

# INDUSTRIAL IOT

IN THE TIME OF COVID-19:  
TRANSPORT AND LOGISTICS



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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)

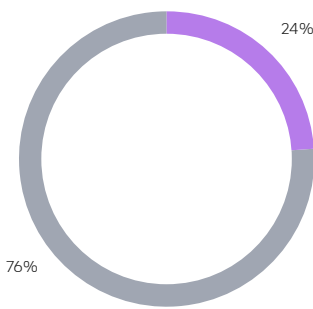
# METHODOLOGY

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.

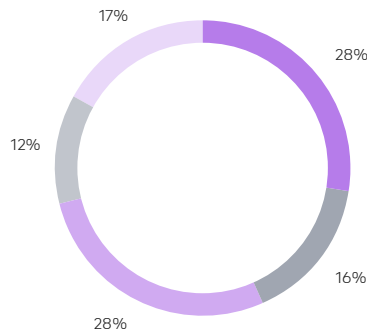
To understand this Inmarsat commissioned Vanson Bourne, a specialist technology market research company, to interview 450 respondents in early 2021, a year after the start of the pandemic.

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 (%)

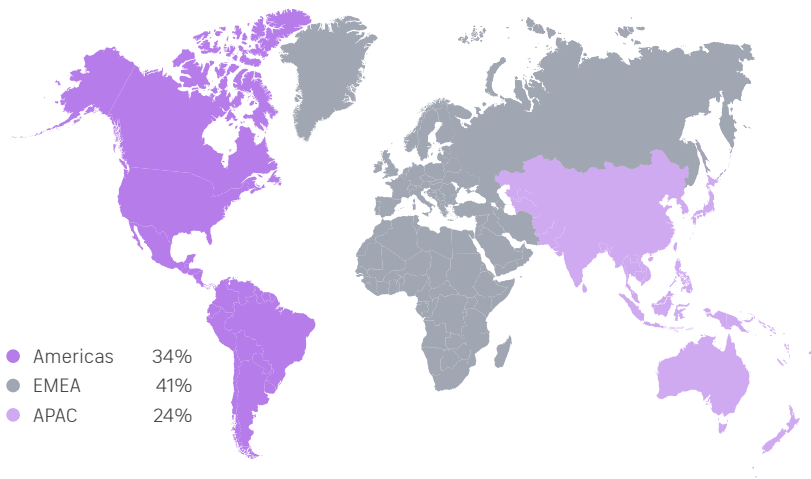
- Freight railway operators
- Logistics



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 34%
- EMEA 41%
- APAC 24%

# EXECUTIVE SUMMARY

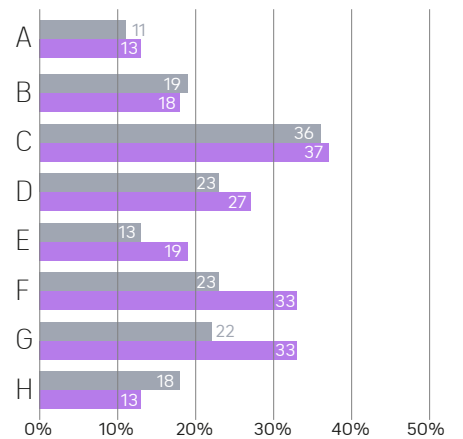
The increasing social mobility of urbanising populations and the correlated growth in demand for goods and services by both consumers and businesses worldwide is placing unprecedented demand on logistics networks. In addition, the transport and logistics industry also needs to meet increasingly stringent environmental and sustainability regulations, to minimise its impact on climate change. To ensure that global supply chains can meet the increasing demand for both people and things in the most efficient and sustainable ways possible, the industry is embracing digitalisation and accelerating its adoption of Internet of Things (IoT) technologies.

This acceleration in IoT adoption by transport and logistics companies has only increased over the course of the Covid-19 pandemic in the past 18 months. Over half (54 per cent) of all respondents from the sector noted that the many challenges related to Covid-19 have underlined the importance of IoT

and automation to business success. 49 per cent of respondents having already accelerated deployments of their IoT projects in response to the challenges of the pandemic, with 41 per cent intending to start accelerating their adoption of IoT technologies within the next few years.

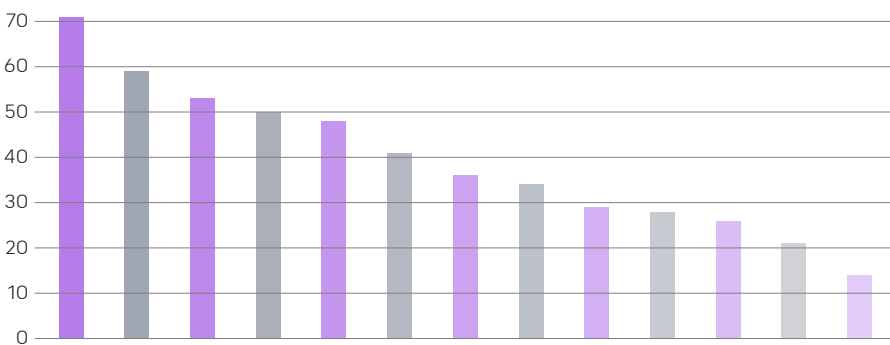
These findings reflect the increasingly pressurised state that global supply chains have been under since the start of the pandemic, with vaccine distribution logistics of utmost importance, grocery distribution challenged by restrictions in movement, and a greater demand for last-mile deliveries from home consumers. Despite the challenges to the transport and logistics industry caused by the Covid-19 pandemic, the encouraging findings from our research clearly reveal that the sector is taking all these challenges seriously, adopting IoT and other technologies to ensure tomorrow's land logistics networks are safer, more sustainable, and more efficient than ever before.

