

# Internet of Things Services 2022 RadarView – Report Excerpt

Growth of Internet of Things ties to  
sustainability

April 2022

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- Connected infrastructure segment saw the highest growth in the last 12 months
- Manufacturing enterprises led in IoT adoption
- IoT is being utilized to drive business objectives to improve the top and bottom lines
- Government and private entities increasingly using IoT to achieve sustainability goals
- Private 5G is accelerating Industrial IoT (IIoT) adoption
- Providers made significant investments to support enterprises in their IoT journey

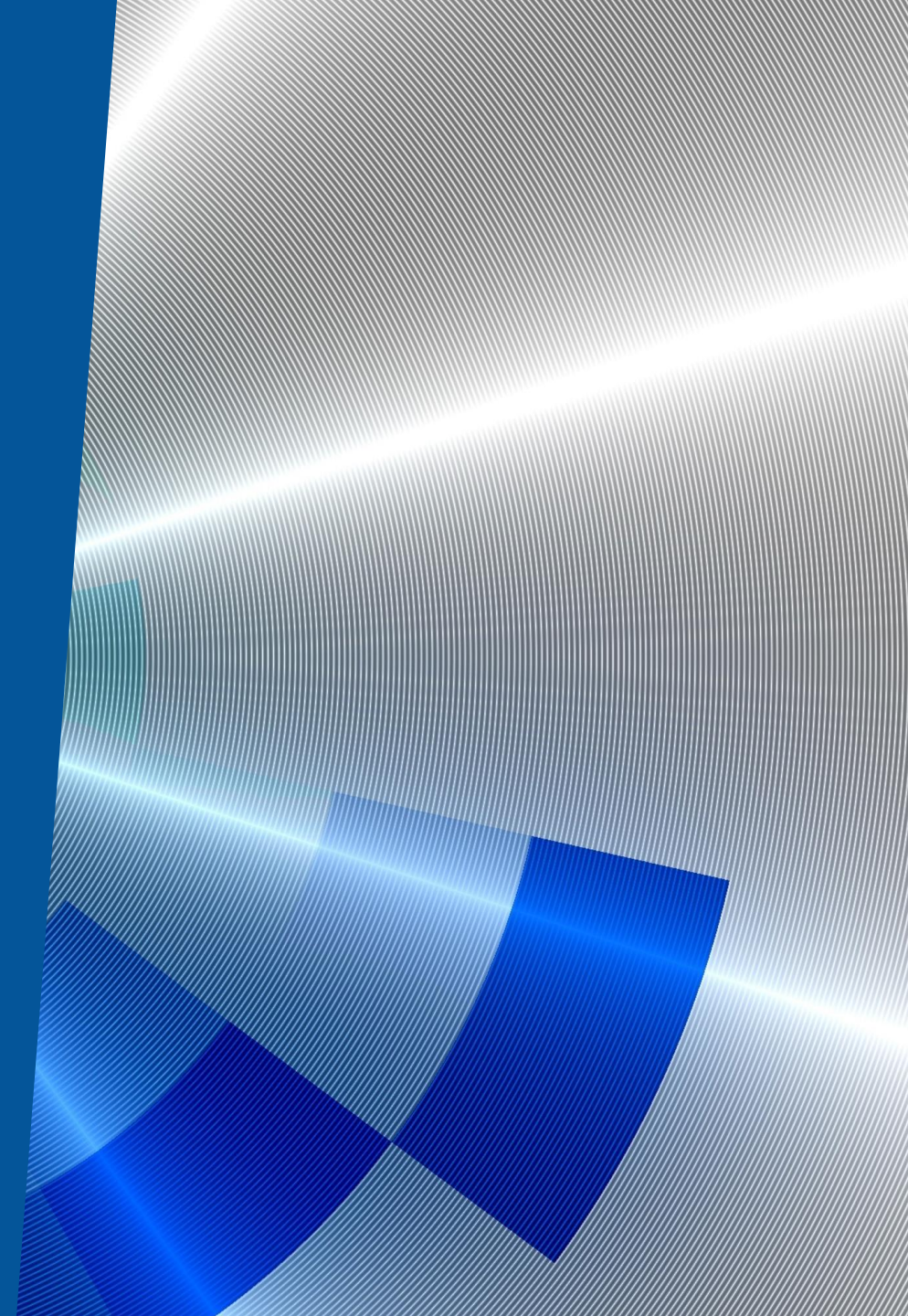
## RadarView overview (Pages 25-30)

- Research methodology and coverage
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- Detailed profiles providing a 360-degree view of the following service providers – Accenture, Atos, Birlasoft, Capgemini, CGI, Cognizant, elnfochips, Happiest Minds, HARMAN Connected Services, HCL, IBM, Infosys, Innominds, ITC Infotech, L&T Technology Services, LTI, Microland, Mindtree, Mphasis, NTT DATA, TCS, Tech Mahindra, UST, Wipro, and Zensar.

