

# Capitalizing on The Internet of Things: A Primer



## Executive Summary

WHEN EVERY  
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IS CONNECTED  
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CHANGES HOW YOU  
OPERATE, HOW YOU  
INTERACT WITH  
YOUR CUSTOMERS,  
AND HOW YOU  
MAKE MONEY.

The Internet of Things (IoT)—described aptly as “the convergence of the digital and physical worlds”—is transforming the way business is done across every sector of the economy and every industry, across the globe.

There is one thing that every company prospering from IoT today has in common—they understand that the Internet of Things is not about things, it's about service.

Devices and products (things) are simply tools that help businesses establish a direct, always-on connection between themselves and their customers. IoT turns those devices and products into service-delivery vehicles capable of continuously unlocking new value for customers and sources of revenue for your business.

# It means evolving your business into an IoT service business.

When every product you sell is connected any time, all the time, it fundamentally changes how you operate, how you interact with your customers and how you make money.

When your business becomes an IoT business, value shifts from products themselves to the services they enable. One-time product sales quickly become obsolete as customers come to expect companies to continuously add value and deliver new experiences over time in the form of new connected services.

And you are responsible for every part of the connected service experience. Customer has a question? You'd better be ready with the answer. Connectivity hiccups? They're counting on you to know why and to fix it, now! Plus, you have brand new sources of revenue to manage.

Navigating this kind of transition requires major shifts in mindset, processes, people, and skills. It means creating new business models, operating structures, and management functions.

## **It means evolving your business into an IoT services business.**

IoT services businesses present new and unique operational challenges that you'll need to be prepared to address.

- How will we on-board new devices, provision network services and set usage policies?
- How will we monitor and optimize service performance?
- How will we diagnose and resolve service issues remotely?
- How will we monetize our services and manage costs?
- How will we scale our IoT services, whether to the next 10K customers or around the globe?

Becoming a successful, service-centric IoT business requires four key elements:

- Devices with embedded connectivity
- Networks for those devices to connect through
- Applications and IT systems to power operations
- And a services management platform that makes it possible for companies to capitalize on real-time interactions with your customers

This paper will:

- Explore the challenges and opportunities companies face when building an IoT services businesses
- Demonstrate why the shift to IoT services is inevitable, and critical to the success of connected businesses.
- Share success stories of leading companies capitalizing on IoT to create new lines of business, evolve existing products, and innovate business models today.

A story on  
The Internet  
of Things:  
How GM is  
transforming  
the connected  
vehicle  
experience.



General Motors (GM)—the world’s second largest car company—is on the leading edge of connected vehicle experiences and new business models. In 2015, its entire fleet of vehicles in North America will come equipped with 4G LTE, and the company announced that they are set to offer automated driving technology in 2016. These are just two of the latest innovations among their portfolio of high-value, in-vehicle services.

GM is truly transforming the connected vehicle experience across the board, recognizing that today’s consumers not only want a reliable, comfortable vehicle, but also demand a full array of services to enhance experiences for both driver and passenger—from safety to entertainment, to integration of other applications and devices.

To meet that demand, they are continuously innovating—offering connected services that include communication, security, emergency assistance, turn-by-turn navigation, remote diagnostics, plus a range of infotainment services, like streaming audio and video for backseat passengers. In addition to the fast and reliable 4G LTE connections that will ultimately be made available worldwide, GM is transforming millions of its cars and trucks into Wi-Fi hotspots.

And, as part of its complete in-vehicle mobile experience, GM now offers a wide selection of applications—many created through their dedicated app developer program—that are deeply integrated into the vehicle’s sensors and telematics systems through the connected car APIs.

GM has long been at the vanguard of the IoT trend, identifying it early on as a route to transforming their industry, its business models and the experiences they create. Today, the company is executing the strategies they’ve been developing for years on a mass-market scale, defining the next chapter in automotive history.

# The benefits and challenges of connecting your business to The Internet of Things.



For the world's most innovative product minds, the benefits of connecting to The Internet of Things are becoming increasingly clear.