"Over half (54 per cent) of all logistics respondents in our research noted that the many challenges related to Covid-19 have underlined the importance of IoT."



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?

● Greater supply chain insight	71%	● Improve health and safety	34%
● Cost efficiencies	59%	● Reduced downtime	29%
● Greater automation	53%	● New revenue streams	28%
● Better decision-making	50%	● Improve compliance/regulatory	26%
● Increase staff productivity	48%	● Greater physical security	21%
● Improve environmental sustainability	41%	● Lower insurance premiums	14%
● Improve customer experience	36%		

IoT is playing a key role in preparing transport and logistics businesses for the future, right across the value chain, from increasingly automated rail networks and signalling systems in the rail industry, through to highly accurate, real-time shipment and vehicle or goods tracking in logistics. Fundamentally, IoT is providing businesses with clear visibility and new, highly efficient forms of automation across the supply chain.

The rail sub-sector is leading the IoT charge in the transport and logistics industry, with 59 per cent of our rail respondents stating that they already have a formal IoT strategy in place, with every rail organisation polled having already fully deployed at least one IoT project within the last two years. The logistics sub-sector, while still demonstrating a high level of IoT maturity, is lagging slightly behind rail, with only 41 per cent of those businesses having a formal technology strategy and 63 per cent having already fully deployed projects. Additionally, there are regional variations in levels of IoT maturity: while 63 per cent of North American transport and logistics businesses have a formal IoT strategy, this drops to only 13 per cent of Latin American businesses.

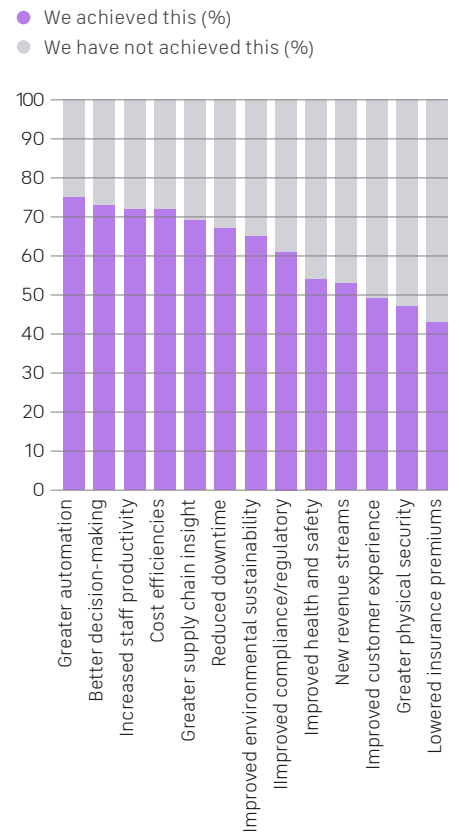
Establishing a formal IoT strategy is essential, as it enables transport and logistics businesses to understand what areas of the business they need to extract data and insight from, as well as how they might automate operations. While most organisations in our research demonstrate a high level of IoT maturity, it is those businesses in APAC and North America, alongside the largest organisations of over 3,000 employees, that are farthest ahead in

their journey. These trailblazers are not only investing the most, and expecting the highest returns, they are demonstrating how the industry can best utilise IoT.

Despite considerable progress being made across the sector over the last few years, there are several challenges stopping the transport and logistics industry from getting the optimal benefits from its IoT investments. The skills gap remains the biggest barrier to successful IoT adoption, with security, data analysis and connectivity skills in high demand. In terms of connectivity, more redundancy is needed to ensure consistent data collection, with only 28 per cent of all respondents using a backup connection type, preferring instead to either collect data offline or pause data collection until connections are restored. With greater automation and better decision making being key drivers for deployment of IoT we may see this trend shift in the coming years.

In addition to developing an improved connectivity backbone, which is needed to make IoT projects a true success, the transport and logistics sector also needs to focus more of its efforts and resources on developing better data strategies. This will encourage a more collaborative approach to enable the sharing of non-sensitive IoT data across and between businesses and their IoT technology partners. Encouragingly, from a security perspective, respondents indicated they have robust end-to-end cyber-security at a higher proportion than any other sector we surveyed. Finally, investment in IoT is slightly above the average, while experienced and expected ROI is slightly below the average.

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



# ADOPTION

Just under three-quarters of our respondents in the transport and logistics sector (72 per cent) have fully deployed at least one IoT project, up from a different sample set with 40 per cent in 2018. 29 per cent of companies have deployed fully within the last 12 months, demonstrating the fast maturing attitudes toward IoT in the sector. The remaining 28 per cent of respondents either plan to deploy the technology within the next two years or are currently trialling IoT projects.

