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US Mobile World Congress is a showcase for new things

The inaugural Mobile World Congress Las Vegas event takes place from the end of this month, and it is set to lay a roadmap for the issues and opportunities the mobile industry will meet on its continuing digital journey, writes Tony Savvas

Hosted jointly by the **GSMA** and US **CTIA** (the Cellular Telecommunications Industry Association), the event is the North America edition of the MWC Series. It was previously located in Los Angeles before this year's Las Vegas switch.

Between now and 2025, a staggering US\$5 trillion will be contributed to the global economy by mobile technologies and services, says the GSMA, with one billion 5G connections forecast by the end of 2022 alone. The show will study and track this growth.

MWC Las Vegas will take place at the Las Vegas Convention Center's (LVCC) new West Hall, from 28-30 September 2022. CTIA will host its Everything Policy track, bringing policymakers together with key wireless industry stakeholders to discuss trends and developments in government and public policy.

New venue

MWC Las Vegas's West Hall location opened in 2021 and features 600,000 square feet of exhibition space. Over half the exhibition space is column-free, and at 328,000 square feet, it is the largest such space in North America. The West Hall's entrance lobby and atrium feature a 10,000-square-foot digital screen developed by **Samsung**.

The West Hall is also served and connected by an innovative underground transportation system, the Las Vegas Convention Center Loop. Designed by Elon Musk's **The Boring Company**, the system transports convention attendees throughout the 200-acre campus in under two minutes in **Tesla** vehicles, free of charge. In addition, the Las Vegas Monorail is an elevated, all-electric train system that provides direct access to various hotels/resorts in Las Vegas. ▶

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Manon Brouillette
Verizon



Jeremy Legg
AT&T



Meredith Attwell
CTIA

Keynotes

As the recently appointed executive vice president and CEO of the **Verizon** Consumer Group, Manon Brouillette will make her debut public keynote at MWC Las Vegas. There will also be a joint keynote from AT&T chief marketing and growth officer Kellyn Smith Kenny and **AT&T** chief technology officer Jeremy Legg.

Among others, there will be additional keynotes from **Boingo Wireless'** chief executive officer Mike Finley, CTIA president and CEO Meredith Attwell Baker, and **Red Hat** president and CEO Paul Cormier.

"MWC is the industry's long-standing destination event to convene, get deals done and exhibit ground-breaking products," says GSMA CEO John Hoffman. "At MWC Las Vegas we will bring together the digital mobile ecosystem in a new light at the Las Vegas Convention Center's prestigious state-of-the-art West Hall."

Companies that are sponsoring, exhibiting and participating at the event include Verizon, **T-Mobile** for Business, **ServiceNow**, **Amdocs**, **Celona**, **Cisco**, **Dell Technologies**, **Hewlett Packard Enterprise**, **Kigen**, **KORE**, **Kyndryl**, **Movandi**, **NoviFlow**, **Palo Alto Networks**, **Red Hat**, **Syniverse** and **Teal Communications**, among others.

Show themes

Under the umbrella of Connectivity Unleashed, MWC Las Vegas will provide a platform to show how innovative solutions from the mobile and digital ecosystems are "truly transforming the digital world", says GSMA.

Attendees will have the opportunity to dig into the

themes of 5G Connect, the Internet of Everything, CloudNet and Tech Horizon, across keynote stages, networking receptions, exhibition halls, an extensive conference and partner programme, and demos.

As for 5G Connect, Alizeh Abbas, conference content manager at the GSMA, says: "There will be one billion 5G connections this year and the growth is not only significant for the telco industry, but for all industries. We will be looking at 5G Advanced, 5G private networks, rural connectivity, green issues and gaming."

The Internet of Everything group of events will look at how IoT also cuts across different industries. "This is not just about the 'things'," says Abbas, "this is about how they connect with each other and how they speak with each other intelligently, and how we merge the physical and virtual worlds together. Among other issues, we will be considering digital twins, smart cities and security."

