



# How the Internet of Things will change everything

(including your business)



**It was Bill Gates** who pointed out that “we always overestimate the change that will occur in the next two years, and underestimate the change that will occur in the next ten.” That certainly applies to the Internet of Things (IoT).

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To many people, it's still not much more than the Internet of Thermostats: enabling them to adjust their central heating before they get home. To others, in business in particular, the same initials could stand for "Inspiration or Threat?".

This guide will help you **feel inspired by the possibilities**, rather than threatened by the challenges.

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# From **data** to delivery

**Nobody has precise figures for how many “things” will be connected to IoT by the end of the decade. However, changing the name of the Internet of Things to the “Internet of Everything” should cover it.**

Wherever a sensor can be installed or attached, a connection can be made. We’ve all heard about sensors on fridges, but they’re also on farms to monitor livestock, and sometimes even on professional footballers.

In all of these cases, there was a known problem. Whether it was keeping track of what’s in the fridge, whether a cow is ill, or how well a footballer is performing, IoT provided a solution by providing data – but data alone isn’t enough.

It needs to be scrutinised, analysed and leveraged to enable insight and the delivery of a better service, product, customer experience or performance.

Then where the benefits really begin to multiply is when the solution expands beyond the problem, to create capabilities you may not previously have believed possible.



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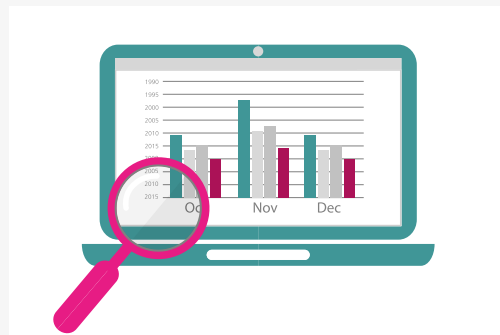
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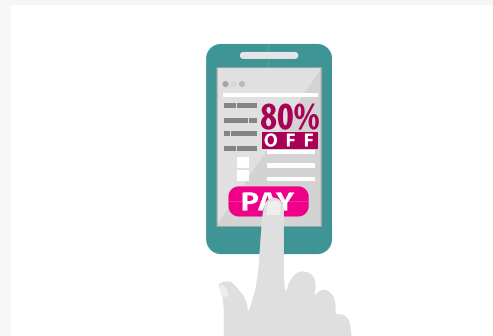
## Ideas to dine out on



Firstly, IoT was merely used to monitor the vending machines' inventory



Then NFC readers were added to enable mobile tap-and-go payments like Apple Pay



Discount programs were added to reward regular customers  
**[Read more about another successful example of “gamification”]**



Lastly – for now – geoawareness was added to the mobile app so customers can easily find their nearest machine or even locate a specific snack

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# Changing everything for the better

The only way IoT won't change things for the better is if your business isn't part of the change. Whatever sector you may operate in, there are wonderful "what ifs" you can apply to your business, which IoT can make a reality. And if you don't, your competitors will.

So what if you could...

...give your customers a better experience?

John Rossman, who launched and ran Amazon's Marketplace business, says that Amazon is always willing to do things just to make life easier for customers, even if it doesn't drive short-term profit. He believes that simply improving the customer experience is enough of a business rationale to proceed, and you can worry about the monetisation later. Providing a seamless multi-channel experience – from store to mobile device – is one example of the kind of initiative that generates long-term goodwill and stronger customer relationships.



## Now in-store for you

IoT enables beacon technology for retailers, allowing them to detect customers as they enter a store, and then to target them with relevant, real-time offers. The system can also provide heat maps of customer traffic: useful information for planning floor layouts to optimise traffic flows.

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...automate marketing and selling?




The data IoT delivers can be used to build profiles of your customers, so you can maintain relevant conversations with them, send them offers that are timely and valuable to them, and build deeper relationships with them that will increase their loyalty.

...improve operational efficiency?



Condition monitoring of your production assets could help you to minimise unplanned downtime, maximise uptime, reduce manual maintenance and increase productivity.



### Condition monitoring for humans

For the estimated third of Americans believed to have chronic illnesses<sup>1</sup>, there’s a wide range of IoT-enabled stationary, wearable and implantable monitoring devices available, for conditions such as diabetes and heart conditions. These gather data on blood glucose levels or heart rate, physical activity intensity and so on, enabling the users to make better-informed, real-time healthcare decisions, to slow the rate of progression of their disease, and to reduce the need for doctor’s or hospital appointments.

[www.cdc.gov/chronicdisease/overview/](http://www.cdc.gov/chronicdisease/overview/)

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...create new products and services?



Whatever business you are in, you probably focus on one product or service, but IoT gives you the opportunity to look more widely. For instance, your industry undoubtedly involves a number of processes and activities of which you currently undertake just one. Let’s imagine you provide HVAC systems to commercial buildings. What if you broadened your offering, to include the installation of sensors to allow you to monitor and maintain the system once you’ve supplied it? Suddenly you have a new service to offer and a new revenue stream.