As is the case with all the industries we surveyed in our research, the transport and logistics sector has faced numerous challenges related to Covid-19, with the rail industry being particularly hard hit. Over a third (36 per cent) of respondents from rail companies noted that the pandemic had negatively influenced their ability to operate, compared with 30 per cent for the overall transport and logistics sample. However, 54 per cent of all transport and logistics respondents also say that challenges related to the pandemic have underlined the importance of IoT and automation to business success. This will largely be a consequence of IoT data having an important role helping support organisational efficiencies in pressured supply chains. 90 per cent of our respondents also told us they have either accelerated deployment of IoT projects in response to the crisis or have plans to do so in the next two years.

The drivers that are motivating the sector to deploy IoT projects further reflect the challenges facing the industry. Unsurprisingly greater supply chain insight is cited as the most important driver, with 71 per cent of respondents indicating they have adopted IoT for this reason. Not far behind is cost efficiencies (59 per cent), followed by greater automation (53 per cent) and better decision making (50 per cent). While greater insight over the supply chain is the most important driver for most regions, increased staff productivity was viewed as the most important driver of

IoT usage in North America (81 per cent). Respondents in North America also listed the highest numbers of different drivers for using IoT, indicating a sophisticated understanding of the potential for IoT to increase competitive advantage.

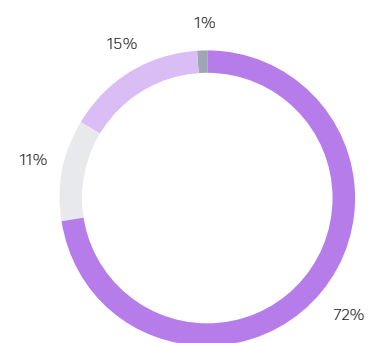
In terms of use cases, the most common area IoT is being engaged in for rail respondents is automated rail signalling, where 55 per cent of all rail respondents have already deployed and an additional 32 per cent are in the trial phase. Wagon and cargo monitoring was in second place in the rail industry, with 41 per cent of respondents having actively deployed it. Elsewhere, in the logistics sub-sector, shipment and supply chain tracking was the most common area in which IoT projects are in use, with 37 per cent of logistics respondents having already deployed these, and 21 per cent currently trialling them.

Over the next few years, the industry is set to see an increasing number of fully deployed IoT projects focused on vehicular and asset tracking and route optimisation, with 27 per cent of all respondents currently trialling these. Other popular IoT projects currently being trialled include trackside environment monitoring, for events such as flooding and rock slides (32 per cent of rail respondents) and, potentially supporting the need to ship Covid-19 vaccines safely and securely, cold chain tracking (26 per cent of logistics respondents). As you would expect, it is the larger organisations (over 5,000 employees) that have already successfully deployed the greatest number of IoT projects. 88 per cent of those respondents have already leveraged IoT for shipment and supply chain tracking, and 60 per cent for vehicular tracking and route optimisation.

The most likely transport and logistics IoT use case to fail in the trial stage leading to it not being deployed was vehicular and asset tracking and route optimisation. 10 per cent of all respondents indicated a failed proof-of-concept, which may be caused by a lack

of in-house skills (36 per cent). Other barriers at the deployment phase were security implications (23 per cent) and lack of turnkey solutions (23 per cent). Once projects were deployed respondents indicated the biggest barriers continued to be a lack of in-house skills (37 per cent), security implications and integrating IoT technology with existing platforms (both 33 per cent).

