



PYMNTS.com

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IoT

Intelligence of Things Tracker™

UNPACKING SMART PACKAGING'S INSIGHTS **AND ENGAGEMENT PROMISES**

Stora Enso and EVERYTHNG on
the business benefits of smart
packaging
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The top IoT ecosystem players
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Intelligence of Things Tracker™

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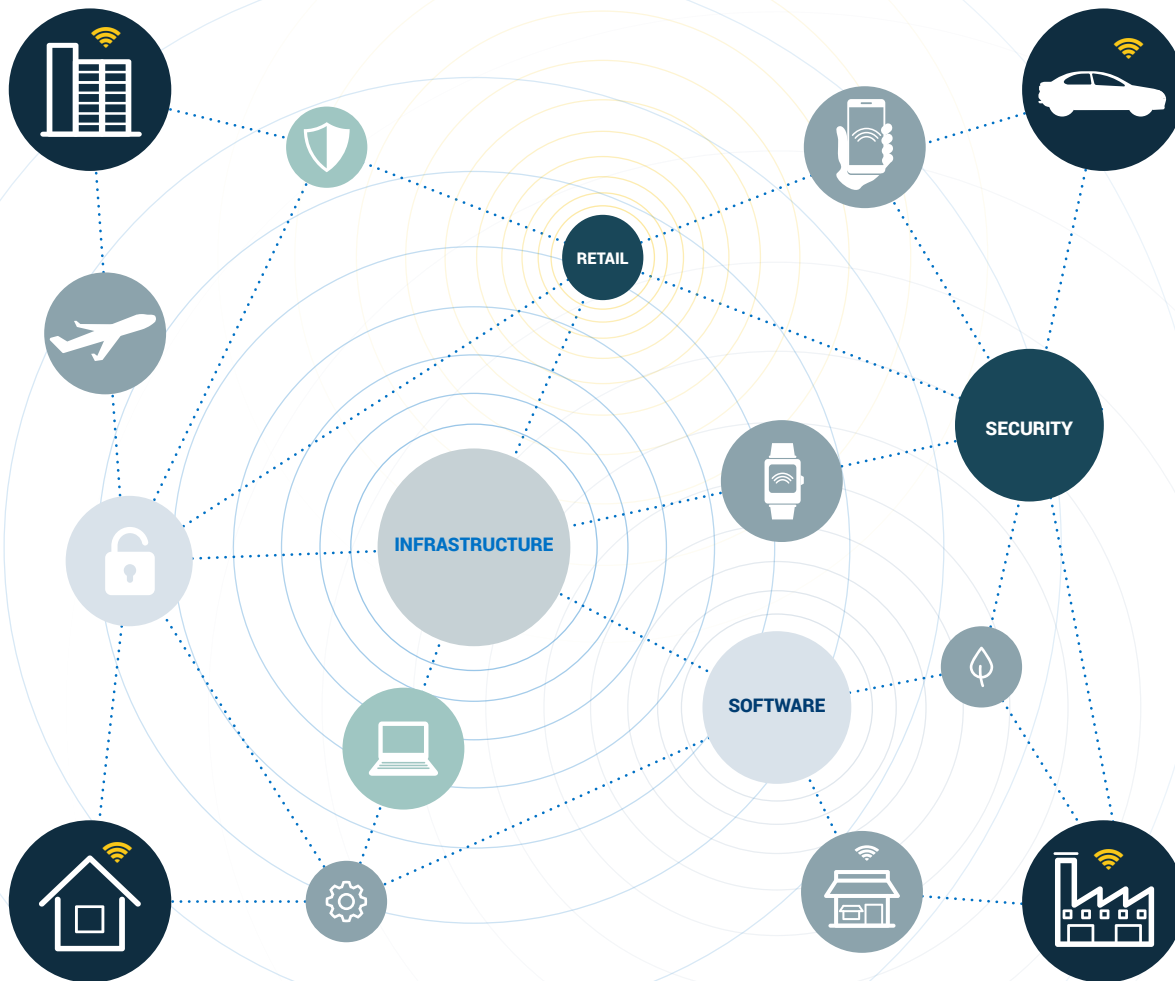
Making The World 'Smart' – One IoT Connection At A Time

WASTE MANAGEMENT

Gold Coast, Australia builds an IoT network to support smart waste management.

AUTOMOBILE

Eighty-four percent of consumers say they would not use self-driving cars due to fear of software glitches.



HOME

Researchers report risk of "skill squatting" attacks with Alexa.

WAREHOUSES

Telstra launches new solutions aimed at tracking assets across warehouse sites.

As Amazon rolls out even more [Alexa](#) products, and tech companies aim to put connected [trash bins](#) in airports and on city streets, Intelligence of Things (IoT) technology is inching further into consumers' daily lives. It has penetrated a significant share of the global market, with an [estimated](#) 52 percent of consumers around the world using such devices.

These devices are becoming more present in consumers' homes, but bad actors are using those same solutions to work their way in as well. IoT home devices are tempting targets for cybercriminals, according to a recent [report](#) from FortiGuard Labs. Consumers typically leave these devices on and connected at all times, which makes them especially useful for bad actors seeking to commandeer them with malware.

Malware isn't the only threat to home IoT. Some attacks rely on tricking devices into misinterpreting consumer demands, issues recently [presented](#) by researchers from the University of Illinois at Urbana-Champaign. They claimed that Alexa can struggle to distinguish between some homophones, which

causes the device to be tricked into activating a fraudster's skill, rather than the legitimate skill requested by the consumer.

Consumers aren't strangers to IoT device problems, with 64 percent of IoT users worldwide [reporting](#) they have experienced performance issues, and 83 percent fearing that technological malfunctions could cause them to lose control over their smart home devices.

Security concerns are dampening some consumers' appetites for IoT adoption, but companies aren't discouraged. Over the past few weeks, many have teamed up to launch more robust offerings and push for greater IoT uptake.

Around the IoT world

Infineon, a Munich-based microelectronics and semiconductor company, has [partnered](#) with Alibaba Cloud Computing to create new IoT security solutions for small and medium-sized businesses (SMBs). The two companies will work to drive greater adoption of IoT in China for smart cities and businesses.

Infineon also [partnered](#) with Chinese eCommerce company JD Group to accelerate building IoT



applications for smart homes and other uses. Under the agreement, JD will use Infineon technologies in its connected products and solutions, as well as for technical support.

Software and processor provider Arm has turned to acquisitions rather than partnerships, adding Treasure Data to its collection. With the [acquisition](#), Arm says it's now able to create a new IoT platform to support connectivity, device and data management.

Consumer packaging gets smart

Data management is also a top concern for smart packaging companies, which aim to attach digital identities to consumer packaged goods (CPGs) and help brands manage those identities in ways that can boost operations and customer engagement.

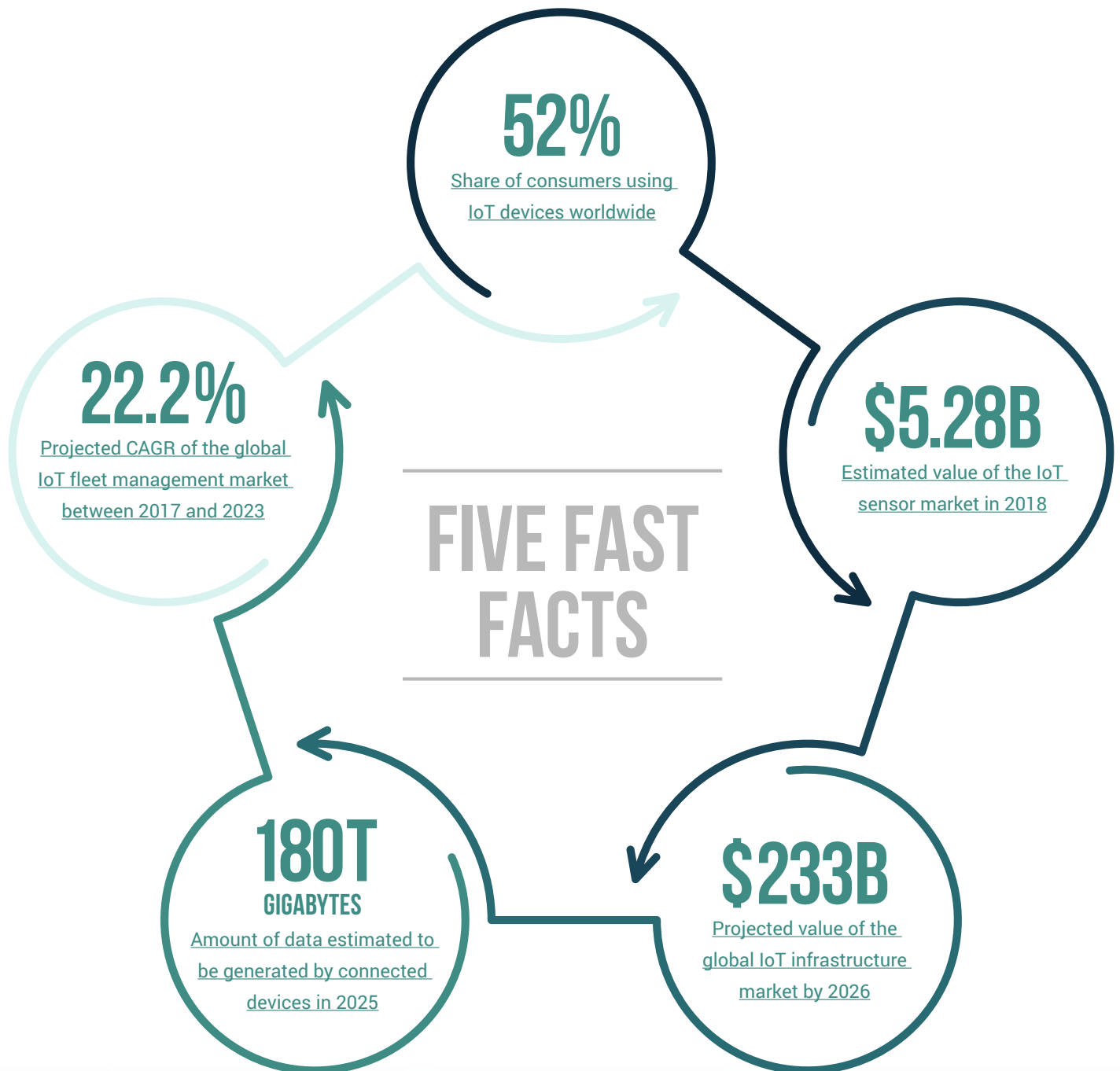
Whether consumers are purchasing products in-store or online, chances are they're going to arrive to the retail store or the customer's doorstep in packaging. That packaging can — and should — do far more than just display a company logo, point-of-sale (POS) barcode and a few facts, according to some players in the packaging and software space.

By adding radio-frequency identification (RFID) tags or scannable codes, packages can be linked to digital identities. That unlocks a variety of opportunities for brands, which can then leverage the technology to track products in the supply chain, provide rewards or extra information to consumers or even support cashierless stores.

This month's feature story (p. 7) explores the potential and practicality of smart packaging in an interview from Niall Murphy, CEO of [EVRYTHNG](#), on his company's code-based approach to giving physical products digital lives. Teemu Salmi, chief information officer at [Stora Enso](#), also discusses why, for his company, the answer was RFID.

September Tracker updates

The September Intelligence of Things Tracker™ profiles roughly 290 providers, including four new additions: ABB, Emerson Automation Solutions, Infinera and Qorvo.





FEATURE STORY

UNPACKING SMART PACKAGING'S INSIGHTS AND ENGAGEMENT PROMISES



“Many retail brand organizations that have not previously adopted this technology are reacting to competitive pressures.”

NIALL MURPHY
CEO of **EVERYTHNG**

Consumers interact with product packaging on a daily basis. Packaged goods often reach consumers' hands after traveling across oceans and being shipped between manufacturers, distributors and retailers. Faced with that kind of transit, brands don't want to be left in the dark on where their products are in their journeys or on how quickly items are selling once they get to their retail destinations. Additionally, companies are looking to use packaging to engage with consumers in new, more compelling ways.

As brands seek greater transparency and control, some IoT players are suggesting packaging do more than display product descriptions, logos and barcodes. With digital features, it can connect to cloud-based platforms, relaying supply chain and inventory information back to brands, and consumers can communicate with the brand and

product after scanning the packaging with their smartphones.

Renewable materials provider [Stora Enso](#) creates intelligent packaging using radio-frequency identification using RFID, explained chief information officer Teemu Salmi. This allows consumers to use smartphones to view products' digital identities. Meanwhile, smart products platform [EVERYTHNG](#) is using printed codes that customers can scan on their phones in order to view digital identities, according to CEO Niall Murphy.

In separate interviews, Salmi and Murphy unpacked what they see as the business benefits of smarter packaging. Regardless of the technology used, both agreed smart packaging could be a game changer.

Supply chain and inventory insights

With RFID- and code-enabled smart packaging

models, products are connected to a digital platform, enabling companies to collect data and respond to consumer interactions. For example, a company could program the platform to display product care information when customers use their smartphones to engage with the near-field communication (NFC) tag or code on the package.

Giving products digital identities also makes for easier inventory assessment, Salmi and Murphy agreed. With Stora Enso's solution, a company can receive a signal from the RFID-equipped packaging to take a quick assessment of the product's stock levels. EVRYTHNG's solution allows brands to use code-based digital identities to track in-store inventory as items are sold. Each item's code would be scanned upon purchase, with that information registered in the platform.

Real-time product data could be particularly valuable to brands that sell through third-party distributors, which are typically less timely about reporting sales volume data, Murphy said. Inventory transparency is critical to brick-and-mortar retailers hoping to compete in an increasingly omnichannel and fast-paced retail world.

"Many retail brand organizations that have not previously adopted this technology are reacting to competitive pressures, and [are] therefore moving on this now," Murphy said.

Salmi also noted that smart packaging can help companies predict when a shipment will arrive.

UNDER THE HOOD

What types of customer insights and interactions does smart packaging enable?

"For [our client] Hennessey, we know where in the world a particular bottle of champagne is supposed to be going, which retail channel it's being distributed through, where that product came from, what liquid is in the bottle and so on. When a consumer is interacting with that particular product, we can use the information we know about the provenance of the product and its distribution to inform the [digital] experience being provided to consumers [when they scan it], even. before consumers choose to identify themselves [by logging in with Facebook or registering with the brand]. And once they have identified themselves, we have the opportunity to combine what other information we may know about the consumer in the [customer relationship management] environment to enrich the experience provided."

Niall Murphy, CEO of [EVRYTHNG](#)

"As a brand owner, you get the availability to communicate with your end consumer in-store — giving rebates or product information or whatnot. All of us have smartphones these days with NFC reading capabilities. With NFC-enabled packaging, you can have a more fruitful interaction with your customer.

