EXECUTIVE BRIEF

# THE IoT MARKET IN 2016 – SOCIAL, ECONOMIC & BUSINESS CHALLENGES

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THIS EXECUTIVE BRIEF IS A SUMMARY OF THE REPORT:

# State of the Market: Internet of Things 2016

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## INTRODUCTION

- Verizon's 'State of The Market: Internet of Things 2016' report looks at how the Internet of Things (IoT) is addressing some of society's most pressing social, economic and business challenges. It examines five macro trends that are driving adoption and delivering measurable results across several industries and sectors, providing valuable insight for all business sizes and consumers.

## IMPORTANT DATA

- The IoT global market spend is set to grow from $591.7 billion in 2014 to $1.3 trillion in 2019 at a compound annual rate of 17%.
- The $1.3 trillion IoT market (projected) in 2019 will be made up in the majority by IoT devices, connectivity and IT services. Modules and sensors alone comprise 23% of this figure.
- "The Internet of Things (IoT) will support total services spending of $235 billion in 2016", according to Gartner's estimate. This 'services' spend is in contrast with the past, where organizations have focused on collecting and using data to improve their operational efficiency.
- Since 2015, enterprise IoT startups have raised 75% more funding than consumer IoT startups, and this trend is set to continue in 2016, with Verizon Ventures predicting this differential to increase to 2-3 times more funding.

## KEY INSIGHTS

- 2015 was the year IoT gained legitimacy, according to Verizon, with businesses across all industries building IoT into future strategies and business models.
- Revenue growth is by far the biggest factor driving IoT adoption according to an Oxford Economics study. Data monetization, core IoT networks and low power devices, platforms as a service and investment in IoT startups are the four key trends facilitating this growth.
- The proliferation of IoT platforms is being driven by the sheer complexity, as well as security and privacy issues that enterprises have around IoT. These platforms make the development and deploying of IoT applications easier, faster, more secure and accessible for all.
- IoT technologies will enable enterprises to comply with the new environmental and safety regulations that will expand beyond nation-state borders. IoT will fulfil the new tracking, monitoring, data reporting and analyses requirements.
- In order to make sense of the massive volumes of data from individual IoT applications and millions of sensors, IoT data and analytics capabilities need to converge.
- Think of the IoT as an ecosystem made up of tens of thousands of small markets, not a single, monolithic market.

## BUSINESS BENEFITS

- Companies will increasingly be able to exploit big data from IoT 'things' to better understand and serve their customers, moving beyond descriptive data, leveraging predictive and prescriptive analytics.
- IoT promises, through predictive and prescriptive analytics, to enhance the way people live rather than expecting them to adapt. It is the ability to collate, integrate and act on data from multiple sources that enables predictive and prescriptive analytics.
- As the IoT network and device ecosytem evolves, the cost of connecting IoT sensors & devices containing smaller, less power hungry chipsets (known as Cat 1 devices) to a wide-area network is now much less of a barrier to widespread IoT deployment.
- A major benefit of IoT to businesses of all sizes is the ability, using low cost sensors, to track machines, other assets and product across the entire supply chain from manufacturer to consumer. This will allow businesses to quickly provide critical information to their customers and supply chain partners.
- Data from IoT devices, when integrated with other relevant data such as weather or traffic data, is enabling companies to make better decisions based on a more holistic view that is tied to the business.
- Data from IoT can be used to influence public behaviour. One smart-lighting manufacturer is exploring ways to pinpoint the source of gunfire and alert police and emergency dispatchers. Another city displays the energy used by uptown buildings, resulting in reduced consumption of electricity.
- IoT platforms will help businesses contextualise their IoT data, especially as subject matter expertise and analytics capabilites become increasingly critical components of the IoT ecosystem.