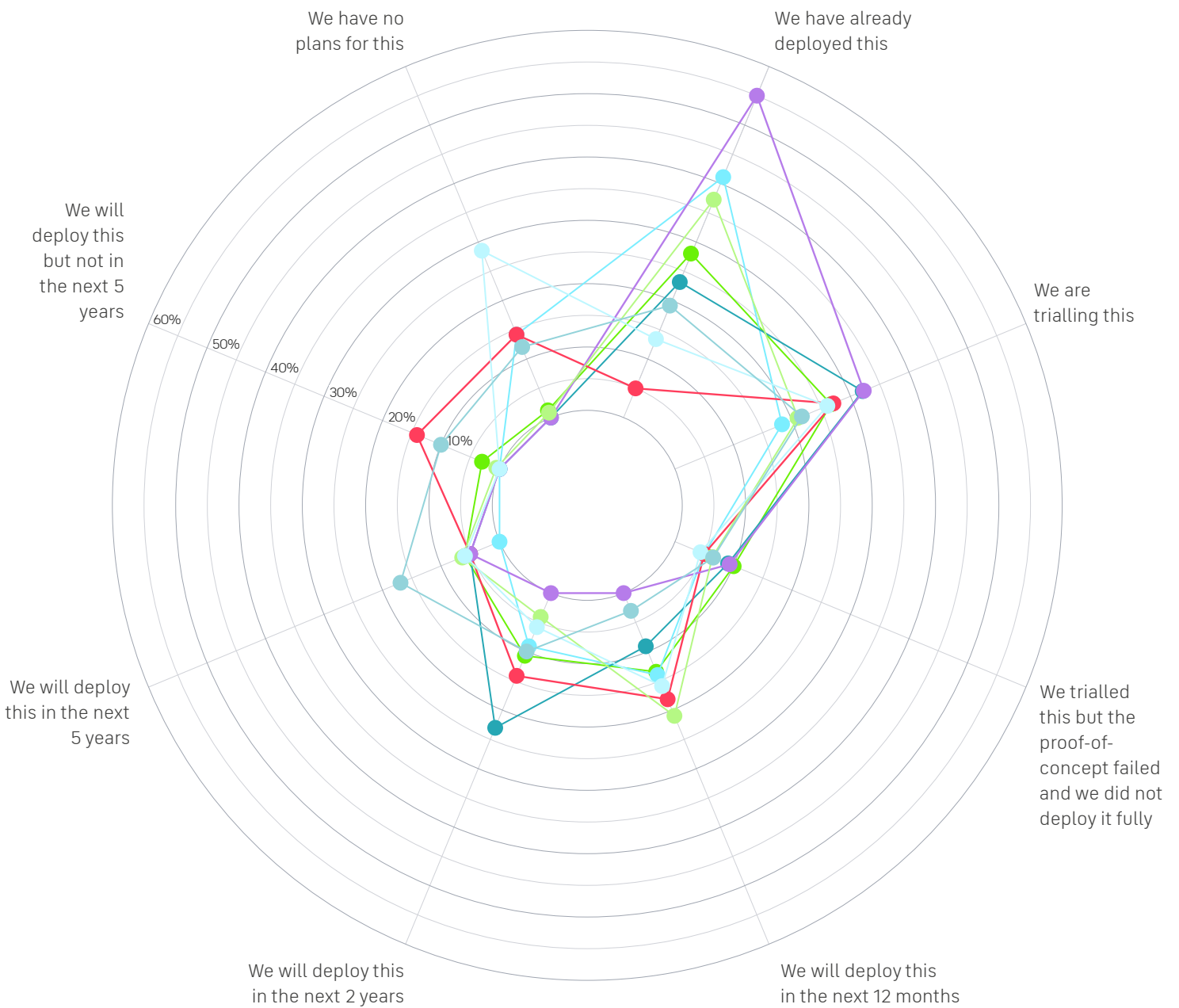
Encouragingly, most organisations surveyed have already realised many of the benefits they set out to achieve with IoT projects. This was particularly the case for greater automation (75 per cent), better decision making (73 per cent), increased staff productivity and cost efficiencies (both 72 per cent) and greater supply chain insight (69 per cent). However, there remain areas where desired benefits have not yet been achieved. Such as lowered insurance premiums (54 per cent not achieved), greater physical security (53 per cent not achieved) and improved customer experience (51 per cent not achieved). Given the recent uptick in last-mile logistics to home consumers during the pandemic, using IoT to improve the customer experience will need to be looked at to drive differentiation in a crowded market-place.



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?



Note: some use cases specific to sub-sector - percentage of sub-sector shown.

- Vehicular and asset tracking and route optimisation (rail and logistics)
- Wagon and cargo monitoring (rail)
- Trackside environment monitoring (rail)
- Natural disaster monitoring (rail)
- Automated rail signalling (rail)
- Shipment/ supply chain tracking (logistics)
- Cold chain tracking (logistics)
- People tracking to enhance health and safety (rail and logistics)







# CONNECTIVITY

Establishing the optimal mix of connectivity technologies is essential for transport and logistics businesses to realise the numerous benefits that IoT can deliver. And while our research reveals several positive trends within the industry, there is still plenty of room for improvement in using the right connectivity to support IoT projects. 54 per cent of all respondents agreed that their organisation has struggled to deploy IoT due to connectivity issues in areas they want to deploy it, and 59 per cent saw connectivity challenges in the trial phase.

Our transport and logistics respondents employ a wide range of connectivity types in their IoT projects, combining both short- and long-range technologies with three types used on average – common to our average across all sectors. With one notable exception: Latin American businesses are lagging when it comes to the average number of connectivity types in use, with an average of only two types used.

Overall, only 24 per cent of transport and logistics organisations consider public terrestrial networks (such as cellular or fibre) to be completely suitable for IoT connectivity. And the majority (59 per cent) agree that satellite connectivity provides crucial support to their organisation’s IoT comms networks. That said, there is still a very high reliance on public cellular networks across the sector, with 46 per cent using public cellular infrastructure as a long-range IoT connectivity solution. This compares to only 38 per cent of respondents using satellite in their IoT projects, considerably lower than the 47 per cent average across all industries surveyed. This is an interesting finding given the potential advantages satellite optimised for mobility purposes can provide to moving assets, particularly as a backup connectivity type.

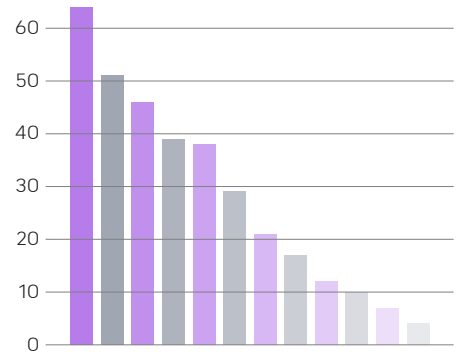
In terms of edge connectivity, Wi-Fi is by far the most popular short-range connectivity type (64 per cent), followed by Bluetooth Low Energy (BLE) with 39

per cent. The fact that BLE should rank much higher in usage than other sectors is not surprising given its established role in tracking consignments in the logistics sector. The sector also lags, noticeably, behind all other industry sectors in our research in its usage of LPWAN technologies such as LoRaWAN (17 per cent) and Sigfox (12 per cent).

