



## Massive Scale

To efficiently support dense connections of 1+ million devices/Km<sup>2</sup> (Qualcomm)

## Ultra Energy Efficiency

To realize 10+ year device battery life and 100x network energy efficiency (Qualcomm)



## Case Study: Adlink-Intel-Fusheng

Capitalizing on Internet of Things with a Starter Kit based on Intel IoT Gateways



## Achieving Strategic Goals by Bridging Business Objectives with IoT Context & Data

by ARUBA a HPE Company



## Amazon's Biggest Acquisitions

Amazon is on an M&A spree this year, Report of all-time largest deals



## Sierra Wireless acquire Numerex

to accelerates Device-to-Cloud Strategy & scales Recurring Revenue from IoT Services

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Daniel Dierickx  
CEO & co-Founder  
at e2mos  
Acting Chief Editor

### Dear Reader,

Here is your free copy of IoT World, one of our five e-magazines published by e2mos.

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Thank you, Daniel Dierickx

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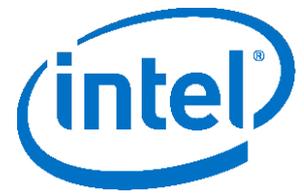
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# CASE STUDY



## Capitalizing on Internet of Things with a Starter Kit Based on Intel® IoT Gateways

### Intel® IoT Gateways Industrial and Energy Solution



#### Introduction

Market leaders stay ahead of their competition by embracing technologies that advance their existing and future systems. Driving the adoption of the Internet of Things (IoT) concept is the potential for business to unlock information that is present in their existing data. Business that connect localized systems to the cloud -- thereby creating an end-to-end approach to IoT -- can transform data into valuable intelligence, enabling them to monitor and respond quickly.

#### Challenges

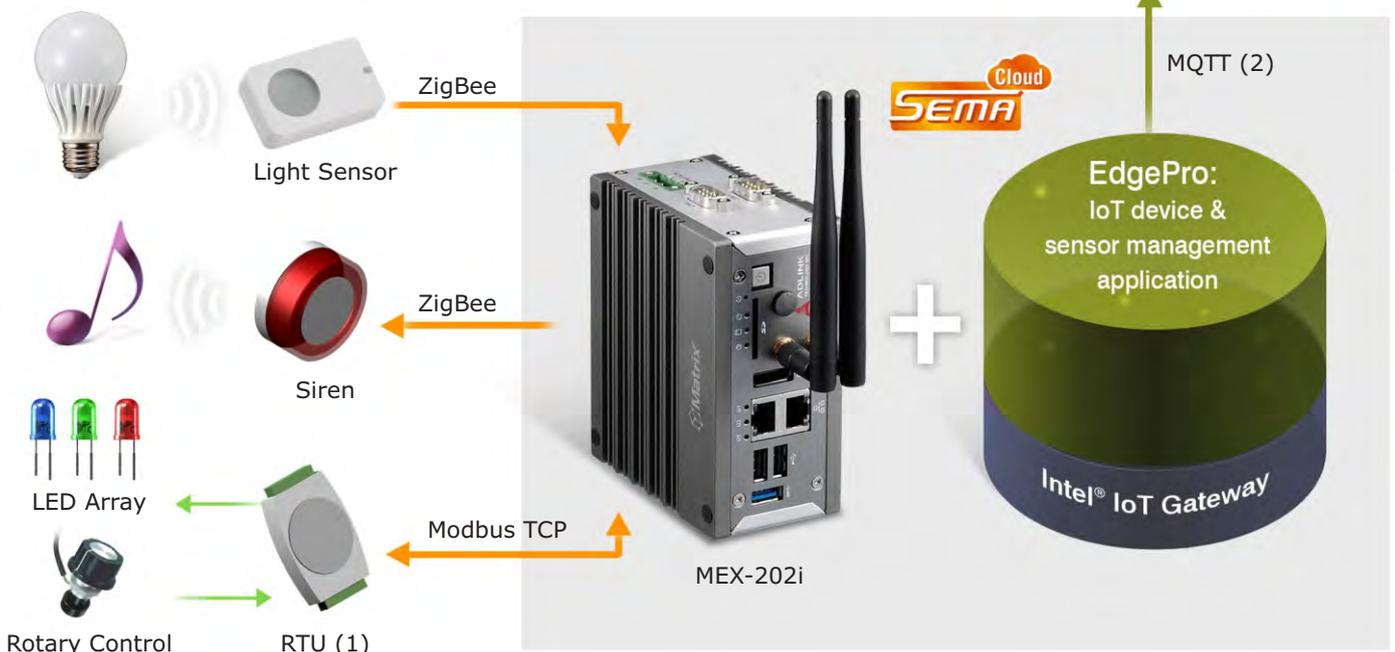
- Implementing new technology distracts from business goals
- Lacking hardware and software cohesion in IoT solutions
- Facing cyber threats against connected systems