The Tech Horizon conference segment will be considering what new technologies and solutions, not just those in mobile, organisations can embrace to tackle the world's challenges and problems. The future of technology in manufacturing, health, financial services, gaming and entertainment, among other areas, will be considered.

As for CloudNet, the conference will consider the projection that the telco cloud is set to become a US\$100 billion market by 2030, according to the GSMA. It will look at how telcos can make use of their existing relationships with cloud providers to become the new digital service providers at the edge, says the GSMA. ▶

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Paul Cormier
Red Hat

Las Vegas summits

In addition, GSMA summits include the eSIM Summit, held on Wednesday 28 September. According to GSMA Intelligence’s “eSIM: State of the consumer market and the road ahead” report, by 2025, 2.4 billion smartphone connections will use eSIM globally. The North America eSIM Market will see growth of about 15% during the forecast period (2022-2028).

eSIM has become more important than ever because of more devices being connected every day in every vertical market, and the requirement to manage devices remotely is increasingly growing too. Furthermore, the adoption of IoT devices in every market is increasing, leading to growing eSIM development to match different use cases.

This summit will focus on these trends and will provide the opportunity to get detailed information about the factors influencing market demand, growth, challenges and opportunities.

Matt Hatton, founding partner at analyst house **Transforma Insights**, says: “eSIM is a digital transformation process that mobile network operators (MNOs) have to navigate. As with other digital transformation exercises, the challenge is not in introducing a single new technology. It is in understanding the impact that the technology will have on the wider operations of the organisation.”

“While the technological hurdles are significant, adopters must equally give ample consideration to the commercial implications of deployment, challenges of integration, and how to make the appropriate changes within their organisations,” he says. “It is as hard to change organisational working practices, processes and business models as it is to adopt new technologies. And so it is with eSIM.”

Open RAN opportunity

The Open RAN Roundtable will take place on the morning of Thursday 29 September.

The mobile infrastructure supply chain needs innovation and growth to meet the increasing demands of our changing digital society. Open RAN is emerging as a critical enabler to increase supplier choice, agility and flexibility to meet new use cases.

Open RAN is an opportunity, not a threat, says the GSMA, as it enables mobile operators to use equipment from multiple vendors for differing use cases and still ensure interoperability. “An open environment expands the ecosystem, and with more vendors providing the building blocks, there is more innovation, greater service flexibility and there are more options for operators to meet the demands of the 5G era,” the GSMA says.

In the roundtable, attendees will discuss the deployment maturity of Open RAN solutions, the momentum Open RAN has created, its challenges, the opportunities that can be commercialised, and the scale Open RAN may well achieve by 2025.

On the same day, later in the afternoon, the Open RAN Summit will be an opportunity to hear about the latest Open RAN specifications, software developments, industry adoption and about successful network implementations in the US and beyond.

Also on 29 September, the 5G mmWave Summit will take place. Attendees will hear how 5G mmWave is unlocking the full potential of 5G and learn about deployment best practice from some of the industry’s leading experts.

Industry issues

Shahar Yaacobi, head of strategy and growth at **Amdocs IoT**, says the subject of eSIMs, will definitely be a “lively issue” at the event. He says: “The recent launch of the iPhone 14 is yet another proof point that the embedded SIM is here to stay. Since Apple started incorporating the technology into its smartphones several years ago, followed by Google, Samsung and others, for owners of these phones, changing providers meant simply downloading a virtual SIM, no matter where you are – just like any other app. To date, eSIM has been adopted by all the leading device manufacturers and is in use in smartwatches, smartphones, tablets, laptops and many other consumer and enterprise IoT devices. In the long-term, the plastic SIM will no longer be available.”

As he points out though, the ability to use an eSIM depends on both the device and the network provider supporting it. “While device OEMs widely adopted eSIMs, telcos were slow to respond and prepare for the digital transformation of the SIM card,” Yaacobi says.

Transforma Insights’ Hatton says: “The old plastic SIM will probably be consigned to the dustbin of technology history some time in the next decade. The eSIM is the future, not least because it will end up being cheaper and more customer friendly. Every MNO will need to change to reflect that.”