Another aspect we're working on is anti-tampering. If you have a high-value brand or high-value goods, we have a solution where, in the factory packing line, when you enclose your goods, you also seal it with an RFID, NFC-enabled chip. If that is broken when it lands in the hands of the end consumer, he or she can read that with a smartphone before opening the package and see that this package has been tampered with, [that] it has been opened somewhere in the chain. You can [then] guarantee the authenticity of the product inside the package."

Teemu Salmi, chief information officer at [Stora Enso](#)

Stora Enso's solution has had its strongest uptake from large, multinational companies that want better supply chain visibility.

"You have consolidated visibility into packages across the total supply chain," Salmi said. "If you have a package going from point A to point B to point C, you would know where in that chain your goods are, and when you can anticipate their arrival."

Customer interaction

Companies can also get — and provide — important information when customers scan a product's code or engage with its RFID tag. If a customer scans a code in Singapore, when the product was supposed to be sold in Japan, that alerts the company that there could be a parallel trade problem.

"Parallel trade is a very significant issue for many brands around the world," Murphy said. "They simply don't have the visibility [into] the last mile of distribution, or the last market region of distribution of their product items."

Enabling customers to use their phones to interact with a product gives them new ways to connect with brands and for brands to reach back with digital loyalty offerings, Salmi said. These might include giving customers a freebie for every fifth time they purchase and digitally engage with a product. Customers can also access digital identities to get more information on the product before



purchasing it. This could include origin data or recommendations for other related items.

Smoothing sales

Associating a customer-accessible digital identity with a physical package could reduce the labeling burden for companies. Rather than print new packaging for each local market, it could simply have consumers scan a code and be directed to market-specific, cloud-based information, Murphy said.

Both Salmi and Murphy anticipate smart packaging will be leveraged to support cashier-free stores. Murphy explained that fast-paced, smartphone-happy millennial consumers are likely to embrace in-store, mobile-based transactions through which they can scan and pay for an item by mobile app. The cashier-free movement is already heating up in Japan, Salmi noted. Faced with a dwindling

labor force, the country called for 100 billion retail products to be RFID-tagged by 2025, which supports automation. RFID and other technologies present a simpler alternative to concepts like Amazon Go, Salmi said.

Smart packaging also supports eCommerce, allowing consumers to reorder products by scanning labels on their phones.

“If I have a particular pair of jeans that I like, and I want to buy another pair, I could scan the product. and then ask to reorder another version of the same thing,” Murphy said.

RFID vs. codes

Salmi and Murphy outline similar benefits to intelligent packaging. Both noted that the proliferation of smartphones means most consumers are able to engage with products, but they see different technologies leading the way.

Stora Enso envisions RFID tags being applied to high-value products, where authentication and tracking is especially important. This technology has seen in-store implementation from brands like H&M and Decathlon, and most smartphones come with NFC reading capabilities. Additionally, the use of passive RFID means retailers do not have to provide batteries or other power sources, reducing costs for scaling, Salmi said. Many Stora Enso customers use smarter packaging for better supply chain visibility, making RFID’s ability to support automatic tracking crucial.



“The problem [with printed codes] is you cannot automate such a process,” Salmi said. “You still need some kind of manual activity to read barcodes, whereas RFID is read automatically.”

In Murphy’s view, while RFID has been a go-to solution for retail inventory management — and may continue to see use — printed codes are a cost-effective way to apply IoT capabilities to low-cost, fast-moving items. Most smartphones now come with the ability to read QR codes, making it reasonable to expect consumers to engage with products this way.

“The camera on the smartphone is how the consumer expects to interact with the physical world,” Murphy added.

Another key factor is the release of a new global standard for printed that upgrades the format to support not just scanning by POS systems but also by smartphones to access digital identities. This

standard helps normalize the use of QR and similar codes. Without this development, EVERYTHNG would have to appeal to individual brands to change their technology, creating a struggle to reach widespread implementation.

“The upgrade of world barcodes is a fundamental shift,” Murphy said. “It was the case that adding digital experiences to a product was a value-add, and now it’ll become [normal for] that information [to be]

available. [Otherwise] you’d have to be convincing people to put new types of technology, new types of labeling [and] new types of production processes [into use]. That would be an incredible inhibitor.”

As both RFID tags and GS1 Digital Link codes spread, manufacturers, retailers and consumers may find the world of consumer packaging changing. It seems once-plain packages could become a whole lot more interactive and rich with features.





Asset tracking and management

ORBCOMM launches new asset management service

Companies like ORBCOMM are pushing to use IoT to track assets and to net tracking-based insights. The U.S.-based IoT and machine-to-machine (M2M) solutions provider [announced](#) it had launched a new service to help companies better understand their assets and operations. The cloud-based analytics service provides real-time information on assets with a greater level of detailed and predictive capability than previous telematics offerings.

According to ORBCOMM, clients will be able to use the information to identify patterns, predict trends in their operations and adjust accordingly. The solution is currently focused on the heavy equipment,

transport and logistics supply chain sectors.

Telstra announces asset tracking solutions

Australia's Telstra is also getting involved in the space. The telecommunications and information services provider recently [announced](#) a suite of asset-tracking solutions, offered via a subscription model and available in October. Among the new offerings is "Track and Monitor," which is designed to help businesses with asset tracking and management.

The solution will provide asset tracking across warehouses, retail sites and during transit. It can fit inside a shipping container's corrugation, and its solar-powered battery can last four months between charges. Gerhard Loots, Telstra's head of IoT and

M2M, said the device has been tested across the retail, agriculture, construction, utilities, transport, health, mining and government industries.

Telstra has also debuted solutions to help consumers tag property and allow them to locate it in an app, should it become lost. The tags can be used on everything from keys and bags to pets. Another solution was designed to locate connected devices, like phones and tablets, across operating systems.

Adoption in Asia and Africa

Infineon, Alibaba collaborate in China

Alibaba Cloud Computing and Infineon are setting their sights on SMBs. Under the terms of a newly signed [agreement](#), the two companies will [expand](#) the adoption of IoT in China, and increase usage of Alibaba's IoT cloud operating system while leveraging Infineon's semiconductor technologies and IoT experience. They also plan to collaborate on low-cost IoT security solutions that may be appealing to SMBs, and are looking to collaborate on eCommerce.

David Poon, Infineon's vice president of power management and multimarket, said the collaboration advances the company's goal of growing its presence in China. The partnership comes about a month after Alibaba and Siemens signed a similar agreement to promote industrial IoT solutions in China using Siemens' MindSphere IoT connectivity and analytics platform.



Liquid Telecom, Sigfox push Kenya coverage

IoT adoption is also being propelled in Kenya, thanks to an initiative providing the required network connectivity. IoT services provider Sigfox recently [partnered](#) with Liquid Telecom, a data, voice and IP solutions provider in southern, central and eastern Africa. The two companies collaborated on an IoT network across Kenya that will launch this month and will cover up to 85 percent of the population.

Liquid Telecom built the IoT infrastructure, including a network of base stations linked to its fiber networks, while Sigfox launched a low-power wide area network (LPWAN), which runs on the free ISM band 868MHz. The network is designed to connect sensors across industries, ranging from heavy industries and utilities to banking and agriculture. Liquid Telecom claims the cost for the service could be as low as Sh100 (US\$1) per device or sensor per year, although it will vary based on usage.

“Connecting remote sensors over mobile data requires high battery consumption or connection to the main power supply, which is often challenging or not possible in rural Kenya,” Joel Muigai, head of IoT strategy at Liquid Telecom Kenya, said in a statement. “However, with the new IoT network, the sensors require no SIM card and last up to 15 years without recharging or changing the battery.”

Waste management

Gold Coast expands IoT network

Australia’s City of Gold Coast is also working to expand its IoT coverage, with the National Narrowband Network Company (NNNCo) building a low-power wide area network (LoRaWAN) intended to cover more than 1,300 square kilometers (about 502 square miles). It will, [reportedly](#), be the largest network of its kind in the country, aimed at supporting smart city initiatives related to supporting fields and parks, waste management and digital water metering.

Ian Hatton, Gold Coast’s chief innovation and economy officer, said the network is scalable and can support new uses for businesses and government. The city is also expanding its fiber optic network to support 5G deployment.

TWO waste management uses IOTA DLT

Private operators, like TWO IoT, are also looking to improve public sector services. The Taiwan-based waste management startup recently announced an initiative to make trash management more efficient. TWO is leveraging blockchain technology to provide sensor-collected data about which garbage bins are full and ready for pickup.



Sensors will be placed in the bins, allowing garbage trucks to skip those that don’t need servicing. The sensors will use distributed ledger technology from Germany-based IOTA to store [information](#) collected. An unspecified airport is [reportedly](#) the first client to use the service.

Smart and secure

Dynatrace study details consumer IoT fears

As companies seek to accelerate IoT adoption, they will likely run into at least one major roadblock: a lack of consumer trust. According to a new [study](#) conducted by Opinium Research, on behalf of software intelligence company Dynatrace, 64 percent of global IoT users have encountered performance issues, with the average consumer reporting 1.5 digital performance issues each day.

The study surveyed 10,000 consumers across the U.S., U.K., China, Brazil, Singapore, France, Germany and Australia, finding 72 percent of consumers believe it’s likely that software glitches in self-driving cars will cause serious injuries or deaths. What’s more, 84 percent said that fear would stop them from using self-driving cars.

Similar fears extended to the medical field, where 62 percent of respondents said they distrust IoT devices' ability to administer medication. The same can be said of homes, with 83 percent of consumers afraid they will lose control of their smart home devices due to digital performance issues.

Fortinet report highlights new cryptojacking attacks

There may be good reason for consumers to be concerned about home IoT performance. The latest "Threat Landscape Report" from cybersecurity solutions company Fortinet [highlights](#) new and pervasive efforts to hack home IoT. Bad actors are seeking to hijack more of these devices, the report claims, by inserting malware that utilizes the devices to continually mine cryptocurrency. Smart home devices are particularly appealing because they are usually left on and connected 24/7.

Business aren't spared either, with 96 percent of surveyed companies having experienced at least one severe exploit, and roughly one-quarter encountering cryptojacking malware. Bad actors were also found to be leveraging botnets and agile development practices.

Fortinet recommended organizations use advanced threat detection and prevention, including machine learning (ML) and fully-integrated, holistic security approaches that cover the full breadth of the attack surface. Given the growing tendency of employees to conduct some work from home, Fortinet claimed that segmentation also needs to be applied to employee home networks.



Juniper Network announces service-processing card upgrade

Network security is also getting attention from elsewhere in the IoT space: Juniper Networks recently announced it had updated its services-processing card. The updated card, SPC3 Advanced Security Acceleration, provides better support to service and cloud providers and enterprises' efforts to secure IoT, 5G, enterprise edge and multicloud environments. SPC3 is intended to be paired with Juniper Network's SRX5000 series of firewall solutions in order to help companies safely scale their networks.

The need for better security platforms is growing, largely due to the rising use of mobile devices, IoT and media streaming. This prompts greater frequency of cyberattacks, the company [said](#) in a press release.

Researchers report voice assistant exploitations

In homes and offices with tight network security, bad actors can still leverage the limitations in



voice assistant technology to commit cybercrimes, according to [research](#) presented by the University of Illinois at Urbana-Champaign at a recent symposium. Cybercriminals could take advantage of voice assistants and intercept a customer's request for a legitimate skill.

Fraudsters could, create a skill with the name "Am Express" in an attempt to capture users who were trying to access American Express's "Amex" skill. This could prompt users to reveal personal and financial information without even realizing it, researchers said. This form of attack, called "skill squatting," is particularly problematic for Alexa. Amazon made all the skills in its library available by voice command by default, and also enabled skills to be voice installed into customer libraries last year. If other voice platforms enable more third-party applications, they will likely need to address this issue, too.

Researchers also noted that Alexa often misinterprets certain words based on the speaker's gender or accent, enabling attackers to target

certain demographics. A separate report claimed that specific elements in recorded music could be altered to trigger voice commands.

Partnerships and acquisitions

CTIA announces new Cybersecurity Certification Program for IoT

CTIA, the U.S. wireless communications industry's trade organization, believes that improved IoT security comes through partnerships. As such, it recently launched its Cybersecurity Certification Program for IoT, developed through partnerships between nationwide cellular providers like Verizon, T-Mobile, Sprint and AT&T. According to a [CTIA press release](#), the program is "the first of its kind" to be created through such a collaboration.

The effort aims to establish standardized security practices for protecting wireless ecosystems for IoT devices, thereby making IoT use simpler and safer, drawing on security recommendations from the National Telecommunications and Information Administration and the National Institute of Standards and Technology. The program will begin accepting devices for certification testing in October.

JD Group, Infineon Technologies partner

While CTIA focuses on testing the security of IoT devices, others have their sights set on developing them. In addition to its collaboration with Alibaba, Infineon Technologies has partnered with Chinese eCommerce company JD Group's to support its IoT efforts. JD will use Infineon's chips in its IoT products and solutions, including smart speakers, server solutions and cloud services.

JD will also draw on Infineon [technology](#), such as microphones and radar sensors, to create a connected ecosystem. Additionally, Infineon will provide JD with increased technical support for areas such as data connectivity, storage and analysis.

C3 IoT, Google Cloud partner on AI, IoT

C3 IoT is aiming to help more businesses create and use IoT, Big Data, artificial intelligence (AI) and predictive analytics software applications. It recently partnered with Google Cloud to create an integrated solution designed to offer its C3 IoT Platform on the Google Cloud Platform. The companies will work together on marketing, selling and training initiatives to distribute the solution, according to a C3 IoT [press release](#).

The combined offering will help businesses quickly develop and adopt AI-powered applications. According to C3 IoT, these applications, which can boost financial services players' anti-money laundering (AML) efforts, retailers' customer relationship management and manufacturers' dynamic inventory optimization, among other use cases. Previously, C3 IoT partnered with Microsoft Azure and launched the platform on Amazon Web

Services. This new [deal](#) with Google makes the platform accessible across offerings from all three major infrastructure-as-a-service service (IaaS) providers.

Arm acquires Treasure Data

For some companies, partnering isn't enough to achieve their goals. Software and processor company Arm recently announced the acquisition of enterprise data management company Treasure Data. According to a [press release](#), this acquisition, as well as its previous acquisition of Stream Technologies, will help Arm produce an end-to-end IoT connectivity, device and data management platform — something it claims will be an industry first.

The forthcoming Arm offering, the Arm Pelion IoT Platform will rely on the Arm Mbed Cloud and will help businesses seamlessly connect and manage IoT devices and data flows. The company claims the solution is designed to be a horizontal platform that can manage a variety of devices and connectivity, link to any cloud and handle any type of internal or external data.

