

A large-scale mining operation is shown in a wide-angle shot. The foreground is dominated by a yellow wheel loader with its bucket raised, parked on a dirt path marked with heavy tire tracks. In the background, a massive, terraced excavation site stretches across the horizon under a clear sky. The lighting is bright, suggesting a sunny day. The text "INDUSTRIAL IOT" is overlaid in large, white, bold, uppercase letters, with "IN THE TIME OF COVID-19: MINING" in a smaller, white, uppercase font below it.

# INDUSTRIAL IOT

IN THE TIME OF COVID-19: MINING



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## 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](http://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](http://www.inmarsat.com)

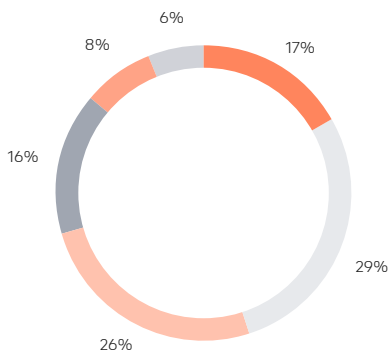
# METHODOLOGY

The Inmarsat Research Programme is now in its fifth year, with this 2021 report providing an update on how the industrial Internet of Things (IoT) 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 IoT adoption, as well as challenges related to connectivity, skills, security, data and investment.

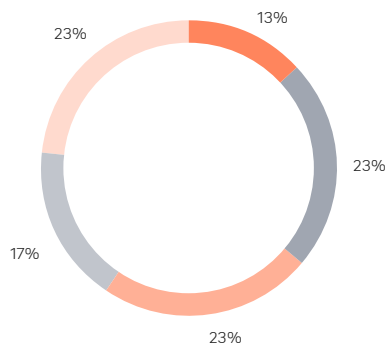
To understand this Inmarsat commissioned Vanson Bourne, a specialist technology market research company, to interview 450 respondents in early 2021, a year after the start of the pandemic.

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 IoT initiatives at their respective organisations.



Respondents by sub-sector (%)

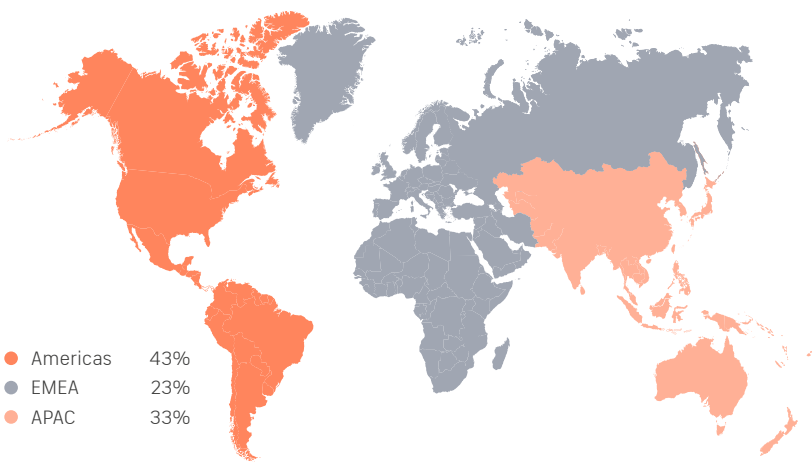
- Multi-commodity
- Iron ore
- Copper
- Gold
- Other bulk minerals
- Other



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 43%
- EMEA 23%
- APAC 33%

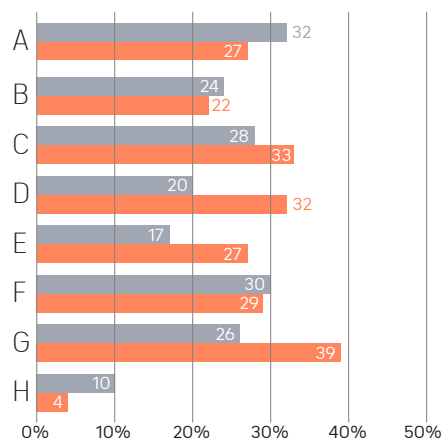
# EXECUTIVE SUMMARY

The need to extract raw materials in safer, more efficient, sustainable and cost-effective ways is driving the adoption of Industry 4.0 technologies across the global mining sector. Even aside from the far-reaching impact of Covid-19, it is evident mining companies are facing a slew of challenges: pricing volatility, supply chain issues, a shifting regulatory landscape, as well as societally driven changes in investor behaviour.

In early 2020 McKinsey suggested Covid-19 slowing global industrial output would lead to a decline in demand for those metals used principally for industrial and construction use cases, such as aluminium, zinc, and iron ore. On the other hand they predicted the price of countercyclical minerals such as gold and those with new industry use cases such as copper, lithium and graphite would remain more resilient.<sup>1</sup> These predictions have largely come to pass, and while parts of the world are returning to a new normal, industry is suppressed in many others, causing demand for metals to remain below where it was in 2019.

