IoT: A World of Connected Possibilities

As enterprises look to 'build-back-better' in a post-pandemic world, interest is surging for IoT solutions to drive operational efficiencies, boost performance and support sustainability.

Here, we explore how partners can step beyond the hype, monetise this fast-maturing sector and capture the new opportunities that lie ahead.

aruba
a Hewlett Packard Enterprise company

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IoT is a massive growth area for partners

The COVID-19 pandemic has forced organisations across the sector spectrum to rethink how they work and operate – encouraging many to push forward with digital transformation plans that promise more efficient, increasingly intelligent and often greener workspaces.

For many, this includes using IoT sensors to collect a variety of real-time data – including audio, temperature, video, motion & pressure etc – to monitor important assets and processes, automate operations, and make more informed decisions about what's really happening in offices, on productions lines and in the field. Using the data streams that are generated will feed analytics and AI systems and uncover previously hidden insights, patterns of use or behaviours.

Now highly motivated to 'build-back-better' – and smarter – public and private organisations are getting ready to invest in innovative IoT solutions that will generate true value.

All of which creates an unprecedented opportunity to extend your engagement with customers and help them leverage the 'Internet of Things'. So they can future-proof their business and face the new realities of digital competition head on – quickly, and with minimal

In this guide we explore the opportunities on offer, take you through the ways in which we can help you establish an IoT practice, and examine how Aruba's open IoT solutions make it easier for your customers to unleash innovation and take advantage of insights at the network edge.

IoT demand grows as business benefits increase

Organisations want to utilise 24/7 insights from across their operations to identify and remedy pinch-points, optimise operations, slash costs, and make better, more informed data-driven decisions. And not just in manufacturing.

While IoT initially found its niche in industrial operations, the opportunities are becoming ever more widespread as the technologies, applications and understanding mature. And, as ever in IT, it all begins with the network.

Today's wired and wireless networks are evolving to connect and carry critical IoT data back from the edge for a vast range of use cases – from earthbound smart meters in the utilities sector to the on-the-move data needed to drive the future of the connected and autonomous automotive sectors.

With the exception of these more advanced industries sectors, the potential of existing networks to deliver a new breed of 'everyday' IoT use cases isn't always well understood. Healthcare, education, local government and private sector organisations will need help understanding and defining the opportunity, and in building out and scaling the networks and IoT ecosystems to support the data collection, analysis, and smart applications at the edge.

Partners with the capabilities to bring that ecosystem together – the devices, data, business goals, people, and the processes – will be in a powerful competitive position in this fast emerging market, and able to demonstrate very clear differentiation.

For Ingram Micro and Aruba partners, IoT represents a major opportunity to help customers orchestrate their IoT journey and make their networked connections more relevant and valuable than ever before.