[Download the CASE STUDY](#)

### Simplified Sensor-Cloud Connection

### Accelerated IoT Application Development



(1) RTU: Remote Terminal Unit

(2) MQTT is a machine-to-machine (M2M) "Internet of Things" connectivity protocol





# Sierra Wireless to Acquire Numerex Corp.

## Acquisition accelerates Device-to-Cloud strategy and scales recurring revenue from IoT services

Vancouver, Canada – August 2, 2017 - Source Sierra Wireless

Sierra Wireless, Inc. ("Sierra Wireless") (NASDAQ: SWIR) (TSX: SW), the leading provider of fully integrated device-to-cloud solutions for the Internet of Things (IoT), and Numerex Corp. ("Numerex") (NASDAQ:NMRX) have entered into a definitive merger agreement (the "Merger Agreement") under which Sierra Wireless will acquire Numerex in a stock-for-stock merger transaction (the "Transaction"). The Transaction is valued at approximately US\$107 million based on Sierra Wireless' closing stock price on August 1, 2017 of US\$29.65 per share and represents a premium of 17.5 percent to Numerex's 20-day average share price. The acquisition expands Sierra Wireless' position as a leading global IoT pure-play and will significantly increase its subscription-based recurring services revenue.

"The acquisition of Numerex accelerates our IoT device-to-cloud strategy by adding an established customer base, significant sales capacity, proven solutions and recurring revenue scale," said Jason Cohenour, President and CEO of Sierra Wireless. "The combination of Sierra Wireless and Numerex will represent a powerful business and technology platform that will enable the company to drive a global leadership position in IoT services and solutions."

"We believe that combining with Sierra Wireless will strengthen Numerex's business, advance our product offerings, and accelerate the growth of our recurring revenue streams," said Ken Gayron, Interim CEO and CFO of Numerex. "The transaction also provides our shareholders the opportunity to participate in the considerable upside potential of the combined company."

### About Sierra Wireless

Sierra Wireless (NASDAQ: SWIR) (TSX: SW) is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. Customers Start with Sierra because we offer the industry's most comprehensive portfolio of 2G, 3G and 4G embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster. Sierra Wireless has more than 1,100 employees globally and operates R&D centers in North America, Europe and Asia.

For more information, visit [www.sierrawireless.com](http://www.sierrawireless.com).



### About Numerex Corp.

Numerex Corp. (NASDAQ:NMRX) is a leading provider of managed enterprise solutions enabling the Internet of Things (IoT). The Company's solutions produce new revenue streams or create operating efficiencies for its customers. Numerex provides its technology and services through its integrated platforms, which are generally sold on a subscription basis. The Company offers a portfolio of managed end-to-end IoT solutions including smart devices, network connectivity and service applications capable of addressing the needs of a wide spectrum of vertical markets and industrial customers. The Company's mission is to empower enterprise operations with world-class, managed IoT solutions that are simple, innovative, scalable, and secure.

For additional information, please visit [www.numerex.com](http://www.numerex.com).



## Numerex Receives 2017 IoT Evolution Product of the Year Award nxCONNECT Honored for Exceptional Innovation

ATLANTA, July 25, 2017 (GLOBE NEWSWIRE) -- Numerex Corp (NASDAQ:NMRX), a leading provider of enterprise solutions enabling the Internet of Things (IoT), today announced that nxCONNECT™, an LTE wireless backup solution, has received a 2017 IoT Evolution Product of the Year Award from IoT Evolution magazine and IoT Evolution World, the leading magazine and Web site covering IoT technologies.

Purpose-built for MSO's and CSO's, nxCONNECT ensures the continuity of internet connectivity for small and medium businesses by using Numerex's network cellular service as a backup failover in the event of broadband service outages. nxCONNECT consists of a complete bundled offering which includes an intelligent router that instantly detects broadband signal loss and seamlessly re-connects to a powerful LTE link, so that mission-critical enterprise information continues to be transmitted and customer's Cloud applications remain operational. nxCONNECT comes with a user-friendly online portal, along with inventory and fulfillment services, and an easy to use self-install kit which allows quick set up and installation for the end user.

"The solutions selected for the IoT Evolution Product of Year Award reflect the diverse range of innovation driving the market today. It is my honor to congratulate Numerex for their innovative work and superior contribution to the rapidly evolving IoT industry," said Carl Ford, CEO of Crossfire Media, a co-publisher of IoT Evolution.

"We are honored that TMC has selected nxCONNECT as an innovative solution that earned Numerex the 2017 IoT Evolution Product of the Year Award," said Shu Gan, CMO, Numerex. "As a new offering launched this year in our service portfolio, nxCONNECT leverages our powerful nxFAST Platform and the Numerex network to bring tangible benefits to our business customers."