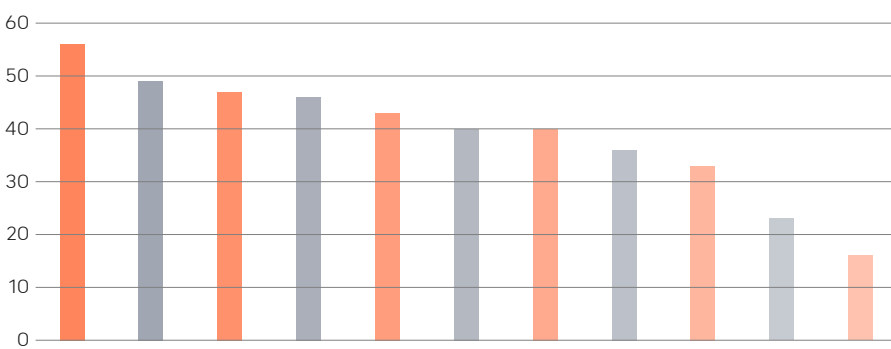
On the supply side there has been a global reduction in the amount of available commodities due to restrictions on movement. The impact of Covid on a country and its response, has in many ways dictated the fate of its mining operations, with countries responsible for much of the world's output in certain metals experiencing mixed fortunes. In some cases whole operations have had to adapt and seek alternatives with varying levels of success. In example, manufacturers of semiconductors were notably affected because of a reduction in available rare earths.

"The impact of Covid on a country has in many ways dictated the fate of its mining operations, with countries responsible for much of the world's output in certain metals experiencing mixed fortunes."



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?

● Improve environmental sustainability	56%	● Reduced downtime	40%
● Better decision-making	49%	● Greater supply chain insight	36%
● Increase staff productivity	47%	● Improve customer experience	33%
● Cost efficiencies	46%	● New revenue streams	23%
● Greater automation	43%	● Lower insurance premiums	16%
● Improve health and safety	40%		

<sup>1</sup> <https://www.mckinsey.com/industries/metals-and-mining/our-insights/lessons-from-the-past-informing-the-mining-industrys-trajectory-to-the-next-normal>

How the industry rebounds in the coming years will depend to some extent on its use of Industry 4.0 technologies to overcome supply chain obstacles. Already we are seeing evidence that those companies that are increasing the speed of adoption of the Internet of Things (IoT) and associated technologies are gaining an advantage, through their ability to maintain operations autonomously and with greater insight.

Nearly half (47 per cent) of all mining respondents in our research noted that the challenges of Covid-19 have demonstrated the importance of the Internet of Things (IoT) and automation to ensure the continuing success of their business. The pandemic has accelerated the rate of IoT adoption in many mining businesses, with 40 per cent of respondents having already accelerated deployments of their IoT projects in response to the challenges of the pandemic, and 41 per cent intending to start accelerating within the next few years.

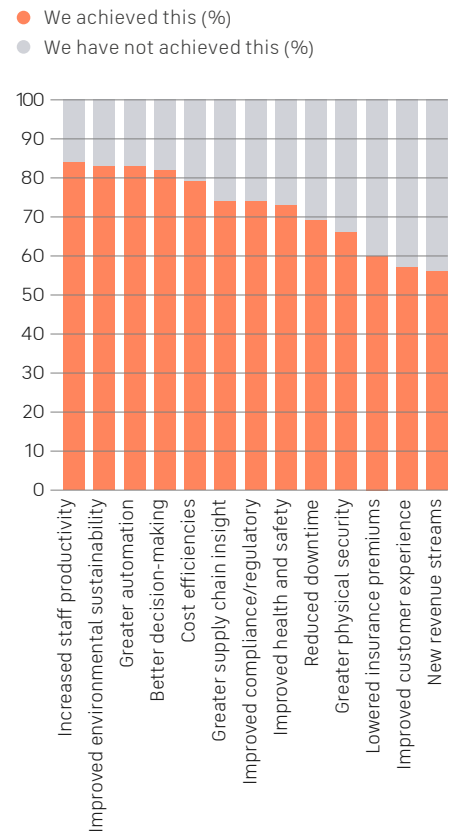
While the mining sector has, historically, lagged behind other industries in its adoption of radical ideas and new technologies, our research also reveals that the sector has made considerable progress in terms of IoT adoption and development over the last few years and is upbeat about its potential. While progress has been made in mining IoT adoption globally, the North American miners are currently leading the way with the highest investment commitments on IoT spending.

IoT is helping miners improve safety, environmental sustainability, informing better decision making and increasing both productivity and cost-savings across the entire value chain. From automating haulage vehicles and monitoring drilling through to closely monitoring environmental conditions, vehicle telemetry, machinery and tailings dams, the industry is rapidly increasing its investments in IoT projects, with most respondents in our research already achieving the expected benefits in these key areas.

Key to organisations unlocking the potential of IoT is a formal IoT strategy, which 46 per cent of our mining respondents stated they have. There are regional variations in levels of IoT maturity: while 53 per cent of mining companies in APAC have a formal IoT strategy, this drops to only 37 per cent of Latin American businesses.