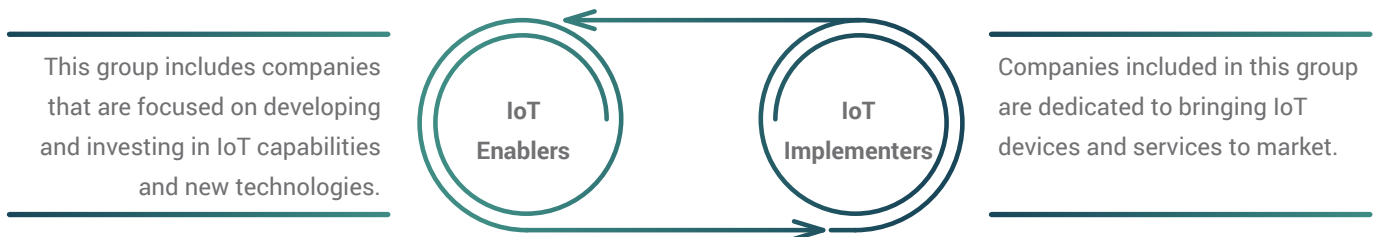


METHODOLOGY

Every month, we identify active suppliers in the IoT ecosystem by combing through leading industry forums, analyzing research reports and assessing news coverage from around the globe.

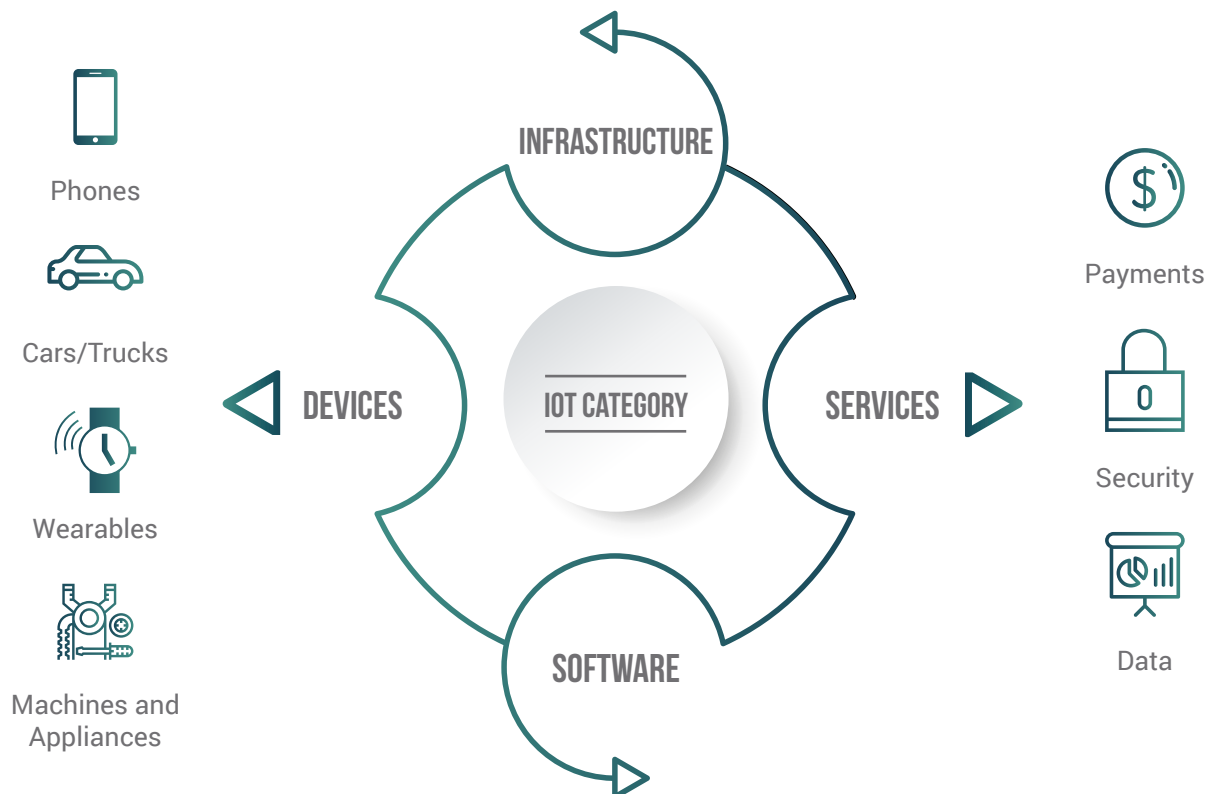
To provide an objective assessment, we group these suppliers under four categories: Devices, Software, Services and Infrastructure.

The Tracker's Supplier Scorecard has been further divided into two groups:



Each of the enablers and implementers in the directory are ranked on the services they extend in the four IoT categories. For a conclusive measure, we quantified their recent activity and public innovation profile in the space through LinkedIn and Google, and marked them as market and company indicators.

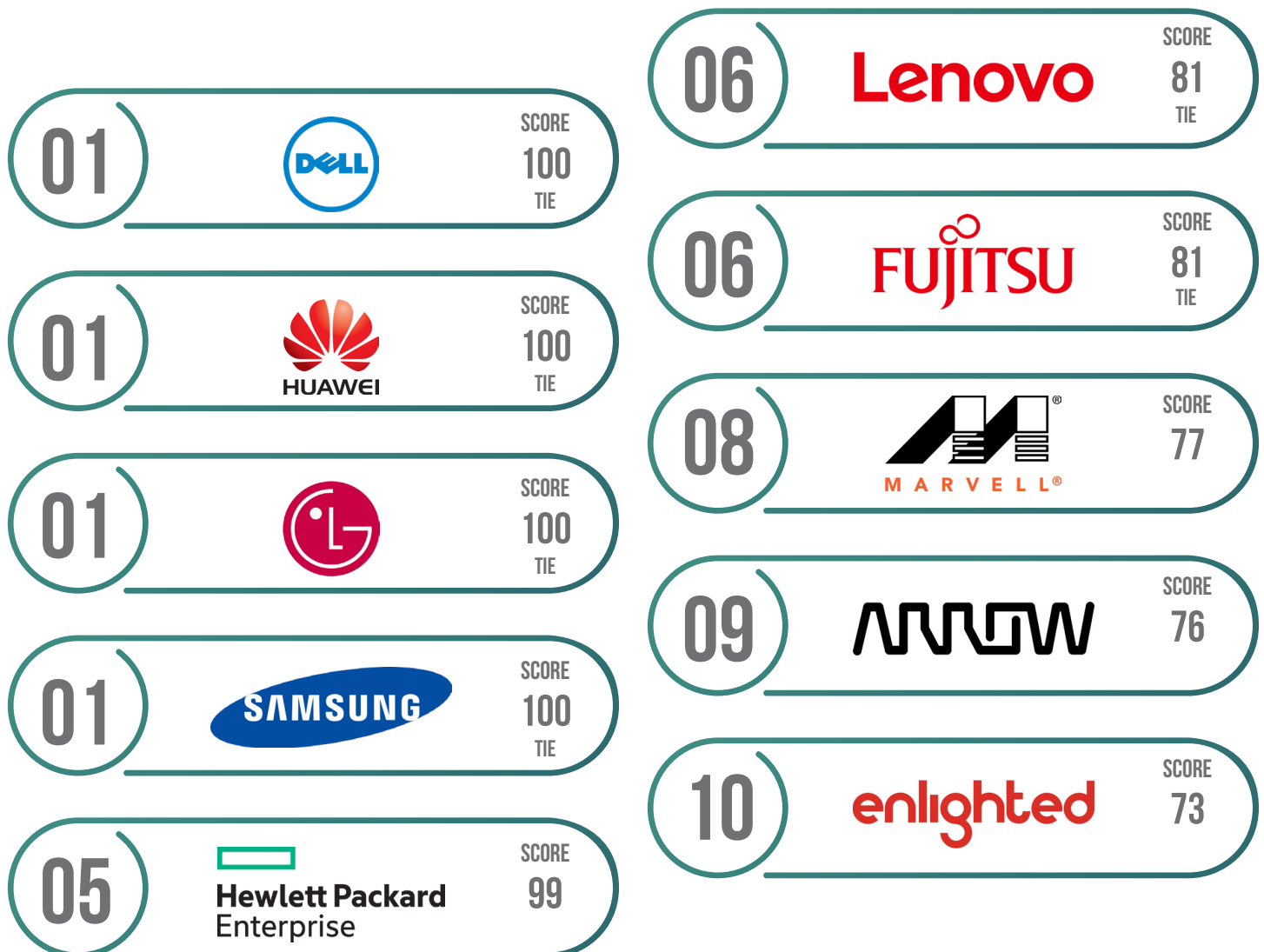
The narrowed list of suppliers selected to be a part of the Tracker are those that appear most often in our research. Information on the selected companies included in our Supplier Scorecard is sourced from their respective websites.



IoT Category	IoT Service	Description
Devices	Wearables	Wearable devices that extend tools such as health and fitness tracking
	Phones	Handsets that come with embedded chips for IoT capability
	Machines and Appliances	Manufactured products containing sensors that transmit data
	Cars/Trucks	Cars and trucks with integrated circuitry for IoT
Software		Software developments with IoT applications
Infrastructure		Architecture necessary for connecting devices, including sensors, chips, gateways and platforms
Services	Data	Data infrastructure, collection, storage, processing, modeling, analysis and visualization
	Payments	Gateways, infrastructure and software associated with payments in the IoT ecosystem
	Security	Security solutions for the IoT environment, including data and devices

PYMNTS will periodically update scores based on new developments. If you would like your company to be considered for inclusion in the Tracker's Supplier Scorecard, or if you wish to have an existing listing reconsidered for an update, please head over to our [profile submission/update page](#).

TOP 10 IoT IMPLEMENTERS



TOP 10 IoT ENABLERS

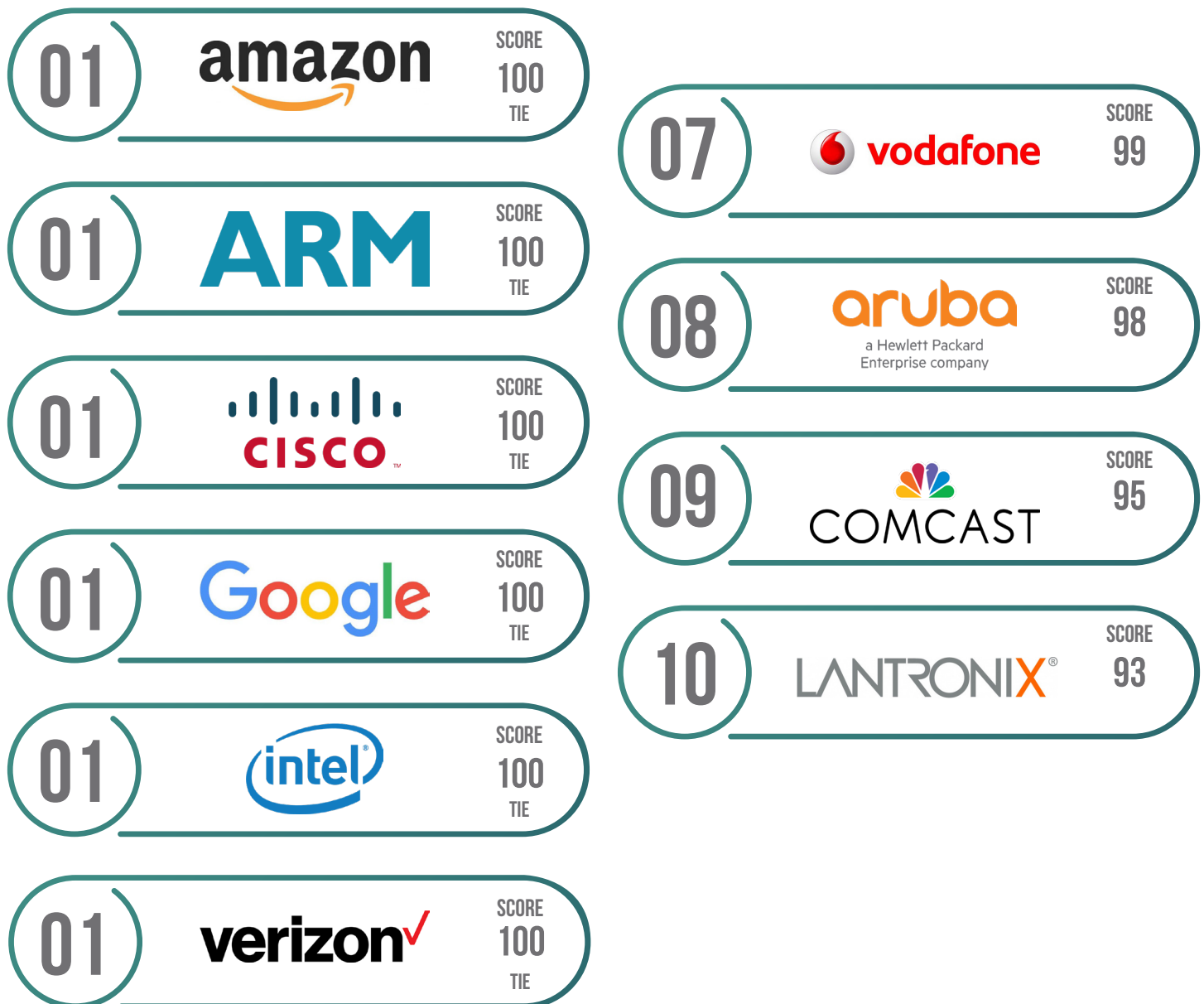




ABB
Launch date: N/A

New!

ABB manufactures and sells electrification, robotics and motion, industrial automation and power grid products.



ACER
Launch date: 1976

Acer makes information and communication technology products including PCs, displays, projectors, servers, wearables, tablets and smartphones. The firm also offers a cloud-based ecosystem intended to enable customers and businesses to connect their devices and manage data.



ADHERETECH
Launch date: 2011

AdhereTech is a healthcare firm which manufactures smart wireless pill bottles that are currently being used by patients in pharmaceutical and research engagements. This innovative device tracks and improves adherence, collecting and sending all data in real-time. If doses are missed, patients can easily receive customizable alerts such as automated phone calls, text messages, lights and more.



ADIDAS

Launch date: 1924

Adidas, the German manufacturer and designer of sportswear, is also playing in the IoT world. The company's miCoach is a service that covers hardware and software developments for fitness tracking. Adidas commercializes wearables like smartwatches, shoe sensors and smart soccer balls and provides users with activity tracking apps that allow for real-time coaching and training scheduling.



ADT

Launch date: N/A

ADT provides security and automation solutions for homes and businesses in the U.S. and Canada. Its solutions can control access, react to movement, sense environmental conditions such as flooding or carbon monoxide and respond to personal emergencies like injuries or incapacitation. Users can also remotely access their security videos and control lights or other elements of their homes or businesses.



