

# The Intelligent Enterprise Executive Summary



The convergence of megatrends including the Internet of Things (IoT), mobility, and cloud computing have led to a new operational paradigm known as the Intelligent Enterprise. As physical assets are given a digital voice, the Intelligent Enterprise allows businesses to run operations more efficiently and make better decisions with improved real-time visibility. Achieving greater enterprise asset intelligence offers businesses a sense of what is happening in their operations, provides them with a way to quickly analyze the information and gives them a platform to act on it to reach higher levels of growth, productivity, and service.

In order to further examine the Intelligent Enterprise, the Technology and Entrepreneurship Center at Harvard (TECH), with support from Zebra

Technologies, convened the **2016 Innovation Symposium: The Intelligent Enterprise** on the campus of Harvard University.

The symposium brought together senior leaders from a diverse set of industry, government and academia. Attendees and speakers included representatives from GE, Target, Whirlpool, Zebra Technologies, Google, IBM, Accenture, NFL, City of Boston, MIT and Harvard, as well as many other leading companies. The two day intensive symposium focused on understanding what the Intelligent Enterprise is and how it can be harnessed to drive business success and benefit society.

Kevin Ashton, who coined the term “Internet of Things” (IoT) shared the history and thought process that began the RFID and IoT revolution. At the center of the paradigm shift enabled by IoT is the removal of human interaction for data collection. With sensors, many of which Ashton predicts will power themselves in the future, information will be gathered autonomously, enabling explosive growth in the amount of data available.

Analyzing and processing that data will be a challenge. Rich Rao, Global Head of Devices and Education at Google, shared a vision for capturing, storing and processing that data. Going beyond cloud storage, Google envisions advanced computing through machine learning algorithms and high-performance computers that are able to provide the startup with the same technical infrastructure as the giants. Snapchat and Zulily are just two examples of success accomplished without any IT infrastructure.

Tom Bianculli, CTO of Zebra Technologies, provided a framework to understand the trends in IoT – and the opportunities. It starts with solutions that “sense” information from enterprise assets, such as packages moving through a supply chain, equipment in a factory, workers in a warehouse, and shoppers in a store. Operational data from these assets, including status, location, utilization, or preferences, is then “analyzed” to provide actionable insights. These insights can then be mobilized to the right person at the right time so they can be “acted” upon to drive better, more timely decisions by users anywhere at any time.

This was augmented by Anders Gustafsson, CEO of Zebra Technologies, vision of the three megatrends in IoT: **Data Collection and Analysis:** Being able to gather data in real time and control or act on physical processes and information is being used successfully and is closer to becoming a large-scale reality. **Cloud Technology:** Decentralized data storage and access are now readily available at an affordable price point for both consumers and enterprises, ensuring that an ever-increasing amount of information is available on demand. **Mobility:** Adoption of mobile technology and the number of mobile-connected users have grown so rapidly that companies are constantly finding new opportunities to leverage the connected world for innovation.

Several case studies were presented offering concrete examples of the Intelligent Enterprise. Yogesh Dhingra, CEO of Blue Dart in India, showed the power of full integration of software and custom hardware over simple apps on smart phones to solve the challenging problem of transportation logistics and e-commerce in India. Alison Jones, Sr. Director of NAR Logistics at Whirlpool, shared their recent project that reduced the number of tracking devices from 9 custom configured to two units with standardized firmware. An integrated RF communication system allows updates to be pushed instantaneously to all devices, thus removing the complexity of rolling out updates and new software across multiple manufacturing sites.

Yuri Quintana, Assistant Professor Harvard Medical School, shared the trends in healthcare – not only in data collection, but also management and the creation of e-health ecosystems. Tim Kottak, CTO Global Services, GE Healthcare, brought this point home with several projects GE has initiated with their customers to move from a technology perspective to one of an Intelligent Enterprise. The GE FastWorks system addresses how to scale up solutions quickly, and was used to understand and increase efficiency, utilization and productivity of their imaging equipment by a particular hospital. By analyzing operational data from the MRI systems and evaluating departmental workflow, they were able to make recommendations for increasing exam efficiency and reducing exam appointment slots by up to 30%. This would open capacity, creating potential for an additional 3,250 cases per year.

The focus was not only on business solutions, but also society. Nigel Jacobs, from Boston's Mayer office of New Urban Mechanics, shared several trends in Intelligent Enterprise in the city. Examples spanned from apps to track school buses to easier ways to share data with parents enrolling their children in schools. Paolo Santi, Research Scientist at MIT, shared recent research into how data can give us insights in to mobility trends – and save us time and money. By examining 150 million taxi trips in New York City, Santi and his team were able to determine that 95% of all Taxi rides could be shared, without any significant impact on rider comfort. Such a trend could significantly reduce congestion and improve quality of life for all city residents.

From the high-level, strategic view presented by Kevin Ashton and Anders Gustafsson, to the detailed case studies by Alison Jones and Yogesh Dhingra, the 2016 Strategic Innovation Symposium: The Intelligent Enterprise, developed new insights in what it means to have an Intelligent Enterprise and the immense impact it can have on industry and society in general.

**“The concept of ‘The Intelligent Enterprise’ is about making businesses as smart and connected as the world around us.”**

**– Tom Bianculli**  
CTO at Zebra Technologies

**How Intelligent is your business? [Take the Assessment.](#)**