With a rapid increase in IoT adoption over 2020 the mining industry is reaching new levels of IoT maturity, but there are still challenges to overcome. Connectivity challenges, particularly in relation to reliable connectivity for mobile assets, persist and businesses need to look at the right blend of technologies from their service providers to move projects from trial to full implementation more easily. Skills, particularly around technical support and integration need to be bolstered. The industry is also highly security aware and, encouragingly, is taking steps to improve its defences, with over half (56 per cent) of all respondents investing in new technologies to address IoT security concerns, more so than any other sector we surveyed.

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



# ADOPTION

Most organisations in the mining sector (83 per cent) have now fully deployed at least one IoT project, a considerable increase since our 2018 research, when a different sample set indicated only 2 per cent had fully deployed. 37 per cent of respondents have deployed within the last 12 months, which shows a rapid acceleration in IoT adoption across the sector throughout 2020. This clearly displays how the mining industry is fast approaching a level of maturity and is no longer lagging behind other industries. The rapid acceleration in adoption can be further contextualised by the 40 per cent who stated that challenges related to Covid-19 has accelerated their adoption of IoT.

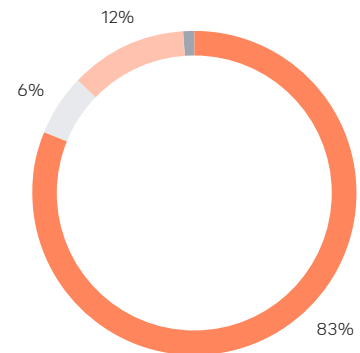
The drivers motivating mining businesses to deploy IoT projects are also a clear reflection of the numerous challenges faced by the sector. Improving environmental sustainability is cited as the most popular reason by 56 per cent of respondents. Followed by better decision-making (49 per cent), increased staff productivity (47 per cent), cost efficiencies (46 per cent), greater automation (43 per cent) and improved health and safety (40 per cent). Better decision-making was viewed as the most important driver of IoT usage in North America (65 per cent), while in APAC it was increased staff productivity and in Latin America it was improved environmental sustainability (both 63 per cent).

In terms of use cases the most common area IoT is being engaged in is automated haulage vehicles, where 28 per cent of respondents have already deployed IoT solutions, and an additional 23 per cent are in the trial phase. Drill monitoring was in second place with 27 per cent of respondents closely followed by monitoring

environmental conditions (26 per cent), vehicle telemetry monitoring (24 per cent), machinery monitoring and control (23 per cent) and monitoring tailings facilities or shipment/supply chain tracking (both 22 per cent).

Over the next couple of years, our sample expects to see an increase in fully deployed IoT projects focused on machinery monitoring and control. 46 per cent of respondents are currently trialling these projects, as well as projects focused on monitoring tailings facilities and environmental conditions (currently being trialled by 42 per cent and 41 per cent, respectively). Larger organisations of 3,001 to 5,000 employees are ahead of the curve in these last two areas, with 67 per cent of respondents currently trialling these projects. The most likely use cases to fail in the trial stage were automated haulage vehicles (23 per cent) and vehicle telemetry monitoring (19 per cent) suggesting there may be connectivity challenges related to mobile assets.

Despite the significant progress being made in the areas outlined above, there are still a number of barriers that need to be overcome in order for mining organisations to unlock more value from their IoT projects. During the deployment phase, 32 per cent of organisations were challenged by the lack of consistent and reliable connectivity, closely followed by security implications (30 per cent) and a lack of in-house skills (28 per cent). The number of respondents indicating that connectivity was a barrier to optimal IoT deployment was higher in mining compared to the other sectors we interviewed.



