IoT

Intelligence of Things
Tracker™

USING IOT TECH TO
DRIVE GROCERY SALES

PYMNTS.com

Intelligence of Things Tracker™

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

AIRPORT
Gatwick Airport introduces IoT to monitor trashcans, table vacancies, customer congestion and more.

PAYMENT
Visa, Mastercard and NXP Semiconductors collaborate on a white-label mobile wallet.

RETAIL

SECURITY

INFRASTRUCTURE

SOFTWARE
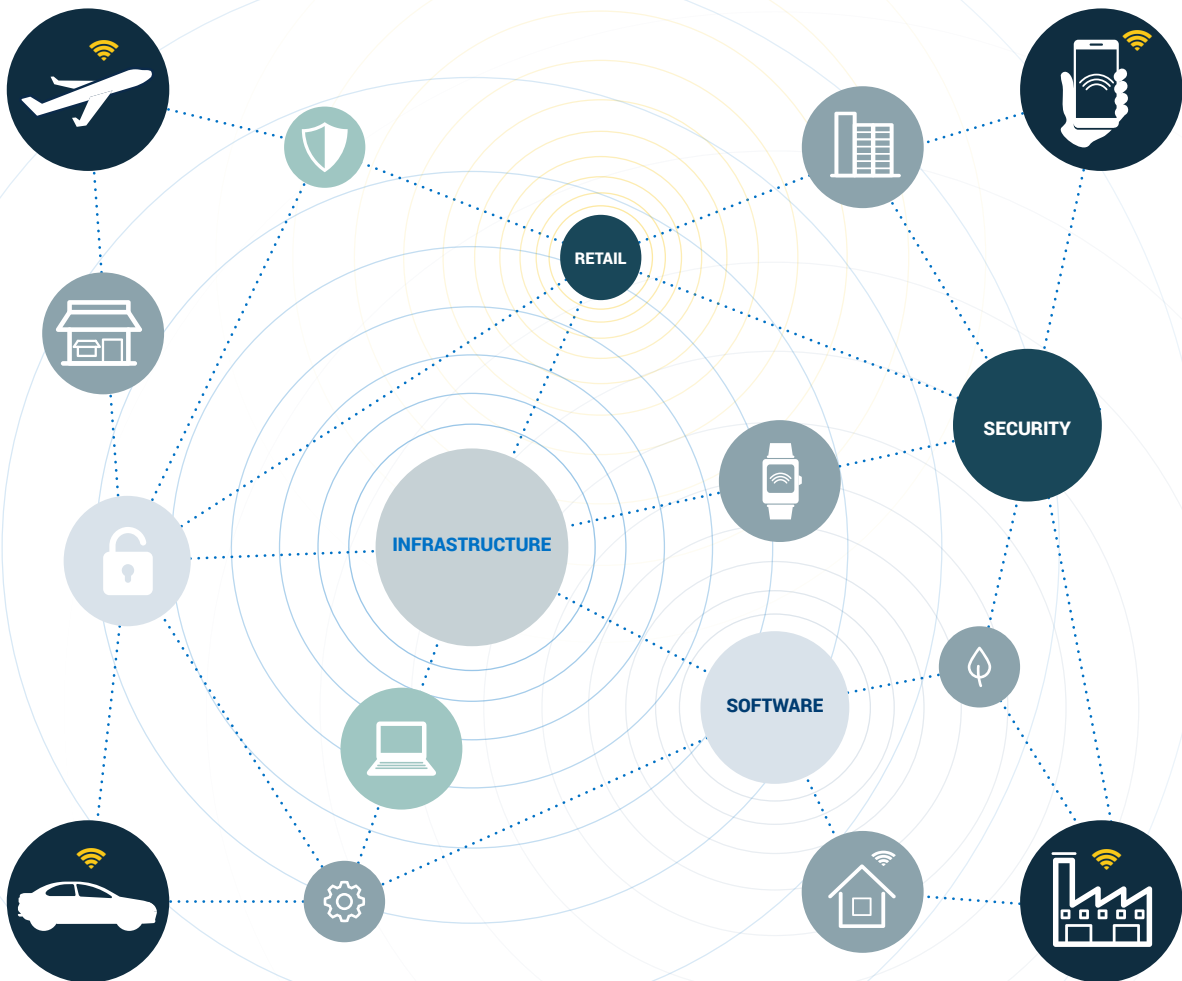
AUTOMOTIVE
Boston approves nuTonomy for city-wide autonomous vehicle testing.

SUPPLY CHAIN
Microsoft, Dell and VMware team up to offer greater insights into supply chains and predictive maintenance.

Which items should get connected — and how — is a question taking on added importance in the Intelligence of Things (IoT) industry.

The sector is growing rapidly, with the number of connectable devices expected to hit 18 billion by 2022 and the IoT healthcare segment anticipating 12.2 percent revenue growth between 2017 and 2024. Many consumers who are happy to wear smartwatches or give commands to Amazon's virtual assistant, Alexa, are balking at the prospect of equipping vehicles with IoT, however — especially if it means putting computers in the driver's seat.

According to a recent AAA report, 73 percent of U.S. drivers said they would be too afraid to use a fully autonomous vehicle — a 10 percent increase in naysayers over the last year. These fears don't seem to be putting the brakes on the self-driving car industry, though, as the city of Boston recently approved autonomous vehicle startup nuTonomy to test its vehicles on city roads.

The news has been met with some trepidation from several government officials. City councilor Michelle Wu remarked that Boston's streets are already known to be unpredictable, causing risks even without introducing this new element.

Meanwhile, IoT may find a smoother ride into the transportation sector overseas. The U.K.'s Gatwick Airport recently introduced IoT heat sensors to track passenger movements and others to monitor table vacancies, customer congestion, waste levels in trash cans and more. In fact, it seems most major IoT players are working to ensure that IoT solutions and connectivity will be there to greet consumers as they travel between countries and through their daily lives.

Around the IoT world:
Telecoms giant AT&T is planning to expand its connectivity solutions in Mexico and the U.S. It already offers LTE-M network infrastructure in the countries, and recently announced plans to roll out narrowband IoT (NB-IoT) infrastructure within the next year. AT&T has seen a rising demand for NB-IoT from its business customers, and its low-power wide-area (LPWA) technologies have been well-received worldwide.

Businesses may get another boost from a new IoT offering intended to provide better supply chain

visibility and insights into predictive maintenance. A Microsoft, Dell Technologies and Dell subsidiary VMware collaboration, the solution combines Dell's Edge Gateways, Microsoft's Azure Edge and VMware's Pulse Center.