He says billing and IT systems, customer care, customer lifecycle management, inter-MNO relationships, product offerings and user experience will all need to adapt to the “new reality”. These are significant changes that MNOs need to make in a relatively short timeframe. They will need partners, and they will ideally use a proven and scalable cloud-based solution to deliver all of the necessary complex interwoven elements of an effective eSIM strategy, adds Hatton. ▶



Romil Bahl
KORE



Joe Peterson
Ikotek



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Romil Bahl, the president and CEO of KORE is looking forward to the show. “MWC Las Vegas is a great forum to reach a diverse audience of forward-thinking individuals from a variety of industries,” he says. “We have prioritised our investment in the event and expect to see engagement and growth from it.”

KORE says it will be introducing several new industry collaborations in Las Vegas, as well as sharing details on new innovations. One of its demonstrations at the show will focus on the new KORE Connected Hub, as the next key release within its Connected Health Telemetry Solution. Organisations face myriad complexities in secure data transmission between patient and provider when delivering health solutions like remote patient monitoring, medical alarms and personal emergency response systems, and medical equipment monitoring.

Bahl says: “Most connected health providers are forced to develop their own telemetry solution, when in fact, their real expertise is developing the analytics, workflow, care delivery optimisation and use of the data to improve patient care and outcomes. Our Connected Health Telemetry Solution helps these solution providers accelerate

the time-to-market and adoption of large-scale connected health initiatives.”

Joe Peterson, the CEO of Ikotek, the IoT original design manufacturer (ODM), says: “Organisations looking to bring devices to market face a range of challenges, including the cost of design, development and manufacturing, as well as the complexity of global certification, all of which can delay IoT projects. At the show, Ikotek will be discussing with its current and future customers how working with a specialist IoT ODM can help eliminate these risks, reduce costs and bring IoT devices to market faster.”

He adds: “Attending is a great opportunity to introduce Ikotek as a trusted, specialised, US-headquartered global ODM provider for IoT.”

Whether it’s learning more about the evolution of IoT networks, considering the effects of the global 5G roll-out, or how mobile networks are becoming more scalable and intelligent, there’s plenty for everyone who attends the show.

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Many technology complexities lie under the surface of the IoT iceberg

The Internet of Things (IoT) at a high level is relatively simple – you have sensors in IoT devices that take readings and communicate that data through the internet and into the cloud, to another device, or to some type of analytics user interface. Essentially, data is collected and can then be interpreted into actionable insights. If you have a piece of equipment on the production line in a manufacturing plant with a sensor-based IoT device attached. This device is monitoring the health of that machine to make sure that the needs of the machine are met before damage or downtime occurs. Unplanned downtime is one of the biggest cost drivers in industrial manufacturing posing a US\$50 billion annual threat to manufacturers

These industrial IoT (IIoT) devices are a critical factor in a successful production run, so it stands to reason that manufacturers rely heavily on the ecosystem of these devices to work. It is increasingly likely that modern, cost-efficient IoT devices are replacing older technologies to measure all types of information within an industrial plant, such as temperature to avoid overheating and damage to equipment and products, pressure in tanks that hold liquids, and so forth.

This is what **KORE** refers to as the visible part of the iceberg when it comes to IoT. The end user, which in this example is the manufacturer, is overseeing, managing and benefitting from their IoT-enabled solution represented by the part of the iceberg above the water line. But underneath the surface is so much more that supports what is seen above the surface. And this is where all the complexity comes in.

The rest of the iceberg

What is under the surface – the other 80-90% of the iceberg – are all the intricate complexities of IoT that drive an IoT ecosystem's operations and successes. It begins with the device itself. That device needs a SIM card – whether that is a traditional SIM or an embedded SIM (eSIM) – which needs to be activated on a carrier

network and the device needs to be configured to the network. This process allows devices to work out of the box when they arrive as part of a deployment. Then a gateway or router is required, which needs to be device and network compatible.

