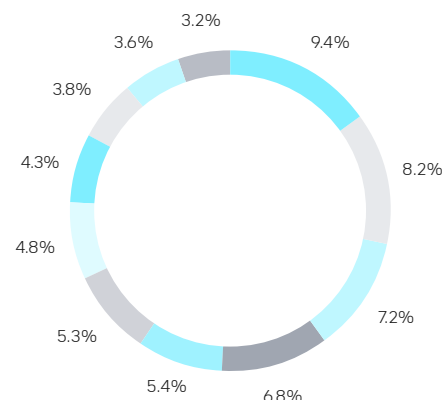
What proportion of your organisation's costs are saved/going to be saved from IoT projects?

Currently	10%
In 12 months	15%
In 3 years	22%
In 5 years	30%



What is your planned investment in IoT projects in the next three years?

- \$100,000 to \$500,000
- \$500,000 to \$1,000,000
- \$1,000,000 to \$2,000,000
- \$2,000,000 to \$3,000,000
- \$3,000,000 to \$4,000,000
- \$4,000,000 and above



What proportion of your IT budget will you spend on IoT projects in the next three years?

- IoT projects
- Cloud computing
- Big data analytics
- Next generation security
- Robotics
- Augmented Reality
- Machine Learning
- Virtual Reality
- Cognitive AI
- Blockchain
- 3D Printing

HOW MATURE IS IOT AT YOUR ORGANISATION?

Inmarsat's free IoT maturity tool helps you compare your organisation's IoT maturity with our respondents and your competitors. Your personalised report also explains what you need to do to improve your score.

www.inmarsat.com/iotmaturitytool

REPORT ISSUED BY INMARSAT

99 City Road
London, EC1Y 1AX
United Kingdom

inmarsat.com/enterprise