# LTE IoT is starting to connect the massive IoT today, thanks to eMTC and NB-IoT

Source: Qualcomm Jun 15, 2017 | By Dr.Hao Xu, Head of Qualcomm Research China

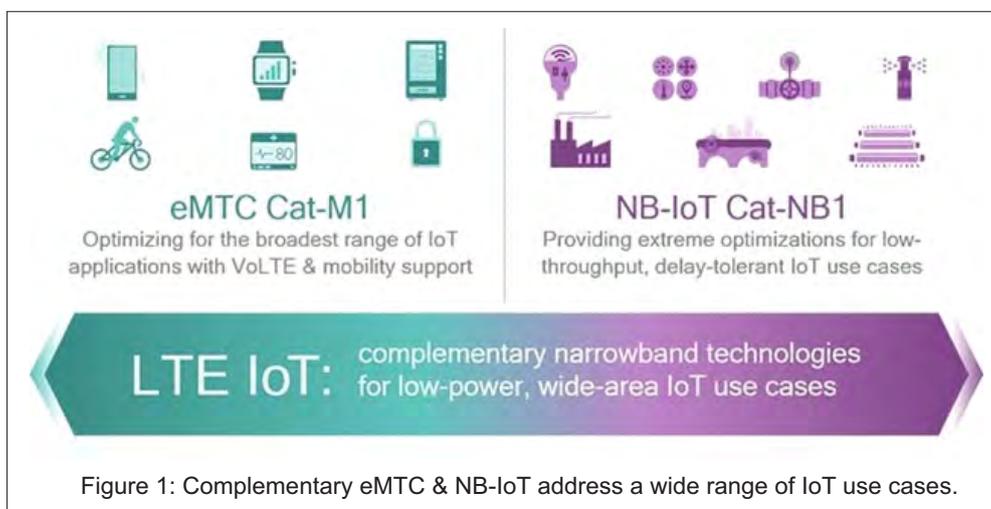
We are at the dawn of 5G, a unified network envisioned to connect virtually everything around us. And to get there sooner, we are accelerating 5G NR (New Radio) — the global 5G standard — to usher in next-generation mobile broadband experiences for smartphones starting in 2019.

The first 5G NR release delivers eMBB (enhanced mobile broadband) and URLLC (ultra-reliable, low-latency communication), which can also address high-performance IoT use cases. However, it will not target the low-complexity IoT (also referred to as massive machine-type communication or mMTC).

So how will we realize the 5G vision of connecting the massive IoT? To be clear, the term “massive IoT” refers to the 10's of billions of devices, objects, and machines that require ubiquitous connectivity even in the most remote locations, like sensors buried deep underground. To reach the massive scale (3GPP defines such as at least 1M devices per km<sup>2</sup>), mobile networks must more efficiently support the simplest devices that communicate infrequently, and are ultra-energy efficient so they can deliver extremely long, 10+ year battery life. Sound challenging? You bet! But we don't have to wait for 5G to start connecting the massive IoT. Here's why...

3GPP has already introduced a suite of two complementary narrowband LTE IoT technologies in Release 13: eMTC (enhanced machine-type communication) and NB-IoT (narrowband Internet of Things). Both are optimized for lower complexity/power, deeper coverage, and higher device density, while seamlessly coexisting with other LTE services such as regular mobile broadband.

Together, they expand the LTE technology portfolio to support an even wider range of low-power IoT use cases.



Do we really need both eMTC and NB-IoT to connect the massive IoT? The answer is yes, since complementary eMTC and NB-IoT are designed for different types of IoT use cases.

eMTC can deliver up to 1 Mbps of throughput utilizing just 1.4 MHz of bandwidth, and supports essential capabilities such as VoLTE and full mobility for a broad range of IoT use cases, including asset trackers and wearables. NB-IoT, on the other hand, scales down to extreme simplicity for low-throughput, delay-tolerant applications, such as meters and sensors. It enables data rate of just 10's of kbps with 200 kHz of bandwidth, and can provide even deeper coverage. Furthermore, NB-IoT can be deployed within an existing LTE band, in guard-band between two regular LTE carriers, or in standalone mode, which provides an easy migration path for the re-farmed GSM (2G/GPRS) spectrum.

Beyond 3GPP Release 13, there is a rich roadmap of LTE IoT technology inventions that will deliver many further enhancements to meet tomorrow's massive IoT connectivity needs. For example, Release 14 will bring new capabilities such as single-cell multicast to both eMTC and NB-IoT, enabling easy over-the-air firmware upgrades as well as enhanced device positioning for asset location tracking. In addition, there are two ongoing Release 15 work items that further enhance eMTC and NB-IoT, including new features such as wake-up receiver and TDD support for NB-IoT.