All hardware needs to be kitted and shipped in a manner that is aligned with the organisation's deployment, which if devices or hardware are coming from multiple original equipment manufacturers (OEMs) or wholesalers, can get relatively complicated rapidly. As the IoT infrastructure is built, composed of device, networks and applications, more and more touchpoints are added, and each requires a certain number of tasks and considerations so that everything works properly.

What has just described is mostly concerned with the initial deployment of an IoT solution. The management of IoT can be just as complex. Imagine that you are an OEM, and you have 1,000 IoT devices on your manufacturing floor helping you manage operations for five different product lines or devices. Each line has 200 devices helping to monitor the health of the production line, and each group has its own lifecycle, which might be anywhere between two and ten years. ▶



What happens when one group of devices reaches the end of a lifecycle? Suddenly, the carousel of device management and logistics never stops turning, and it is a constant effort. You must deploy new devices using the same process of ordering, activating, configuring, kitting and shipping as before. It starts to get complicated just running the logistics of keeping the right number of devices online and working.

We could further complicate this scenario by including any regulatory compliance to which this OEM must adhere when introducing devices into operations or data collection and storage. This is certainly true when you consider IoT in connected health deployments, which have regulatory compliance intricately weaved into the many aspects of patient data collection and transmission. Or, if you want to deploy solutions globally, devices, network communications, data storage and so on fall under different regulations and compliance as your IoT deployment of origin. And of course, different connectivity protocols – or even if the deployment is entirely in LTE – different MNOs are required for resilient, high-quality local connectivity.

All of this demonstrates how IoT solutions can get very complicated, and that can hinder success because, as I previously stated, the end user is

interested in the tip of the iceberg and might not have the time, resources, or finances to manage the under-the-surface details that support success. Further, one might argue that they should not need to worry about these details – their concern should be driving their desired outcomes, not putting the Lego pieces together – and finding a partner that can do many of these pieces for an enterprise end user is increasingly a critical success factor in IoT.

Tackling complexities below the surface

Beecham Research famously published a study a few years ago, ‘Why IoT Projects Fail’. In the survey, only 26% of those surveyed reported being successful with their IoT initiatives. That amounts to a pretty high failure rate. While there are many factors at play, including some objectivity on what might be considered a success, a lot of the struggles and issues listed in the study fall under the umbrella of IoT managed services.

The whole picture of IoT is made up of those smaller, yet critical pieces, such as lifecycle management, logistics, configuration, and so forth. That is what drives success and what drives return on investment. But it can be incredibly difficult to bring all those pieces of the puzzle under a single roof while trying to prove the value of the IoT solution. It gets to be time-consuming, expensive and hard to justify. ▶

All hardware needs to be kitted and shipped in a manner that is aligned with the organisation's deployment, which if devices or hardware are coming from multiple OEMs or wholesalers, this can get relatively complicated rapidly



One growing segment in the medical industry is using IoT to digitise healthcare and treatment delivery

One growing segment in the medical industry is using IoT to digitise healthcare and treatment delivery. On one side of this emerging segment called connected health is remote patient monitoring (RPM), which utilises patient-controlled devices that collect data that is then sent to a medical provider to monitor. For example, if a patient has chronic cardiac disease, it could be important for a provider to monitor the blood pressure of that patient and watch for trends proactively instead of it becoming a crisis that leads to patient hospitalisation. The patient takes their own blood pressure and that data is sent directly to an interface that the provider can access. This can lead to improved outcomes for the patient, since they are proactively managing a chronic disease, and it also can lead to growth opportunities for providers without the overhead of expanding a physical location.