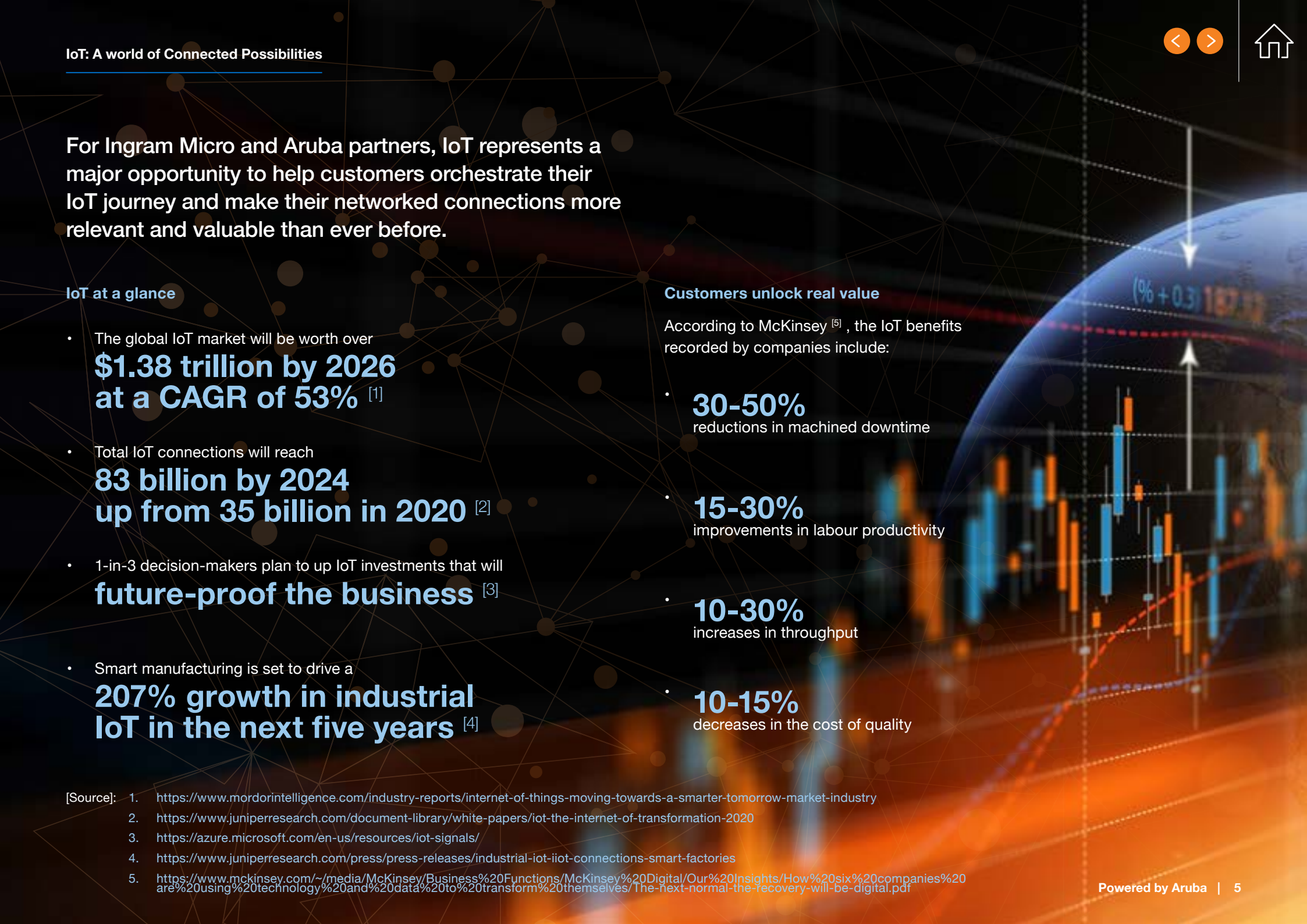
IoT at a glance

- The global IoT market will be worth over **$1.38 trillion by 2026 at a CAGR of 53%** [1]
- Total IoT connections will reach **83 billion by 2024 up from 35 billion in 2020** [2]
- 1-in-3 decision-makers plan to up IoT investments that will **future-proof the business** [3]
- Smart manufacturing is set to drive a **207% growth in industrial IoT in the next five years** [4]

Customers unlock real value

According to McKinsey [5] , the IoT benefits recorded by companies include:

- **30-50%** reductions in machined downtime
- **15-30%** improvements in labour productivity
- **10-30%** increases in throughput
- **10-15%** decreases in the cost of quality