## The three core benefits of The Internet of Things.

When your company and all of the devices you sell and manage are connected to your customers at all times, your business transforms in three fundamental ways:

### **You create and deliver a host of new experiences for your customers, enabling you to:**

- Offer new services, like GM, which turns its connected cars into Wi-Fi hotspots complete with connected entertainment offerings like Netflix, Spotify, and Pandora.
- Enhance existing products, like Garmin does with Garmin Traffic—a subscription add-on to their professional navigation devices that provides fleet managers real-time information that helps them better manage commercial operations and their drivers to avoid costly delays.
- Build entirely new ways of doing business—like Konica Minolta did when they made it possible to remotely monitor usage and address copier performance issues, both vital to usage-based billing models.

Delivering IoT services **adds value** for your customers and unlocks **new revenue** streams.



**You automate previously manual processes and drastically reduce response times for critical operations, letting you:**

- Run remote diagnostics, like Alarm.com now does with every home-automation and security system on their network, enabling them to monitor the status of every device and respond instantly to reported incidents.
- Deliver proactive, real-time support like ABB does with its connected robots. The robots automatically monitor, troubleshoot, run diagnostics and perform remote maintenance. These value-added IoT services enable ABB to anticipate issues and respond before problems occur. The benefits to their customers include improved efficiency, productivity and quality of operations.
- Manage physical assets like John Deere has done with its JD Link service which lets farmers track all of their machines and program exactly where to plant, fertilize, spray and harvest to optimize crop yields.

It brings you much closer to your customers, giving you a deeper, richer understanding of what makes them tick.

**You understand the state of your business in real-time and make more accurate predictions about where it is going.** With tons of new, actionable data coming in from the world in real-time, you'll be able to make dramatically more-informed decisions about what to do right now, and what to do next. You'll be able to:

- Protect and enhance your brand, like Heineken does in Europe with its connected kegs, which enable the beer company to manage its inventory and ensure the quality of its beer by monitoring every keg's volume, temperature, and age.
- Tailor your product offerings with historical and real-time data about your customers' behavior, like Allstate does with its Drivewise program. Drivewise collects data every time a customer drives their vehicle and rewards safe drivers with preferred rates.
- Understand how your customers use your products (or not), like AirLiquide does with its Servitrax connected cylinders. The bar code on every cylinder enable customers to track and manage their use, status, and location at every stage, from initial delivery to return to manufacturer. Is that product you sold getting turned on? Where in the world is it being used? Is the customer getting the most of all of its features? Which ones? You'll know, and be able to respond accordingly.

Indeed, connecting your business to The Internet of Things touches every part of your company and reshapes it for the better.

It brings you much closer to your customers, giving you a deeper, richer understanding of what makes them tick. It automates previously manual processes, making you more agile and responsive, and letting you focus on the most valuable parts of your operation. It brings new revenue streams, efficiencies, and pricing strategies to your business model, moving you from sales of individual products that pay once to sales of ongoing, connected services that pay again and again.

**But with these substantial benefits come a host of significant challenges.**



# The **big challenges** of building a business on The Internet of Things.



Companies new to The Internet of Things face three main challenges. To maximize results, you need to understand and optimize your IoT services at every stage of the services lifecycle—from deployment, to management, to monetization.



Deploy

**Deploy your IoT service.** Devices exist in different states at different stages of use: activated, deactivated, retired, in testing mode, etc. That state determines the device's ability to establish data connectivity on a network and affects whether the device is billable or not. When deploying devices into the field you need to:

- Map policies, permissions, usage and rate plans to the different states.
- Integrate into mobile operator networks, anywhere and everywhere in the world.
- Define use cases and map out business and operational requirements for every stage of your product lifecycle.
- Integrate your new Internet of Things business with your existing infrastructure.
- Configure application programming interfaces (APIs) to meet your unique business needs and the requirements of each and every mobile operator you work with.
- Deliver the new applications and services to the market.



Launch.  
Manage.  
Monetize.



Manage

**Manage your IoT services.** Defining standards for how you expect your devices and services to behave over time will enable you to be highly responsive and to control that behavior in real time

- Continuously monitor changing network conditions and device behavior in real time, tracking data usage, connectivity, etc.
- Use automated systems that enable you to quickly and cost-effectively identify and diagnose issues.
- Map actions to predefined standards then automate responses to ensure the highest service reliability.
- Set up real-time controls that give you visibility into every deployed device and let you manage data usage.