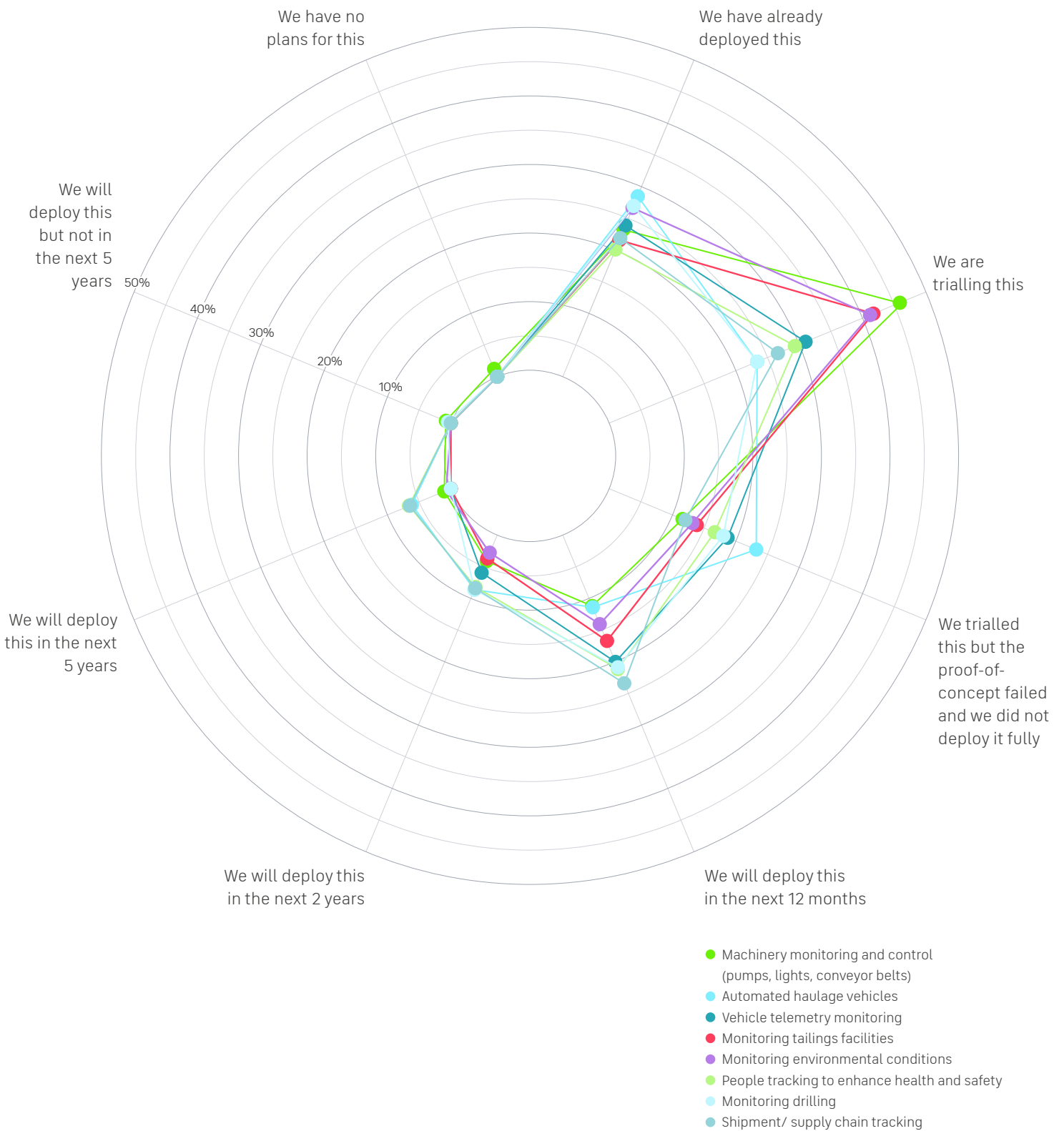
What is your current status in terms of deploying IoT projects?

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

Once projects are deployed respondents indicated that the biggest barriers were the ability to integrate IoT technology with existing platforms (39 per cent), a lack of in-house skills (33 per cent) and a lack of turnkey/off-the-shelf solutions (32 per cent). Connectivity also remains a key barrier post-deployment for nearly half (48 per cent) of mid-sized mining organisations.

Finally, most mining organisations have already achieved the expected benefits of IoT projects in a range of key areas. 84 per cent of respondents in the sector have achieved increased staff productivity, closely followed by improved environmental sustainability and greater automation (83 per cent), better decision-making (82 per cent), cost efficiencies (79 per cent), greater supply chain insight (74 per cent) and improved health and safety (73 per cent).

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









# CONNECTIVITY

IoT is essentially a network of networks and is dependent on reliable connectivity for its successful application. With many mining sites located in remote and often harsh environments, spread over great distances with varied and often changing topology, the sector faces its own very specific connectivity challenges. For these reasons, accessing and using the right kinds of connectivity technologies, continues to be a major barrier to IoT adoption in the mining sector.

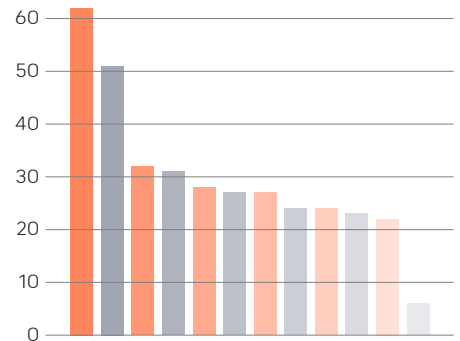
Only 28 per cent of mining organisations consider public terrestrial networks (such as cellular or fibre) to be suitable for the connectivity they need to deploy IoT projects. This explains why satellite is by far the most widely used type of long-range connectivity used in mining IoT projects (62 per cent), a noticeably higher proportion than all other industry sectors in our research. In-fact 97 per cent of respondents stated that satellite connectivity provides crucial support to their organisation's IoT communication networks.

In addition to satellite, mining respondents employ a wide range of other connectivity types in their IoT projects, combining both short- and long-range technologies with three types used on average, similar to the average across all sectors. In terms of edge connectivity Wi-Fi is still the most popular short-range connectivity type (32 per cent), despite its limitations in terms of range and power consumption. LPWAN technologies are also becoming increasingly popular as they are highly suitable for connecting large numbers of data producers, with LoRaWAN used by 27 per cent of respondents.

Even so, connectivity issues continue to thwart the successful rollout of IoT projects, with the majority (63 per cent) of mining respondents struggling to deploy IoT because they have connectivity issues in the areas they want to deploy it. A notably high proportion (92 per cent) encounter connectivity challenges in the trial or proof of concept phase of their projects and 68 per cent continue to experience disruption after deployment, which raises questions around the suitability of their connectivity solution. 83 per cent agree that their IoT projects have enjoyed much more success since solving their connectivity challenges.