Following the trial or proof of concept phase, connectivity issues continue to cause disruption for 58 per cent of all transport and logistics respondents even after IoT projects have been fully deployed. This poses questions about the suitability of the connectivity mix many transport and logistics businesses are using in their IoT projects. 78 per cent agree that their IoT projects have enjoyed much more success since solving their connectivity challenges.

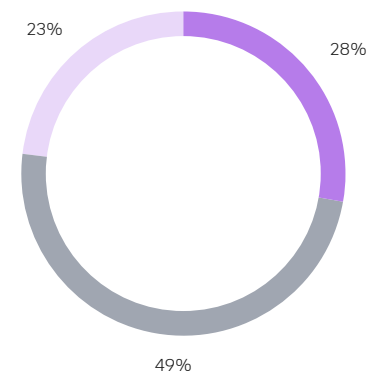
When choosing a connectivity type, logistics respondents indicated a range of preferences in the qualities they wanted, with reliability the most cited (47 per cent), followed by network coverage (44 per cent), security (41 per cent), bandwidth/speed (36 per cent) and cost (33 per cent).

That the sector has the lowest number of respondents from across all industries that use a backup connectivity method to avoid losing data in remote areas away from terrestrial comms (28 per cent), is surprising. Instead, 49 per cent indicated that their operations would go offline, and 23 per cent will pause all data collection completely until the original connection is restored. Of course, this may well be because much transport and logistics infrastructure is focused in and around urban areas, unlike some of the other industry sectors in this report. However, a single connectivity outage anywhere across the supply chain can cause costly disruption elsewhere, from shipping freight globally through to ensuring a last-mile consumer delivery reaches its destination safely and on time.



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

● Wi-Fi	64%
● Radio	51%
● Cellular (public)	46%
● Bluetooth Low Energy (BLE)	39%
● Satellite	38%
● Fibre	29%
● Cellular (private)	21%
● LoraWAN	17%
● Sigfox	12%
● NB IoT	10%
● Zigbee	7%
● Other	4%



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

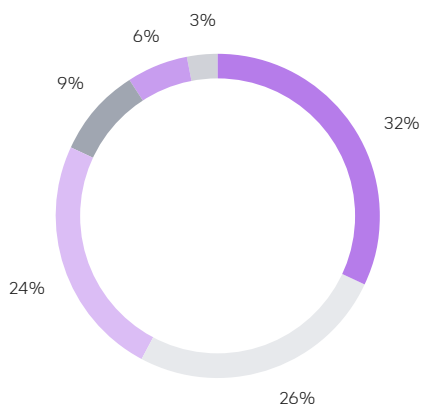
To extract the maximum value from the data gathered by their IoT projects, transport and logistics businesses need to ensure that this data is shared with the right people, at the right time and in the right format. There are a few reasons why rail and logistics companies are prevented from using the IoT data they collect as effectively as possible, with security and privacy concerns by far the most prevalent at 59 per cent. This is followed by a lag between data collection and availability (41 per cent), a lack of an IoT data strategy (27 per cent) and not having the relevant skills to properly extract and use data (23 per cent).

In the rail industry, for example, where operators are increasingly using autonomous train and signalling control technologies in some of the world's most remote regions, it is essential, for reasons of safety and efficiency, that the

data generated by IoT sensors is made available securely, in real-time and is instantly available to rail network managers or controllers. For these reasons, the rail industry is certainly ahead of the curve as far as data sharing is concerned, with 36 per cent of rail respondents making data available to anyone in their organisations, or their partners, to access and use. This is compared to an average of only 20 per cent of respondents across all industry sectors in our research.

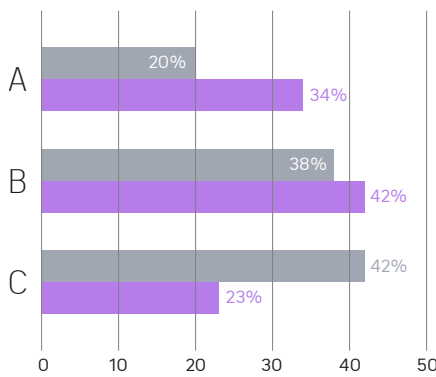
The logistics sector tells a slightly different story with only 15 per cent currently sharing their data across partners and their organisation. However; this is set to improve in the future with this figure increasing to 31 per cent, a change that will positively enhance the sector's ability to improve supply chain efficiency.

Finally, as mentioned above, the importance of receiving IoT data in a timely manner is crucial to ensure safe and efficient business critical operations across rail networks or logistics supply chains. That's why, in terms of the frequency that data is collected in transport and logistics projects, the sector is slightly ahead of some of the others that we investigated, with 32 per cent using real-time data collection. This focus on real-time data collection rises to 41 per cent of rail businesses and to 73 per cent for the largest transport and logistics organisations (over 5,000 employees) that are leading the way in the adoption of progressive practices.



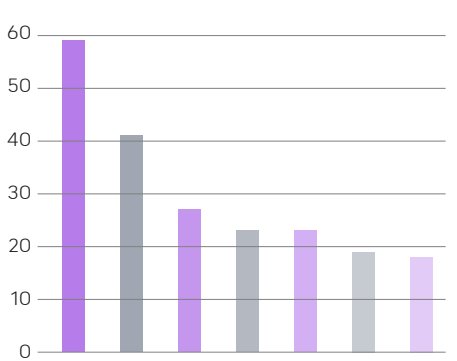
At what intervals do you typically gather IoT data points?