Consumers aren't getting left out in the cold, though. Another recent collaboration, this time from NXP Semiconductors, Visa and Mastercard, is looking to give them new ways to pay. The trio has developed a white-label mobile wallet enabling original equipment manufacturers (OEMs) to more quickly and easily incorporate payment features into their products. The first implementation will be in a luxury smartwatch strap made by German company Montblanc.

Adding an IoT boost to in-store marketing

Businesses must understand their customers if they want to remain competitive. They need to know which will be most receptive to which promotions, then send the relevant offers at the moment they're

most likely to make a purchase. For grocers and other retailers that see significant sales at brick-and-mortar locations, that can mean sending offers to willing consumers' mobile phones while they're moving through the stores.

In this month's feature story (p. 7), Michael Klein, director of industry strategy, retail, travel and hospitality for software provider Adobe Experience Cloud, explains how the company's platform solution harnesses retailers' existing in-store sensors and compiled customer data to help make marketing more effective — and why he believes consumers are willing to trade personal information for better deals.

July Tracker Updates

The July Intelligence of Things Tracker™ profiles nearly 290 providers, including eight new additions: Aclara Technologies, Athos, Eaton, Itron, Nexenta Systems, Nutanix, SageGlass and TritonWear.

FIVE FAST FACTS

24
Number of worldwide mobile operators that have launched commercial mobile IoT networks across both NB-IOT and LTE-M

93%
Portion of executives who would pay more for IoT devices with better security

18 BILLION
Estimated number of IoT devices in use by 2022

73%
Share of U.S. drivers who would be "too afraid" to ride in a fully autonomous vehicle

12.2%
Projected CAGR of the IoT healthcare market between 2017 and 2024

USING IOT
TECH TO DRIVE
GROCERY SALES

> *With our analytics and optimization capabilities, we're now able to leverage that data for better [customer] segmentation.*
>
> MICHAEL KLEIN,
> **Adobe Experience Cloud director of industry strategy, retail, travel and hospitality**

S hoe sellers can dust off a pair of unsold sneakers and keep them on the shelf until they sell, but businesses like grocery stores don't have that luxury. Instead, they must keep a tight focus on moving goods out the doors — especially items with an expiration date.

As such, grocers are turning to old retail standbys — sales and discounts — to help spur purchases, and for good reason. One 2017 survey found 38.5 percent of grocery shoppers would buy more if given coupons, and 39.1 percent would buy sooner.

Sales and promotions won't attract customers if consumers don't know they exist, though, and many stores are now working to find improved, tech-fueled ways to better promote their discounted goods. Nearly half of surveyed consumers told PYMNTS they had used a grocery store's app regularly or occasionally last year, with most reporting they did so to get better deals, discounts and price comparisons.

But Michael Klein, director of industry strategy, retail, travel and hospitality at Adobe Experience Cloud, believes IoT may provide a stronger solution yet. In a recent interview, he explained that properly utilizing new tech could help retailers that rely on a brick-and-mortar presence to better connect with customers, reduce inventory inefficiencies and increase revenue.

Zeroing in on shopper segments
Any company planning a new promotion wants that campaign to connect with the right customers — specifically those who are most likely to take advantage of it. That's often easier said than done, however.

Hundreds of customers walk through grocery stores' doors every week, each with a different purchasing plan and his or her own shopping habits. Discerning which of these is most likely to use a promotional price to stock up on a particular item is often like finding a needle in a human haystack.

Klein believes combining in-store IoT offerings with analytics that help with discounting and other marketing campaigns could provide a solution. This could aid retailers with time-sensitive inventory in reaching the consumers who are most receptive to a promotion, hopefully ensuring they act soon and buy before the expiration date.

To that end, the Adobe Labs team is currently beta testing a cloud-based platform to help businesses with large brick-and-mortar footprints provide customers more targeted in-store marketing and services. The would allow retailers to identify the customer profiles most likely to take advantage of particular offers, going beyond one-size-fits-all couponing campaigns to send in-store promotions to customers in the middle of shopping — the time when they're most likely to make or add to a purchase.

Adobe Labs' platform taps into a store's existing customer relationship management (CRM) system and technology such as beacons, radio-frequency identification (RFID) and Wi-Fi triangulation, among other options, Klein explained. It compiles

UNDER THE HOOD

Michael Klein, Adobe Experience Cloud director of industry strategy, retail, trends and hospitality, explains how retailers can use customer data to enhance services and loyalty — without going over the "creepy" line.

"I don't think most of us have an issue with a brand that we patronize understanding what our purchasing behavior has been. There's sensitivity, but the data has shown us that somewhere between 70 [and] 80 percent of consumers are willing to share their information to receive a valuable experience in some way, shape or form. That could be in the form of discounts, special access, events, services — all the different mechanisms and nuances that drive customer loyalty. The challenge is when you go over that 'creepy' line.

There's a lot of sensitivity with the data, but we can all look to the brands that we like, the ones that we patronize. We typically are sharing some fairly intimate data [with them], but we have a certain level of trust, and I think that's where the success is going to be. People are going to stop sharing data with those [brands] that violate those relationships, but if [they] do get a good experience, service or value in response, I think we're going to see consumers continue to share their data with brands that they feel trust and authenticity with."

information from these sensors with consumer data from the store or its supplier partners to identify fine-grained customer segments, such as "shoppers with two children and a preference for sweets," or those who always purchase organic produce.

"We're leveraging a variety of sensors that are available in the marketplace, [and we] acquire the information from those signals and sensors and bring them into the Adobe Experience Cloud," Klein said. "With our analytics and optimization capabilities, we're now able to leverage that data for better segmentation."

Retailers can then send in-store promotions to the customers who are most likely to find the offers relevant and compelling. Customers opt-in by signing up with the store's app, allowing the retailer to send promotions via notifications or SMS messages and detect where they are in the store. If it has an in-store digital display, a retailer could even feature promotional offers when a participating consumer approaches.

"Through opt-in, [we can] recognize a user in the physical space, and then, through other mechanisms, such as our campaign orchestration tools — whether through mobile app or SMS mechanism — [we can] communicate with the consumer," he added

In addition to grocery stores, big-box retailers and apparel sellers, other segments have shown interest in the software, Klein said. Telecoms firms looking to improve in-store customer engagement at their many locations have, too.

Trading privacy for promotions

Grocers and other retailers collect and analyze a wide information set to target the right customers. This often includes consumers' purchasing histories, browsing behaviors, neighborhoods, birthdays and household income ranges, among other factors. While some consumers are wary of privacy violations, Klein said most show a general willingness to trade information in exchange for a service they find valuable.