[Source]:
1. https://www.mordorintelligence.com/industry-reports/internet-of-things-moving-towards-a-smarter-tomorrow-market-industry
2. https://www.juniperresearch.com/document-library/white-papers/iot-the-internet-of-transformation-2020
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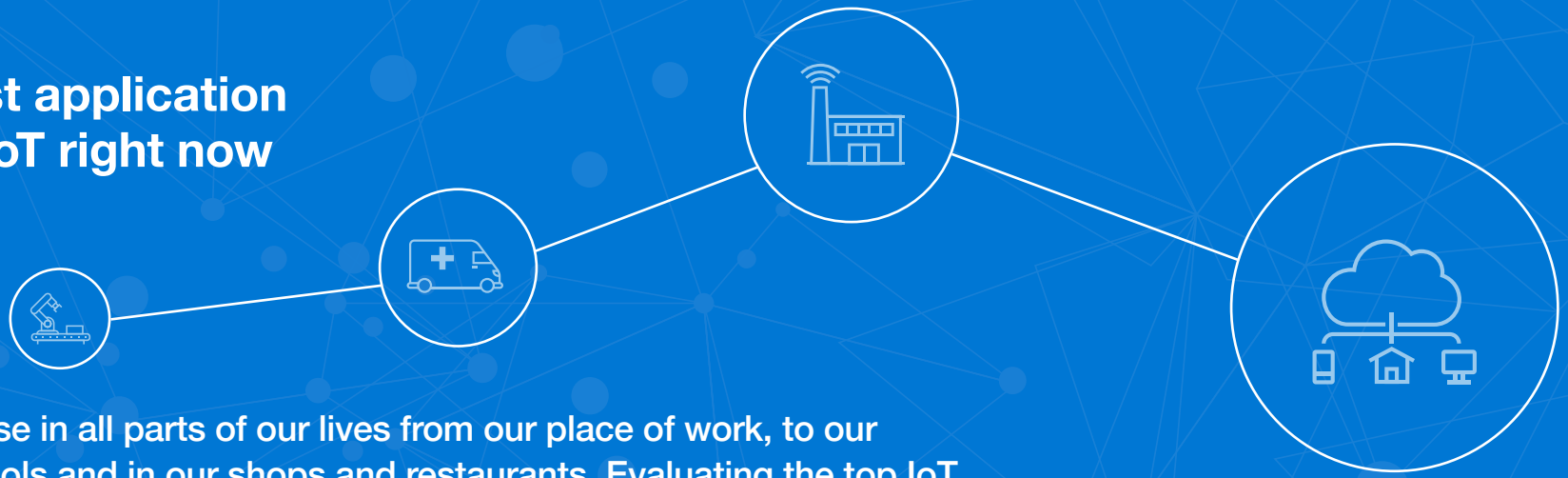
The hottest application areas for IoT right now



IOT is on the rise in all parts of our lives from our place of work, to our children's schools and in our shops and restaurants. Evaluating the top IoT projects from 2020 provides an insight into the top application areas that are accelerating adoption today:

#1 Buildings

Organisations are investing in smart building control solutions that increase productivity and efficiency while reducing operational costs through complete building life cycle management. In other words, they're initiating smart buildings that can interact, learn, and adapt, optimising usage at every level to enhance the experience of workers and visitors, while cutting energy consumption and costs. That includes using integrated location services to keep employees safer in the post-COVID world of work.

#2 Healthcare

Digital health solutions that relate to COVID-19 are surging as demand for IoT health applications like telehealth, digital diagnostics, remote monitoring, and robot assistance grows. Indications are these solutions are here to stay – even after the current crisis - as hospitals and clinics pursue medical device monitoring, health team coordination, patient monitoring, elderly care, pain medication management and assisted living use cases.

#3 Utilities

With worldwide energy consumption expected to grow by 40% over the next 25 years, the need for smarter energy solutions has reached an all-time high. That's prompting energy companies to serve customers with greater agility and efficiency, using IoT solutions to monitor and communicate grid data, enhance energy distribution, undertake predictive maintenance and forecast demand models.

#4 Manufacturing

In 2020, manufacturing snatched the top spot from Smart Cities as industrial operators found practical ways to apply IoT to enable better collaboration, faster problem solving and increased productivity. Wearables, AR on the shop floor, remote PLC control and automated quality control systems were the headline projects used to reduce operational downtime and generate cost savings.

4 ways organisations are using IoT solutions to:

#1 Remote monitoring

By tracking the location, performance, condition, or environmental factors that impact almost any kind of asset – including machinery, vehicles and even people – organisations are:

- improving how they utilise resources
- boosting employee safety and asset security
- streamlining supply chains and production lines
- routing freight/vehicles more efficiently to cut fuel costs/increase deliveries

#2 Predictive maintenance

Utilising machine learning software that analyses actions, organisations are moving beyond reactive scheduled maintenance models to intervene before issues impact production and:

- reduce operational failures/ slowdowns
- predict what spare parts to keep in inventory
- undertake just-in-time maintenance that prevents equipment failures