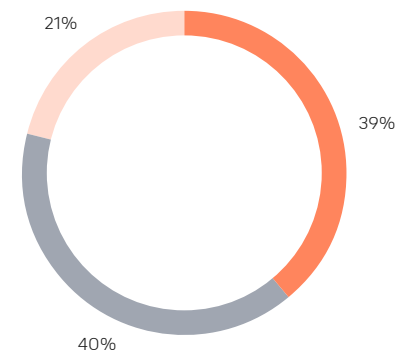
When making a choice on connectivity type, mining respondents indicated a range of preferences in the qualities they required, with reliability the most cited (51 per cent), followed by low latency (41 per cent), bandwidth (40 per cent) and cost (33 per cent). The requirement for highly reliable connectivity was more prominent in mining than any other industry surveyed.

As mining sites are very often based in remote areas away from terrestrial communications, there will often be instances where comms outages occur. That is why it is vital for mining companies to use a backup connectivity method to avoid potentially losing mission critical data. However, only 39 per cent of our mining respondents indicated that they use such a backup connection type to continue collecting data in the event of an outage. A further 40 per cent indicated that their operations would go offline, and 21 per cent will pause all data collection completely until the original connection is restored, leading to the loss of highly valuable data and potentially revenues. Larger miners (57 per cent) and North American miners (55 per cent) are more likely to use backup connections than rely on offline data collection or pausing the process.



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

● Satellite	62%
● Radio	51%
● Wi-Fi	32%
● Cellular (private)	31%
● Cellular (public)	28%
● LoraWAN	27%
● NB IoT	27%
● Bluetooth Low Energy (BLE)	24%
● Sigfox	24%
● Zigbee	23%
● Fibre	22%
● Other	6%



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

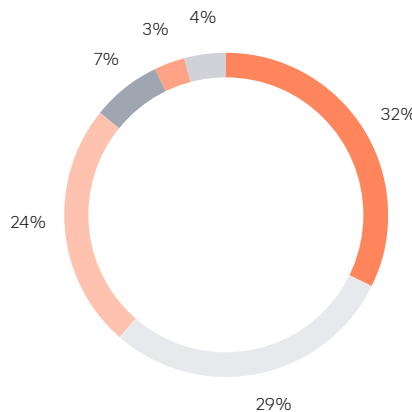
# DATA

It is vital that the data that mining companies are producing in their IoT projects can be used to provide actionable business insights. To optimise such insights, data needs to be delivered at the right time and in the right format to the right people. The mining professionals we surveyed listed several hurdles to effective data management which they regularly face, with security and privacy concerns the most prominent at 49 per cent, followed by a lag between data collection and availability at 48 per cent. Security concerns and data lag issues are even more prominent for Latin American mining organisations (58 per cent and 74 per cent respectively) than the sector as a whole.

Following those primary hurdles to effective data collection, the lack of an IoT data strategy was problematic for 34 per cent of mining respondents. Without an effective IoT data strategy in place, mining companies will struggle to govern the flow of data, both inside and outside their organisation. In terms of data sharing, miners are clearly adopting a progressive Industry 4.0 mind-set with 43 per cent making data available to anyone in the organisation, and an additional progressive 23 per cent also open to sharing this data with partners. Still, a third of our respondents currently restrict access to this data to departments directly involved in IoT projects, correlating with the above-mentioned group that don't yet possess a data strategy.

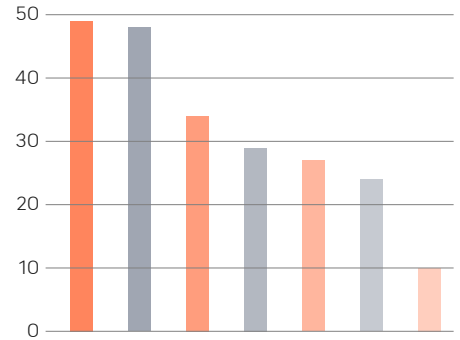
In the future, mining organisations will increasingly share their data, with 40 per cent of respondents indicating they plan to make data available to partners and external parties and only 17 per cent planning to continue ring-fencing access to data to selected departments. This clear trend towards data sharing and a culture of collaboration is an encouraging sign, as it will help the mining supply chain optimise operations more effectively.

When looking at the frequency that data is collected in mining IoT projects, the mining sector is slightly ahead of the curve, compared to some of the others that we investigated, with the majority (32 per cent) employing real-time data collection, compared to the wider sample average of 30 per cent. Many mining businesses are also likely to collect data every half an hour (29 per cent), although hourly collection (24 per cent) is also a common approach. North American respondents and the largest mining organisations (over 5,000 employees) are noticeably more advanced when it comes to using real-time data collection, at 40 per cent and 43 per cent, respectively. It's important that smaller mining businesses and those in other regions start to investigate real-time data collection to get the most value from their IoT projects.



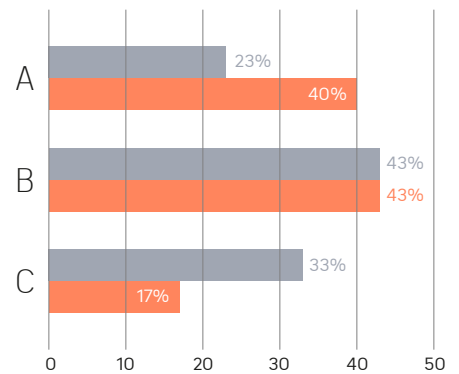
At what intervals do you typically gather IoT data points?