"There's sensitivity, but the data has shown us that somewhere between 70 [and] 80 percent of consumers are willing to share their information to

receive a valuable experience in some way, shape or form," Klein said. "That could be in the form of discounts, special access, events, services — all the different mechanisms and nuances that drive customer loyalty."

The trick for retailers is to recognize where consumers place their boundaries. When Adobe Labs was demonstrating its solution several years ago, it envisioned retailers using it to recognize customers as they entered and immediately sending staff to greet them. There came a recognition that customers did not want such service and attention pushed on them, though, and that they would rather it be made available to be called upon if and when they want it.

"We've gone a different direction where we now allow the consumer to be in control, [and retailers to] be a little more passive," Klein explained. "We're not having an army of store associates accost you and try to sell you something when you break the barrier of the front door. It's about [asking], 'How do [we] use technology to assist with the customer journey rather than intrude on it?' and then allowing consumers, when they're ready, to raise their hands."

Tapping into grocery tech

There's an even bigger hurdle that grocers must clear if they hope to implement IoT innovations, however. Grocery represents a complicated business that is typically not very well-suited for innovation, which makes matters more difficult for solution providers.

Grocers also tend to have slim operating margins, making investment in new tech risky. Amazon Go's camera-based approach is too expensive for most, Klein noted, and while applying RFID tags to consumer packaged goods (CPGs) can effectively track products, it also eats up profits.

"If it costs $0.04 to $0.07 for an RFID tag to go onto a product that only costs $1 or $2, that could blow up the whole profit margin structure," he noted.

Flexible solutions can tap into the technology — Wi-Fi and beacons, among other items — already present in the store environment, though. Grocers may be playing tech catch up, and therefore forced to be more judicial about where they spend their dollars, but many are realizing the need to invest in data, Klein said.

Those investments will likely become even more crucial as IoT innovation continues to progress in the coming years. Answering consumer needs will increasingly mean helping them easily acquire the items they want and at desirable discounts. In-store sensors and data analysis platforms will provide retailers the understanding they need to keep offers relevant and compelling, and keep customers shopping with them, too.

Retailers that don't embrace IoT might continue to find themselves throwing expiring inventory out the door — and potential revenue along with it.

New platforms

Android Things is now a thing

The wait is over. Google's Android Things platform is now live, more than a year after it first offered developers a preview. Android Things 1.0 is an Android-based operating system designed to help developers create and maintain IoT devices. It supports limited memory devices that use low-power and communicate via Bluetooth Low Energy, Wi-Fi and the Weave protocol, according to reports. Developers can also use Android Things to access Google's Assistant, machine learning features, Android's partner ecosystem and various developer application program interfaces (APIs).

The company also announced it would provide support for newly debuted production devices over the next three years, including over-the-air software updates, stability fixes, security patches and all automatic updates. Industry observers expect the first devices powered by the Things platform — smart speakers and displays with Google Assistant and Google Cash integrations, for example — to make their debut by the end of this summer.

Aeris offers platform for connected vehicle manufacturers

Android isn't alone, as secure IoT solutions provider Aeris recently announced it would launch an IoT platform of its own. The cloud-based Aeris Mobility Platform, released last month, aims to help OEMs — particularly automakers and businesses transitioning to provide connected services — with a suite of features for the connected automotive niche.

Aeris Mobility includes features for vehicle security and health, driver behavior and over-the-air firmware updates. It is structured around microservices, a decision made to enable clients to manage their programs on one platform, according to a company press release. They can also customize solutions to each region, brand or model they serve.

Tech team-ups

Nokia acquires SpaceTime Insight

Not every company is building its platforms anew, however. Some, like communications giant Nokia, are acquiring them instead. It recently announced it was snatching up SpaceTime Insight, which provides an industrial IoT software analytics platform for clients in the energy, utilities and transportation sectors, among others.

Nokia gains SpaceTime Insight's machine learning analytics features and client relationships through the acquisition. The move is designed, in part, to

expand the former's IoT offerings, which currently encompass forays into smart home, 5G and virtual reality technology. The agreement also calls for Rob Schilling, SpaceTime Insight's CEO, to join Nokia's IoT product unit. He predicted that the Nokia acquisition would help his firm reach a wider customer base than it could on its own.
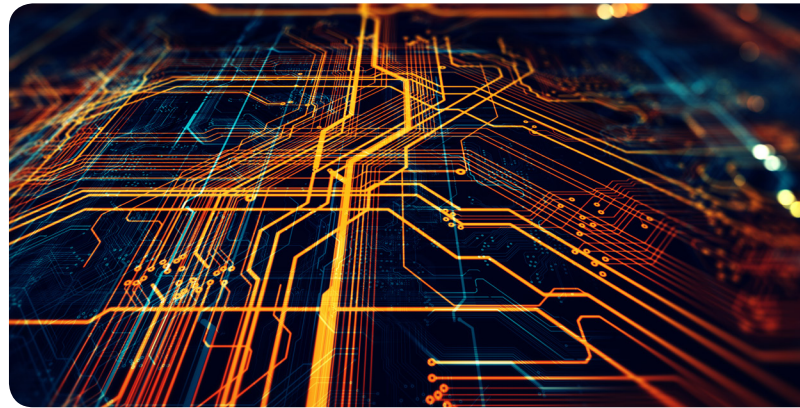
Microsoft, Dell, VMware create joint offering

Technology heavyweights Microsoft and Dell Technologies have announced they are coming together. The pair, along with Dell subsidiary and cloud computing solution provider VMware, are collaborating on a new, integrated IoT solution slated for release later this year. The offering aims to centralize IoT management and reduce the costs involved in running IoT networks in edge environments, and is expected to be used by companies seeking predictive maintenance and improved supply chain visibility.

The collaboration will integrate Dell's Edge Gateways, Microsoft's Azure Edge and VMWare's Pulse Center. Edge Gateways connect a range of wired and wireless devices, collect and analyze data and send findings to the cloud. Azure Edge enables edge devices to act locally while also accessing cloud intelligence, and the Pulse Center supports secure management of gateways, device operating systems, edge sensors and other devices.

Mastercard, Visa, NXP collaborate
There's another trio in town, too. Dutch manufacturer NXP Semiconductors recently announced it was working with payment giants Visa and Mastercard to help OEMs turn their products into payment devices. The companies launched an mWallet2GO white-label mobile wallet last month to do just that.

According to NXP, the solution integrates several technologies — including software development kits (SDKs), near-field communication (NFC), the Mastercard Digital Enablement Service and the Visa Token Service — to help manufacturers focus on

product design without having to shoulder payments navigation complexities. It also helps them more quickly get wearables and payment products to market, the first of which will be a smartwatch strap by German luxury goods manufacturer Montblanc.