## Key contacts (Page 82)





# Executive summary

# Key enterprise IoT trends shaping the market

Enterprise IoT spending grew as IoT enabled new use cases

- Number of projects grew about 24% YOY, with IoT adoption increasing in three key segments: Industry 4.0, product IoT, and connected infrastructure. By connecting assets and infrastructure, enterprises can increase operational efficiency, improve top-line and bottom-line, and enhance safety.
- In the connected infrastructure segment, use cases such as smart city, smart building, and intelligent workplace saw significant growth in the last 12 months.

IoMT growing fastest while spending is at its highest for Industrial IoT (IIoT)

- The Internet of Medical Things (IoMT) flourished during the pandemic. The number of active IoMT projects increased nearly 1.5x in the last 12 months. Remote patient monitoring, drug quality control, and supply chain monitoring were use cases that had significant traction.
- Manufacturers continue to spend the most on IoT services, as they further expand smart manufacturing initiatives by using AI, automation, edge computing, digital twins, and 5G.

Enterprises are increasingly using IoT to achieve sustainability goals

- IoT is helping government as well as private entities in achieving sustainability goals and improving environmental, social, and governance (ESG) metrics by optimizing resource usage and operations.
- Smart city, energy management, waste management, and predictive maintenance, among other use cases, directly impact Sustainable Development Goals (SDGs). According to the WEF, “75% of IoT projects concentrate on five SDGs.”

Private 5G is accelerating IIoT adoption

- Private 5G gives businesses complete control over data, security, and networks, allowing them to allocate bandwidth for ultrareliable, low-latency use cases like IIoT and robotics.
- A growing list of industries from manufacturing to automotive are using 5G in conjunction with IoT to address use cases such as preventive maintenance, precision monitoring, video surveillance, smart city, smart grid automation, and vehicle-to-everything (V2X), among others.

# The road ahead for enterprise IoT adoption

## Choose the right approach and platform for IoT implementation

- Enterprises must build an IoT environment that can counter interoperability and scalability challenges via three key approaches: platform-based, consulting and design-led, and co-innovation.
- Organizations should carefully assess their needs and objectives when selecting the right IoT platform. Nearly 75% of total IoT platform implementations in the last 12 months were performed on the top three hyperscalers: AWS, Azure, and Google Cloud Platform.

## Develop clear strategies and operational plans to become 5G-ready

- Enterprises need to develop clear strategies to incorporate 5G in their IT environment in the next 12–15 months by identifying use cases that can create long-term business value.
- Conduct a comprehensive audit of existing IT infrastructure, hardware, and software that require upgrades or replacements to enable 5G. Also, consider the integration of technologies like IoT, edge computing, and AI with 5G, to optimize costs and maximize efficiency.

## Take a secure-by-design approach to IoT security

- IoT cyberattacks intensified during the pandemic due to an increase in the number of connected smart devices and exposure to remote networks.
- Organizations need to make IoT security strategy design and implementation an integral part of their business decisions, working with partners to ensure the adoption of a robust, zero-trust security approach.