ALARM.COM



ALARM.COM

Launch date: 2000

Alarm.com is an IoT company that works in the development of security and smart home services. Their software and devices offer services like interactive security, video monitoring, access and energy management. The company also provides home automation services that integrate different home devices and let users operate them via their smartphones.



AMBARELLA
Launch date: 2004

Ambarella develops low-power, HD and ultra-HD video compression and image processing solutions. Its products are used in a variety of professional and consumer applications including security IP cameras, sports cameras, wearable cameras, flying cameras and automotive video processing solutions. Ambarella compression chips are also used in broadcasting TV programs worldwide.



APPLE
Launch date: 1976

Apple works on the design and development of products ranging from electronics and software to Internet services. Their consumer electronics include smartphones, wearables, computers and smart TVs. Their software developing includes web browsers and operating systems.



ARROW
Launch date: 1935

Arrow Electronics is a leading global provider of Internet of Things (IoT) connectivity products and services. The company distributes electronic components and computer products to industrial and commercial customers. The Company offers a variety of products including computer systems, peripherals, software, and mass storage products to original equipment manufacturers and commercial customers worldwide.



ARXAN

Launch date: 2001

Arxan Technologies offers security services for the IoT, mobile and desktop devices. Its products aim to offer customers protection against financial loss, brand damage, fraud, IP theft, stolen credentials, fraudulent transactions, unauthorized access and non-compliance with regulatory and industry standards.



ASUS

Launch date: 1989

ASUS engages in manufacturing and wholesaling computing, communications, and consumer electronics solutions. The company is pioneering new mobile trends with the ASUS ZenFone™ series, and it is rapidly developing virtual and augmented reality products as well as IOT devices and robotics technologies. Most recently, ASUS introduced Zenbo, a smart home robot designed to provide assistance, entertainment, and companionship to families.



ATHOS

Launch date: N/A

Athos provides Internet of Things (IoT)-enabled fitness clothing paired with an app offering muscle activity tracking and insights into more effective athletic training.



ATLAS WEARABLES

Launch date: 2015

Atlas Wristband is a connected device that tracks fitness data, like the amount of repetitions or burned calories and presents the data in a mobile app. The system is updated over time and includes new exercises or metrics and allows for two different modes: Coach and Freestyle. The Coach mode gives the user a tracked routine to follow, while Freestyle mode just records the data from the user's personalized exercise routine.



AUGUST

Launch date: N/A

August Home develops smart home access products that use encrypted locking technology. It enables users to use smartphones or computers to create virtual keys for their homes to grant access to house cleaners, dog walkers, delivery services and guests – and control how long that access lasts.



Automile



AUTOMILE

Launch date: N/A

Automile develops an online platform that connects vehicle drivers and fleet managers with vehicle data. Its web app provides mileage and compliance logging, driver identification, messaging, real-time tracking and other features, and the company also offers asset tracking solutions.



BABOLAT

Launch date: 1875

Babolat is a sporting goods manufacturer with a connected solution called Babolat PLAY. By using a connected racquet and a smartphone app, users can check their stats, power and technique and compare their performance with friends. The company also offers Babolat POP, a connected wristband which can be paired with smartphones and tennis racquets to collect performance data.



BAYSHORE NETWORKS

Launch date: 2012

Bayshore Networks provides cybersecurity solutions for the industrial IoT. Its products aim help companies deliver safe and secure integration of IT and OT networks, systems, data, and infrastructure. Its IT/OT gateway offers security solutions for operational assets from internal and external cyberthreats while enabling operational data to be shared with business systems for monitoring, controlling and analysis. The company also offers security and protection for smart cities.



BLOSSOM

Launch date: 2013

Blossom offers a smart watering device which builds watering schedules according to local weather forecasts, historical data and vegetable types. Users can also input and customize their own schedules.



BOSCH



BOSCH

Launch date: 1986

The Bosch Group provides an IoT development platform that allows for the design, development and deployment of big data/Internet of Things applications that leverage telemetry, elastic cloud computing, analytics and machine learning for the usage of predictive analytics. The company also offers IoT applications like supply chain.



BRAGI



BRAGI

Launch date: 2013

Bragi develops virtual audio assistants to enable productivity, enhance awareness and entertain users. The Bragi Dash Pro is a pair of wireless intelligent earphones featuring Bluetooth connection to other devices. The earphones also enable users to listen to music, or can be used as real-time translators or fitness trackers.



BRITISH GAS

Launch date: 1986

British Gas is an energy and home services provider offering its customers Smart Meters for gas and electricity that are intended help them to be in control of how much energy they are using. The company also offers a smart thermostat that enables users control their heating and hot water from their smartphone, tablet or laptop.



BSQUARE CORPORATION
Launch date: 1994

Bsquare offers DataV, a software solution designed to enable businesses and industries to use data from their connected devices to improve their outcomes. DataV provides users with several tools, including device-side logic, cloud analytics, predictive reasoning, predictive analytics and business process optimization.



C3 IOT
Launch date: 2009

C3 IoT provides an IoT development platform that allows for the design, development and deployment of big data/Internet of Things applications that leverage telemetry, elastic cloud computing, analytics and machine learning for the usage of predictive analytics. The company also offers IoT applications like supply chain optimization, predictive maintenance and customer engagement.



CAEDEN
Launch date: 2014

Caeden develops design-focused earphones and wearable devices that can sense and manage stress via tracking of variables such as pulse and physical activity.



CEL
Launch date: 1959

California Eastern Laboratories (CEL) sells and markets compound semiconductor devices from Renesas Electronics Corporation. The company's products include RF components, solid state relays and photo detectors. It also develops Cortet, a connectivity management suite that includes radio services like modules and gateways, software libraries compatible with multiple ecosystems, and the Cortet App, which allows for devices control and cloud solutions.



**CLEAR CHANNEL
OUTDOOR**
Launch date: 1901

Clear Channel Outdoor entered the Internet of Things market with Clear Channel Outdoor RADAR, which uses aggregated mobile data to gain information about who is exposed to their advertising displays and how they interact with brands afterward.



CONTROL4
Launch date: 2003

Control4 manufactures wireless home automation products and enables users to virtually control any device in a home or business. The company has developed hardware and software solutions to remotely monitor and automate home theater and television, video, multiroom music, lighting, energy, temperature and security.



CUBICAL LABORATORIES

Launch date: 2013

Cubical Laboratories offers solutions to monitor the electrical appliances remotely at households, hotels and office environments. The company produces smart homes controllers and switches, wireless cameras as well as the software and applications necessary to control electronic devices, lightening, fan and curtains from a smartphone or laptop. Users can also get real-time insights, graphs and analytics regarding energy usage data and consumption.



DELL

Launch date: 1984

Dell's participation in the Internet of Things industry covers areas from infrastructure solutions to analytics capabilities, as well as security services.



DENSITY

Launch date: 2014

Density has developed a small sensor that measures how busy a location is in real-time. The firm uses depth sensing technology, computer vision, and an onboard quad-core processor to anonymously measure and manage entrances and exits through a door. Density system is designed to protect privacy and can be deployed into places a video camera cannot go such as stadium bathrooms, churches, secure corporate offices, elementary schools, and dressing rooms.



DIGICERT
Launch date: 2003

DigiCert provides identity, authentication and encryption solutions for the web and IoT. Its SSL tools and PKI certificates ensure correct authentication of devices as it connects, and protects communication between devices.



Displio
Launch date: N/A

Latvia-based Displio produces a self-standing WiFi-connected digital display. The product shows sections from a range of information options, including email alerts, weather and shipment tracking information.



EATON
Launch date: N/A

Eaton Corporation is a power management company that develops products and systems to manage electrical, hydraulic and mechanical power. These include vehicle automation, aerospace actuators, connectivity and more.



EMERSON
Launch date: N/A

New!

Emerson Automation Solutions develops components and software for automation equipment manufacturers.



DYSON
Launch date: 1993

Founded by James Dyson, this company produces vacuums, air treatment devices, lighting solutions and hand dryers. Dyson Pure Cool Link is an air purifier embedded with connectivity technology that can be controlled from the user's phone, send information to the user's mobile about the quality of the air and report on its own functioning. It also gives insight on data like times the device has been working and levels of pollution throughout the day.



ECOBEE
Launch date: 2007

Ecobee is a smart thermostat enabling users to control their homes' temperature using smartphones, computers, tablets or via voice recognition. The Ecobee device also comes with sensors that recognize the rooms' hot and cold spots and can detect occupancy.



**EGGPLANT
TECHNOLOGIES**
Launch date: 2014

Eggplant Technologies is the developer behind “Move It,” a smart, mobile-connected personal gym. The solution is composed of a smart handle that is interchangeable with four types of training equipment and is capable of detecting 16 different types of exercise. The company provides a mobile app that synchronizes with the equipment and allows users to interact with other people to find workout buddies or challenge friends.



ENLIGHTED
Launch date: 2009

Enlighted manufactures light control platforms for smart buildings. The firm provides sensor technology and data analytics system for energy savings, space utilization, security and more. Its smart sensor can monitor real time occupancy, light levels, temperatures and energy usage, among other things. The solution has been designed for commercial office, education and health care spaces.



EPSON
Launch date: 1942

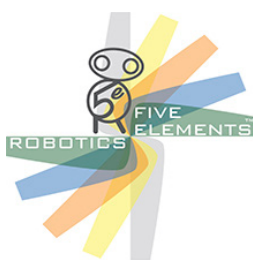
Epson is a manufacturer of printers, projectors, scanners, professional imaging, system devices and factory automation products. Besides, the company offers wearable devices such as smart glasses or fitness trackers, point-of-sale products, cameras, home entertainment devices, among others.



Fitbit develops a range of different wearable bracelets that can track activity. The Fitbit app can track daily activity and quality of sleep, record exercise routine stats, and help users organize workouts. The app also adds different features of social engagement and helps with nutrition care by allowing for food logging or weight tracking with a Fitbit-connected scale, Aria. The information is displayed on the user's phone, as well as the bracelets themselves, which can also receive and display phone data such as calendar entries or calls.



FitPay is a proprietary technology platform. It provides contactless payment capabilities for wearables and Internet of Things (IoT) devices.



Five Elements Robotics is a technology company focused on the development of personal and consumer robots. The company is the developer behind DASH, a retail robotic shopping cart. DASH allows users to import their shopping lists from their phones and gathers data from user usage to offer targeted marketing.



FLEET SPACE TECHNOLOGIES

Launch date: N/A

Fleet Space Technologies designs, builds and launches a network of nanosatellites to provide global satellite connectivity to the Internet of Things (IoT). It serves the mining, oil and gas resources, precision agriculture, transport and logistics sectors.



FOOBOT

Launch date: 2013

Foobot is an air quality monitoring system enabling users to control indoor air pollution. The company's app offers indoor air metrics, outdoor pollution levels at the user's location and home automation features.



FORESCOUT

Launch date: 2000

ForeScout Technologies, Inc., is an IoT security technology developer. Their solutions can see which devices are connected to the network without requiring endpoint agents, allowing it also to detect nontraditional IoT devices. The company's solutions integrate with more than 70 network, mobility, IT and security products, allowing for information sharing and operation synchronization.



**FRIENDLY
TECHNOLOGIES**
Launch date: 1997

Friendly Technologies is a platform provider offering solutions for smart home, IoT, TR-069, LWM2M, MQTT and OMA-DM device management. The company's software is designed for service providers and those participating in IoT utilities, transportation and smart cities markets.

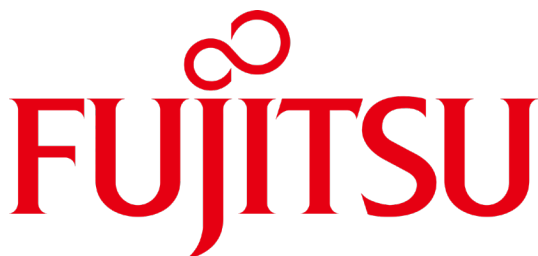


Frontpoint®



FRONTPOINT
Launch date: N/A

Frontpoint Security Solutions installs, monitors and maintains security technology offerings, including home security systems that can be controlled remotely with an app.



FUJITSU
Launch date: 1935

Fujitsu is an information and communication technology company offering IoT platforms ranging from enterprise wearable devices and middleware applications to standardized business solutions for customer verticals. Its IoT platforms provide data aggregation and management as well as application development services and device management capabilities. The firm also builds electronic devices and hardware products such as laptops, smartphones and tablets.



GARMIN
Launch date: 1989

Garmin manufactures and designs products for the automotive, aviation, marine, outdoor and fitness markets that are capable of running a GPS. Other products sold by the company include smartwatches, cameras and sensors. The company has developed applications that enable users to manage and control their devices.



gemalto
security to be free
Launch date: 1979

Gemalto designs and manufactures digital security solutions. The company's IoT solutions are mostly aimed to provide reliable connectivity, reliable security and agile monetization frameworks. Gemalto's M2M portfolio is enabling solutions in industries ranging from health care, retail services, smart energy, transportation, logistics and automotive. Besides, their consumer electronics portfolio includes solutions for smartphones, tablets, PC and wearables.



IoT WoRKS
by HCL Technologies
Launch date: 1991

IoT WoRKS TM by HCL works to enable organizations to develop IoT ecosystems in order to enhance their connections of things, data and processes. The company's solutions are designed to help businesses to enhance communications between devices and cloud. The company also offers a data analytics platform which allows secure data ingestion, management, and syndication.



helium

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HELIUM

Launch date: 2013

Helium Smart Sensors are deployable in minutes and built for companies that need to monitor and analyze conditions of interest and importance. The company offers two main wireless smart sensors: the Helium Blue, that measures internal refrigerator temperature and door state and the Helium Green, which measures multiple environmental parameters. In addition, Helium also offers a cloud, which is the control and storage center for the entire distributed smart sensing system.



**Hewlett Packard
Enterprise**

99

**HEWLETT PACKARD
ENTERPRISE**

Launch date: 1939

Hewlett Packard Enterprise offers a group of different solutions that go from cloud, security and big data to mobility infrastructure and the Internet of Things. The company's Universal IoT Platform offers an architecture for businesses to manage and connect heterogeneous IoT devices as well as collect, analyze and monetize data. The solution comes with attributes like application design, API monetization and policy enforcement.

hiku

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HIKU

Launch date: 2012

Hiku is a kitchen device to scan barcodes and recognize voices to add products to shopping lists. Consumers can use it for shopping in-store and online, add planned updates to receive price comparisons and share shopping lists with others.

HITACHI



HITACHI
Launch date: 1910

Hitachi Insight Group is the arm of the Japanese technology firm that focuses on the Internet of Things. The company provides its own IoT platform called “Lumada,” and also develops IoT solutions for smart cities and energy efficiency, as well as industries like health care, automotive and construction.

HONDA

The Power of Dreams



HONDA
Launch date: 1946

Honda is primarily known as a manufacturer of automobiles, motorcycles and power equipment. The company is also focused on connecting its cars with solutions like HondaLink, a display audio system that's powered by a user's phone, to access online content.