- 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

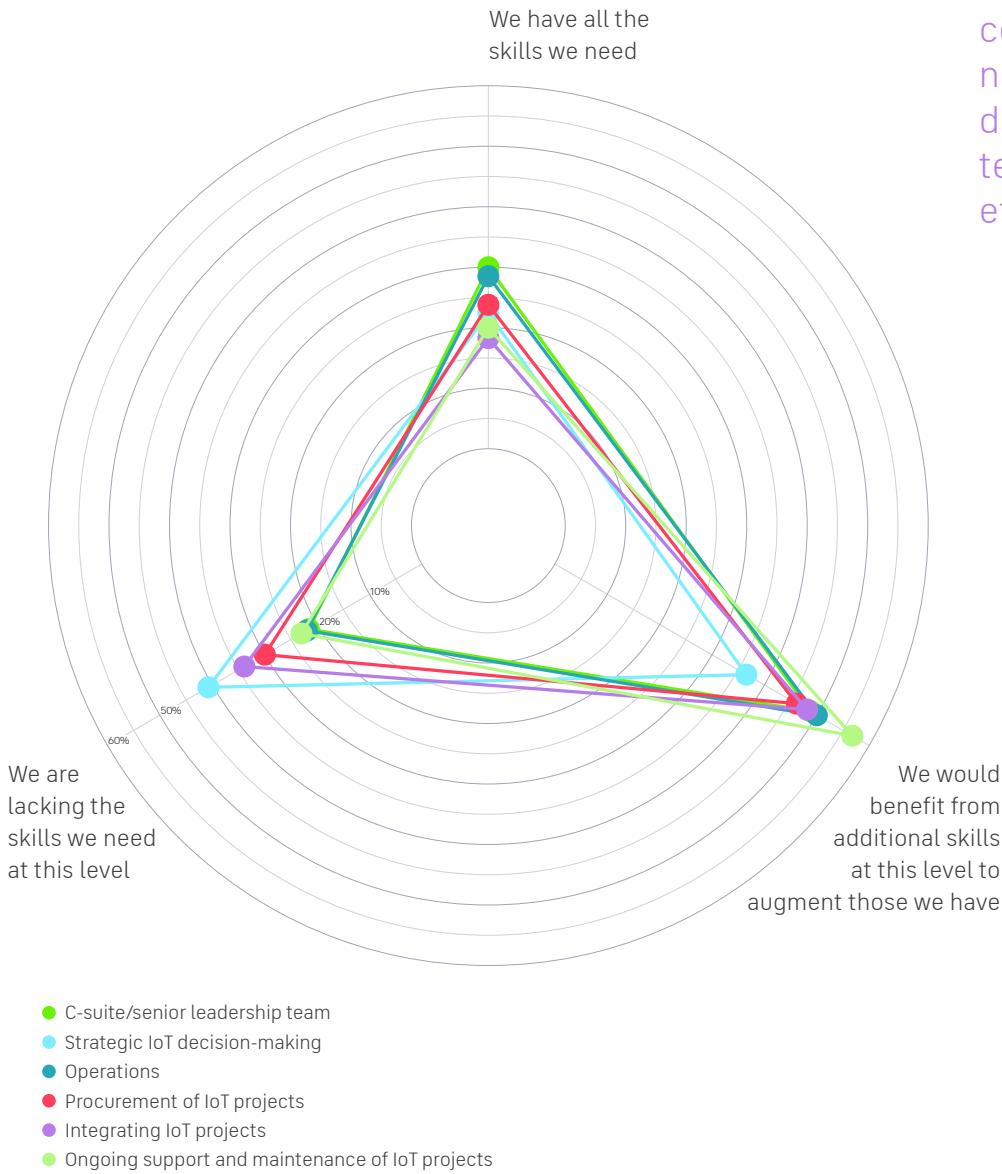


What barriers prevent your organisation from using data optimally?

- Security/privacy concerns 59%
- Lag between data collection and data being available 41%
- Lack of IoT data strategy 27%
- There is such a large volume of data we struggle to utilise it 23%
- We don't have the skills to extract/use data 23%
- Data is stored in an unusable format 19%
- We are able to use data as effectively as possible 18%

# SKILLS

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



"Both rail and logistics companies need to consider the skillsets needed to successfully deliver the benefits of the technology, and make efforts to upskill."

From the trial phase through to the post-deployment phase of IoT projects across the transport and logistics sector, the skills gap remains the biggest barrier to successful IoT adoption. Both rail and logistics companies need to consider the skillsets needed to successfully deliver the benefits of the technology, and make efforts to upskill, hire or work with relevant service providers to fill the gaps.

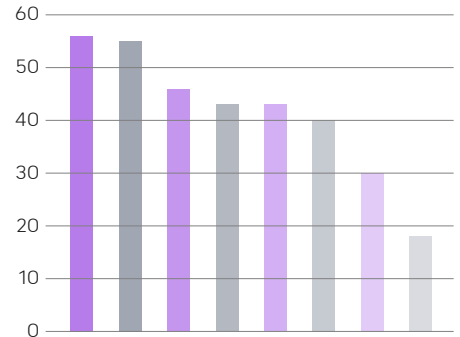
Transport and logistics respondents stated that area of the business they most lacked the skills in was strategic IoT decision-making (41 per cent), with only 22 per cent stating they have all the skills to do this effectively. The most skilled personnel were found at C-suite level (30 per cent), with the least number of sufficiently skilled workers at the integration level (18 per cent). This skills differential is even more pronounced for rail companies, with 36 per cent having all the skills they need at C-suite level, yet only 9 per cent at integration level. And for the largest organisations surveyed (over 5,000 employees), who cite 60 per cent at C-suite level, and only 7 per cent at integration level.