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



What barriers prevent your organisation from using data optimally?

- Security/privacy concerns 49%
- Lag between data collection and data being available 48%
- Lack of IoT data strategy 34%
- We don't have the skills to extract/use data 29%
- Data is stored in an unusable format 27%
- There is such a large volume of data we struggle to utilise it 24%
- We are able to use data as effectively as possible 10%



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

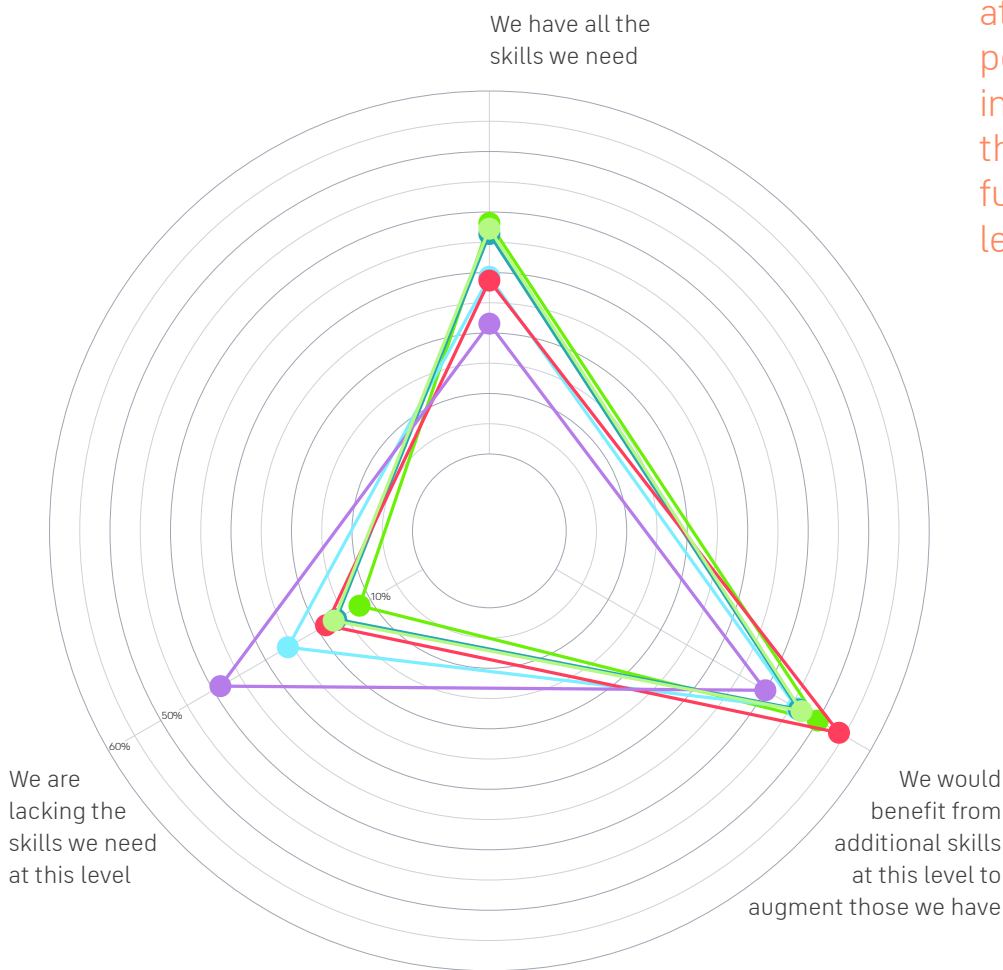
# SKILLS

In addition to a lack of consistent and reliable connectivity, one of the biggest hurdles to successful IoT adoption is a lack of the right skillsets, with a third of mining respondents either having already encountered or expecting to encounter a lack of in-house skills as a barrier to the deployment of IoT projects. This is a problem that businesses need to resolve, either by hiring, upskilling, or working with a service provider.

The most skilled personnel were found at C-suite level, with 38 per cent of respondents indicating they have all the skills they need to fulfil IoT projects at that level. That C-suite leadership is so well thought of within the sector is suggestive of the journey that mining has been on to bring in new digital talent from other sectors.

Our respondents indicated that the level they most lacked the skills in was around the integration of IoT projects, with 38 per cent lacking the skills needed and only 22 per cent stating they have all the skills they need to do this effectively. It is clear that mining organisations need to upskill in this area, to effectively integrate newer technologies and connectivity methods with legacy systems.

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



"Overall, the most skilled personnel were found at C-suite level, with 38 per cent of respondents indicating they have all the skills they need to fulfil IoT projects at that level."