On the other side of the segment are decentralised clinical trials (DCTs). When creating new treatments, the traditional in-clinic approach to clinical trials can have challenges, including inaccurate data collection, patient participation throughout the trial, as well as recruiting patients that are able to make frequent trips to the clinic for data collection. These hurdles can slow time to market and be costly to the contract research organisations (CROs) and pharmaceutical companies running the trials. By using the same type of patient-driven medical devices to collect patient data, as well as digital diaries, data collection and discovery can run much smoother. The benefits of connected health solutions can be clear, but the path to launching these solutions can be difficult. The logistical and management side of an IoT infrastructure is not something to overlook when building out solutions. Effective and efficient configuration, kitting, shipping and returns management are crucial in connected health solutions. Whether it's equipping hospitals, medical practices, clinics or direct to patient, getting solutions deployed and running out-of-the-box is incredibly important. Mobile device management (MDM) is also a significant task and working through a fragmented ecosystem can be an overwhelming burden.

Hardware procurement, logistics and lifecycle management are all another significant slice of the pie that require a lot of attention and detail. Many healthcare solution providers do not have the internal resources to manage the wide and complex hardware and product lifecycle required in connected health solutions.

Finally, regulatory compliance is, of course, vital to any healthcare ecosystem. CROs and pharmaceutical sponsors can go two routes with the hardware procurement and kitting of devices. The first path is using light-touch managed services by having a third-party source, test and ship the individual device and hardware pieces.



Then the CRO can assemble the entire hardware kit in-house through their own regulatory compliance.

The second path is to use a full managed services provider that includes MDM, deployment and logistics, and project management all through FDA- and ISO-certified facilities. The opportunity to enter the market in DCTs is expansive, but implementation is complex, and requires the careful orchestration with CROs and experienced IoT managed service providers.

KORE is an expert provider of managed services for IoT both for general applications, as well as connected health applications. For deployments that require light-touch managed services, the KORE team in Westbury, New York, allows organisations to quickly receive devices and hardware while supporting regulatory compliance.

The KORE Westbury office has a track record of success including providing services for:

A US-based a medical company that leads the way in digital transformation of life sciences, was in urgent need of 5,000 global iPhone devices with established connectivity shipped to Europe and the USA within a two-to-three-week timeframe. With a robust ecosystem of partners to acquire hardware, KORE was able to provide the company with the supplies it needed by linking KORE's global vendors to secure the **Apple** units ▶



required and delivered the products in the timeframe needed by the customer.

A leading provider that issues technology solutions and clinical research services, needed to bring connected devices and SIMs to South America – a region that had previously not been shipped to due to strict importation rules. KORE quickly collaborated to resolve the importation matter. KORE served as a one-stop-shop for the company’s global sourcing in the connectivity and device management space.

Another example is a government programme that provides funding to schools and libraries across the US for those in need of remote learning protocols due to COVID 19. In 2021, **T-Mobile** contributed a large portion of donations to fund these services, as well as enabled primary agents, such as KORE BMP and its registered partners, like **OmniPro** to deliver connected laptops, tablets and equipment to schools and libraries for students. For full-scale managed services, KORE has a state-of-the-art facility in Pittsford, New York, that can manage comprehensive staging, kitting and logistics, both forward and reverse, under one roof all while meeting regulatory compliance.

KORE has also been instrumental in helping solutions delivery for a top-three global supplier of cardiac rhythm management devices. This multinational company creates solutions where patient transmitted data is uploaded to a proprietary,

safe, and secure web-based data management system that is protected with industry standard safety protocols. The ability to do this is a difficult feat, and the company needed help, so it turned to KORE.

KORE provides the company with a comprehensive service model that includes hardware selection and sourcing, wireless connectivity, and ongoing device management and support. With this customer relationship, the company can essentially place an order with KORE to roll out more solutions. KORE takes care of the complexities in hardware procurement, connectivity and management. This, in a way, makes KORE a valuable extension of the company, almost as an independent IoT department.

Success in IoT

Harking back to the statistic mentioned before about the success rates for IoT and how slim the chances appear to be for organisations to enjoy the optimisation and efficiency benefits of IoT. That number is going to grow larger and larger because of IoT enablement solutions that overcome those complexities.