To address deficiencies, security skills are most sought after (cited by 56 per cent), followed by technical support skills (55 per cent), analytical/data science skills (46 per cent) and connectivity technology skills (43 per cent). Respondents from Latin America are severely lacking security skills (87 per cent) and far more likely to indicate they were lacking skills of all kinds than the rest of the sample set we interviewed. While a much higher proportion of smaller organisations (251 to 500

employees) lack the procurement skills they need to make sure they bring onboard the solutions they need to deliver their IoT projects.

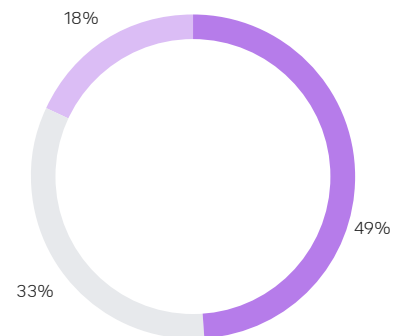
Purchasing decisions around IoT projects are most likely to be made by senior management in logistics companies (46 per cent) while rail companies are most likely to have middle managers in departments making the decisions (45 per cent). Smaller transport and logistics businesses are more likely to have C-suite and senior management involvement in IoT purchasing decisions, and larger organisations more likely to have IoT buying power at middle management level.

Finally, just under half of all transport and logistics respondents polled (49 per cent) are aware of off-the-shelf IoT solutions that can help them meet their organisation's needs, with the rail industry demonstrating a slightly higher awareness (59 per cent) when compared to the logistics industry (46 per cent). And, as would be expected, this figure rises with the size of the organisation, from 32 per cent for smaller organisations (251 to 500 employees) up to 67 per cent for companies with over 5,000 employees. Nearly a quarter (22 per cent) of logistics companies state that off-the-shelf IoT solutions don't meet their needs. All of which confirms that IoT service providers still have a considerable amount of work to do to build strategic relationships and tailor their offerings to meet the needs of these businesses.



What additional skills do you need to deliver IoT projects?

Security skills	56%
Technical support skills	55%
Analytical/ data science skills	46%
Project management skills	43%
Connectivity technology skills	43%
Strategic skills	40%
Procurement skills	30%
Database management skills	18%



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

# SECURITY

The increasing use of connected assets in IoT deployments across multi-modal supply chains in the transport and logistics industry only serves to increase the vulnerability of rail and logistics companies to cyber-security threats. As the entire transport and logistics industry across road, sea, air, and rail becomes increasingly digitalised, more potential vulnerabilities appear, and the potential for cyber-criminals, hackers or hostile state actors to severely disrupt networks or obtain valuable commercial data increases.

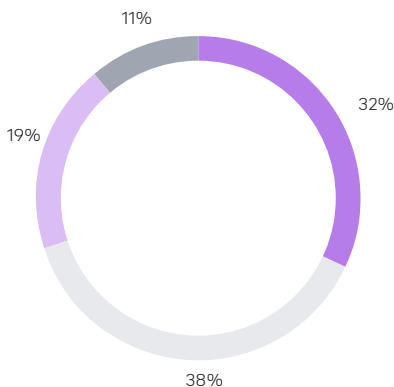
Transport and logistics businesses are having to become equally smart in their approach to IoT security and data management strategies to combat these threats. Transport and logistics

respondents listed insecure storage of data collected (48 per cent), insecure or unencrypted edge networks (47 per cent), potential misuse of data by employees or the risk of an external cyber-attack (both 44 per cent), as the primary security challenges associated with the use of IoT projects in their organisations. Rail operators are highly concerned about the risk of an external cyber-attack, with 55 per cent of respondents in the sub-sector citing this as their primary security challenge.

32 per cent of the respondents from the transport and logistics sample stated they had robust cyber-security defence from end-to-end in compliance with the relevant ISO standard, more than any other sector. Conversely a total of 68 per

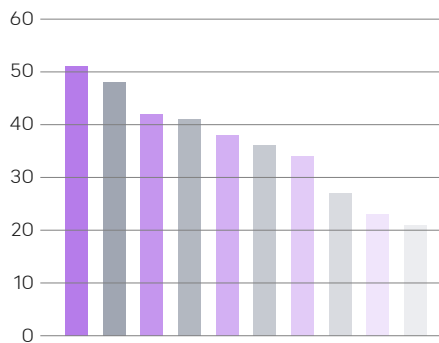
cent believe that their organisation's IoT security needs to be improved. 11 per cent state that cyber-security defences have not been a priority and could be vastly improved.

For these reasons, the sector is already carrying out a range of activities to address digital security. Most popular amongst these is investing in new security technologies, a change that has been made to address IoT security concerns by over half (51 per cent) of respondents, rising to 59 per cent in the rail industry. The other most common security measures include training employees on IoT (48 per cent) and the creation of an internal IoT security policy (42 per cent).