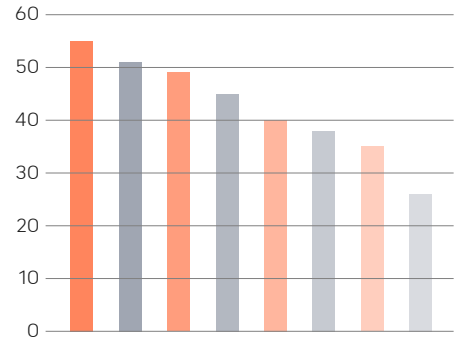
- C-suite/senior leadership team
- Strategic IoT decision-making
- Operations
- Procurement of IoT projects
- Integrating IoT projects
- Ongoing support and maintenance of IoT projects

The survey results highlight a lack of strategic decision-making skills (26 per cent), although a slightly higher proportion (29 per cent) of the respondents did state that they had all the skills they needed here. The lack of strategic decision making and integrating IoT projects skills was most keenly felt in Latin America, with 63 per cent and 68 per cent respectively lacking the skills they need in these areas.

To address skills deficiencies, technical support skills are most sought after (cited by 55 per cent), followed by connectivity technology skills (51 per cent), analytical and data science skills (49 per cent) and security skills (45 per cent). A high proportion (62 per cent) of respondents from the largest organisations we surveyed specifically cited a need for additional connectivity skills to deliver their IoT projects.

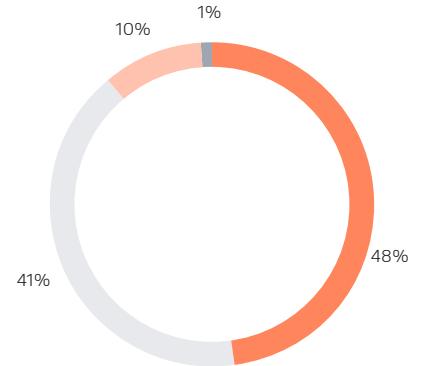
Most purchasing decisions around IoT projects are made at the senior management level, such as heads of departments in mining companies (53 per cent). Although C-suite executives (22 per cent) and middle managers (20 per cent) are also involved. IoT purchasing decisions at larger organisations with over 5,000 employees are more likely to be made at C-suite level (29 per cent) and less likely to be made by middle management (14 per cent).

Just under half of those polled (48 per cent) are aware of off-the-shelf IoT solutions in the marketplace that help them meet their organisation's needs. This figure increases to 73 per cent for those larger organisations of 3,001 to 5,000 employees. However, there is still a total of 51 per cent of all mining respondents believing that external IoT solutions providers either only meet some of their needs or, worse, meet none of them at all. This indicates that there is still a way to go for solution providers to improve their mining industry offerings and build better connections with mining companies.



What additional skills do you need to deliver IoT projects?

● Technical support skills	55%
● Connectivity technology skills	51%
● Analytical/ data science skills	49%
● Security skills	45%
● Project management skills	40%
● Procurement skills	38%
● Strategic skills	35%
● Database management skills	26%



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

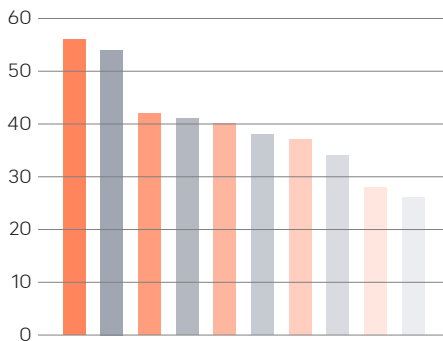
Security breaches are a huge concern for mining companies: partly because of their significant geo-political status, but also due to the value of their commercial data. And with mining companies increasingly connecting their operational infrastructure to the internet with IoT projects, it is no surprise that over half (54 per cent) of all respondents in the sector cite the risk of external cyber-attacks as the biggest security challenge associated with the use of IoT in their organisation.

Other key security challenges across the mining sector include insecure or unencrypted edge networks (49 per cent), internal data regulation and compliance requirements (48 per cent), insecure storage of collected data (44 per cent) and poor network security (42 per cent).

per cent). Mining organisations in Latin America are particularly concerned about the risk of cyber-attacks and poor network security, with 68 per cent of respondents from the region citing these as the two biggest security challenges they face.

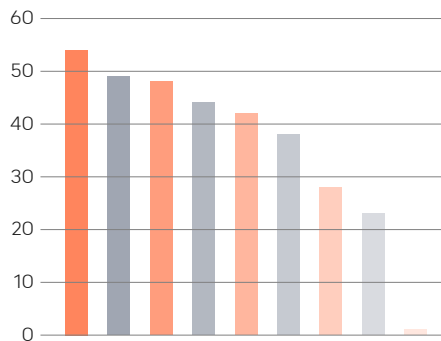
Overall, 74 per cent of all mining respondents believe their IoT defences could be more robust, with 12 per cent noting that cyber-security defences have not been a priority for their organisation and could be vastly improved. Encouragingly mining is slightly ahead of the curve, with over a quarter (26 per cent) stating that their organisation's IoT solutions have robust cyber-security defences from end-to-end in compliance with the relevant ISO standard. The good news is that the mining sector is

taking positive action to respond to perceived cyber-security threats, with over half (56 per cent) of respondents investing in new security technologies, creating an internal IoT security policy (54 per cent), creating an external IoT security policy for suppliers and partners (42 per cent) or training employees on IoT security (41 per cent). 67 per cent of those working in the largest organisations (over 5,000 employees) are particularly focused on the creation of an internal IoT security policy. Elsewhere a notably higher proportion of Latin American respondents (68 per cent) are investing in new security technologies.