Honeywell



HONEYWELL
Launch date: 1985

Honeywell manufactures wireless and scanning technologies used in building, home and industrial applications. The company's solutions are designed to deliver energy efficiency, security and safety. The company also offers software and applications to stay connected and control its devices.



HotSchedules®



HOTSCHEDULES
Launch date: 1999

HotSchedules develops employee scheduling and labor management solutions for the restaurant industry. In 2015, the company introduced its IoT platform, which allows users to capture data, transform it into insights and deploy their own apps. With the platform, a restaurant can connect things like kitchen appliances, payment devices and drive-thru displays into the same platform, gathering data in a single place and allowing for more complete information.



HUAWEI
Launch date: 1987

Huawei Technologies is a telecom solutions provider that offers infrastructure application software, telecommunications networks and devices with wireline, wireless and IP technologies. The company has developed a wide range of IoT devices including phones, PC, tablets, wearables, audio devices and Wi-Fi routers for smart homes.



huami



HUAMI
Launch date: N/A

Huami is a Chinese wearable device manufacturer that produces fitness trackers and smartwatches. Its products include the Amazfit and Xiaomi wearables.



HUMAVOX
Launch date: 2010

Humavox has developed ETERNA, a wireless charging technology that enables users to recharge their electronic devices from nearly any containing object where they instinctively drop their devices. The company offers solutions for charging headphones, fitness trackers, smart rings, watches and clothing.



HYUNDAI
Launch date: 1967

The Korean automobile manufacturer Hyundai has its own player in the automobile IoT market: BlueLink. The service allows drivers to access a group of different features, from safety tools like automatic collision notification and monthly vehicle health reports to external control features like remote start and stolen car location. BlueLink also provides a destination search solution powered by Google and can connect with Apple Watch and Android Wear.



IHT SPIRIT SYSTEM
Launch date: 2011

IHT Spirit System developed an assessment platform focused on physical education. The company's IoT software solutions allow teachers to access the data of every student and test their performance.



infiswift is an IoT-enabled platform designed to connect and manage devices and cloud services. The platform offers multi-layer security for enterprises, real-time device monitoring and data processing and analysis.



InvenSense provides MEMS inertial sensors, microphones, software algorithms, sensor development tools and platforms needed for the product creation and sensor integration of IoT-connected devices. InvenSense technology is designed for multiple products including smartphones and tablets, automotive, wearables, drones, and smart remotes for smart TVs.



Johnson Controls International develops smart buildings, energy solutions, infrastructure and transportation systems. The firm offers products including energy efficiency, building management and automation solutions. In addition, Johnson Controls Smart Equipment offer embedded controls and secure connectivity to help companies improve serviceability.



**Karamba
Security**



KARAMBA

Launch date: 2015

Karamba develops security solutions for connected cars. The company offers endpoint security for the externally connected electronic control units of connected cars that allows only explicitly permitted code to run through them. Karamba also offers early detection of droppers and malware protection services.



KEEN™
home



KEEN HOME

Launch date: 2013

Keen Home develops home automation hardware and software products. The company's Smart Vent System enables users to control heating and cooling airflows room-by-room. Smart Vents also connects to the internet and to its other components, giving users the ability to manage all functionalities from the Keen Home app.



kepware®



KEPWARE

Launch date: N/A

Kepware is PTC's software development business. It works to provide a portfolio of software solutions designed to help businesses connect automation devices and software applications and enable industrial IoT.



KONUX

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KONUX

Launch date: 2014

Konux provides the industrial IoT market with smart sensor systems designed to measure all kinds of mechanical and geometric parameters such as torque, pressure, force and angle. Konux sensing technologies are combined with a cloud solution that provides customers with real-time data visualization and intelligent data analysis, enabling them to understand their machine problems and make maintenance predictable.

Lenovo

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LENOVO

Launch date: 1984

Lenovo develops, manufactures, and markets technology products and services. It offers commercial and consumer personal computers, as well as servers and workstations; mobile Internet devices, including tablets and smart phones; storage and networking products; memory and processors; rack and power infrastructure; and laptops, desktops, and accessories, as well as operating systems, security, and systems management software.



100

LG

Launch date: 1947

LG Corporation delivers connected products that go from smartphones, tablets and smartwatches to TVs and home audio devices. The company also works with affiliated companies in telecommunication services such as: LG N-sys, LG CNS and LG U.



LIFX

25

LIFX

Launch date: 2012

LIFX is a WiFi-enabled LED light providing users the ability to control their home or office lights with any enabled device, such as a smartphone, wearable or a smart home device. The multi-colored smart light comes with an app offering features like a music visualizer, themes, scenes and schedules.



LimeBike

49

LIMEBIKE

Launch date: N/A

LimeBike is a dock-less bicycle sharing company. Its app enables users to locate bikes and scan to unlock them.



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LOCAL MOTORS

Launch date: 2007

Local Motors is a technology company that works on the development of vehicles. The company's products include a 3D printed car and Olli, an autonomous electric shuttle. Olli uses sensors and data to understand its environment and can help in corporate or municipal transportation needs. The shuttle can also work like a taxi with the user determining a pickup location through the app for later traveling and paying within said app.



LOFELT
Launch date: 2016

Lofelt develops “The Basslet,” a wearable watch-size subwoofer. The device delivers beats and basslines directly into the user’s body. The Basslet works next to a sender that can be connected into devices like smartphones, gaming consoles or VR headsets.



LOGITECH
Launch date: 1981

Digital products provider Logitech has developed a range of IoT solutions mainly focused on smart homes. The company’s portfolio includes several products that allow users to remotely control their connected devices and manage their home’s lighting, music, locks, thermostats and more. The company’s products include smart remotes, connected security cameras and smart buttons.



LOGMEIN
Launch date: 2003

LogMeIn provides software as a service and cloud-based remote connectivity services for collaboration, IT management and customer engagement.



LUMO
Launch date: 2011

Lumo develops body tracking technology, including clips that attach to running shorts or capris to measure cadence and speed, giving the runner instant feedback through earphones. Lumo also offers clip-on devices that monitor posture.



LUTRON
Launch date: 1961

Lutron offers a family of IoT devices including lights, shades and temperature controls for a room or a whole house. The tools can also adjust automatically to prevent excessive energy consumption.



MARVELL
Launch date: 1995

Marvell is a fabless semiconductor company with experience in microprocessor architecture and digital signal processing. The company develops platforms for storage solutions as well as wireless and networking products between others.



Mastercard is a technology company developing solutions for the payments industry, with payment processing as its core business. The company develops different payment products, including the use of NFC technology, eCommerce applications and security products. Mastercard is also engaged in the development of Internet of Things technology usage into payment applications.



Matternet is an autonomous drone logistics platform developer with its own drone, cloud and usage stations. The company provides aerial delivery transport for healthcare, eCommerce and logistics organizations, along with serving individual customers. The platform is designed to be used in densely populated urban areas which often present delivery challenges.



Microsoft develops a broad range of software products, from Windows to Skype and from Bing to Office. The company also develops devices like Lumia and Xbox, as well as the Azure IoT Suite, a platform that allows the user to connect and scale projects, as well as analyze the data generated by it.



MISFIT

Launch date: 2011

Misfit manufactures wearable and smart home devices. The company offers smartwatches, fitness trackers and smart accessories. Misfit also offers IoT-based applications such as the Misfit Link App, Home App and Cycling app, which help users better manage wearables from their smartphones.



MOCANA

Launch date: 2002

Mocana's IoT security platform helps companies secure and monitor their devices and gateways in a complex, multi-vendor environment. The device-to-cloud platform functions as a real-time operating system (RTOS) for wired and wireless networking settings.



MOEN

Launch date: N/A

Moen has developed a customizable shower with personal device integration enabling users to control time and temperature. Once the U by Moen shower is connected to WiFi and the cloud, users can control their showers using their smartphones, Alexa or the shower controller.

moov



MOOV

Launch date: 2013

Moov is a water and dust-proof connected wristband designed for sports, including cycling, swimming and boxing. The wearable device can also be used in coach mode, allowing for a voice-guided workout and different metrics, such as amount of repetitions or landing impact. The device can also track 3-D movements, allowing it to teach the user more effective exercise techniques, and permits for social engagement and competition with connected friends.

NESPRESSO



NESTLÉ NESPRESSO

Launch date: 1986

Coffee machines and capsules provider Nespresso has developed a connected coffee machine. The Nespresso Prodigio is a Bluetooth connected coffee machine which enables users to manage capsules stock, program coffee times and receive alerts for machine maintenance and care, everything done from their smartphones through the Nespresso app.

nest TM



NEST

Launch date: 2010

Nest is a technology company focused on smart home tools. Nest products include a thermostat that learns from user preferences, a smart smoke-CO2 alarm and a camera that tracks the user's phone location to know when to turn on. The company's devices can communicate with the user's device through the Nest app in order to either provide information or be externally controlled.



NETATMO
Launch date: 2011

Netatmo is a smart home company, developing connected consumer electronics. Netatmo designs the mechanics, electronics and embedded software of all its products and also creates the mobile and web applications.



NEURIO
Launch date: 2005

Neurio is a home intelligence technology company that gives homeowners the ability to monitor their homes. The company's Home Energy Monitor allows homeowners to track their power use in real time, see bill forecasts, set up budgets, get energy saving tips and more.



NFC RING
Launch date: 2015

NFC Ring provides a wearable ring that can be used to make payments, lock or unlock doors and devices or share and transfer information.



NISSAN

Launch date: 1933

Nissan, the Japanese automobile manufacturer, offers embedded IoT technologies in their cars through a service called NissanConnect. The solution allows drivers to access a group of different features that includes access to different apps such as Google and Facebook as well as security tools like stolen vehicle locating and roadside assistance. The solution can also control external features of the car, such as locking doors, triggering horns and controlling the air conditioning.

notion



NOTION

Launch date: 2013

Notion develops sensors that allow homeowners to monitor their homes remotely. Notion's device can track a group of variables, such as when a door is open, the temperature goes too low or too high, and there is a water leak. Users can also monitor their homes from their phones and receive notifications.



nucleus



NUCLEUS

Launch date: 2013

Nucleus is a smart home wireless intercom system designed to allow users to make calls from room-to-room or home-to-home. Each Nucleus account has a unique Home and Remote code enabling them to establish secure connections between devices. The Nucleus device connects to the internet via Wi-Fi or Ethernet and is Amazon Alexa-enabled.



NUMEREX
Launch date: 1992

Numerex provides a portfolio of managed end-to-end Internet of Things solutions including smart devices, network connectivity and service applications enabled to address the needs of a wide spectrum of vertical markets including Waste Management, Manufacturing & Distribution, Public and Personal Safety, Oil & Gas, Transportation, Emergency Management and Commercial & Residential Security.



NUZZLE
Launch date: 2014

Nuzzle has developed a GPS collar that enables owners track their dogs. The GPS collar features 24/7 connectivity via dual-band 3G cell, embedded SIM card and Bluetooth. In addition, the GPS collar offers impact detection, temperature monitoring and activity monitor. Owners can also use a mobile app to track their pets.



OMNITRACS
Launch date: N/A

Omnitracs, LLC, is a trucking solutions provider. It offers transportation technology and insights, with solutions designed to assist with compliance, safety and security, productivity, telematics and tracking, transportation management, planning and delivery, data and analytics and professional services.



OnePlus is a manufacturer of waste container fullness and control systems. The company also produces technology that can regulate who can access the system and provide users with a cloud-based software from where they can access information.



Optimal+ is a data analytics company offering end-to-end solutions designed to improve quality, yield, and productivity for semiconductor and electronics manufacturing.



Osram implements high-tech devices and smart solutions for lighting technology in the automotive, entertainment and health sector as well as private consumers. The company also offers smart home products and is developing smart city solutions.

OSSiA



OSSIA

Launch date: 2008

Ossia is the developer of Cota, a wireless power charger that can power equipped devices. The solution takes energy from a single source and transmits it through a net of antennas to a power receiver within a 30- foot radius. The solution also allows for energy saving, as the system turns off once the devices are off the range or hibernating.

Petnet^{io}



PETNET

Launch date: 2012

Petnet offers the SmartFeeder, an automatic feeder for cats and dogs that enables users to manage feeding times, portion sizes and food supply. The SmartFeeder uses sensors to measure portions based on a pet's age, weight and level of activity. Users can control their pets' feeding from their smartphones.

PetPace™

Monitoring your pet's health



PETPACE

Launch date: 2012

PetPace offers remote pet monitoring services through a wireless smart collar, which collects a pet's vital signs and behavior patterns. PetPace comes with an integrated Health Monitoring Service to continually analyze the collected health data and send notifications to the pet owner's smartphone in case of emergencies.



PHILIPS

Launch date: 1891

Philips' IoT-enabled lighting product, Hue Personal Wireless Lighting, is a connected lighting solution designed to enable users to manage their lighting system from their smart devices. Hue uses a system called The Bridge that connects the smartphone to the Philips Hue lights via Wi-Fi. The Bridge offers different types of smart lights and gives users the ability to create timers, control brightness, play with colors and synchronize lights to music, TV and games.



POLAR

Launch date: 1977

Polar is a manufacturer of sports training technologies. Among other products, Polar has deployed GPS-enabled bike computers, fitness and running watches, as well as heart rate monitors and performance trackers. Their devices are designed for any activity ranging from swimming, cross-training and yoga to tracking user's daily activity and calorie consumption.



RACHIO

Launch date: 2012

Rachio develops a smart sprinkler device that uses weather prediction to ensure more efficient usage of water. Rachio devices can adjust their functioning to the characteristics of the yard where it's working or the changing seasons. It is connected to a mobile app that not only allows for external control of the sprinklers, but also delivers information about precipitation, watering and the yard's health.



RAY ENTERPRISES

Launch date: 2012

Ray has developed a smart touch-screen remote that enables users to control all their devices. The remote supports a wide range of entertainment devices including TVs, cable and satellite providers, streaming devices, sound bars, and DVD players.



redhat



RED HAT

Launch date: N/A

Red Hat has a portfolio of secure products and services such as cloud storage and operating system platforms along with middleware, applications and management solutions. It also provides customer support, training, implementation and consulting services.

**Rockwell
Automation**



ROCKWELL AUTOMATION

Launch date: 1903

Rockwell Automation develops industrial automation and information technology products. Its Connected Enterprise capability enables industries to connect, monitor and optimize devices and processes. The company's Industrial IoT solution integrates networks and creates an integrated production platform that can enable smart manufacturing.

The logo for SageGlass, featuring the brand name in a dark blue sans-serif font on a bright yellow rectangular background.