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# LTE IoT is starting to connect the massive IoT today, thanks to eMTC and NB-IoT ... from previous page

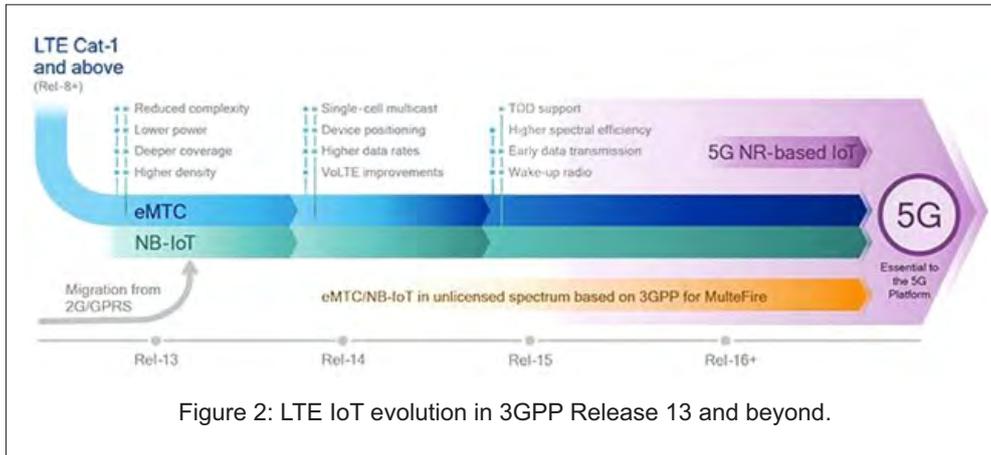
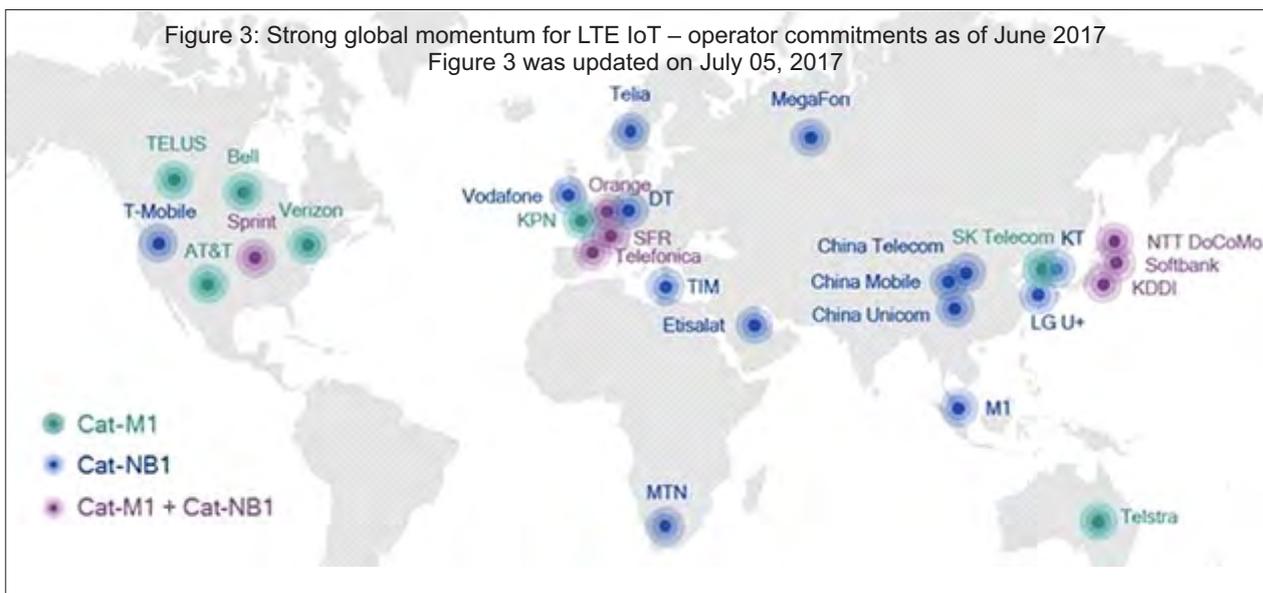


Figure 2: LTE IoT evolution in 3GPP Release 13 and beyond.

It should be clear that LTE IoT is starting to connect the massive IoT today and both eMTC and NB-IoT will certainly continue to evolve for years to come — leveraging the scale, longevity and global coverage of LTE networks (also to seamlessly enable migration from 2G). Eventually, there will be a 5G NR-based massive IoT solution. Some future advanced design elements will include NOMA (non-orthogonal multiple access), enabling grant-free transmissions leveraging RSMA (resources spleared multiple access) — in which the device sends data whenever needed without asking for permission — and mesh networking that expands on LTE's device-to-device capabilities.