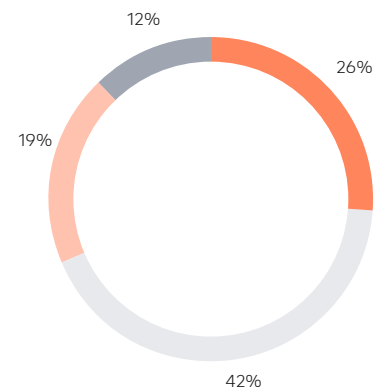
What changes have you made to address IoT security concerns?

- Investing in new security technologies 56%
- Creation of an internal IoT security policy 54%
- Creation of an external IoT security policy for suppliers and partners 42%
- Training employees on IoT 41%
- Partnering with a third party 40%
- Upgrading existing security technologies 38%
- Communicating to customers on the use of IoT 37%
- Securing physical assets such as sensor nodes 34%
- Hiring skilled staff 28%
- Implementing a backup connectivity network 26%



What are your biggest IoT security challenges?

- Risk of external cyber-attack 54%
- Insecure/ unencrypted edge networks 49%
- Internal data regulation and compliance requirements 48%
- Insecure storage of data collected 44%
- Poor network security 42%
- Potential mishandling/misuse of data by employees 38%
- Insecure storage of data collected 28%
- Supplier/partner data regulation compliance requirements 23%
- Don't know 1%



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

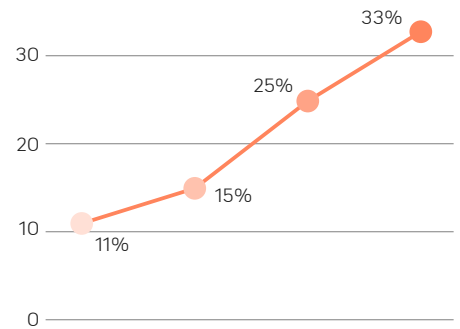
# INVESTMENT

The average investment in IoT projects per organisation in the mining sector is estimated to be \$2,729,444 over the next three years. A further 20 per cent of mining respondents are expecting to spend more than \$4,000,000 on IoT in the same timeframe. As would be expected, smaller mining organisations have a lower planned spend than the average, while the biggest companies plan to invest the most (an average of \$4,264,286 for those with more than 5,000 employees).

Despite these differences in planned IoT investments in terms of size, it is clear that IoT is being prioritised in IT budgets, exceeding the spend on cloud computing, big data analytics, next generation security or machine learning over the next three years. This trend is particularly evident in North America, where 11.8 per cent of budgets will be spent on IoT in the next three years.

While European-based mining organisations are slightly behind the investment curve, only allocating 8.9 per cent on IoT, preferring to invest more in other technologies such as machine learning, cognitive AI and blockchain.

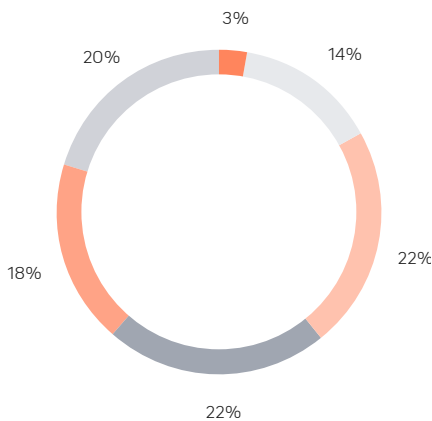
Mining respondents also display a clear awareness of the potential for IoT to save their businesses money, both in the short and long term. Currently, the average estimated proportion of an organisation's cost saved is 11 per cent, with this expected to rise to 15 per cent in 12 months, before eventually reaching 33 per cent in five years. This final figure highlights the optimism for IoT technology in the sector. Larger organisations with over 5,000 employees expect to see even greater savings in the long term, expecting an average of 36 per cent in five years.



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

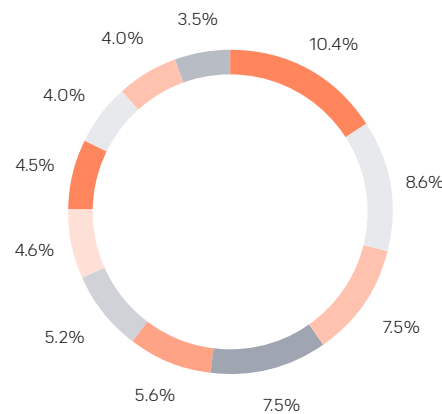
Currently	11%
In 12 months	15%
In 3 years	25%
In 5 years	33%

"The average investment in IoT projects per organisation in the mining sector is estimated to be \$2,729,444 over the next three years."



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
- Machine Learning
- Augmented Reality
- Cognitive AI
- Virtual Reality
- 3D Printing
- Blockchain
- Robotics

## 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](http://www.inmarsat.com/iotmaturitytool)

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