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SAGEGLASS

Launch date: N/A

SageGlass offers electronically tintable glass — known as dynamic or electrochromic glass — for windows, skylights and curtain walls. The glass tints automatically or on demand to control sunlight levels, without need for shades or blinds.



samsara

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SAMSARA

Launch date: 2015

Samsara offers internet connected sensor systems designed for diverse environments from energy monitoring to asset utilization to vehicle tracking. Its traditional sensor model is combined with an integrated, software-centric solution enabled to capture hundreds of metrics, bringing visibility and insight into any operation.

The Samsung logo, consisting of the word "SAMSUNG" in white, bold, sans-serif capital letters inside a blue oval.

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SAMSUNG

Launch date: 1938

Samsung's business expands through many industries, from heavy industry to chemical to its more well-known face: Samsung Electronics. The company develops wearable devices, smart TVs and some of the most classic connected devices: smartphones. Samsung has also begun developing smart home applications, from sensors and hubs to connected appliances.

Global Solutions



**SATO GLOBAL
SOLUTIONS**

Launch date: 1940

SATO Global Solutions (SGS) develops IoT solutions, including data-based advice for business operations and customer experience improvements. The company co-founded the Acuitas Digital Alliance which develops cloud-based IoT solutions to help retailers use Big Data and IoT.

SEAT



SEAT

Launch date: 1950

SEAT (or Sociedad Española de Automóviles de Turismo) is an automobile manufacturer headquartered in Martorell, Spain. The company was founded in 1950 and is currently an owned subsidiary of the Volkswagen Group. SEAT has been researching connected car developments with companies such as SAP and Samsung for solutions like parking reservations and payments as well as digital key sharing.

SECTOR **QUBE**



SECTORQUBE

Launch date: 2011

SectorQube has developed Maid, a smart oven that sets the time and temperature according to number of servings and a user's personal preferences. Maid comes with an intelligent personalization engine that learns user preferences and is connected to an online recipe store. The oven can be controlled and managed by using its touchscreen or through voice and gestures.



Seebo offers an integrated platform intended to help manufacturers create, develop, analyze, integrate and build IoT products.



Sensoria develops wearables that track and communicate data like body weight, eversion and in-footwear pressure. The data is analyzed and displayed in the user's mobile device.



Sentry is an all-in-one home controlling solution helping users make their homes safer and smarter. The device comes with a 120-degree wide-angle camera and sensors that track environmental health including temperature, humidity, air quality and weather. Users can connect and control other smart devices and get mobile notifications whether any unusual activity or change in the home environment is detected.



Skyhook is a global location network that, by georeferencing mobile users, allows companies to deliver more personalized content. The company's location engine is based on Wi-Fi data that is combined with information from GPS, cell towers, IP addresses and device sensors, and its services are suitable for different industries, including app development, advertising, device manufacturing and wearable design.



SmartDrive offers solutions for corporate fleets. Its offerings include security programs, an open analytics platform, and transportation intelligence intended to improve safety and identify opportunities for greater operational efficiency.



Software AG is a software developer whose solutions apply to a range of different industries, including IoT, banking, energy, government and retail. The company's IoT solutions include Terracota, a data management platform, location-based marketing capabilities, location analytics and manufacturing products such as equipment predictive maintenance energy theft detection.



Somfy offers outdoor home products like smart gates, doors, window shutters and alarm systems that can be managed from a mobile app.



Sony Corporation products range from categories such as television and audio/video solutions to semiconductors, medical equipment and digital imaging developments. The Japanese company has introduced IoT technology in different equipment they develop, starting with their mobile and tablet devices and now including smart TVs and wearable products like watches or wristbands.



Sophos provides IoT security services that work to protect devices, data and key processes from malicious malware code and dangerous cyber activity. Among other services, the company offers endpoint, encryption, email, web, mobile, network security and UTM products, as well as a range of tools for home users.

STATSports®

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STATSPORTS

Launch date: 2007

STATSports provides sports science and performance analytics. Its performance tracking systems can calculate more than 50 metrics in real time and store all data into a cloud infrastructure. The STATSports Apex tracking device connects via Bluetooth LE to multiple devices, including heart rate sensors, EMG shorts, smart watches and tablet devices.

 **striim**

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STRIIM

Launch date: 2012

Striim is a real-time data integration and streaming analytics software platform. The company integrates IoT data to provide data analytics and protect users against cybersecurity threats. Striim for IoT combines real-time sensor data with other enterprise data from databases, log files, message queues and cloud environments.

swatch® 

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SWATCH

Launch date: 1983

Swatch produces smart watches and other wearables. The company's Touch Zero One smartwatch was specially designed for beach volleyball players and gives users the ability to calculate steps, track calories burned, set goals and check progress. Users can also connect Swatch devices to their smartphones and use an application to check performance insights.



Symantec

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SYMANTEC CORPORATION

Launch date: 1982

Symantec Corporation provides cybersecurity services through its anti-virus software Norton. It also offers integrated solutions to defend against attacks across endpoints, cloud and infrastructure. Symantec Corporation has also developed a router to which IoT-enabled devices can securely connect in a single action.



TAGHeuer

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TAG HEUER

Launch date: 1860

Tag Heuer's smartwatch collection has been manufactured in collaboration with Google and Intel. The TAG Heuer Connected Modular 45 collection offers customized designs, GPS, time management tools and water resistance. The device is also connected to a mobile app.

**TELETRAC
NAVMAN**



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TELETRAC NAVMAN

Launch date: N/A

Teletrac Navman offers GPS-based fleet management and optimization products and services. Its products include real-time vehicle tracking, electronic logging, communications and analytics designed to enable companies to monitor, measure and improve operational costs and efficiencies.

TERADATA  **TERADATA**
Launch date: 1979

Teradata develops a range of solutions that apply to the Internet of Things industry, with options like Teradata Unified Data Architecture, which allows businesses to organize and leverage data, or Teradata Aster Analytics, which allows for data visualization and analytics.

tile  **TILE**
Launch date: N/A

Tile provides devices, a network and mobile app that use Bluetooth technology to assist users in locating keys, wallets, phones and other items.

Token  **TOKEN**
Launch date: 2015

Token offers a biometric-based wearable ring designed to make payments and provide authentication in place of ID credentials, internet passwords or at physical locations. Its product also can be used with specialized company-made locks to unlock home or compatible car doors.



TOMTOM
Launch date: 1991

TomTom designs and develops navigation and mapping products for cars, motorcycles, scooters and trucks and provides fleet management solutions. The company also offers GPS smartwatches and accessories for running, fitness, golf and other activities.



TOVALA
Launch date: 2015

Tovala has designed a Smart Oven that can steam, bake, broil and heat prepackaged meals that the device, after scanning the code they come with, will know how to cook. The oven can also connect to the user's phone using its own app, which allows for tracking of the cooking time.



TOYOTA
Launch date: 1987

Toyota, the Japanese car manufacturer, has integrated IoT technology into their automobiles. Entune, the service the company developed for connecting mobile devices with cars, allows drivers to access their playlists or use voice recognition commands. Toyota also delivers security-connected solutions that can assist in cases of collisions, needing emergency assistance or locating stolen vehicles.



TRACKX
Launch date: 2013

TrackX is a software solutions provider. Its products focus on asset tracking, inventory management and supply chain solutions, all using a cloud-based asset tracking platform, GPS, RFID and sensors.



TRITONWEAR
Launch date: N/A

TritonWear develops wearables that allow coaches and their athletes to track performance through their mobile devices in real time.



TRUSTONIC
Launch date: N/A

Trustonic is a device security company that provides security for connected devices, associated services and applications.



UBIGREEN
Launch date: N/A

Ubigreen is a technology company that develops turnkey solutions. Its offerings include web apps to monitor and control energy use or other operations in a building or other site.



UNDER ARMOUR
Launch date: 1996

Under Armour products include apparel developed for controlling body heat and intelligent items concentrated on tracking the user's performance. The company's interest in IoT applications pushed the acquisitions of fitness apps such as MapMyFitness and MyFitnessPal.



VIEW
Launch date: 2007

View Dynamic Glass' window tint tech helps to control the temperature inside a room, saving energy and improving comfort. The device can adjust automatically to the time of the day, the angle of the sun and weather conditions, taking into account the geolocation of the building and its architectural design. The solution also provides data for the user to track energy efficiency.



VIMOC
Launch date: 2012

VIMOC Technologies is a platform provider for Landscape-Computing, enabling the deployment of solutions for the Internet of Things and smart city implementations. The platform is provided through a scalable API that facilitates sensory data access with built-in statistical analysis and a workloads distribution framework.



vinli™



VINLI
Launch date: 2014

Vinli is a small device that can be connected to a car to provide services including connectivity and apps. Using a 4G LTE network, Vinli can also be used as a Wi-Fi hotspot to allow passengers to stream movies or download games. The company also offers apps covering security, social engagement and other utilities, such as sending notifications if a collision occurs.



VISA
Launch date: 1958

Visa is an American multinational financial services company focused on the transfer of electronic funds. The company's portfolio includes Visa-branded credit, debit, commercial, prepaid, mobile and money transfer. VisaNet is the technology behind the company's payment processing solution, which provides its services at a worldwide level.

vivint.
SmartHome[™]



VIVINT

Launch date: 1999

Vivint is a smart home services provider focused on connected home automation and home security cameras and devices, all controllable by an app.

WEBROOT[®]



WEBROOT

Launch date: 1997

Webroot works on endpoint security and threat intelligence services, providing solutions for businesses and individuals. Webroot developed its own IoT cybersecurity tool, and also produces its BrightCloud Threat Intelligence for IoT Gateways.

WD **Western**
Digital[®]



WESTERN DIGITAL

Launch date: 1970

Western Digital is a data storage company using both the cloud and data center storage. It provides clients with software as well as hardware like hard drives and storage devices.



Whistle Labs is an intelligent device manufacturer offering pet owners a smart GPS tracker to monitor pets' locations, activity and rest cycles. The Whistle app helps prevent lost pets by sending users notifications when a pet leaves a designated "safe space."



WIS@key is an information security and identity management company that works on data protection and identification, and authentication of people and objects over physical infrastructures, networks and the internet. The company focuses on the IoT industry and developed a security platform covering identity management, transaction assurance and process integration.



Xiaomi manufactures and develops hardware, software, and internet services. Xiaomi offers a range of internet connected devices that includes smartphones, TVs, notebooks, wearables, drones, earphones and more. In addition, the firm develops mobile applications such as MiTalk and an operating system called MIUI.

spend.



X LAB

Launch date: 2016

X Lab is the company behind Spendwallet, an electronic wallet that can store the user's credit, debit and gift cards. The device can also be synchronized with users' phones.

xped



XPED LIMITED

Launch date: 2008

Xped Limited is an IoT technology business. Among others services, the company has developed the Auto Discovery Remote Control (ADRC) platform, which is designed to enable users to connect, control, monitor and manage their devices and appliances from a single app.



YOKOGAWA

Launch date: 1915

Yokogawa's portfolio of solutions includes cloud-based data sharing services for data collaboration for supply-chain collaborations and optimization. It also offers cybersecurity solutions.



ZEBRA



ZEBRA TECHNOLOGIES
Launch date: 1969

Zebra Technologies develops tracking technology and solutions that allow companies to know where and in what conditions things are. Zebra products cover a wide range of devices and software, from mobile computers and printers to location solutions and RFID bands. Zebra's technology can also be used in different industries like health care, manufacturing and retail.



ACLARA
Launch date: N/A

Aclara Technologies LLC provides smart infrastructure solutions (SIS) for water, gas and electric utilities worldwide, including meters and various communications networks.



Activity
Connecting with intelligence



ACTIVITY
Launch date: 2010

Activity's ThingPark is an IoT-enabler platform for the deployment and management of LPWA networks. The software solution is aimed at allowing communication service providers, device manufacturers and application suppliers to develop IoT applications in vertical markets such as smart cities, energy and utilities or industries.



ADVANTECH
Launch date: 1983

Advantech provides embedded M2M/IoT module integration services and wireless solutions for M2M communication including Bluetooth, WiFi, 3G/LTE and GPS modules.



AERIS

Launch date: 1992

Aeris Communications is a technology provider and a cellular network operator delivering comprehensive IoT / M2M services to the automotive, energy, transportation, retail, and healthcare industries. Aeris offers a complete stack of technology from an online management portal to an application enablement platform and cellular connectivity networks.



AEROHIVE NETWORKS

Launch date: N/A

AeroHive Networks, together with its subsidiaries, designs and develops cloud networking and enterprise Wi-Fi solutions. These include hardware, software-as-a-service (SaaS) subscriptions and tiered maintenance and support services.



AFERO

Launch date: 2015

Afero offers an IoT Platform as a Service solution that allows for the development and deployment of connected devices. The system is powered by Afero Cloud, which provides services for the development and operation of connected things. The company also helps developers with processes like monitoring, management and prototyping.



AGILITYIO
Launch date: 2011

AgilityIO offers software solutions to translate ideas and products into digital and Internet of Things (IoT) products. The company handles software development, UX/UI design and product management through the process of idea conception to retail.



ALTOROS
Launch date: 2001

Altoros is a software and open-source development company providing hardware, software and guidance to clients. It uses Java/.NET/Ruby architecture to create cloud-native IoT applications for companies, and offers Smart Baggage Tracking software for private customers.



AMAZON
Launch date: 1994

Amazon Web Services has developed a cloud computing platform providing services such as application hosting, databases and content delivery. The company's IoT consists of a cloud platform that allows businesses to connect devices to Amazon services as well as to other devices, secure and process data, and enable applications to interact with those devices.



AMDOCS

Launch date: 1982

Amdocs provides software and services to communications and media companies. Its solutions are designed to enable digital and network transformation. The company offers a suit of IoT solutions, including Amdocs Connected Home, a cloud-based solution delivering monitored smart home security services. In addition, Amdocs IoT Services Enablement Platform enables IoT ecosystem players to offer integrated and easy-to-activate global consumer and industrial IoT services.



ARM

Launch date: 1990

ARM designs energy-efficient processors and related technologies for digital electronic products ranging from sensors to servers. The company has developed the ARM mbed IoT Device Platform, a solution that provides open standards based on a common platform and an ecosystem for IoT development and connectivity to make IoT work at scale, from device to cloud.



armis



ARMIS

Launch date: N/A

Armis Security is an agentless IoT security solution that allows enterprises to see and control any device or network.



ARRAYENT
Launch date: 2002

Arrayent offers an IoT platform that enables manufacturers to transform traditional products into connected devices. It also offers an end-to-end solution that offers secure access to customer and product data.



ARUBA
Launch date: N/A

Aruba Networks develops operating systems for both wired and wireless network infrastructure, provides remote access services and offers data security solutions.



ARVIEM
Launch date: N/A

Arviem is an independent global cargo tracking and monitoring service provider. Its IoT monitoring device mounts on cargo containers and communicates over phone or satellite networks.



at&t



AT&T

Launch date: 1976

AT&T provides a wide range of IoT solutions, including connectivity of devices and development platforms that can be applied to industries from vehicles and smart cities to health care and machinery.