## USE CASES

- Drug manufacturers are adopting IoT solutions in response to the Supply Chain Act, a regulatory compliance requirement. Sensors are used to track and store all transaction histories of prescriptions drugs and shipment information across their distribution supply chain. This law is tackling counterfeit drugs which costs the industry $75 billion annually.
- Tech savvy farmers are using IoT as part of the solution to helping find better methods to feed the planet, particularly pertinent as the world's population is expected to grow by 2 billion to 9.7 billion by 2050.
- The IoT will help farmers comply with anticipated regulatory reporting, for example, around water usage, as well as help promote more efficient use of resources, or tracking of livestock, so injury, illness or theft can be instantly detected.
- The Hahn Winery has IoT gateways on the 1000-acre vineyard that continuously monitor data on water, weather, temperature, mildew and transmit this information wirelessly to Verizon's Ag Tech solution on ThingSpace. This data is used to time and target the use of fungicide sprays to prevent disease on the fruits.

## USE CASES (cont.)

- By 2050 nearly 2/3rds of the global population will be city-dwellers according to the World Health Organisation. With public services and energy under increasing pressure, IoT technology is providing a way forward for 'smart cites and communities' to help streamline services like transportation, street-lighting, sewer and sanitation.



## PREDICTIONS

- By 2020, 250 million connected vehicles will be on the road according to Gartner, enabling new in-vehicle services and automated driving capabilities - all made possible by the advancements in IoT, telematics and connectivity.
- A major driving factor behind IoT adoption is regulatory compliance. The impact of the Energy Act in the U.S exploded the market for monitoring energy consumption - using IoT enabled remote-capable meters with smart grid app support. Installed devices expected to reach 454 million in 2016 and to more than double by 2020.
- In 10 years time, staff at regulators such as the US Federal Trade Commission, according to their head, will consist largely of technologists rather than lawyers and economists - such will be the impact of IoT, wearable products and services.



## CHALLENGES

- IoT security and privacy is now focusing on authentication of critical data and baseline triggers for action. This is very relevant as there currently is no IoT protection framework that's ahead of the implementation of IoT technology.
- Only 8% of businesses use more than 25% of their IoT data, despite the huge revenue generating potential data monetization presents. However, in the next 2-3 years, this will increase dramatically as nearly 50% of businesses already leveraging IoT expect to be using more than 25% of their IoT data.
- Most enterprises do not have all the skills and capabilities in-house to make IoT a reality. This requires a complex process involving sensors, mobile devices, secure network connectivity, storage, big data analytics, ability to scale new services and ongoing integration and fine-tuning.
- Smart cities must evolve and move from 'measuring and monitoring' IoT data to 'analyzing and integrating' this data in creative new ways that enhance the lives of the people living there, saving energy costs and enabling new city services.

## TECHNICAL

- 5G, the next generation of wireless technology has the potential to deliver the requirements on speed, latency and capacity to support IoT opportunities like robotics and autonomous vehicles in a truly connected world.
- Critical data from IoT devices can be traced and identified using a privacy technique called "pseudonymization" of data, which requires assigning an obscured identifier to the data so that it doesn't readily map to a known person or address.

## TAKEAWAYS

- IoT adoption will grow significantly in the next 18 months - driven by falling costs and the increasing convenience, simplicity and security of connecting things. The impact on society and how people live their lives will be far reaching. As tangible benefits are experienced, IoT adoption will expand quickly, just as cell phone usage did.
- IoT will play a significant role in a new sharing economy with the "Uberization" of a wide range of services. No longer restricted to the tracking of assets, IoT will facilitate the sharing of assets as well as determining rates for insurance and healthcare based on usage and behaviour.
- Soon, every industry will be an IoT business - this is what industry experts predict based on the benefits early adopters such as agriculture growers, are reaping from IoT technology - precision agriculture - the practice of sensing and responding to variable soil, moisture , weather and other conditions.
- IoT platforms are proliferating. They simplify the process of building and managing IoT applications, providing a one-stop solution for development tools, secure infrastructure and everything else developers need to build, launch, scale and manage apps, as well as all connected devices and huge volumes of data endpoints generated.