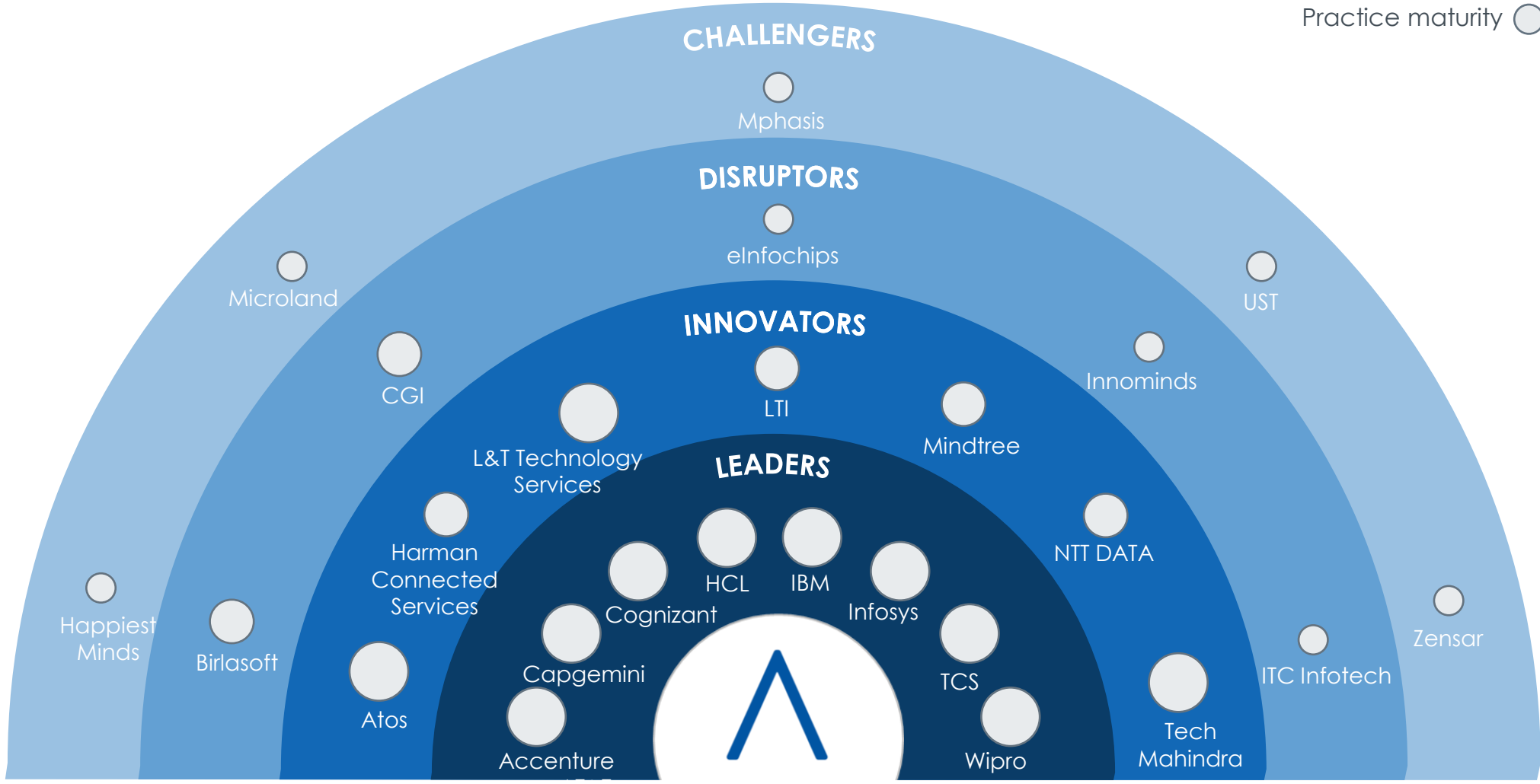
## Establish an ideal balance between the cloud and edge computing

- Using AI and analytics, enterprises are embracing edge computing as they look to easily process data closer to its source.
- Companies need to adopt a clear strategy to maintain an optimal balance between cheaper and slightly slower centralized computing (cloud) and lower latency, more expensive decentralized computing (edge) resources in their environment.

# Avasant recognizes 25 top-tier service providers offering Internet of Things services



Practice maturity ○ ○ ○

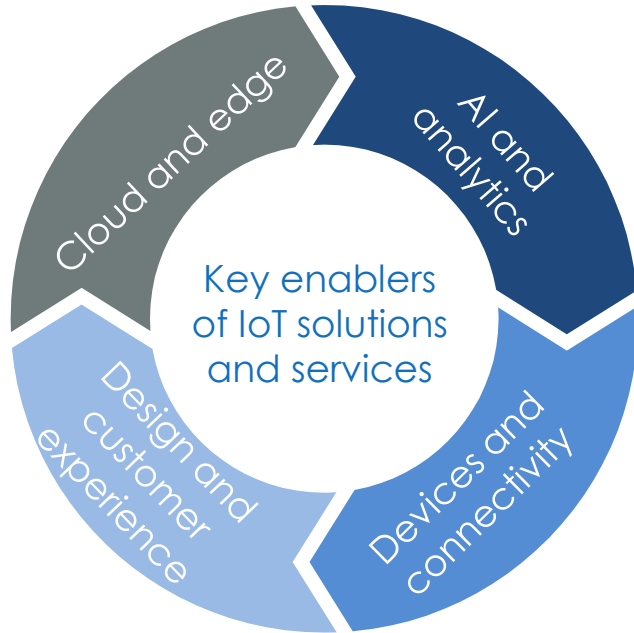




# Sample report pages

# IoT is being utilized to drive business objectives to improve the top and bottom lines

- Cloud platforms
- Application development
- Edge computing
- System integration
- Edge intelligence and analytics
- ML, NLP, vision analytics, and computer visioning



