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a Fujitsu company

# Winning with the Internet of Things

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**The Internet of Things (IoT) is opening up huge new opportunities to connect information and processes from end to end – enabling people to challenge a whole range of assumptions about how the world works. But it also brings a huge new array of risks – from technical issues of scale and security up to fundamental issues of business model disruption. So how can we make sure we approach the opportunities of the IoT in a way which makes us winners in the new hyperconnected age?**

Over the last 20 years we have seen successive innovations drive the influence of the Internet into new areas, connecting new kinds of resources, digitizing new interactions and opening up new opportunities to challenge the underlying beliefs on which a range of industrial and social activities were based.

Every additional expansion has brought the emergence of new industry leaders – e.g. Amazon, Google, Facebook or Uber – who have used the expansion in connectivity to look at the world with fresh eyes.

Today, the Internet of Things (IoT) promises to drive the boundaries of the Internet further out than ever before, providing connectivity to potentially billions of everyday objects. The sensors and actuators these objects embed will transform our understanding of real world events and enable us to simultaneously manipulate digital and physical environments in real time. As connectivity penetrates the real world and transforms the potential of even the smallest and most mundane of everyday objects, huge new opportunities to transform customer experiences across a combination of digital and physical spaces will emerge.

But how do you become a winner in this new environment? How do you maximize the benefits of these new information sources? How do you leverage the newly connected things in combination with all of the other digital and human resources that already exist? How do you go fast enough to stay ahead of the competition? We believe that there are three principles that can help you drive a successful IoT strategy.

## **The Internet is the platform**

Our first principle states that you can only achieve the full potential of the IoT by stressing the “Internet” over the “Things”. Despite many waves of technology hype over the years, straightforward connectivity has been the most fundamental driver of transformational change. It is therefore critical to base your IoT initiatives on existing Internet and Web standards at different layers, leveraging the ubiquitous protocols and patterns of the Internet to maximize connectivity potential and support open innovation. Protocols such as Bluetooth smart, low power IPv6 and the constrained application protocol (CoAP) are bringing open, web-like access to smart objects while maximising their lifetime through sensible optimisations.

## **Think small to go large**

Our second principle states that meaningful and disruptive innovation on the Internet has rarely been achieved in a top down, centrally planned fashion. It is the open, chaotic and Darwinian nature of the Internet that has enabled such a high tempo of innovation. Many discussions of the IoT, however, start with huge, complex and monolithic predictions of smart energy, smart agriculture, smart manufacturing, etc., which are on a scale that has little relevance to your business and which therefore cannot be grasped in terms of the small, actionable steps that you can take to start delivering value today.

To become a winner with the IoT you should ignore large, top down discussions and instead focus on rapidly delivering small, measurable improvements in individual activities and processes relevant to your business and its customers. The technologies and platforms of the IoT are so low cost and easy to engage with that starting many small experiments is the best way to discover the potential value for your specific business. In this sense successful approaches to IoT will need to leverage simple technologies and approaches that lower the barrier to entry for each individual case and which do not require the aggregation of many dubious business cases to provide a justification for large scale capital investment.

## **Connect value in the cloud**

Our third principle states that the value of the IoT is meaningless unless you can seamlessly integrate and leverage the data it produces in a way which creates value at scale – for your customers, for your business or for society as a whole. It's not about individual sensors or smart devices; it's about the way in which you combine them with other systems and people to rapidly deliver and evolve compelling, digitally transformed processes and activities. The IoT should not be seen as a separate technology category – and yet another silo – but simply as an extension of the resources available to you in innovating and optimising your wider digital business processes.

For these reasons a high productivity platform as a service focused on rapid process transformation and integration is an ideal place to unlock the value of the IoT in combination with the wider digital environment. By abstracting away low level technology, such platforms leave you free to focus on the rapid creation of valuable new digital flows which easily connect the people, systems and sensors necessary to deliver, test and scale systems which transform value for your customers and colleagues. Most importantly using a high level platform as a service will enable you to deliver, test and scale your new processes faster than competitors who get bogged down in low level technology management of infrastructure and middleware.

## **And the winner is...**

The IoT is bringing huge new opportunities to integrate information spanning the physical and digital worlds, opening up a whole new set of activities for digital disruption. While grandiose concepts and technical language can make the subject seem overwhelming, use of these three principles can put you in a position to experiment and deliver at extremely low cost.

To prove the point we recently used our own principles to experiment with ways of improving the response to cycling accidents, connecting wearables, sensors, cloud services and mobile devices within a new digital flow. By using CoAP, focusing on the improvement of a specific outcome and using our PaaS to connect across the whole environment we were able to help a small partner create significant value in just a few days.

The first key step to winning with the IoT is therefore to actually move; the low cost of experimentation and importance of gaining insight into this disruptive new area all make it critical to start shaping your future now – otherwise someone, somewhere will shape it for you.