Creating connectivity

Tufts engineers help devices find themselves
Most wireless devices determine location by communicating with centralized anchors like cell towers or GPS devices. Some experts predict this method could be strained as more devices become connected, thereby creating the need for more anchors.

To that end, Tufts University engineers have developed an alternative positioning method that does not require devices on a 5G network to access anchors to calculate their locations. They recently unveiled an algorithm that would rely on device-to-device communication, and proponents say it has the advantage of not being susceptible to the interference that afflicts traditional GPS systems during overcast conditions or when the device is indoors, underwater or underground.

"The need to provide location awareness of every device, sensor or vehicle, whether stationary or moving, is going to figure more prominently in the future," said Usman Khan, Ph.D., and associate professor of electrical and computer engineering at Tufts. "There will be applications for tracking assets and inventory, healthcare, security, agriculture, environmental science, military operations,

emergency response, industrial automation, self-driving vehicles, robotics — the list is endless. The virtually limitless potential of the Internet of Things requires us to develop smart, decentralized algorithms."

AT&T brings NB-IoT to US, Mexico
While Tufts searches for new location capabilities, a major player in the telecoms space is working to join the next wave of connectivity developments in the U.S. and Mexico. AT&T already provides LTE-M network infrastructure in both, and recently announced it would offer narrowband IoT (NB-IoT) networks, too. Both LTE-M and NB-IoT networks are low-power wide-area (LPWA) technologies.

In response to rising business demand, AT&T plans to launch NB-IoT in the U.S. in early 2019 and in Mexico by the end of 2019, according to a statement. It also intends to bring a 5G network to parts of Texas in 2018. The move is designed to help stimulate the LPWA network markets and highlight use cases, according to Chris Penrose, AT&T's president of IoT solutions.

Vodafone, Asavie announce connectivity solution
AT&T may have its focus set on North America, but telecoms company Vodafone has its own trained on Ireland. It recently announced the debut of its new Vodafone IoT Express solution, provided in partnership with IoT connectivity and enterprise mobility company Asavie. It is designed to give Irish businesses scalable and secure SIM-based connectivity over NB-IoT networks.

Vodafone IoT Express aims to help small businesses begin using IoT without requiring a big investment, according to reports. It's will also make it easy for larger companies to take on new IoT trials, offering heightened network connection security and reducing the time it takes to deploy IoT products and generate revenue. Debbie Power, Vodafone's Ireland IoT manager, noted in a statement that the new offering could be used by both large and small companies looking to add IoT capabilities to their offerings.

Smart cities

SensorUp snaps up new funding
IoT geolocation software provider SensorUp has received a new infusion, raising $2 million in seed financing to advance its go-to-market campaign for its SensorThings Cloud IoT software platform. The funding, led by Vanedge Capital, will help the company further develop its IoT business solutions for smart cities, field service and first responders,

according to a [press release](). Vanedge Capital is a Canadian venture capital fund that invests in cloud computing, artificial intelligence (AI), software-as-a-service (SaaS), cloud computing and digital media.

nuTonomy gets Boston go-ahead
Meanwhile, other smart city efforts are hitting the road in Boston, a metropolis often [derided]() for its traffic and congestion. The city is now slated to see self-driving vehicles join the daily flow of cars, buses and cyclists, as it recently [approved]() autonomous vehicle startup nuTonomy's plans to expand its car tests on all its streets. nuTonomy had previously been contained to limited testing areas.

Other autonomous vehicle companies such as Optimus Ride are also training their wheels on Boston streets, but nuTonomy has so far been the only company to secure the right to be on all city roads. The startup will be [required]() to have two people ride in each car during testing, monitoring performance and able to take control if needed. Autonomous automobile technology has been anticipated for some time, but concerns about it persist.

"Nobody really knows how this is going to work," noted Wendy Landman, executive director of community advocacy group WalkBoston. She also expressed concerns about whether automated tech would be able to navigate Boston's complicated city streets.

Security matters

Gatwick Airport introduces IoT
While Boston is putting IoT in the driver's seat, other travel sectors are looking to the tech to help them take flight. The U.K.'s second largest airport, Gatwick Airport, recently [announced]() it will begin using Hewlett Packard Enterprise's AI- and IoT-powered solutions to streamline operations and improve security processing.

The new tools will use facial recognition and machine learning capabilities to identify travelers during security processes, and help locate those who are late or lost by [sending]() notifications through apps. Other tech-fueled tools, such as sensors, were also installed to measure details like trash can waste levels, pond water levels, table availability and check-in desk occupancy. In addition, heat sensors track passenger movement through the airport to help identify congestion points.

802 Secure finds little enterprise security

Not every business is paying attention to its security processes, though. A recent report from online security firm 802 Secure has found many companies' IoT networks are at risk. It monitored several firms with more than 10,000 employees in 2017, noting that rogue IoT devices were transmitting information to outside networks, individuals or the cloud in all the enterprise environments.