- Design thinking
- Personalization
- Enhancing CX
- New revenue streams
- Augmented reality/virtual reality (AR/VR)
- Device and platform engineering
- Device management
- Network engineering
- Sensor deployment

## Enterprises focusing on key business outcomes:

Visibility, tracking, reporting, and customer experience		Implemented indoor asset tracking using Bluetooth Low Energy in warehouses. Deployed solutions to detect possible collisions.
		Deployed a LoRaWAN GPS-based location solution for geolocation of trucks, and optimized factory outdoor parking space.
Operational efficiency, safety, and risk mitigation		Reduced operational expenses in monitoring railroads by tightening railroad security using image detection analysis.
		Implemented an IoT-based smart building management system and asset management solution. This solution improved the energy efficiency for its properties.
Improving top-line and bottom-line		Hrvatski Telekom created a new revenue stream by offering services through an IoT platform with 5G compatible architecture.
		Opened new revenue channels by deploying a cloud-enabled, remote-vehicle diagnostic solution and remote-control assistance.







# IoMT and IoT in utilities and resources are the top two fastest growing categories



## Growth rate YOY

## Key use cases adopted

## Sample enterprise implementation

<p><b>66%</b></p> <p><b>Healthcare and life sciences</b></p>	<ul style="list-style-type: none"> <li>Remote patient monitoring</li> <li>Hospital asset management</li> <li>Drug management</li> <li>Health hygiene compliance</li> <li>Remote drug quality control</li> <li>Drug supply chain monitoring</li> </ul>	<p> Sunway Medical Centre built a connected Telemedicine Command Centre to deliver remote consultations during the pandemic.</p> <p> Remedy Healthcare built the Internet of Knees on AWS IoT to monitor knee health with sensors, increasing patient motivation and success.</p>
<p><b>36%</b></p> <p><b>Utilities and resources</b></p>	<ul style="list-style-type: none"> <li>Power grid optimization</li> <li>Smart metering</li> <li>Waste management</li> <li>Carbon footprint reduction</li> <li>Connected mines</li> <li>Predictive maintenance</li> <li>Grid asset maintenance</li> <li>Workplace safety</li> </ul>	<p> Sandvik collaborated with IBM to implement Watson IoT platform and analytics to minimize unplanned mining equipment maintenance.</p> <p> EDF Energy implemented an IoT-enabled asset tracking system to improve its safety equipment inspection, monitoring, and maintenance.</p>
<p><b>30%</b></p> <p><b>Travel, transportation, and logistics</b></p>	<ul style="list-style-type: none"> <li>Delivery status monitoring</li> <li>Fleet management</li> <li>Fuel indicators</li> <li>Load optimization</li> <li>Vehicle safety</li> <li>Route optimization</li> <li>Vehicle-to-vehicle communication</li> <li>Connected vehicle platform</li> </ul>	<p> Honda built a serverless connected car platform on AWS by collecting data from its vehicles to deliver connected car services.</p> <p> Cargotec adopted IoT-based digital solutions and services to connect its fleet in order to transform its cargo handling operations.</p>