#3 Facilities management

Using IoT sensors to track and monitor multiple operations and gain a deeper understanding of how spaces are being used in real-time, organisations are able to:

- save money by automating lighting and optimising heating/cooling cycles
- optimise the working environment for employees/monitor their wellbeing and productivity
- make evidence-based decisions about space usage/people direction

#4 Manufacturing efficiency

By connecting warehousing systems, machines and goods, manufacturers are creating smart self-controlling production systems that require zero manual intervention. By digitalising processes they are:

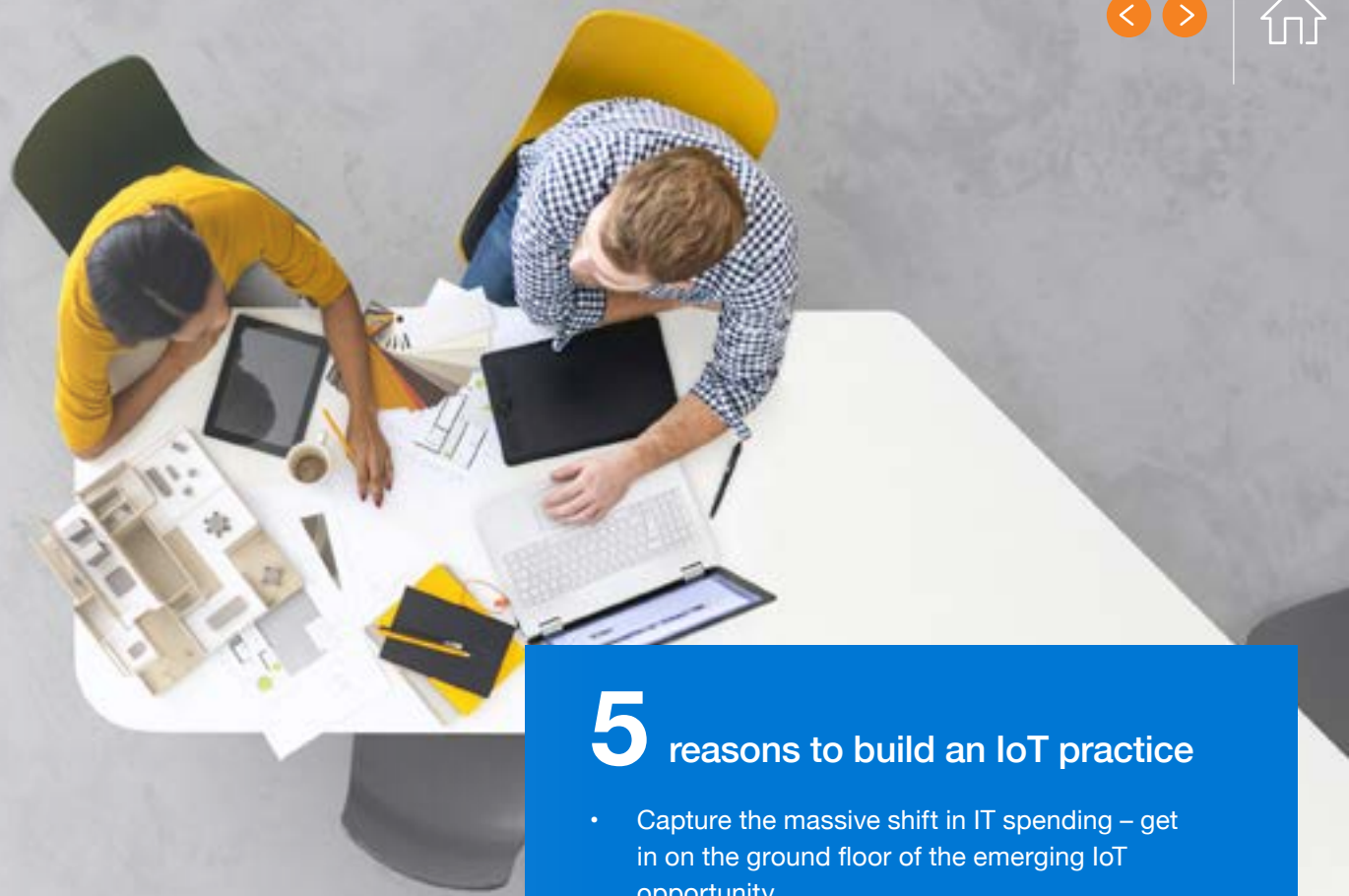
- reducing wastage and minimising quality errors
- improving materials and inventory management
- reducing unplanned downtime created by machine failures

