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# Four Essential Enterprise Updates from Mobile World Congress 2016

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Perspective by  
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## Four Essential Enterprise Updates from Mobile World Congress 2016

When Nikola Tesla described his vision of an interconnected and wireless world in 1926 (at right), no one could have imagined that 90 years later, those themes would be at the center of technology innovation.

Last week, over 100,000 people gathered at Mobile World Congress in Barcelona to showcase and collaborate around many of the ideas that Tesla described:

- NFV and 5G
- Internet of Things and analytics
- Virtual and augmented reality
- Mobile devices

Featuring over 2,000 exhibitors and 30 keynote speakers, this is the second largest technology industry gathering in the world behind the Consumer Electronics Show.

Waterstone Management Group was on hand to gather insights and provide perspectives on many of the critical technology and business model evolutions affecting our clients. While there were an uncountable number of consumer product launches, our coverage is primarily focused on the enterprise and service provider world.

### 1. Carrier Networks Continue to Evolve

**Network Functions Virtualization Movement Has Accelerated, but Some Technology and Business Case Challenges Remain:** ETSI unveiled its vision for NFV over two years ago, and since then service providers and their vendors have been hard at work turning that vision into reality. The technology held the promise of decreasing carrier CapEx and OpEx spend while increasing network capacity and flexibility by replacing dedicated hardware appliances with virtualized software running on industry standard servers. With proof-of-concept work dominating the last two years, efforts are evolving into deploying the technology into a scaled production environment.

John Donovan, Chief Strategy Officer and Group President of AT&T Technology and Operations, announced that the company had achieved its 2015 goal of virtualizing 5 percent of its network, and set the 2016 goal at 30 percent—a lofty endeavor, especially considering the size and heterogeneity of AT&T's

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*“When wireless is perfectly applied, the whole earth will be converted into a huge brain, which in fact it is, all things being particles of a real rhythmic whole. We shall be able to communicate with one another instantly, irrespective of distance. Not only this, but through television and telephony we shall see and hear one another as perfectly as though we were face to face, despite intervening distances of thousands of miles; And the instruments through which we shall be able to do this will be amazingly simple compared with our present telephone. A man will be able to carry one in his vest pocket.”*

– Nikola Tesla, 1926

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Outside Europa Fira in Barcelona

network. While he recognizes that implementing NFV has been significantly more difficult than originally thought, he communicated the general feeling of the industry that most of the core technical challenges had been solved or can be solved. The question is no longer IF the technology will work, but HOW it can be optimized.

After two years of science projects promising cost savings and more efficient scaling, CIOs and CTOs of publicly traded Tier 1 service providers are under increased pressure to show returns on their investments. Francois Locoh-Donou, SVP and COO of Ciena, explained that NFV's business case "does not make sense today... but it's getting there." As pressure intensifies on carriers to show measurable results, vendors will be forced to respond by productizing/commercializing their offerings and controlling their costs.

The speed at which formal commercialization happens will also impact the technology's deployment within smaller Tier 2 and Tier 3 carriers, which lack the resources to experiment and build extensive DevOps teams. If open source solutions (the technology of choice for Tier 1 carriers) don't mature quickly, the smaller carriers may be forced to adopt more expensive proprietary solutions to keep up with network capacity demands.

**Service Provider Executives Informally Communicated Expectations around 5G:** Most expect to start proofs-of-concept towards the end of 2016, with more scaled trials beginning late 2017 / early 2018. However, full 5G roll-out is not expected until 2020. While 5G will certainly offer faster connection speeds than 4G, the more important benefit is the promise of very low latency, which

will allow time-sensitive analyses and decisions to be made in the cloud, transforming technologies such as autonomous driving and revolutionizing healthcare.



*Shaun Collins (CEO, CCS Insights) leads a discussion with Hans Vestberg (President & CEO, Ericsson), Ralph De la Vega (President & CEO, AT&T Mobile & Business Solutions), and Brian Krzanich (CEO, Intel)*

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*"NFV is the hardest software challenge we've ever faced at AT&T, but we're changing into a software company."*

– John Donovan  
Chief Strategy Officer  
and Group President, AT&T  
Technology and Operations

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**Mark Zuckerberg Announced Telecom Infra Project (TIP):**

Unhappy with the rate at which technologically isolated populations are coming online, the Facebook CEO announced an effort focused on developing telecommunications networking hardware to accelerate access. Acknowledging that scaling traditional telecom infrastructure is moving too slowly, TIP's initial contributors (Intel, Nokia, Facebook, Deutsche Telekom, etc.) will partner to initially improve access, backhaul, and core/management.