Another exciting dimension is the expansion into unlicensed spectrum. The MulteFire Alliance is adapting LTE IoT to operate in the unlicensed spectrum to expand beyond mobile broadband and high-performance IoT supported by MulteFire 1.0. This will in turn bring new opportunities for private LTE networks and enable LPWA (low-power wide-area) use cases, leveraging narrowband LTE IoT technology.

Today, we are delivering commercial multimode solutions that support eMTC's device category Cat-M1, NB-IoT's device category Cat-NB1, and E-GPRS. The Qualcomm MDM9206 is a flexible, single-SKU solution that enables global deployments with a single hardware, software, and RF design. And just a few weeks ago, we announced something very exciting — a joint field trial with Mobike and China Mobile — that will take advantage of our LTE IoT multi-mode solution. And mobile operators around the globe are also starting to launch commercial LTE IoT networks supporting both Cat-M1 and Cat-NB1 devices. At the time of writing this blog post, we see more than 20 mobile operators having publicly announced their commitment to deploy LTE IoT, with even more trialing eMTC and/or NB-IoT technologies in preparation for commercialization. All in all, the future of LTE IoT is bright, and we are excited to continue leading the LTE IoT evolution toward 5G.



Get the latest information and downloads, check out our LTE IoT evolution webpage.

To stay connected, also follow us on Twitter @qualcomm\_tech and sign up for our wireless newsletter.

# Amazon and Whole Foods Market Announce Acquisition to Close This Monday, Will Work Together to Make High-Quality, Natural and Organic Food Affordable for Everyone

SEATTLE & AUSTIN, Texas--(BUSINESS WIRE)--Aug. 24, 2017-- (NASDAQ:AMZN)—Amazon and Whole Foods Market today announced that Amazon's acquisition of Whole Foods Market will close on Monday August 28, 2017, and the two companies will together pursue the vision of making Whole Foods Market's high-quality, natural and organic food affordable for everyone. As a down payment on that vision, Whole Foods Market will offer lower prices starting Monday on a selection of best-selling grocery staples across its stores, with more to come.

In addition, Amazon and Whole Foods Market technology teams will begin to integrate Amazon Prime into the Whole Foods Market point-of-sale system, and when this work is complete, Prime members will receive special savings and in-store benefits. The two companies will invest in additional areas over time, including in merchandising and logistics, to enable lower prices for Whole Foods Market customers.

"We're determined to make healthy and organic food affordable for everyone. Everybody should be able to eat Whole Foods Market quality – we will lower prices without compromising Whole Foods Market's long-held commitment to the highest standards," said Jeff Wilke, CEO of Amazon Worldwide Consumer. "To get started, we're going to lower prices beginning Monday on a selection of best-selling grocery staples, including Whole Trade organic bananas, responsibly-farmed salmon, organic large brown eggs, animal-welfare-rated 85% lean ground beef, and more. And this is just the beginning – we will make Amazon Prime the customer rewards program at Whole Foods Market and continuously lower prices as we invest together. There is significant work and opportunity ahead, and we're thrilled to get started."

"It's been our mission for 39 years at Whole Foods Market to bring the highest quality food to our customers," said John Mackey, Whole Foods Market co-founder and CEO. "By working together with Amazon and integrating in several key areas, we can lower prices and double down on that mission and reach more people with Whole Foods Market's high-quality, natural and organic food. As part of our commitment to quality, we'll continue to expand our efforts to support and promote local products and suppliers. We can't wait to start showing customers what's possible when Whole Foods Market and Amazon innovate together."

Here's what will be new in Whole Foods Market stores on Monday and what customers can expect over time as the two companies integrate:

Starting Monday, Whole Foods Market will offer lower prices on a selection of best-selling staples across its stores, with much more to come. Customers will enjoy lower prices on products like Whole Trade bananas, organic avocados, organic large brown eggs, organic responsibly-farmed salmon and tilapia, organic baby kale and baby lettuce, animal-welfare-rated 85% lean ground beef, creamy and crunchy almond butter, organic Gala and Fuji apples, organic rotisserie chicken, 365 Everyday Value organic butter, and much more.

In the future, after certain technical integration work is complete, Amazon Prime will become Whole Foods Market's customer rewards program, providing Prime members with special savings and other in-store benefits.

Whole Foods Market's healthy and high-quality private label products—including 365 Everyday Value, Whole Foods Market, Whole Paws and Whole Catch—will be available through Amazon.com, AmazonFresh, Prime Pantry and Prime Now.

Amazon Lockers will be available in select Whole Foods Market stores. Customers can have products shipped from Amazon.com to their local Whole Foods Market store for pick up or send returns back to Amazon during a trip to the store.

This is just the beginning – Amazon and Whole Foods Market plan to offer more in-store benefits and lower prices for customers over time as the two companies integrate logistics and point-of-sale and merchandising systems.