\*Growth in terms of increase in number of active clients for service providers

# Key challenges faced by enterprises in IoT implementation

## Severity rank

## Challenges

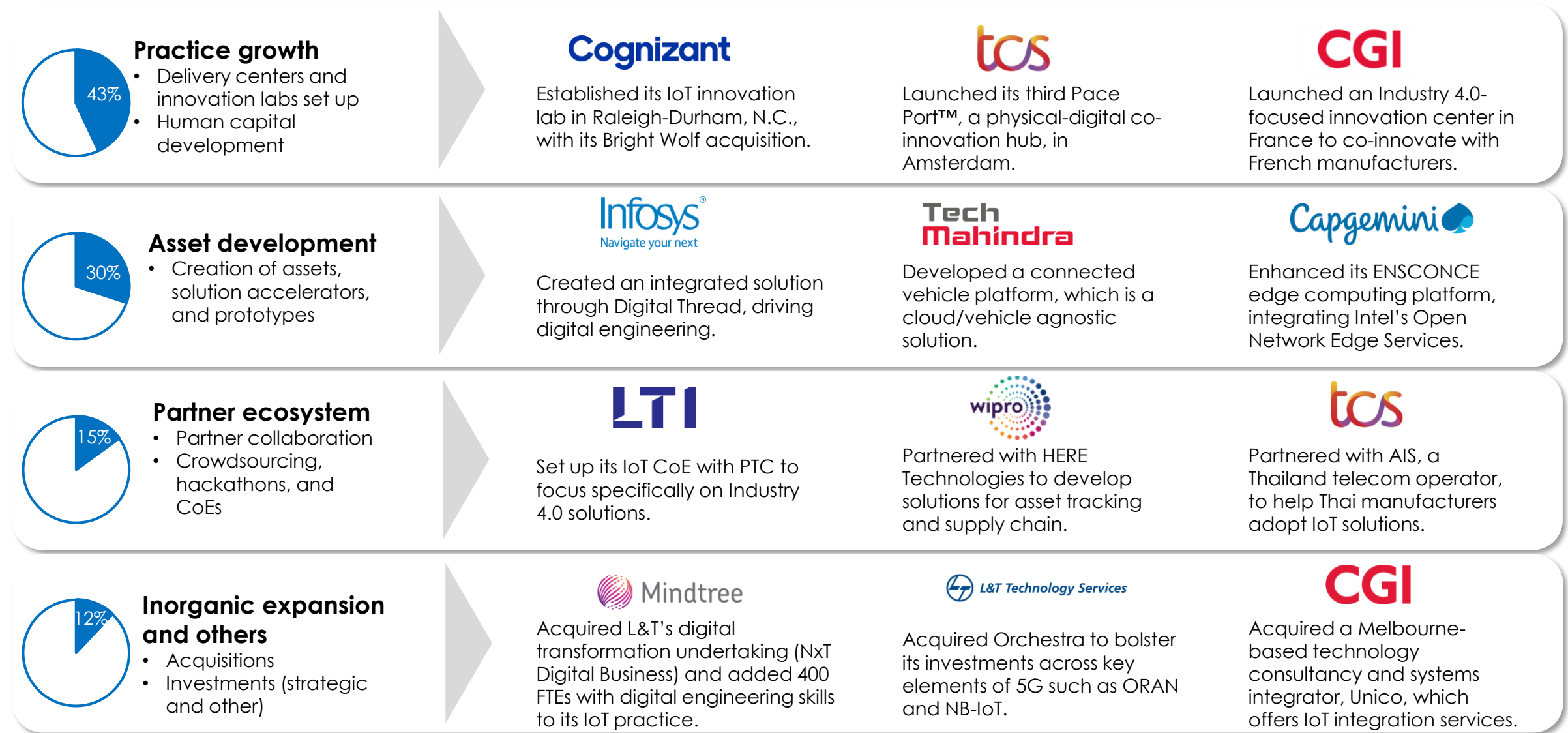
## Description

1	Data and information security	<ul style="list-style-type: none"><li>Concerns about the security of data, network, and end customer privacy</li><li>Issues including malware infiltration, phishing attacks, device misconfiguration issues, privilege escalation, and credential theft</li></ul>
2	Lack of stakeholder buy-in	<ul style="list-style-type: none"><li>Difficulty in corporate funding approval</li><li>Lack of common vision and consolidation of budgets across organizational silos to achieve synergies</li></ul>
3	Unclear business value	<ul style="list-style-type: none"><li>Identification of business cases for short-term and long-term improvement and ROI</li><li>Calculation of benefit realization throughout long IoT-based transformation programs</li></ul>
4	Identification of right technology stack	<ul style="list-style-type: none"><li>Evolution of digital technology and introduction of cloud, edge, and 4G/5G is changing the connectivity/network paradigm</li><li>IT architecture requires the right technology stack for future-proofing</li></ul>
5	Complexity of existing system	<ul style="list-style-type: none"><li>Integration of data from multiple sources and existing legacy tools/platforms</li><li>Necessary scale, data management @edge, and virtual/cloud deployment capabilities are not available in legacy data infrastructures</li></ul>
6	Interoperability between IoT systems	<ul style="list-style-type: none"><li>Interoperability between different IoT systems with various machine configurations and functionalities, numerous vendors, OEMs, and service providers is difficult to achieve</li></ul>

# Providers make significant investments to support enterprises in their IoT journey

% of planned investments in next 12 months:

Key investments undertaken by service providers in the last 12–18 months:



\*Indicative list of examples

Source: Avasant IoT Services RadarView Survey, October-December 2023

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