The benefits of IoT – whether that’s in an industrial or clinical setting or in fleet, automotive, and transportation, assets, utilities, and on – are too great to be ignored because it seems too challenging and IoT managed services are designed to help. ■

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IoT innovators turn to ODMs to accelerate design, manufacture and certification

As IoT businesses look to bring products to market, they need to accelerate the design to deployment process, assure compliance and optimise costs. These activities rely on specialised people, dedicated facilities and deep knowledge of global markets. For most, whether they're established corporations looking to digitise their business model using IoT or a start-up looking to bring innovation to the market, assembling all these skills, capabilities and capacity is out of reach. The alternative is to shift tasks to an original design manufacturer (ODM).

These typically take away the pain of a discrete process or have deep understanding of a single geographic marketplace but what's really needed is a global ODM that can handle multiple processes from design through manufacturing to testing, validation, certification and launch. Delivering that end-to-end, global capability is the goal of Joe Peterson, the chief executive of Ikotek, a US-headquartered IoT ODM aiming to streamline the product introduction process for IoT companies large and small.

Peterson has more than 27 years of industry experience having worked at Motorola, Siemens, Gemalto, Telit and Inseego. He most recently held the position of vice president of IoT Sales for North America at Quectel Wireless Solutions where he spun out and launched Ikotek as a US entity to serve the global ODM needs of the IoT sector as it matures into a mass market. Here, he tells IoT Now why the market needs a global IoT ODM and how Ikotek can help companies accelerate their launches, optimise costs and handle the complexities of certification ►

SPONSORED INTERVIEW



Joe Peterson
CEO, Iktek

IoT Now: Why has Iktek been established now and what are the drivers in the IoT industry that encourage enterprises to look for an ODM service provider?

Joe Peterson: Until **Iktek**, there has not really been a true US-based IoT ODM that is focused on serving the mid-market. There are number of legacy ODMs that have significant penetration and a lot of feet on the street but we have found these are not purely IoT focused and tend to pick and choose only high volume IoT projects targeting only the top two or three customers.

We can support those organisations too but we feel there's a much broader need out there for a US-based IoT ODM to serve the mid-market. Our goal is to offer an extensive ecosystem of resources and help our customers bring products to market quickly and cost-effectively. We're certainly already doing this.

IoT Now: What capabilities does Iktek have that make it stand out from the other joint design manufacturer (JDM) and electronics manufacturing services (EMS) providers?

JP: Our team is purpose-built for IoT ODM, JDM and EMS capabilities. We're registered and incorporated in the state of Delaware and we've brought in individuals with the experience of doing full system solutions. We focus on system level designs and full product level designs and we're also ensuring products are certified. We're a one-stop-shop for design, development, manufacturing and certification and all of that is done on a global basis. We cover the world with design centres and manufacturing capabilities in all regions and have IoT experts available at every step of the way.

IoT Now: Would you say that customers are driven by the need to accelerate their time-to-market, by the shortage of IoT-specific technical skills in the market, or possibly both? ▶

Until Iktek, there had not really been a true US-based IoT ODM that is focused on serving the mid-market





IoT companies are driving their core business focused on recurring revenues enabled by connectivity and their platform services and that's why we exist



JP: It's a combination of both. Time-to-market for everybody nowadays is even more critical that it has been in the past because competition is fierce. There are always new entrants coming in who want to try and take over and be a step ahead of companies that have been an incumbent for years. In some areas, the race is on for innovators to get to market first and have such a lead they can dominate the sector.

In either case, a lot of companies now don't want to bring resources in-house to build hardware. They want to focus much more on their platform and services and have somebody else on the outside do the design and development for them. That results in a tight collaboration with the likes of IkoTek so that we build the hardware to their specifications.

IoT companies are driving their core business focused on recurring revenues enabled by connectivity and their platform services and that's why we exist. Companies don't want to have hardware engineers on staff when product lifecycles are long and innovation is driven from platforms and software.