## 2. Initial Monetization of the Internet of Things Is Gaining Traction in Enterprise Use Cases

Mobile World Congress included too many IoT platform launches and product announcements to count. Stepping back to look at how this technology is evolving, one notices a few themes:

- **The IoT Market Is Very Fragmented:** There are hundreds of platforms, each claiming to be “end-to-end.” At its core, a platform is a cloud offering, connecting sensors to to-be-written analytics software. As a result, this new technology has seemingly become a commodity overnight. The platform market is too fragmented to support this many players, and winners will be determined by how well-positioned they are for initial use cases.
- **Commercialization of Enterprise IoT Solutions Are Leading Consumer Use Cases:** Enterprise end customers are positioned for near-term optimization benefits from IoT offerings, and vendors are integrating their solutions to capture significant revenue opportunities. Solutions gaining the most traction offer short-term and measurable gains—increasing process efficiency and capacity by leveraging data to predict outcomes.
- **Industry Leaders Are Best Positioned to Be Early Solution-Provider Winners:** In each vertical, the largest vendors are well-positioned to be integrators of IoT solutions to other players because they’re close to customers, already familiar with their needs, have access to sensor points (or the ability to install them), and have the scale to develop true end-to-end solutions. For example:
  - John Deere is a pioneer in smart seeding techniques, which leverages data to optimize seed distribution.
  - Energy companies are leaders in providing initial smart building solutions to decrease operational costs.
- **Those Industry Leaders Are Evolving into Tech Companies:** To provide IoT solutions, vendors need to become system integrators to assemble their offerings: They need sensors in the right places (often working with legacy sensors), third-party data streams, a cloud strategy, an IoT platform, and industry-specific applications for each use case. For each technology component, they will have to make build vs. buy decisions. Initially, Waterstone expects profit pools and control points to concentrate at the solution and analytics application levels.
- **New Business Models Must Be Embraced:** As vendors embrace IoT and evolve into tech companies, their business models must also evolve. Embracing the unfamiliar software and services business models will be required. For example:
  - Launching recurring/subscription revenue offerings
  - Absorbing high R&D and selling costs required for high gross margin solutions
  - Investing in Customer Success to foster usage and retention

Right now, IoT is about connecting products together to enable a small set of decisions. Over the next several years, interoperability between platforms will become more important to delivering marginal value to end customers, and standards will begin to emerge. The breadth of available data and predictive analytics capabilities will also continue to evolve over the next several years. Several industries are facing disruption: Retail systems and smart buildings seem most ripe, and if regulatory constraints can be overcome, look for disruptions in financial services and healthcare.



*A small section of one of the eight halls, which featured more than 2,000 exhibits in total*

As several industry executives mentioned during one keynote, one future vision could be an ambulance pulling up alongside you and the driver saying, “Get in, you’re about to have a heart attack.”

### 3. Virtual Reality and Augmented Reality ARE Reality... Almost

As with IoT offerings, enterprise-focused virtual reality (VR) and augmented reality (AR) offerings will proceed consumer use cases because customers can realize near-term economic advantages. Products showcased at Mobile World Congress reflected this forecast. While this market is in the very early stages, Digi-Capital estimates that the VR/AR market will reach \$120 billion by 2020.



*Conference goers test LG's newest virtual reality goggles*

**Use Cases Center around Collaboration Theme:** While we all know Google’s AR product Glass, most of the products and proofs-of-concept at Mobile World Congress revolved around deskless workers, particularly showcasing collaboration with remote employees. A common proof-of-concept example allows a utility worker to use AR glasses to share what they’re looking at with a subject matter expert in a remote location, allowing the worker to ask a question, hear a response, and receive an explanatory augmented picture in their line of sight. Other use cases aim to decrease training time for industrial/manufacturing employees, improve healthcare outcomes, and aid security professionals.