802 Secure also reported that 90 percent of them were found to have so-called "shadow" IoT or industrial IoT networks. These include what it defines as "undetected company-deployed wireless networks separate from the enterprise infrastructure."
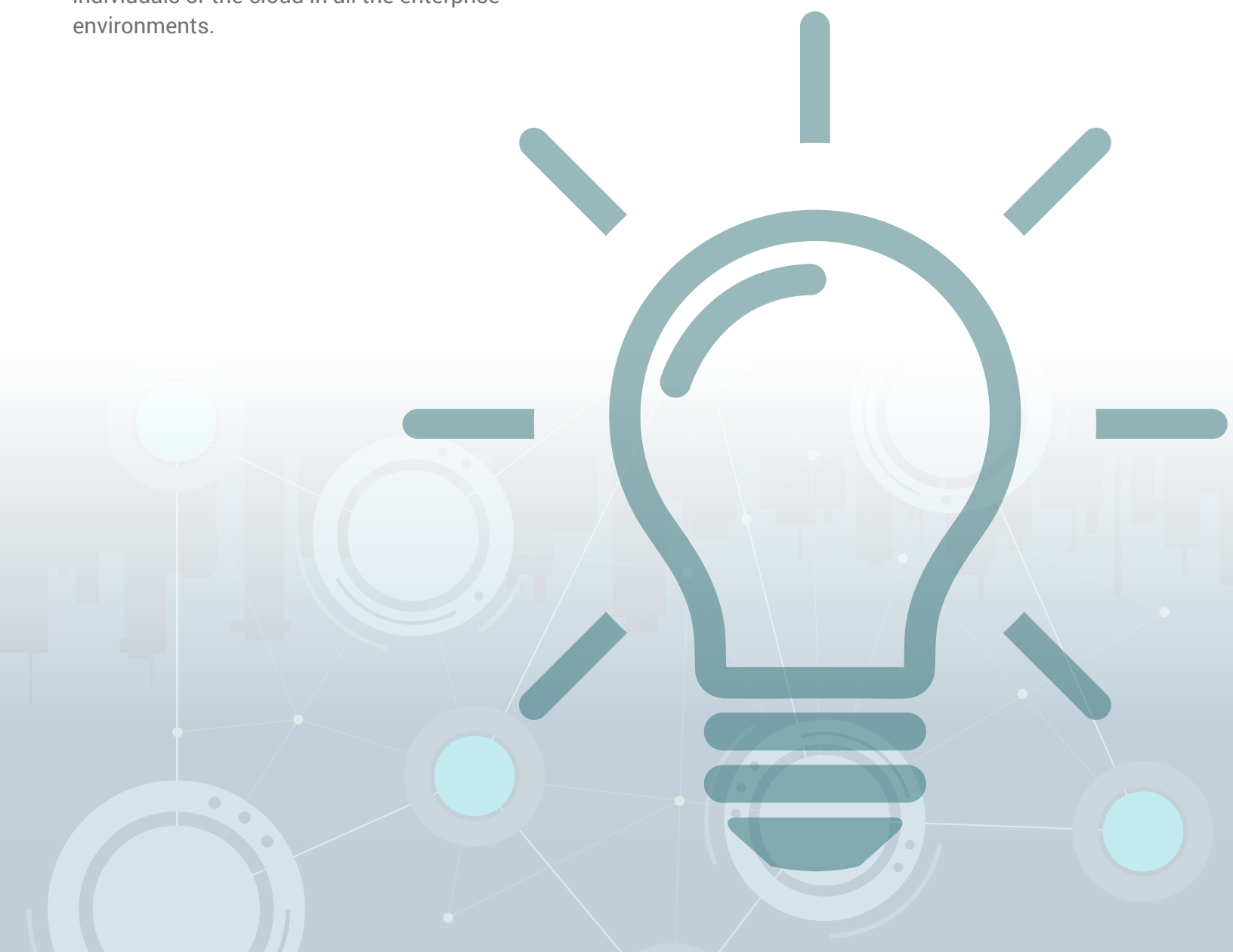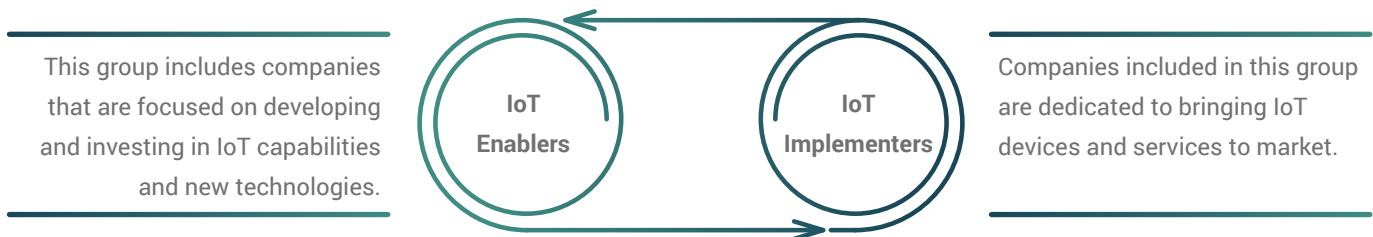
METHODOLOGY

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:

This group includes companies that are focused on developing and investing in IoT capabilities and new technologies.

IoT Enablers

IoT Implementers

Companies included in this group are dedicated to bringing IoT devices and services to market.

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.