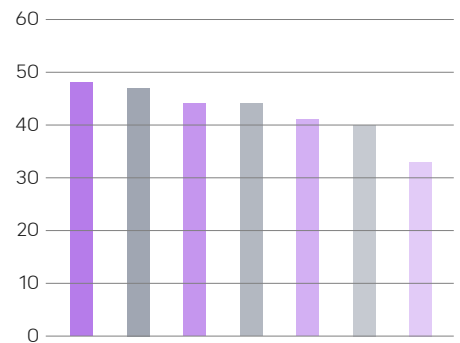
Which of the following statements are accurate regarding the security of your IoT projects?

- 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



What changes have you made to address IoT security concerns?

- Investing in new security technologies 51%
- Training employees on IoT 48%
- Creation of an internal IoT security policy 42%
- Communicating to customers on the use of IoT 41%
- Creation of an external IoT security policy for suppliers and partners 38%
- Hiring skilled staff 36%
- Upgrading existing security technologies 34%
- Partnering with a third party 27%
- Implementing a backup connectivity network 23%
- Securing physical assets such as sensor nodes 21%



What are your biggest IoT security challenges?

- Insecure storage of data collected 48%
- Insecure/unencrypted edge networks 47%
- Potential mishandling/misuse of data by employees 44%
- Risk of external cyber-attack 44%
- Internal data regulation and compliance requirements 41%
- Poor network security 40%
- Supplier/partner data regulation compliance requirements 33%

# INVESTMENT

The average planned investment in IoT projects per organisation in the transport and logistics sector is \$2,986,989 over the next three years. This is slightly above the average for all the industry sectors we surveyed, with rail companies planning on investing considerably more in the technology (\$4,359,091 on average) compared with logistics companies (\$2,529,621 on average). 21 per cent of the entire transport and logistics sample are also expecting to spend more than \$4,000,000 on IoT technology investments in the coming years.

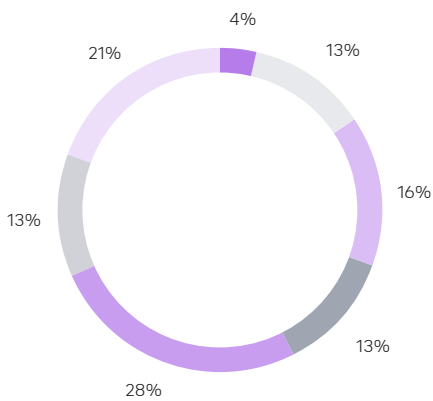
Unsurprisingly, the biggest transport and logistics companies (over 5,000 employees) have a much higher planned average spend of \$6,656,154 compared with the smaller organisations we surveyed, with the planned IoT investment amongst the smallest

businesses (251 to 500 employees) only \$1,103,000. And North American transport and logistics businesses also have a much higher planned spend (\$4,456,250) than all other regions.

However, despite these differences between sectors, geographies and different sized organisations, the fact remains that the proportion of transport and logistics IT budgets earmarked for IoT projects in the next three years is considerably higher than most other digital technologies. This includes cloud computing, next generation security and big data analytics. This is a trend that is particularly evident in the rail industry, where 11.7 per cent of budgets will be spent on IoT, and amongst the largest organisations surveyed in our research (over 5,000 employees), where 12.7 per cent is allocated.

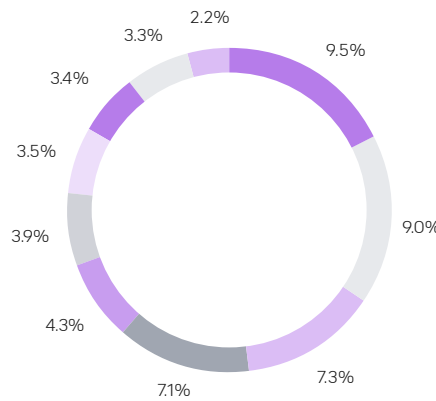
"Average planned investment in IoT across next three years \$2,986,989."

Finally, perhaps the most encouraging sign of all is that the transport and logistics sector is reaching a level of IoT maturity, is the widespread awareness of the technology's potential to save businesses money, both in the short and long term. Currently, the average estimated saving for the typical transport and logistics business is 8 per cent, with this expected to rise to 14 per cent in 12 months, before eventually reaching 29 per cent in five years. Interestingly, it is those mid-sized transport and logistics businesses we surveyed (501 to 1,000 employees) that forecast the highest cost savings in the long term, expecting an average of 34 per cent in five years.



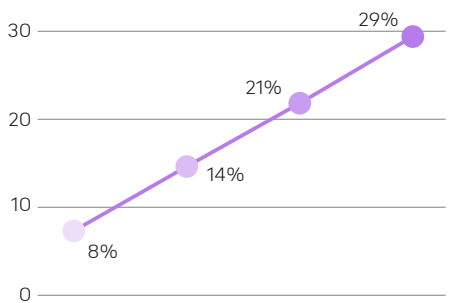
What is your planned investment in IoT projects in the next three years?

- \$0 to £100,000
- \$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
- Next generation security
- Big data analytics
- Augmented Reality
- Machine Learning
- Virtual Reality
- Blockchain
- Cognitive AI
- 3D Printing



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

- Currently 8%
- In 12 months 14%
- In 3 years 21%
- In 5 years 29%

## 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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