...increase productivity?



IoT facilitates seamless communication, and seamless communication can facilitate seamless, real-time collaboration – leading to greater efficiency and increased productivity..

...attract and retain higher-quality employees?



Today’s digital natives expect to be able to work from anywhere at any time. If you can provide them with full mobility and remote access as a matter of course, you’ll find it far easier to attract them, recruit them and keep them.



Alarming accidents

In Japan, Toyota cars are fitted with an IoTconnected airbag, which sends an alarm – together with GPS co-ordinates – whenever it is activated. Delays in sending emergency vehicles are reduced and lives saved. The same system also offers value-added services such as security tracking in case of theft, and voice information services for news, weather and medical care - all generating additional revenue.

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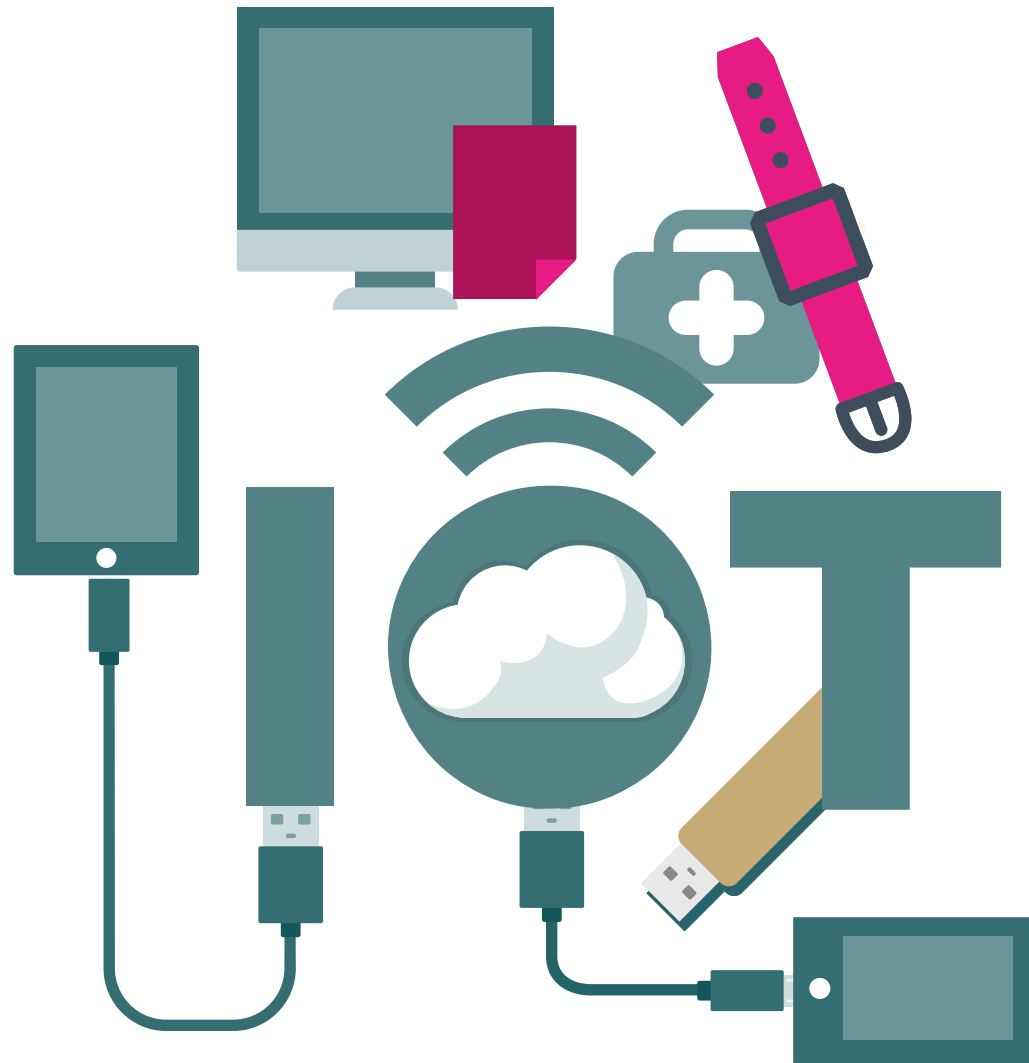
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# How IoT fits into **the Cloud** - and vice versa



The Internet of Things and the Cloud are inextricably linked. You could think of the Cloud as the brain and IOT as the nervous system. IoT (using sensors, probes, apps, wearables, etc.) gathers information from the outside world, then feeds it to the Cloud where the data can be processed and analysed into information that is usable for decision-making.