Phones

Cars/Trucks

Wearables

Machines and Appliances

INFRASTRUCTURE

DEVICES

IOT CATEGORY

SERVICES

SOFTWARE

Payments

Security

Data
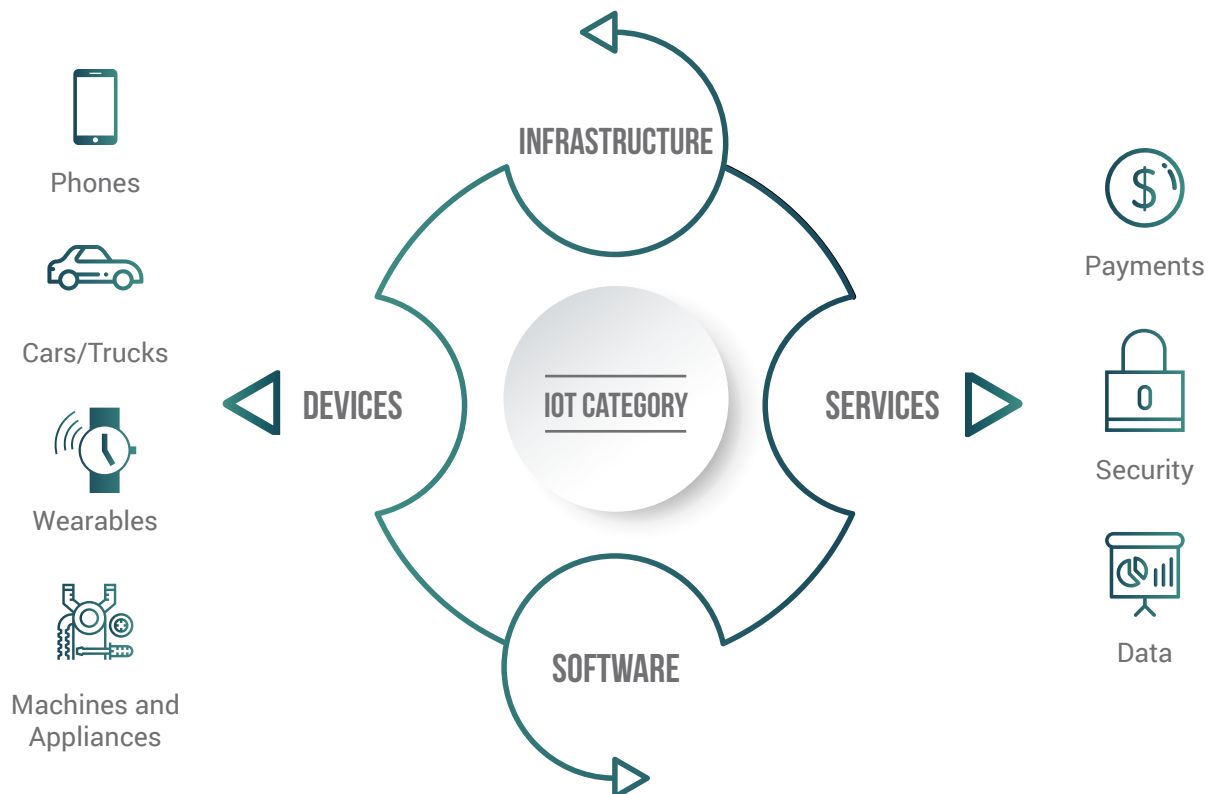
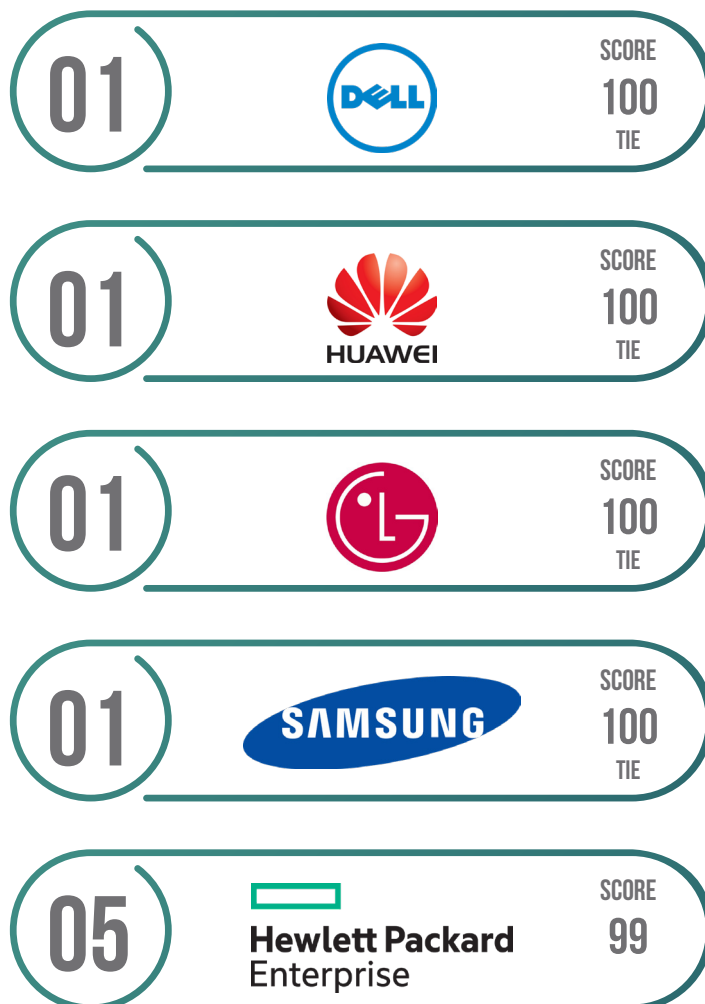| IoT Category	IoT Service	Description
Devices	Wearables	Wearable devices that extend tools such as health and fitness tracking
	Phones	Handsets that come with embedded chips for IoT capability
	Machines and Appliances	Manufactured products containing sensors that transmit data
	Cars/Trucks	Cars and 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.

IoT IMPLEMENTERS TOP 10

01 DELL — SCORE **100** TIE

01 HUAWEI — SCORE **100** TIE

01 LG — SCORE **100** TIE

01 SAMSUNG — SCORE **100** TIE

05 Hewlett Packard Enterprise — SCORE **99**

06 Lenovo — SCORE **81** TIE — Updated!

07 FUJITSU — SCORE **81** TIE

08 MARVELL — SCORE **77**

09 ARROW — SCORE **76**

10 enlighted — SCORE **73**

IoT ENABLERS TOP 10

01 amazon — SCORE 100 TIE

01 ARM — SCORE 100 TIE

01 CISCO — SCORE 100 TIE

01 Google — SCORE 100 TIE

01 intel — SCORE 100 TIE

01 verizon — SCORE 100 TIE

07 vodafone — SCORE 99

08 aruba a Hewlett Packard Enterprise company — SCORE 98

09 stream — SCORE 97 TIE

09 COMCAST — SCORE 95 TIE *Updated!*

acer

49

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

20

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®

30

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.

51 ←

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.

44 ←

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.

24 ←

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.

70

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.

76

ARROW
Launch date: 1935

Arrow Electronics is a provider of products, services and solutions to industrial and commercial users of electronic components and enterprise computing solutions. The company's products include: semiconductors, microcontrollers, resistors, potentiometers, power supplies, relays, switches and connectors, as well as computing and memory. Arrow has developed eVolve, its IoT offering, which is aimed at guiding businesses and consumers to IoT technology.

22

ARXAN
Launch date: 2001

Arxan Technologies 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.

51

ASUS
Launch date: 1989

ASUS' menu of products ranges includes Zembo, a robot that can move around the house and recognize faces as well as speak, hear, learn and connect to the internet.

47

New!

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.

19
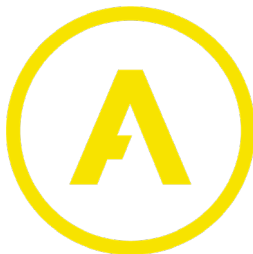
ATLAS WEARABLES
Launch date: 2015

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.

47

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.

49

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.

41

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.

23

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.

44

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.

42
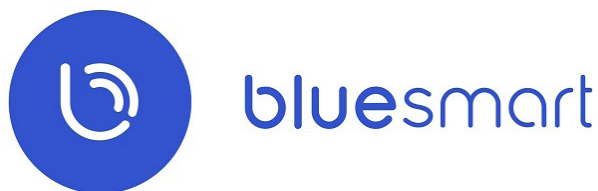
BLUESMART
Launch date: 2013

Bluesmart offers internet-connected carry-on luggage designed to enhance travelers' experiences by linking their luggage to their smartphones. Users can use a smartphone app to track their luggage location from anywhere, use the app to check a carry-on's weight and control the suitcase lock from their phones. The luggage comes with a battery charger, enabling travelers to charge their devices while on the move.

BOSCH 69

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 26

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 44

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

22

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

45

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

19

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.

39

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.

41

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.

62

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.

39

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.

100

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.

47

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.

26

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.

26

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.

New!

33

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.

dyson

28

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

46

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

41

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

73

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 ®

28

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

49

FITBIT
Launch date: 2007

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.