Capturing IoT value is a team sport

Translating this IoT vision into reality is where you come in. But we recognise that creating an IoT practice, understanding the complex ecosystem and delivering the critical network connectivity can all seem like a daunting task. The good news is that Ingram Micro and Aruba are on hand to support you every step of the

From helping you identify the best strategic opportunities to target, to co-building and presenting business cases to customers, we'll work alongside your technical and sales teams, building your capabilities, assisting you in the creation of compelling solutions and guiding you through your deployments. Then, if required, we can provide white label managed services to monitor and support your customer's infrastructure.

As your confidence grows, we'll help you build on your early wins and further extend the portfolio of IoT offerings and services you provide.



5 reasons to build an IoT practice

- Capture the massive shift in IT spending – get in on the ground floor of the emerging IoT opportunity
- Initiate fresher, deeper, and more strategic conversations with customers and extend your engagement beyond the IT department to move up the business value chain
- Increase your average customer lifetime value by helping them achieve key business goals
- Pave the way to fast growing recurring revenue and potential managed service opportunities
- Leverage the IoT aspirations of customers to capture additional edge computing opportunities

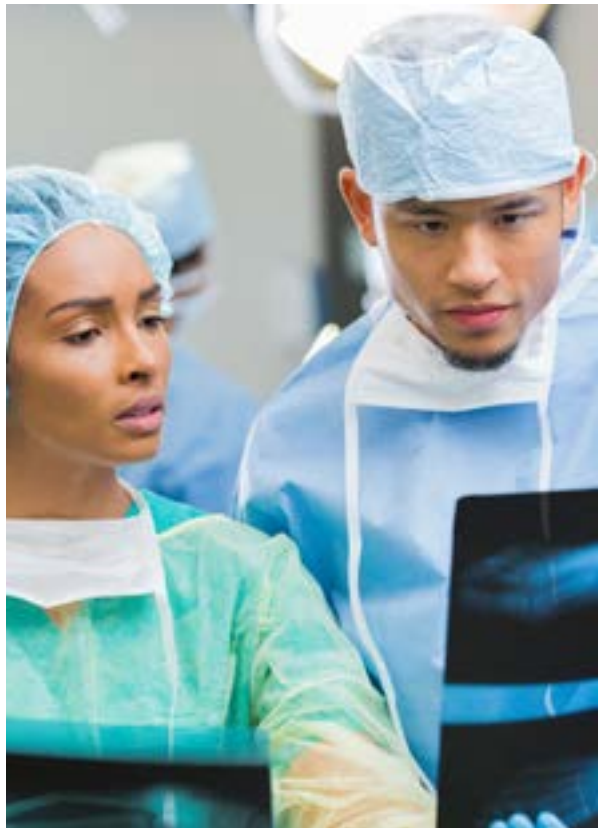
Get set for success with aruba

Your customers want to create hyper-aware networks that deliver all the real-time contextual insights and intelligence they'll need to solve problems, predict future events, improve how they manage assets, or automate and streamline operational processes.

To achieve these ambitions, however, they'll first need to overcome three key hurdles:

- find ways to connect IoT devices and sensors to their network
- resolve the integration/connectivity/interoperability issues that can hamper the seamless flow of information between devices, infrastructures, clouds, and applications
- address data, device and network security issues.

Fortunately, Aruba's next generation solutions provide everything your customers will need to extend their networks and embrace IoT solutions. Everything from simplifying the adoption of IoT devices to eliminating the security and connectivity worries that can get in the way of them moving their ambitions forward – quickly, and without undue complexity.