Whole Foods Market will continue to grow its team and create jobs in local communities as it opens new stores, hires new team members, and expands its support of local farmers and artisans. The company will maintain operations under the Whole Foods Market brand, preserve its high standards and commitment to providing the finest natural and organic foods, and continue to source from trusted vendors and partners around the world. John Mackey will remain as CEO and Whole Foods Market's headquarters will stay in Austin, Texas.

## About Amazon

Amazon is guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. Customer reviews, 1-Click shopping, personalized recommendations, Prime, Fulfillment by Amazon, AWS, Kindle Direct Publishing, Kindle, Fire tablets, Fire TV, Amazon Echo, and Alexa are some of the products and services pioneered by Amazon.

For more information, visit [www.amazon.com/about](http://www.amazon.com/about) and follow @AmazonNews.

## About Whole Foods Market

Founded in 1978 in Austin, Texas, Whole Foods Market is the leading natural and organic foods supermarket, the first national "Certified Organic" grocer, and uniquely positioned as America's Healthiest Grocery Store. In fiscal year 2016, the Company had sales of approximately \$16 billion and has more than 460 stores in the United States, Canada, and the United Kingdom. Whole Foods Market employs approximately 87,000 team members and has been ranked for 20 consecutive years as one of the "100 Best Companies to Work For" in America by Fortune magazine.

For more information, please visit [www.WholeFoodsMarket.com](http://www.WholeFoodsMarket.com) or @WholeFoods on Twitter.

# Amazon's Biggest Acquisitions

With Amazon on an M&A spree this year, we looked at its all-time largest deals in a visual timeline.

As we discovered in our analysis of Amazon's M&A strategy, Amazon has traditionally been a conservative buyer of companies. Despite the historic Whole Foods mega-acquisition (\$13.7B) as well as a few big-name buys like shoe retailer Zappos (\$1.2B, 2009) and e-sports streaming site Twitch (\$970M, 2014), on the whole, Amazon has historically been far less acquisitive than its tech giant competitors.

The tide, however, may be turning. With 7 acquisitions in the year to-date, 2017 is already far and away Amazon's most active year for M&A.

This year's M&A spree began in Q1'17 with the high-profile purchase of Souq.com, the so-called "Amazon of the Middle East" that it bought for \$580M. Amazon has also bolstered its AWS cloud offerings by buying a number of developer and enterprise tools, like Harvest.ai, Thinkbox Software, and Do.com.

With its acquisitions now happening at a blistering pace, we created a visual time of Amazon's all-time largest deals.

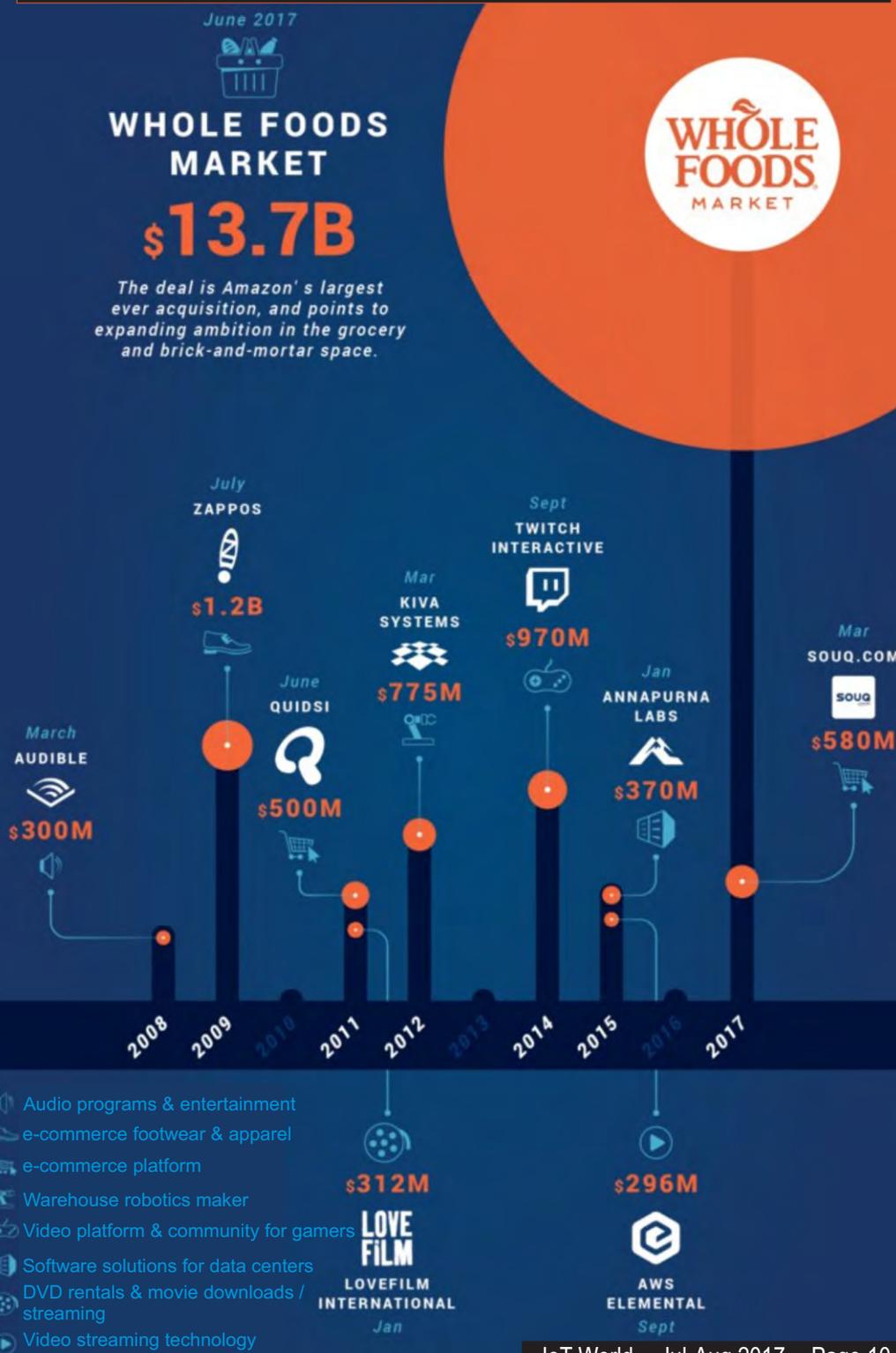
## About the graphic:

- At a whopping \$13.7B, Amazon's recent Whole Foods acquisition is by far the largest acquisition. That's more than 10 times the size of the #2 largest deal, which was to Zappos.
- 7 of the top 10 deals were at valuations of \$500M or greater.
- The smallest deal to make the top 10 was Elemental Technologies, which was valued at \$296M.
- The deals reflect Amazon's extremely diverse business interests: media and content (LoveFilm, Twitch, Audible), streaming infrastructure (Elemental), ecommerce (Souq, Quidsi, Zappos), computing hardware (Annapurna Labs), and robotics (Kiva Systems).

SOURCE: CB Insights [Click Here](#)

# amazon TOP ACQUISITIONS BY DEAL SIZE

**CBINSIGHTS**  
 DOWNLOAD our 24-page deep-dive into the the acquisition, investment, and research strategy of Amazon [CLICK HERE](#)



# THE INTERNET OF RELEVANT THINGS

ACHIEVING STRATEGIC GOALS BY BRIDGING BUSINESS OBJECTIVES WITH IOT CONTEXT & DATA

## THE PROFESSOR AND THE WOODSMAN

Some years ago the head of the Industrial Engineering Department of Yale University stated, "If I had only one hour to solve a problem, I would spend up to two-thirds of that hour attempting to define what the problem is."<sup>1</sup> In the same vein, a woodsman was once asked, "What would you do if you had just five minutes to chop down a tree?" He answered, "I would spend the first two and a half minutes sharpening my axe."<sup>2</sup> Regardless of your industry or task, it's important to be prepared, carefully defining your objectives and selecting the tools needed to achieve them.

Sadly, this lesson is often overlooked when it comes to Internet of Things (IoT) projects. Whether it's the allure – or misunderstanding – of the IoT concept, fear of being left behind by competitors, or pressure to do something new, companies frequently rush head first into IoT projects without clearly defining objectives, value propositions, or the suitability of tools. The result is a high rate of failure for IoT projects, and disillusionment among customers.<sup>3</sup>

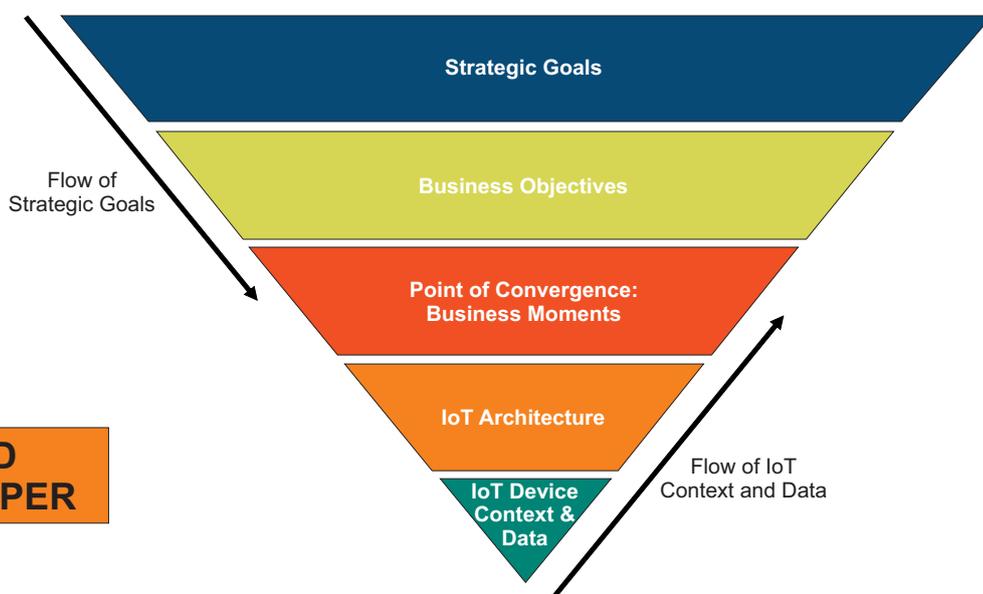
Part of the problem is that the phrase, Internet of Things, is misleading and deceptive. Originally intended to describe an ecosystem of interconnected machines, the turn of phrase has been taken literally to mean connecting all devices to the Internet. The overarching objective of IoT is not to network every device in an enterprise, much less connect every device to the Internet. IoT devices are vessels for context and data, and only relevant information – and devices – need to be tapped.