30

FITPAY
Launch date: N/A

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

47

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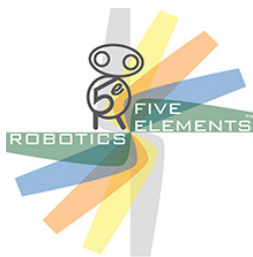
Five Elements Robotics is a technology company focused on the development of personal and consumer robots. The company is the developer behind DASH, a retail robotic shopping cart. DASH allows users to import their shopping lists from their phones and gathers data from user usage to offer targeted marketing.

48

FLEET SPACE TECHNOLOGIES
Launch date: N/A
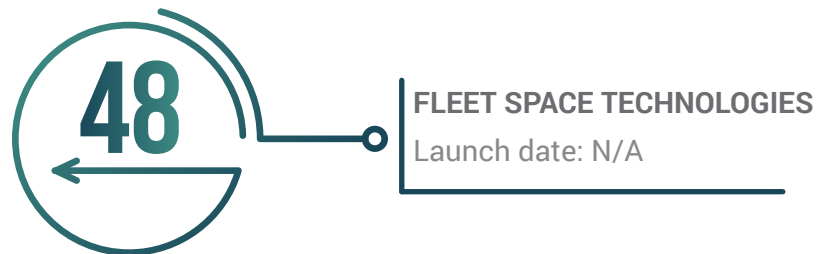
Fleet Space Technologies designs, builds and launches a network of nanosatellites to provide global satellite connectivity to the Internet of Things (IoT). It serves the mining, oil and gas resources, precision agriculture, transport and logistics sectors.

38

FLOWTHINGS.IO
Launch date: 2014

Flowthings.io develops a cloud-based platform for the creation of IoT solutions. The tool allows for the creation of applications that leverage real-time data from IoT as well as other sources, and it can process information in the cloud in order to deliver insights that can be used by users, apps and devices.

21

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.

27

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.

23

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.

49

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.

81
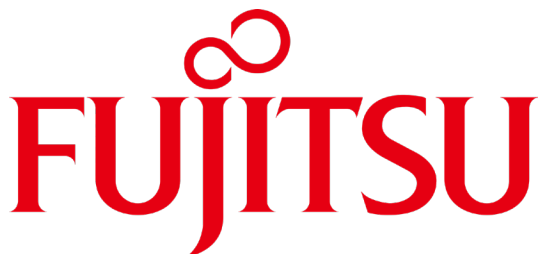
FUJITSU
Launch date: 1935

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.

49

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.

48

GEMALTO
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.

28

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 · 66

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 · 19

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 68

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 51
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 69

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 **41**

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 **100**

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 **49**

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.

41

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.

49

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.

38

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.

24

INFISWIFT
Launch date: 2015

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.

44

INVENSENSE
Launch date: 2003

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.

45

JAWBONE
Launch date: 1997

Jawbone is a developer of wearable device technologies that builds hardware products and software platforms. Its solutions are designed to track users' lifestyles, providing them with personalized insights into how they sleep, move and eat. The company has also developed wireless speakers, Bluetooth headphones and other products.

Johnson Controls

44

JOHNSON CONTROLS
Launch date: 1885

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

40

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

40

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.

KONUX
Launch date: 2014

40

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.

Updated!

LENOVO
Launch date: 1984

81

Lenovo´s products portfolio includes workstations, servers, storage and smart TVs. The company also offers cloud and Big Data analytics services.

LG
Launch date: 1947

100
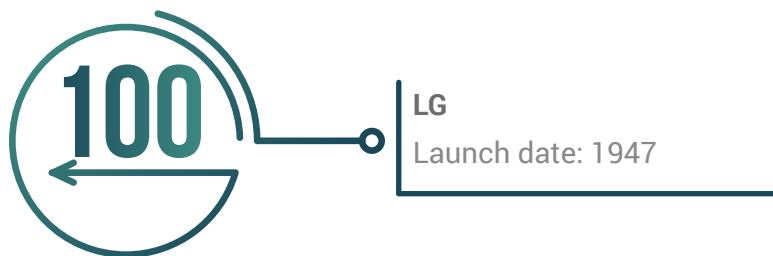
LG Corporation delivers connected products that go from smartphones, tablets and smartwatches to TVs and home audio devices. The company also works with affiliated companies in telecommunication services such as: LG N-sys, LG CNS and LG U.

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.

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.

23

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 Olly, an autonomous electric shuttle. Olly 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.

24

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.

28

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.

45

LOGMEIN
Launch date: 2003

LogMeIn provides software as a service and cloud-based remote connectivity services for collaboration, IT management and customer engagement. Xively, one of the company's divisions, offers an enterprise IoT platform and application solution for enterprises building connected products and services. Xively enables companies to connect their products and manage data from those connections.

43

LUMO
Launch date: 2011

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

28

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.

77

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.

30

MASTERCARD
Launch date: 1966

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

43

MATTERNET
Launch date: 2011

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

70

MICROSOFT
Launch date: 1975

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.

44

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.

24

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.

24

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 or the shower controller.

MOOV

22

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.

26

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™

49

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

47

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

39

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.

48

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.

27

NIMBLE STORAGE
Launch date: 2008

Nimble Storage is a predictive flash storage technology firm that manufactures hardware and software solutions for data storage. The platform combines flash storage with predictive Big Data analytics and helps users integrate computer, network and storage resources. It also offers security features such as data backup and data protection.

50

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.

47

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.

44

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.

62

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.

39

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.

ONEPLUS | **49**

ONEPLUS
Launch date: 1989

OnePlus is a manufacturer of 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+ | **30**

OPTIMAL+
Launch date: 2005

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

OSRAM | **65**

OSRAM
Launch date: 1919

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

24

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.

pebble

26

PEBBLE
Launch date: 2011

Pebble is a smartwatch producer. The company launched its first smartwatch in 2013 and currently offers five different models along with apps that can be downloaded on iOS and Android devices.

Petnet io

42

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.

38

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.

32

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.

41

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.

43

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.

47

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.

51

RED HAT
Launch date: 1993

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.

29

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.

45

New!

SAGEGLASS
Launch date: N/A

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

44

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.

100

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.

26

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.

50

SEAT
Launch date: 1950

SEAT (or Sociedad Española de Automóviles de Turísmo) 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.

37

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.

44

SEEBO
Launch date: 2012

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

43

SENSORIA
Launch date: 1987

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.

39

SENTRI
Launch date: 2014

Sentri 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.

42

SKYHOOK
Launch date: 2003

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.

44

SNUPTI TECHNOLOGIES
Launch date: 2012

SNUPI Technologies is a sensor developer focused on home safety, security and loss prevention. Its WallyHome sensor detects water leaks, temperature and humidity changes, as well as open doors and windows, and alerts users using text messages, email and other notifications methods.