AUTODESK®



AUTODESK

Launch date: 1982

Software developer Autodesk offers Fusion Connect, an IoT Cloud Service, to connect, analyze and manage remote products. The software provides its customers analytics and insight automatically extracted from their IoT devices, enabling them to identify products performance and failures.

AVNET®



AVNET

Launch date: 1921

Avnet provides organizations with component and services solutions for IoT. It helps companies in deploying IoT and adding new functionalities, such as security and connectivity. Avnet offers components for industries such as automotive, home automation, energy, industrial and wearables, among others.



AYLA NETWORKS
Launch date: 2010

Ayla Networks is an IoT platform provider. Its platform is comprised of three elements: Ayla Embedded Agents, Ayla Cloud Services and Ayla Applications Libraries, which together allow devices to connect to the cloud and applications while providing tools to manage, provision and analyze IoT deployments.



BASTILLE
Launch date: N/A

Bastille offers an enterprise security solution designed to include full-spectrum scanning of corporate airspace. Its solution works to detect wireless risks and use machine learning and behavioral analytics to offer companies a more informed view of wireless environments, complementing Wi-Fi and traditional security architectures.



BELDEN
Launch date: 1902

Belden manufactures and sells a comprehensive portfolio of cable, connectivity and networking products for the transmission of signals for data, sound and video applications. Its products are designed for a variety of markets including industrial, enterprise, broadcast, transportation, energy and consumer electronics.



Belkin offers internet networking products including Ethernet and wireless adapters and wireless routers. Besides developing connectivity solutions, the company has created WeMo, a Wi-Fi-based home automation network that includes smart lighting systems, Wi-Fi-connected cameras, smart plugs and light switches.



Bitreactive offers a visual programming tool enabling Java developers to program embedded software for IoT devices. The firm serves clients in logistics, telematics, automotive, oil and gas, home automation, smart energy, smart cities and building control industries.



Broadcom is a provider of semiconductor technology. The company is primarily focused on wired infrastructure, wireless communications, enterprise storage and industrial markets.



CA TECHNOLOGIES
Launch date: 1976

CA Technologies supports companies' transitions to use smart technology, and monitors, manages and secures clients' information technology (IT) infrastructure and applications.



CALAMP
Launch date: 1981

CalAmp provides communications devices, cloud platforms and software applications. Its IoT cloud enables companies to collect, monitor and report data and intelligence from remote assets.



Cambium Networks



CAMBIUM NETWORKS
Launch date: 2011

Cambium Networks is a provider of wireless broadband point-to-point and point-to-multipoint platforms. It offers sustainable communication networks for companies, enterprises, governmental and military agencies, and the firm's services also include network monitoring, measurements and analytics.



CENTRI

Launch date: N/A

CENTRI focuses on IoT security. Its technology is designed to integrate into organizations' exiting applications and services in the cloud, data centers, connected devices and products to secure the organizations' data. Its solution offers tools including encryption and the establishment of trusted devices.



CHRONICLED

Launch date: N/A

Chronicled is a technology company using blockchain and the Internet of Things (IoT) for supply chain solutions. It offers a decentralized protocol and network, and serves the pharmaceutical, commodities and precious metal and mineral verticals.



CISCO

Launch date: 1984

Cisco develops internet protocol-based networking technologies. Their products include routing and switching devices, home networking technology, IP telephony, optical networking, security, storage area networking, and wireless technology. Cisco also provides technologies covering connectivity, security, software and data management.



CLEARBLADE

Launch date: 2007

Clearblade is a platform for the industrial Internet of Things that enables developers to engineer and run real-time, scalable IoT applications. Deployable in any vendor cloud, on-premise or in hybrid environments, ClearBlade allows companies to build Enterprise IoT solutions that make streaming data actionable by combining business rules and machine learning with visualizations and integrations to existing business systems.



CLOUDERA

Launch date: 2008

Cloudera provides end-to-end data management services including a data storage and analysis platform. It provides and supports Apache Hadoop-based software to businesses.



COMCAST

Launch date: 1963

Comcast is a media and technology company. The company provides customers with video, high-speed Internet and phone services under the name of XFINITY. The company also offers XFINITY Home, a platform that integrates the user's smart home devices into one personalized platform.



COMFY

Launch date: 2012

Building Robotics is the developer of Comfy, a service that allows office workers to change the ambiance of their workplace. Workers can personalize temperature, lighting, window tint and more. Changes can also be applied in specific areas, allowing each worker to adjust conditions of their workplace without bothering others.



COMMSCOPE

Launch date: 1976

Commscope designs, builds and manages wired and wireless networks. Their services include incrementing bandwidth and existing capacity, improving network performance, increasing energy efficiency and the simplification of technology migration.



COVISINT

Launch date: 2000

Covisint is a cloud platform for the development of identity and IoT applications that enables customers to identify, authenticate and connect networks of people, processes, systems and things.



CROWDOPTIC
Launch date: 2010

CrowdOptic provides middleware for wearables that allows enterprises to manage wearable computing devices in the field from a single platform.



CYPRESS
Launch date: 1982

Cypress manufactures semiconductors and electronic products for the automotive, industrial and consumer markets. Among other products, the company develops PSoC-programmable, system-on-chip solutions, capacitive touch-sensing controllers, Bluetooth Low Energy (BLE) and USB connectivity solutions.



DATASTAX
Launch date: N/A

DataStax, Inc. provides database software and data management. Its solutions include a distributed cloud database built on Apache Cassandra architecture and designed for hybrid cloud. DataStax's offerings aim to support management and analysis of large amounts of time- and sensor-based information.



DAVRA

Launch date: 2011

Davra provides organizations with an AEP platform for the development of IoT applications. The platform has been designed to control all elements of the IoT Edge Gateway.



DeviceHive



DEVICEHIVE

Launch date: 2012

DeviceHive is an IoT data platform. The company's platform enables device integration and offers services to connect smart devices to public and private clouds. The platform collects and analyzes data from devices such as sensor networks, smart meters, security systems, telemetry, industrial or smart home devices.

**DEVICE
INSIGHT**



DEVICE INSIGHT

Launch date: 2003

Device Insight has developed a IoT platform solution called CENTERSIGHT® that offers tools to monitor IoT and M2M devices. The platform provides operating data insights and analytics, error reports, machine configuration features, alarming and more. The CENTERSIGHT® platform can be used in the following markets: industry & automation, connected products, telematics & fleet management and energy & smart city.



DeviceSolutions®
Imagination. Realized.

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DEVICE SOLUTIONS

Launch date: 2003

Device Solutions provides solutions for three main areas: engineering consultancy, testing and certifications of products for network providers and its own service, Cellio. Cellio is an end-to-end solution that connects, computes and communicates information from the IoT. It is made from sensors, a cellular communication gateway and cloud-based software.



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DIGI INTERNATIONAL

Launch date: 1985

Digi International develops M2M and IoT connectivity products such as embedded modules, gateways, routers and USB and serial connectivity devices. The firm offers remote device managing solutions and wireless design services. Digi International's products are designed for energy, smart cities, medical, industrial, retail and transportation markets, among other industries.



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D-LINK

Launch date: 1986

D-Link offers networking solutions as well as Smart Home ecosystems. Their products include surveillance cameras and recording devices, networking tools including routers and extenders as well as automation solutions.



ELECTRIC IMP
Launch date: 2011

Electric Imp offers an Internet of Things platform that securely connects devices with cloud computing services. The platform helps manufacturers to manage and quickly scale their connected products and services to millions of users. In addition, the solution enables users to monitor and update products in the field at any time and have access to real-time manufacturing insights.



ERICSSON
Launch date: 1876

Ericsson's Internet of Things solutions cover a wide range of capabilities and functions including service enablement, data analytics and billing, data connectivity, and standardized APIs. Ericsson's products include its Smart Metering as a Service, an end-to-end automatic meter and data management solution.



ESEYE
Launch date: N/A

Eseye is a global provider of machine to machine (M2M) cellular connectivity for the Internet of Things (IoT). It aims to simplify enterprises' global device deployments.



ETISALAT
Launch date: 1976

Etisalat is a telecommunications company offering coverage of 3G and 4G mobile technologies, and is currently working with 5G services. The firm offers machine-to-machine (M2M) solutions and controlling and monitoring services for both government and enterprises.



EUROTECH
Launch date: 1992

Eurotech researches and develops connected hardware. It supplies products such as computer boards, modules, computer devices and systems, and offers software to create machine-to-machine (M2M) and IoT applications.



FILAMENT
Launch date: N/A

Filament provides blockchain hardware and software solutions for enterprise and industrial Internet of Things (IoT). The solutions enable secure connections, allowing devices and machines to safely interact and transact value.



FLEXERA SOFTWARE

Launch date: 2008

Flexera Software develops software licensing, compliance, cybersecurity and installation solutions designed to help application producers and enterprises manage application usage and increase security. The company's FlexNet Producer Suite for intelligent device manufacturers is a part of a strategic solution for application usage management.



FLEX LTD.

Launch date: 2004

Flex designs, manufactures and distributes IoT products and offers a range of aftermarket services. Flex services include prototyping, design, manufacture and logistic distribution, as well as its retirement of the market. The company also offers its expertise in a range of products from sensors and connectivity to security and software.



FOGHORN

Launch date: N/A

FogHorn Systems is a multi-tier Internet of Things (IoT) application deployment platform that bridges information technology.



GENERAL ELECTRIC

Launch date: 1892

General Electric is rolling out IoT tools for a range of industries that includes automotive, aviation, chemical, food and beverage, healthcare, oil and gas. Predix, one of the company's main IoT solutions, is an operating system and platform for building applications that connect to industrial assets, collect and analyze data, and deliver real-time insights.

Globetouch



GLOBETOUCH

Launch date: 2010

Globetouch provides connectivity, management and deployment services for M2M and IoT solutions. The company offers GConnect, a platform enabling IoT connectivity through CloudSIM technology. The company's GControl platform provides IoT connectivity management tools to launch and manage IoT services.



GOOEE

Launch date: 2014

Designed for residential, commercial, retail, hospitality and industrial applications, Gooee has developed an enterprise scale IoT lighting ecosystem which provides sensing, control and communication components enabled to integrate with an enterprise scale cloud platform for lighting manufacturers to 'connect' to the IoT.



Google Inc. develops a family of technology products that go from the known search system, desktop tools and operating systems to communication hardware, payment solutions and wearable devices.



Hologram is a platform for building IoT products with a focus on cellular. The cloud-friendly Hologram Cellular Platform enables users to connect devices to the internet. The company also offers software that allows users to talk to their devices, route incoming and outgoing messages, and open up secure PPP sessions via secure API.



IBM develops an array of solutions among industries such as analytics, commerce, security, cloud and mobile. IBM's Watson IoT platform extends the power of cognitive computing to the Internet of Things. The platform enables the connection of devices and the application of cloud- based services like device management, predictive and real-time data analytics or information management.



iBot Control Systems is a research and development company. It provides a platform and other software intended to help manufacturers and other businesses use the IoT.



Impinj has developed a platform comprised of hardware and software using AIN RFID to wirelessly connect IoT. The platform provides businesses with real-time insights about their connected devices, and the company also offers gateways and reader chips.



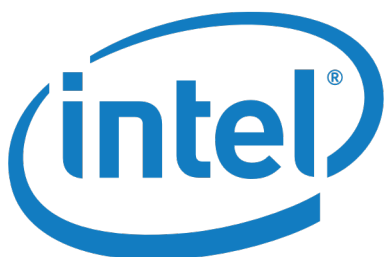
Infinera Corporation provides optical transport networking solutions, equipment and software and services worldwide.



INGENU

Launch date: 2008

Ingenu enables long-range, low-power connectivity for IoT and machine-to-machine communication. Its wireless network serves a wide range of industries including smart cities, fleet management, smart agriculture, usage-based insurance and connected cars.



INTEL

Launch date: 1968

Intel allows companies to improve real-time decision-making, boost revenues, and lower costs by using its end-to-end platform of IoT solutions. The company's platform provides reference models and a portfolio of products based on foundational technologies that let companies connect, secure, and manage valuable data from existing business assets that were previously unconnected from new smart and connected things.



INTERDIGITAL

Launch date: 1972

InterDigital provides wireless technologies for mobile devices, networks and services. The company has developed solutions used in digital cellular and wireless products and networks, including 2G, 3G, 4G and IEEE 802-related products and networks.



Iridium is a mobile satellite service company offering global coverage. The Iridium cross-linked satellites provide voice and data services for areas not served by terrestrial communication networks. The company's solutions are intended for industries such as maritime, aviation, government/military, emergency/humanitarian services, mining, forestry, oil and gas, heavy equipment, transportation, and utilities.



Itron provides end-to-end solutions to measure, manage and analyze worldwide energy and water usage. These include smart electricity, gas and water meters, smart network technologies and meter data management software.



Kii develops platform which allows the building and running of IoT programs. The platform helps connect devices to the cloud and allows users to monitor and manage them. The service also provides analytic insights and app development tools and support features such as geolocation, user and data management and A/B testing.



KORE

Launch date: 2011

KORE is an IoT/M2M service provider and developer of machine-to-machine network connectivity solutions, offering global coverage through GSM, CDMA and satellite data services. The company's products portfolio also includes Position Logic, a GPS tracking software, KORE Systems, an M2M connectivity management service, and Global Connect, a GSM-based, cellular IoT and M2M communications services available in 180 countries."



KPN

Launch date: 1915

KPN is a telecommunications provider of network services such as IP-VPN, E-Line, E-LAN, corporate internet, managed videoconferencing, international private line, wavelength, IP transit and dark fiber. The company also offers device management and network analysis reporting.



KYOCERA CORPORATION

Launch date: 1959

KYOCERA Corporation is an electronic technology provider manufacturing multiple mobile devices. The company offers multiband modules supporting LTE, UMTS and GSM, and are designed for automotive and various M2M applications.



Lantronix is a provider of secure data access, connectivity and management solutions for IoT and IT assets.



Link Labs offers low-power, wide-area network technologies for IoT. Its Symphony Link solution connects enterprise or industrial IoT devices to the cloud. The company also offers an end-device-certified LTE Cat-M1 modem for battery-powered application.



LORIOT AG develops enterprise software for LoRaWAN and end-to-end applications. It serves businesses, cities, municipalities and wireless network operators.



LPRS



LPRS

Launch date: N/A

LPRS provides low power radio frequency solutions (LPRS) for original equipment manufacturers (OEMs). It manufactures and supplies radio modules, antennas and sensors for the industrial, scientific and medical markets.