How does one determine what is or is not relevant information? Relevance is established by a chain that stretches from the enterprise's strategic goals, to business objectives designed to achieve those goals, to what Gartner calls "business moments" – transient, customer-related opportunities that can be dynamically exploited.<sup>4</sup> A business moment is the point of convergence between the enterprise's strategic goals and relevant IoT context and data (Figure 1) that when properly exploited will positively change a customer's behavior, attitude, and/or sentiment.

Business moments must be carefully orchestrated by the enterprise, even if they appear spontaneous to the customer. Success hinges on a second chain that stretches from relevant IoT context and data thru the IoT architecture that accesses and conveys them to a target business moment. If the chain is poorly executed, say because the IoT architecture can't extract relevant information, then the business moment may pass without result, or could even generate negative sentiments to the detriment of the strategic goals.

And so we return full circle to the professor and the woodsman. The first order of business in any IoT project is to identify the strategic business goals to be achieved. Those should flow down into a series of specific objectives that rely on successfully delivered business moments. The IoT architecture is the tool by which relevant IoT context and data are extracted and exploited to reorient customer behavior, attitudes, and actions in favor of the strategic goals.

Business goals and objectives inform the IoT architecture and relevant devices to tap, not the other way around. IoT solutions selected for eye candy appeal or hype alone will go wanting.



**DOWNLOAD THE WHITE PAPER**

# Gemalto first in the world to be fully-certified by the GSMA for secure eSIM subscription management



*Accreditations apply to industrial IoT applications, automotive solutions and consumer electronics*

Amsterdam, 3 August 2017 - Gemalto, the world leader in digital security, announces that its On-Demand Connectivity Service has become the first in the world to demonstrate full compliance with the stringent security requirements of the GSMA's Security Accreditation Scheme for embedded SIM (eSIM) remote provisioning. As a result, OEMs, mobile operators, and service providers worldwide can be assured that Gemalto implements appropriate security measures for storage and handling of all sensitive user profile data. These measures extend from initial eSIM production through to management of mobile subscriptions over the entire service lifecycle. The accreditations apply to industrial IoT applications, automotive solutions and consumer electronics.



Unlike a conventional SIM, an eSIM is soldered into a device during production and must be remotely managed during its entire lifecycle. This simplifies manufacturing and logistics, prevents tampering, and eliminates the need to fit and replace SIMs at a later stage.

With more than 50 references, Gemalto On-Demand Connectivity service- a subscription management platform - provides customers with a GSMA-certified environment to support their commercial launches.

"These new certifications demonstrate Gemalto's leadership and commitment to implementing rigorous security measures that extend from the core to the very edge. "Mobile operators and OEMs can now fully benefit from the combined promises of the eSIM and remote SIM provisioning services for industrial, enterprise and consumer applications" said David Buhan, Senior Vice President Mobile and IoT Services for Gemalto.

## About Gemalto

Gemalto (Euronext NL0000400653 GTO) is the global leader in digital security, with 2016 annual revenues of €3.1 billion and customers in over 180 countries. We bring trust to an increasingly connected world.

From secure software to biometrics and encryption, our technologies and services enable businesses and governments to authenticate identities and protect data so they stay safe and enable services in personal devices, connected objects, the cloud and in between.

Gemalto's solutions are at the heart of modern life, from payment to enterprise security and the internet of things. We authenticate people, transactions and objects, encrypt data and create value for software – enabling our clients to deliver secure digital services for billions of individuals and things.

Our 15,000+ employees operate out of 112 offices, 43 personalization and data centers, and 30 research and software development centers located in 48 countries.

For more information visit [www.gemalto.com](http://www.gemalto.com), or follow @gemalto on Twitter.