Monetize

**Monetize your IoT services.** Services are a lucrative source of new and recurring revenue. However, if usage and rate plans aren't rigorously managed, unexpected costs can quickly erode margins and cut profits. To optimize, you need to:

- Monitor usage and rate plan data in real-time to understand the services that are being used.
- Automate data analytics and define rules for real time rate plan adjustments.
- Gather and analyze intelligence to ensure devices are running at the lowest possible costs and highest possible efficiency at all times.

**Given all of the above, where do you start?**

# A primer on IoT business fundamentals.

## Here are a few fundamentals to consider when evaluating how your company can best leverage IoT:

### Start with service

IoT is a direct and always-on connection between your business and the rest of the world. It both enables, and sets an expectation, that you will continue to deliver a steady stream of new services as long as your customer owns your product. So, as you are developing your IoT business plan, prioritize the development and delivery of value-added IoT services. Those who do will have the advantage.

### Operate in real-time

Real-time. All-the-time. Those are fundamental concepts within the Internet of Things. Businesses need visibility and real-time control to manage connected services and ensure the best possible experience for their customers.

Software-as-a-Service (SaaS) models, delivered via the cloud, are ideal for IoT businesses. Companies are finding that cloud-based solutions not only deliver critical advantages such as speed, efficiency and global access, but address practical considerations as well, from minimizing start-up costs, to enabling scalability and supporting business agility.

### Plan to scale

Whether you are a multinational corporation or a small regional player in your industry, if you want to thrive, you will need to scale your business. Whether expanding across the country, or to the other side of the world, you don't want anything to slow you down. So, as you are building your IoT business, take the time to think long term and anticipate success. Ensure that you are choosing solutions and partners capable of seamlessly and cost-effectively supporting your future needs.

### Automate, automate, automate

IoT is proliferating at breakneck speed. Even if your company deploys a modest 100K devices, for each one you'll need to take more than 100 real time actions a year (diagnostics, billing, provisioning and more)—that's 10 million actions to support those 100K devices, a scale at which manual processes are inefficient, costly and simply impractical. Automation not only helps reduce response times and streamline operations, it makes your business more agile and responsive, and lets you focus on more valuable parts of your operation.

### Learn from industry best practices

Have a look at what other businesses are doing with IoT, including those outside your own industry. The possibilities are limited only by the imagination of the practitioners. And some of the most inspiring innovations come from the most unexpected places. Lessons learned from IoT-driven transformations in industrial manufacturing, automotive, home security and agriculture can be applied to industries as diverse as oil and gas, retail and food and beverage.



Jasper is the  
ON Switch  
for The Internet  
of Things.



You can't afford to ignore the Internet of Things. Right at this moment, IoT is enabling new business models and experiences across industries and around the globe. This is a powerful, quantifiable force and a business imperative. Any company looking to connect with customers and generate new and sustainable sources of revenue will benefit from IoT.

Jasper is a global Internet of Things platform leader.



In partnership with mobile operator groups worldwide representing over 100 network affiliates, Jasper has already enabled more than 2000 companies on six continents—companies like, GE, GM, Garmin and ABB—to launch, manage and monetize their IoT services.

Jasper is a global Internet of Things (IoT) platform leader. Since 2004, Jasper's industry leading, cloud-based platform has enable companies of all sizes to rapidly and cost-effectively deploy, manage and monetize IoT services on a global scale.

When companies do this, they become services businesses capable of automatically managing their customers' entire IoT service lifecycle, delivering increased customer value and unlocking new sources of revenue.

Today, more than 2000 companies in over 20 vertical markets, including many of the world's top brands—ABB, Garmin, General Motors, Air Liquide, General Electric, Coca-Cola, Audi, Securitas, Amazon, Boston Scientific, Konica Minolta, Honeywell, and more—choose Jasper to fast-track their IoT services.

Jasper currently partners with 25 mobile operators, representing more than 100 mobile operator networks worldwide.

**Are you ready to capitalize on The Internet of Things?**