M2M



INTELLIGENCE



M2M INTELLIGENCE

Launch date: 2011

M2M Intelligence offers multi-network SIMs letting users connect their IoT devices. The SIMs are designed to maximize the area from which the devices can get connected, enabling them to reach better, alternative networks. The firm has also deployed the M2M Insight, a management portal allowing users to manage the performance of every device's SIM on a one-page dashboard.

mnuvo



MNUBO

Launch date: 2012

Mnuvo provides Big Data and analytics to the IoT and machine-to-machine (M2M) space. The company assists with the development of "smart objects" and works with clients in the wearables, home, automotive, industrial and health care spaces.



MongoDB offers a document database solution. It is designed to help businesses in a variety of industries leverage data to create new security applications and improvements.



Movidius develops vision processor chips, software and development tools. Movidius products can be applied in different industries like robotics or smart security.



Part of the Avanquest, myDevices develops a white label IoT platform providing a range of services, including device installation, activation, communication and management. The solution allows for data management capabilities, including real-time streaming and analytics/ visualization capabilities. The service also includes features like subscription management and back office tools.



NETBURNER
Launch date: 1998

NetBurner offers development kits for IoT devices, enabling developers to create or modify IoT devices. NetBurner also offers Ethernet servers and core modules for network enabling.



NEURA
Launch date: 2013

Neura is an IoT data management company designed to protect the user's privacy. Neura establishes a digital identity for the user, which can be managed exclusively by him/her. It then allows the user to connect their account to the technology they use in order to exchange personal data for services that companies can customize.



NEXCOM
Launch date: 1982

NEXCOM is an intelligent solutions provider. Its primary focuses include the IoT, intelligent platforms and services, IoT automation solutions, intelligent digital security, mobile computing solutions and network communication solutions.



Nexenta provides open-source, software-based enterprise storage solutions. These include cloud and virtualization-optimized storage management and plugins.



Nutanix Inc. develops and provides enterprise cloud operating system software. Its offerings include infrastructure, data protection, big data and other solutions for the education, energy and utilities, financial services, healthcare, retail, service provider, state and local government and the U.S. government.



NXP focuses on the development and deployment of automotive semiconductor solutions and general purpose microcontroller products.



OPTION WIRELESS TECHNOLOGY



OPTION

Launch date: 1986

Option offers wireless solutions enabling machine-to-machine (M2M) communication. The solutions also provide M2M security, processing and management services. Option's solutions are designed for the retail, transportation, smart-building, smart city, smart energy and smart home markets.

ORACLE®



ORACLE

Launch date: 1977

Oracle develops and offers cloud applications, platform services and engineered systems. The company's IoT solutions allow businesses to connect data from devices, perform real-time data, and predictive analytics and allow enterprise and mobile applications to control devices. Oracle IoT cloud services also allow for different features including endpoint management and integration standardization.



ORANGE

Launch date: 1988

Orange is a Spanish telecommunications corporation that offers M2M connectivity solutions. The company has rolled out a range of complementary LPWA (long-range wide area) solutions as well as LTE-M technology across its 4G networks in Europe.



ORBCOMM
Launch date: 1993

ORBCOMM is a machine-to-machine communications solutions developer which operates a commercial satellite network dedicated to M2M. The company's services include global satellites, cellular and dual-mode network connectivity, hardware, web reporting applications and software. The solutions are focused on the tracking, monitoring and controlling fixed and mobile assets in industries including transportation, oil and gas, heavy equipment, and government.



Particle
Launch date: 2011

Particle is an IoT device platform that enables businesses to build, connect and manage their connected solutions in an easy way. Particle securely connects devices to web and mobile apps so that users can securely control and collect data from their devices. Their portfolio of products includes the Particle Cloud, a cellular IoT SIM card and data plan, and cloud-connected microcontrollers.



Plume
Launch date: 2014

Plume offers Plume Adaptive Wi-Fi, a self-optimizing network powered by a cloud that adapts to a user's home in real time so that every room and device receives optimized internet connectivity.



PROGRESS SOFTWARE

Launch date: 1981

Progress Software offers platform and tools for the development of business applications. Its platform enables the deployment of interfaces for different types of devices and offers Big Data connectivity capabilities.



PTC

Launch date: 1985

PTC is an American software company that works on Internet of Things, Augmented Reality and Application Lifecycle Management in addition to other industries. The company's IoT solutions include the ThingWorx Platform, which allows businesses to develop IoT applications, the Axeda Machine Cloud, a cloud-based service for managing connected products and Coldlight, the company's analytics platform.



PUBNUB

Launch date: 2009

PubNub offers developers the ability to connect, scale and manage real-time applications and IoT devices. The PubNub Data Stream Network enables simultaneous device connections into a single network.

qorvo®



QORVO

Launch date: N/A

New!

Qorvo, Inc. provides radio frequency (RF) solutions and technologies for mobile devices, infrastructure, and defense and aerospace applications.

QUALCOMM®



QUALCOMM

Launch date: 1985

Qualcomm designs and markets wireless telecommunications products and services. The firm has developed a wide portfolio of connectivity-based products, enabling connections and interactions across a variety of networks. Its technologies are designed for most of the IoT markets including automotive, smart homes, smart cities, wearables, health care and education.

 **Ruckus**®
Simply Better Wireless.



RUCKUS

Launch date: 2004

Ruckus Wireless provides wireless systems for the internet infrastructure market. The firm has developed a wide range of smart Wi-Fi products for both indoor and outdoor usage. The Ruckus Wireless Wi-Fi platform offers various capabilities, including location analytics and engagement technology.



SALESFORCE

Launch date: 1999

Salesforce is a developer of cloud computing services for sales, service, marketing, community, analytics, apps and the Internet of Things. The Salesforce IoT cloud enables users to connect data from every device, sensor, website, and interactions and take smarter, more personalized actions by getting better insights and real-time customer actions.



SAP

Launch date: 1972

SAP develops a range of products such as a cloud platform that allows users to manage and monitor remote devices, create M2M apps and develop IoT solutions. The company covers many industries, including consumer products and retail, energy and natural resources, and financial and public services.



SCHNEIDER ELECTRIC

Launch date: 1836

The global specialist in energy and automation management Schneider Electric has developed a software infrastructure for smart cities which enables devices, systems and people to connect. The company also offers a real-time condition management solution that collects real-time data from sensors to the cloud, analyses and converts it into meaningful analytics.



SEMTECH CORPORATION

Launch date: 1960

Semtech Corporation develops analog and mixed-signal semiconductor products, and created the LoRa® RF platform, a two-way wireless solution that works as a complement for M2M cellular or Wi-Fi infrastructure. It provides a way to connect battery-operated and mobile devices to the network infrastructure or endpoint. Semtech products also include power management, video broadcasting and circuit protection between others.



**SEQUANS
COMMUNICATIONS**

Launch date: 2003

Sequans Communications is a 4G chipmaker, offering WiMAX and LTE chips designed for IoT devices. The company develops LTE chips for devices such as wearables, smart utility meters, industrial sensors, vehicle telematics, alarm panels and retail kiosks.



SIEMENS

Launch date: 1847

Siemens is a technology company offering electronics and electrical engineering services for the automation industry, energy and health care markets. The company offers applications of IoT technologies focusing on electrification, automation and digitalization. Applications include wind turbines connected with sensors, smart factories and IoT security solutions.



Sierra Wireless offers wireless solutions and has developed a portfolio of 2G, 3G and 4G embedded and networking solutions (routers and gateways), integrating with their secure cloud and connectivity services and management solutions. Its networking solutions provide connectivity, location-based services and remote monitoring.



Sigfox is wireless network provider with networks designed to connect low-energy devices. Sigfox works to enable low energy consumption, device-to-cloud connectivity and a system to collect data from sensors and devices.



Silicon Labs is a provider of silicon, software and tools for the IoT, internet infrastructure, industrial automation, consumer and automotive markets. Among others, the firm offers microcontrollers, wireless system-on-a-chip services and sensors for the IoT as well as advanced timing and power management chips for internet infrastructure and industrial automation.



**SILVERSPRING
NETWORKS**

Launch date: 2002

SilverSpring Networks offers a comprehensive suite of IoT networking solutions for critical infrastructure. The SilverLink Network provides cities and utilities worldwide with solutions for smart electricity, gas, water and city services.



SKYWORKS

Launch date: 1962

Skyworks wirelessly provides analog semiconductors to connect people, places and things across applications within the automotive, broadband, cellular infrastructure, connected home, industrial, medical, military, smartphone, tablet and wearable markets. Its IoT product portfolio includes amplifiers, attenuators, front-end modules, power management and switches.



SORACOM

Launch date: 2014

Soracom is a platform enabling data transmission and connectivity for IoT/M2M. The firm offers mobile data transmission using LTE/3G lines as a means of communication. The platform also allows users to manage and monitor the IoT devices.



SORBA

Launch date: N/A

SORBA provides platforms and services. The company's offerings are designed to gather and analyze data from sensors, and include industrial data collection, machine learning and predictive analytics.



SPRINT

Launch date: 1899

Sprint provides wireless and wireline telecommunication services to consumer, business and government users. Through its various subsidiary companies, Sprint also offers wireless voice, messaging and broadband services.



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STMICROELECTRONICS

Launch date: 1987

STMicroelectronics is a semiconductors producer for several industries, including micro- electro-mechanical systems and sensors, power discrete, advanced analog products, and embedded processing solutions. It also has an automotive products portfolio including elements going from powertrain, safety and car body to infotainment.



STORMAGIC
Launch date: 2006

StorMagic provides a digital storage area network. Its offering can be used IoT projects that require small IT footprints.



SYNAPSE WIRELESS
Launch date: 2008

Synapse Wireless provides software, hardware, and networking solutions to develop, deploy and manage connected devices. Its SNAP solution is designed to help businesses develop, connect, control and manage networks of “Things” (devices and gateways), securely. SNAP enables the integration between the Things of IoT with Cloud-based IoT Platforms. Synapse also offers a range of hardware products including modules and wireless lighting controls.



TAOGLAS
Launch date: 2004

Taoglas is a provider of external, embedded and base station antenna solutions for M2M applications. The firm enables wireless device manufacturers with telematics and automotive, smart-grid, metering and telemetry, home automation, remote monitoring and medical applications.

TELE2



TELE2

Launch date: 1986

Tele2 is a telecom operator offering mobile services, fixed broadband and telephony, data network services, cable TV, and content services. The company delivers connectivity and enables management of the IoT connections.

Telefonica



TELEFONICA

Launch date: 1924

Telefonica is a platform provider enabling an automated communication process between machines. The company offers connectivity services to a range of industries including automotive, utilities, vending machines, e-health and consumer electronics, among others. Telefonica's platforms boast features like smart device control, business and fleet management as well as connected car and tracking intelligent solutions.



TELENOR

Launch date: 1885

Telecommunications company Telenor offers voice, data, Internet, and content services. Telenor Connexion is a Telenor's dedicated IoT company which offers: a global Managed Connectivity solution that automates the delivery and management of mobile services to connected devices; Telenor Cloud Connect, an end-to-end solution allowing users to add digital services to their products and Telenor ARTS, a data analytics solution especially designed for IoT devices that enables customers to collect data and insights.



TELIT

Launch date: 1986

Telit's portfolio of IoT products includes cellular communication modules, GNSS, short-to-long range wireless applications and IoT connectivity plans. The firm also offers IoT platform services, a suite of management tools enabling connectivity, device and data control. Telit's solutions are used by the smart transportation, agriculture, retail, health care, automotive, oil and gas, smart manufacturing, smart energy and smart buildings industries.



TELSTRA

Launch date: 1901

Telstra offers telecommunications service and information service technologies. The company provides internet solutions for mobile phones, tablets and smart homes. It has also developed a kit of smart home devices including energy automation (with smart plugs and sensors) and a monitoring system (with cameras and sensors).



TEMPOIQ

Launch date: 2016

TempoIQ is real-time IoT analytics platform which offers storage, analysis and insights of data from connected applications. Besides, the service enables users to create alerts and monitor the stream of IoT data and analytics, warning them of any change or critical condition.



**TEXAS
INSTRUMENTS**



TEXAS INSTRUMENTS

Launch date: 1930

Texas Instruments (TI) develops and commercializes semiconductors, wireless connectivity technologies, microcontrollers, processors and analog solutions. The company offers IoT solutions for multiple industries, including wearables, smart manufacturing, health care, automotive, smart cities and home automation.



TUTK

ThroughTek Co., Ltd.



THROUGHTEK

Launch date: 2008

ThroughTek is a solution provider for cloud connection platform. Their main product is the Kalay Platform, an end-to-end IoT solution and software service, enabling solution providers and device manufacturers to easily create their own IoT ecosystems.

T · · **Mobile**®



T-MOBILE

Launch date: 1999

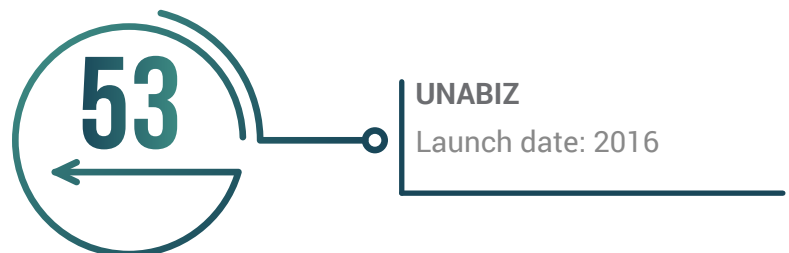
T-Mobile's 4G LTE network delivers wireless experiences to customers. The company offers the M2M Hub, a solution that provides businesses with an online tool to deliver and manage IoT connectivity. T-Mobile also manufactures modules and chipsets to enable connectivity.



UBIQUITI NETWORKS

Launch date: 2005

Ubiquiti Networks manufactures wireless data communication products for enterprise and wireless broadband. Ubiquiti products range from connectivity software, wireless radios, routing and switching products to Wi-Fi-connected video cameras and intelligent phones.



UNABIZ

Launch date: 2016

UnaBiz is the exclusive operator of Sigfox low-power wide-area networks (LPWAN) in Singapore, Taiwan, designed to support IoT products. The company also provides energy-efficient IoT wireless infrastructure and devices.



VERIZON

Launch date: 1983

Verizon Enterprise offers networking products, security solutions and cloud and IT infrastructure services. The company also offers ThingSpace Develop, an IoT platform that allows the users to develop, simulate and test creations.



Vodafone is a communications company that offers business, mobile, hosting and cloud services. The company also works in the machine-to-machine industry, developing M2M terminals, asset tracking, energy data management and retail solutions between others.



ZTE Enterprise develops connectivity products. Its offering includes smartphones, routers and cloud-based management systems. The company also develops railway communication solutions and provides technical consulting services in the energy sector.

About the Tracker

The PYMNTS IoT Tracker™ brings you the latest news, developments and insights from the biggest players across the IoT ecosystem. Each month, we look at what companies are doing across the ecosystem and in terms of bringing greater connectivity to everyday items and expanding connected networks.

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