Our ability to keep a broad scale of the types of IoT devices under development means we're constantly sharpening our experiences and understanding of where things are headed. We're constantly bringing in the right resources, experts and capabilities. In the second quarter of this year alone, we added 140 new engineers and we continue to hire which means we have the ability to bring in the competency to stay ahead of where the market is going. We can therefore ensure that we get our customers to market in a quicker fashion, but also that we do so while keeping ahead of the technology shifts to support innovative customers using the latest technologies.

IoT Now: Is it fair to say that in general, there is a shortage of technical skills available on the market? Is that something that you have found as you as you build the business?

JP: I would say that skills exist but the challenge is whether you can get that many people into an organisation and whether you want to carry the burden of the cost? Most enterprises struggle to recruit at volume or afford the wage bill focused on a limited number of products or devices. ▶



For us, we can attract skilled people and combine them across our business. This means we quickly can assemble a team of experts for a specific project and support our customers' needs comprehensively for the duration of their project. We're staying ahead of the curve by building teams of engineers and experts across every step of the IoT value chain – from hardware and software engineers to platform and testing experts. That's in contrast to a lot of companies who might have to go out and constantly try to hire to make sure that that competency exists inside their organisations.

IoT Now: How important is it to offer a complete portfolio of services so a company could come to you and get everything from design through to certification and not have that headache when it comes to hardware?

JP: I think having the one-stop-shop capability is a very key component to what makes Ikotek stand out amongst the competition. A lot of companies today need to outsource because projects come and go. A lot of times, you'll see that certain companies will develop a solution and it's one that they'll keep in the market for four or five or maybe even ten or 20 years. If they're not constantly innovating for example in the hardware, they've got a bloated organisation with staff who bring little value to the business at substantial cost. Whereas, if they outsource to Ikotek, we can be that extension for them for the period of time that they need us in all of the disciplines across design, development, certification and manufacturing. They could just give all of that to Ikotek as a one-stop-shop, and then don't need to worry about right-sizing resources.

When customers come to us, they know that from top to bottom, the individuals inside our organisation, which make up a broader team, have all those competencies, and they don't have to worry about lack of expertise that they might not have in-house and constantly have to hire for.

IoT Now: Outsourcing is usually a way to be quicker, but it's typically expensive for customer organisations. How have you structured Ikotek to ensure quality and speed can be delivered, but the price is still appealing to customers?

JP: We address cost optimisation through our global structure and setup. Being a US-headquartered organisation means we've got a staff of individuals here, a management team, and also across the globe, whether it's in Europe,

Americas or Asia. We've distributed the resources accordingly and appropriately to first make sure that we manage to the local requirements of the region, but also in terms of finding competence centres that keep us cost competitive. We ensure our global presence matches the needs of our customers.

IoT Now: What are your plans for developing Ikotek's business?

JP: We continue to build our organisation and competencies across commercial and technical teams on a global basis. We're now set up in the US, Europe and Asia and we're growing out our broader organisation in each region to ensure we can support all our customers' needs across every step of the ODM process.

IoT Now: How do you see the trend towards this kind of outsourced approach to IoT? Do you think that IoT hardware development will continue to become more prevalent?

JP: We see a strong trend for IoT hardware design and manufacturing services. A lot of the design wins that we have today are from long-time, well established and very knowledgeable IoT companies. The fact that they're trusting Ikotek, to take on everything from design all the way through to manufacturing and certification, says a lot. It means Ikotek is validated by some of these longstanding IoT companies who have traditionally always owned their own hardware development. This is a clear sign that validates who we are, our business model, customer value and the plan we have in place.

We believe we're on the edge of a large volume move towards IoT ODM. It's just in its infancy right now, but IoT is a very fragmented market and that has made it difficult for a lot of players to enter the market. We know how to manage the fragments and have scale and resources to handle the huge growth of connected devices. The market is massive and is only going to continue to grow.

We've seen the scale of growth and many of the new use cases that continue to be brought to life. As the new entrants come, a lot of them have the great concepts and innovation, but not necessarily the knowledge and in-house resources to do that. Outsourcing design and development is becoming a much broader practice than it's ever been and we're in the right place at the right time to make our customers' ideas reality. ■

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