5 real-world use cases that can help customers make sense of IoT

Enterprise asset management – collect real-time data from IoT sensors to enhance predictive maintenance, supply chain and environmental and health and safety initiatives

Industrial automation and optimisation – use IoT networks to keep a real time record of plant metrics to automate workflows, optimise systems and enhance quality controls

Energy management – utilise IoT applications that make it easy to optimise the energy consumption of the business, enabling smart lighting, automated waste management, and water conservation/quality management and more

Patient surveillance/remote patient monitoring – reduce hospital re-admissions, undertake early diagnosis of conditions and potential complications

Layout optimisation – retailers can get insights that help them redesign the layout of stores to enhance sales, while FM managers can enhance the employee experience with the right mix of open, co-working and individual zones that foster collaboration, innovation and productivity. Meanwhile, warehouse managers can optimise where inventory and goods are located, enhance site navigation for operatives, and undertake real-time product tracking.

A connected portfolio – from the core to the edge

Aruba Edge Services Platform (ESP)

The industry's first cloud-native platform that automates, unifies, and protects the Edge, Aruba ESP makes it easy to:

- harness data that's generated at the edge
- secure and monitor IoT devices
- centrally manage WiFi, wired and SD-WAN environments
- enforce edge-to-cloud security across a decentralised, IoT-driven network infrastructure
- convert data into business outcomes

Aruba Access Points

Aruba's advanced Wi-Fi 5 and Wi-Fi 6 aps include enterprise, branch, plug and play for remote workers, outdoor and hardened versions for a wide range of use cases. Making it easy for customers to extend their existing infrastructure and streamline the deployment of connected devices and start harvesting data:

- multi-purpose hubs that are both network access on-ramps and fully-fledged IoT platforms
- eliminate the cost of gateways and IoT overlay networks
- active and passive built-in security that protects IoT devices and traffic
- open protocols and vendor agnostic technologies – connect anything, from anyone
- local connectivity, as well as WiFi/cellular/cloud
- can be used with EnOcean Alliance products to bi-directionally stream data between EnOcean-compatible devices and IoT applications

IoT Partners

Our ever-growing ecosystem of partners provides a range of easy-to-deploy location-aware, IoT solutions. Now, organisations can create smarter, more secure and sustainable workplaces, utilising their existing Aruba infrastructure. These include:

- Self-powered wireless sensor solutions for building and industrial automation, smart homes and LED lighting control
- IOT Edge Platforms allowing non-manufacturer specific connectivity of the internet of things (IoT) to the cloud or local computers
- Smart Sensors to monitor air quality, noise levels, room occupancy and smoke and chemical detection
- Smart, cloud-connected wireless charging for workplaces and venues

Getting started

#1 Build your customer value proposition

You'll need to find a compelling use case that resonates with each and every customer. For some this will be automating asset, health and safety monitoring or compliance checks. So they can reduce the associated cost burden related to such tasks and work more efficiently and accurately. For others, it may be initiating more responsive and smarter environments that help them achieve green targets – so they can cut costs, optimise their energy management and preserve precious resources. Or improving workspace usage and productivity.

At the end of the day, your role is to help customers make sense of how IoT solutions could play a role in their business – and generate them measurable value and ROI.

#2 Capture their vision

With more and more companies preparing to take the plunge where IoT is concerned, they'll need help comprehending how to bring IoT architectures to their existing network. Some may not even be aware that their existing Aruba network infrastructures mean that the potential benefits offered by IoT are already well within their grasp.

With so many choices and possibilities before them, you may need to help them strategise their IoT journey – starting with small and discrete projects that act as proof-of-concept gateways to fulfilling bigger future ambitions. Like automation, AI, data analytics and digital twins.

#3 Eliminate cost & complexity friction points

While many IT and business leaders understand that IoT could help slash operational costs and generate significant efficiency and productivity gains, many will be concerned about the cost and complexity involved in implementing everything from sensors to network monitoring and security – and any associated IoT applications involved.

Because you're working with Aruba-powered solutions, you'll be able to demonstrate how easy it is to initiate an open and secure IoT environment that spans their entire network – including the Edge – that makes it easy to deploy and manage IoT products and integrate and orchestrate IoT services.

So your customers can unlock new ways of working and business models with ease.

If you'd like to discover more about how to build out your IoT practice, get in touch with our dedicated team to find out what's possible.

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