47

SOFTWARE AG
Launch date: 1969

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.

27

SOMFY
Launch date: 1969

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

52

SONY
Launch date: 1946

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 28

SOPHOS
Launch date: 1985

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® 38

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 23

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.

25

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.

54

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.

23

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.

48

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.

48

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.

49

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

47

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

19
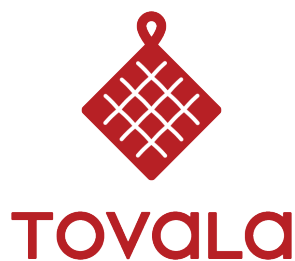
TOVALA
Launch date: 2015

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

51

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
Connecting Assets in a Connected World

59

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.

New!

TRITONWEAR

41

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

31

TRUSTONIC
Launch date: N/A

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

45

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.

45

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.

39

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

39

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.

VINAYA
Launch date: 2013

20

Vinaya is a wearable developer with a special focus on the design process. Its first product was Altruis, a Bluetooth-enabled ring, necklace or bracelet that keeps users informed about the activity on their phones. The company also develops Zenta, a bracelet that allows users to track their habits and actions and their effect on stress, happiness and productivity.

VINLI
Launch date: 2014

39

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.

33

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.

50

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.

26

WAYFAIR
Launch date: 2002

Wayfair is a furniture company that has developed Sofia, a voice-activated smart sofa. Sofia pairs with Wi- Fi, Bluetooth technology and cable TV, and enables couch-based, voice-enabled access to a wide range of mobile, IoT and other smart devices in the home.

47

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.

49

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.

38

WHISTLE LABS
Launch date: 2012

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."

24

WISEKEY
Launch date: 1999

WISeKey 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.

49

XIAOMI
Launch date: 2011

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.

21

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.

XMETRICS

38

XMETRICS
Launch date: 2014

XMetrics is a wearable technology company offering activity trackers to improve swimming performance. The wearable device records every biomechanical and biological parameter and gives swimmers detailed insights, graphs and charts about their timing, pace and calories burned.

xped

58

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

26

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 (71)

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.

New!

70

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.

56

ACTILITY
Launch date: 2010

Actility'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.

69

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.

64

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.

71

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.

28

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.

26

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.

55

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.

100

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.

34 | **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

100 | **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

59 | **ARMIS**
Launch date: N/A

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

55

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.

98

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.

61

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.

75

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.

37

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.

34

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.

56

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.

41

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.

45

BELKIN
Launch date: 1983

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.

26

BITREACTIVE
Launch date: 2011

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.

73

BROADCOM
Launch date: 1991

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

26

BUILDING ROBOTICS
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.

62

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.

93

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.

67

CAMBIUM NETWORKS
Launch date: 2011

Cambium Networks

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.

36

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.

100

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.

28

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 **37**

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 **95**

Updated!

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.

COMMSCOPE® **43**

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.

32

COVISINT
Launch date: 2000

Convisint 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.

26

CROWDOPTIC
Launch date: 2010

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

44

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.

davra networks

27

DAVRA NETWORKS
Launch date: 2011

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

DeviceHive

26

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

31

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.

64

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.

68

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.

45

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.

91

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 uses to monitor and update products in the field at any time and have access to real-time manufacturing insights.

74

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.

47

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.

42

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.

66

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.

66

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.

57

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.

55

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.

37

FOGHORN
Launch date: N/A

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

62

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.

64

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.

63

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 **100**

GOOGLE
Launch date: 1998

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 **68**

HOLOGRAM
Launch date: 2013

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 **65**

IBM
Launch date: 1911

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.

71

IBOT
Launch date: 2006

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.

66

IMPINJ
Launch date: 2000

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.

42

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.

100
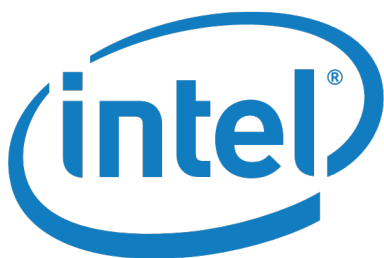
INTEL
Launch date: 1968

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.

67

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.

67

IRIDIUM
Launch date: 2000

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.

New!

74

ITRON
Launch date: N/A

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.

30

KEPWARE
Launch date: 1995

Kepware Technologies is a software development company that focuses on the connectivity of diverse hardware and software applications in the industrial automation industry. The company's products allow the user to connect devices and applications, exchange data between OPC DA servers and configure multiple OPC servers into redundant pairs between other functions.

53

KII
Launch date: 2010

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.

37

KORE
Launch date: 2011

KORE is an IoT/M2M service provider and developer of machineto-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.

70

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.

43

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

93

LANTRONIX
Launch date: 1989

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

LinkLabs

63

LINK LABS
Launch date: 2013

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

70

LORIOT
Launch date: N/A

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

46

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.

36

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.

28

MNUBO
Launch date: 2012

Mnubo 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.

64

MOVIDIOUS
Launch date: 2005

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

65

MYDEVICES
Launch date: 2013

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.

36

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.

55

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.

62

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.

New!

35

NEXENTA
Launch date: N/A

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

New!

39

NUTANIX
Launch date: N/A

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.

38

NXP
Launch date: 2006

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

61

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

65

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™

50

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™

32

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.

69

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.

31

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.

28

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.

63

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.

57

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.

49

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.

92

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.

39

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.

65

SAP
Launch date: 1972

SAP develops a range of products such as its HANA Cloud Platform, which 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. Around IoT, SAP develops a range of products such as its HANA Cloud Platform, which allows users to manage and monitor remote devices, create M2M apps and develop IoT solutions.

64

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.

44

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.

41

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

64

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®

94

SIERRA WIRELESS
Launch date: 1993

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

35

SIGFOX
Launch date: 2009

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

93

SILICON LABS
Launch date: 1996

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.

68

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.

41

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.

69

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.

26

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.

73

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.

70

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.

37

STORMAGIC
Launch date: 2006

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

97

STREAM
Launch date: N/A

Stream Technologies owns and operates IoT-X, a connectivity enablement, management and billing platform for operators of cellular, satellite and low power, wide area networks (LPWANs).

62

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.

40

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.

45

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.

71

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.

69

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.

93

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 suit 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.

45

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).

26

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.

70

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.

52

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.

49

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.

63

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.

53

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.

100

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.

99

VODAFONE
Launch date: 1991

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

71

ZTE ENTERPRISE
Launch date: 1985

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

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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