**Enterprise AR Solutions May Share Software Platforms with Consumer AR Products, but Hardware Will Be Different:** As with other technologies, AR offerings may evolve from enterprise to prosumer and, ultimately, to consumer, with solutions designed for use cases such as enhancing driving safety and facilitating communication. While a common software platform may be utilized across offerings, there will be key capability and GUI differences at the user-interface level and a wide range of use-specific devices. Hardware manufacturers are offering vertical-specific wearables, such as AR-enabled helmets, glasses, and goggles, each designed



*Waterstone's Christopher Kammerer models prototype augmented reality glasses at Intel's booth*

for specific environments. As Paul Gunter of ProGlove explained, one size does not fit all, and hardware for enterprise use cases has requirements unique from consumer devices, including the number of cycles it must endure, required physical robustness, ability to maintain hygiene standards between different users, and price points to enable near-instant value.



*Attendees gave Samsung's virtual reality ride a try using the company's new available-to-consumer VR glasses*

Virtual reality, while expected to be a significantly smaller market than augmented reality, had several big announcements from LG and Samsung. Both have ambitions of becoming leaders in consumer-oriented use cases. Imagine gaming or having a Skype conversation in a 360-degree virtual world... that's where this is headed.

#### 4. Mobile Device Makers Continue to Fight Commoditization through Innovation

Mobile World Congress is known for having a host of new consumer product announcements. This year did not disappoint.

The headlining chipset was Qualcomm's previously announced 14nm FinFET Snapdragon 820, which underpinned a host of flagship phones and other mobile devices. Most notable were the Samsung S7/S7 Edge, LG G5, and HP Elite x3. Now slimmed down and focused on consumer technology, HP showcased its Elite x3, a large phone (6") that can be used as a Windows 10 computer by connecting to a monitor, keyboard, and mouse via a proprietary docking station. Similar all-in-one concepts have struggled to gain market acceptance in the past, but HP is betting that the combination of best-in-class hardware, a familiar OS, and the convenience of keeping your files on one device will differentiate it from the ever-expanding field of high-end mobile device products.



*HP Elite x3  
Photo credit: HP, Inc.*

**Is Hardware Becoming Commoditized? Yes and No:** Commoditization of mobile devices (specifically phones and tablets) was frequently discussed at this year's Mobile World Congress. With product managers in these categories seeking to preserve margins, they're looking for meaningful innovations to justify price premiums. More and more often, these innovations are beyond the 4-inch screen. As with many other tech products today, the value of innovation does not seem to be in the hardware (though that is also necessary), but in the data and services use cases it enables: hyper-segmentation, personal identity, contextual awareness, security, mobile passport, etc.

As in other technology segments, hardware-focused companies must recognize the competitive realities and seek long-term solutions to improving margins, such as differentiating by offering complimentary software and services. And as with companies looking to bring IoT offerings to market, these evolving hardware companies must embrace software-like business models.

Samsung has been innovating in a different way with its KNOX offering, which was first introduced several years ago. This year, Samsung showed off the success of its ecosystem, which is enabled by



*Samsung showcased some of the third-party solutions built on its KNOX platform*

its ready-for-customization hardware. By embracing the commoditizing nature of the hardware, and differentiating its products with a development-friendly ecosystem and delivery capabilities, Samsung has enabled third parties to leverage its hardware platforms for custom solutions. Some of the solutions on display were an airline baggage handling system consisting of a hand-held scanner and Samsung Gear watch, and a point-of-sale system running on a Samsung tablet.

## Disruption Ahead

Disruption is a constant across technology sectors, and Mobile World Congress 2016 allowed a snapshot into industries and use cases that have been or will be disrupted by mobile technology. It is imperative that executives in tech sectors capitalize on these (and other) evolving trends by leveraging a new technology or business model to gain a competitive advantage, or prepare to respond to a disruption in their own market.

**Waterstone Management Group helps technology companies and investors create measurable value by identifying and capitalizing on disruptive growth opportunities and driving excellence in Services, Cloud, and Customer Success performance. To learn more about disruptive growth and the best way to respond, please contact:**

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