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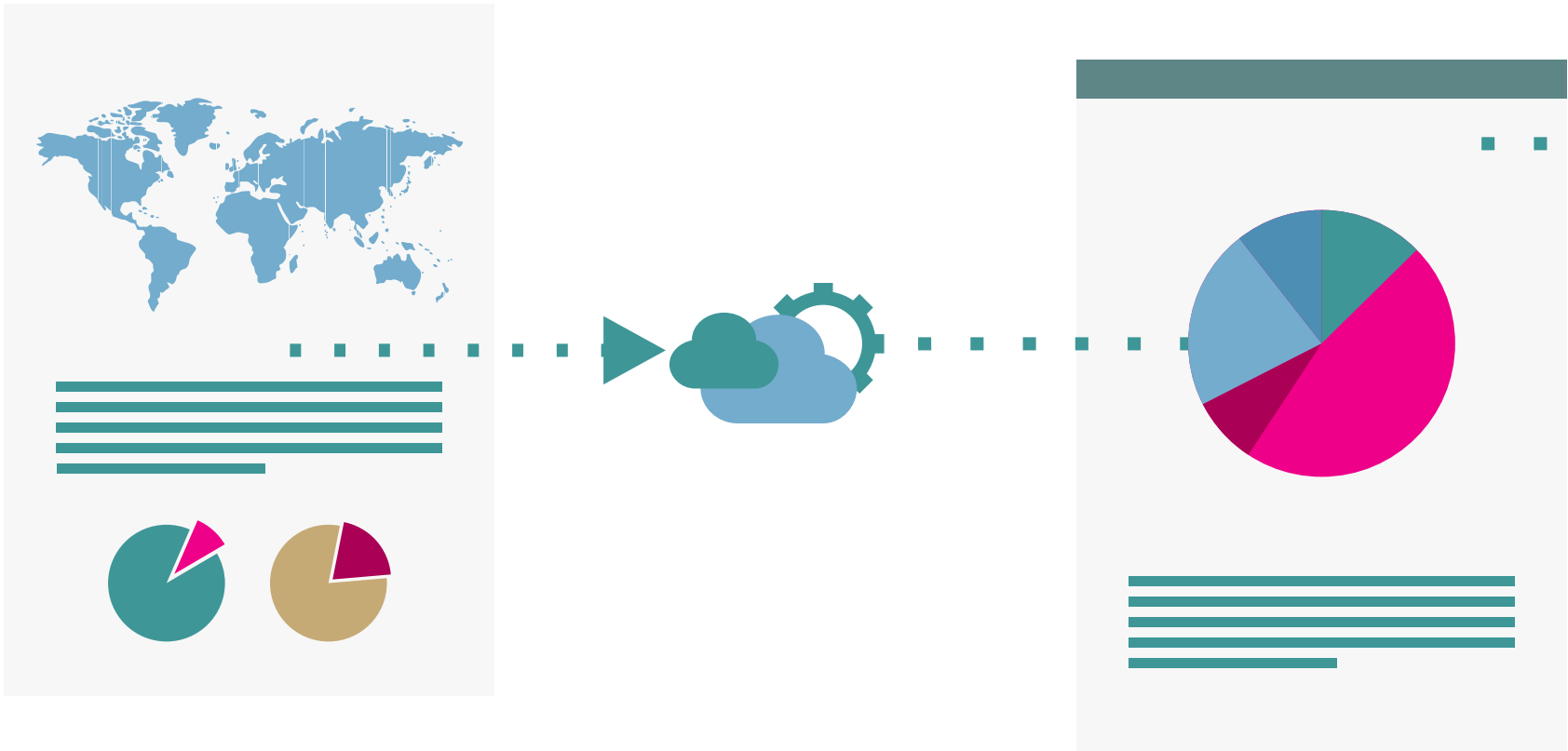
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In practical business terms, one important consideration is whether you create your own cloud or use someone else's. When you develop an IoT application, it will generate a vast amount of data which you will need to gather, store, analyse and access. This is best done using the elastic compute capability available in the Cloud as traditional onpremise, client-server infrastructure simply won't be able to cope with the volume and complexity of data. Also, the nature of the cloud means that you can easily control the access to the information once it is processed.

To develop and deploy your own cloud infrastructure, you would need advanced IT competency. You would need to manage and maintain the servers, storage and redundancy that is required. Leveraging infrastructure as a service (IaaS) from a cloud computing platform such as Amazon Web Services (AWS) or Microsoft Azure will remove the need to invest in the core infrastructure and leave you free to focus on your core competencies. Similarly, Software as a Service (SaaS) platforms can give you equivalent economies of scale for the software platforms (Analytics, Web Servers, CRM, ERP) that you will need to make sense of the data coming back in.

Using these platforms in the "as a service" model leaves you free to focus on deriving the maximum value from the data that you gather.



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# A win-win situation

IoT is not necessarily about a change in technology, but a change in thinking. Which means it can be less about investment and more about innovation and initiative.

Instead of making a major capital investment, think about using the technology tools you already have, but in different ways. Sensors are inexpensive. Wi-Fi and Bluetooth connectivity is essentially free. So once you have identified an area of your business where IoT could have a positive impact, you could quickly see a return.



### Potential financial returns

- Increased revenues
- Reduced costs
- Reduced expenses
- Reductions or improvements in asset utilisation



### Potential operational returns

- Improvements in facilities
- Improvements in asset lifecycles
- Extended product lifecycle
- Longer customer lifecycle

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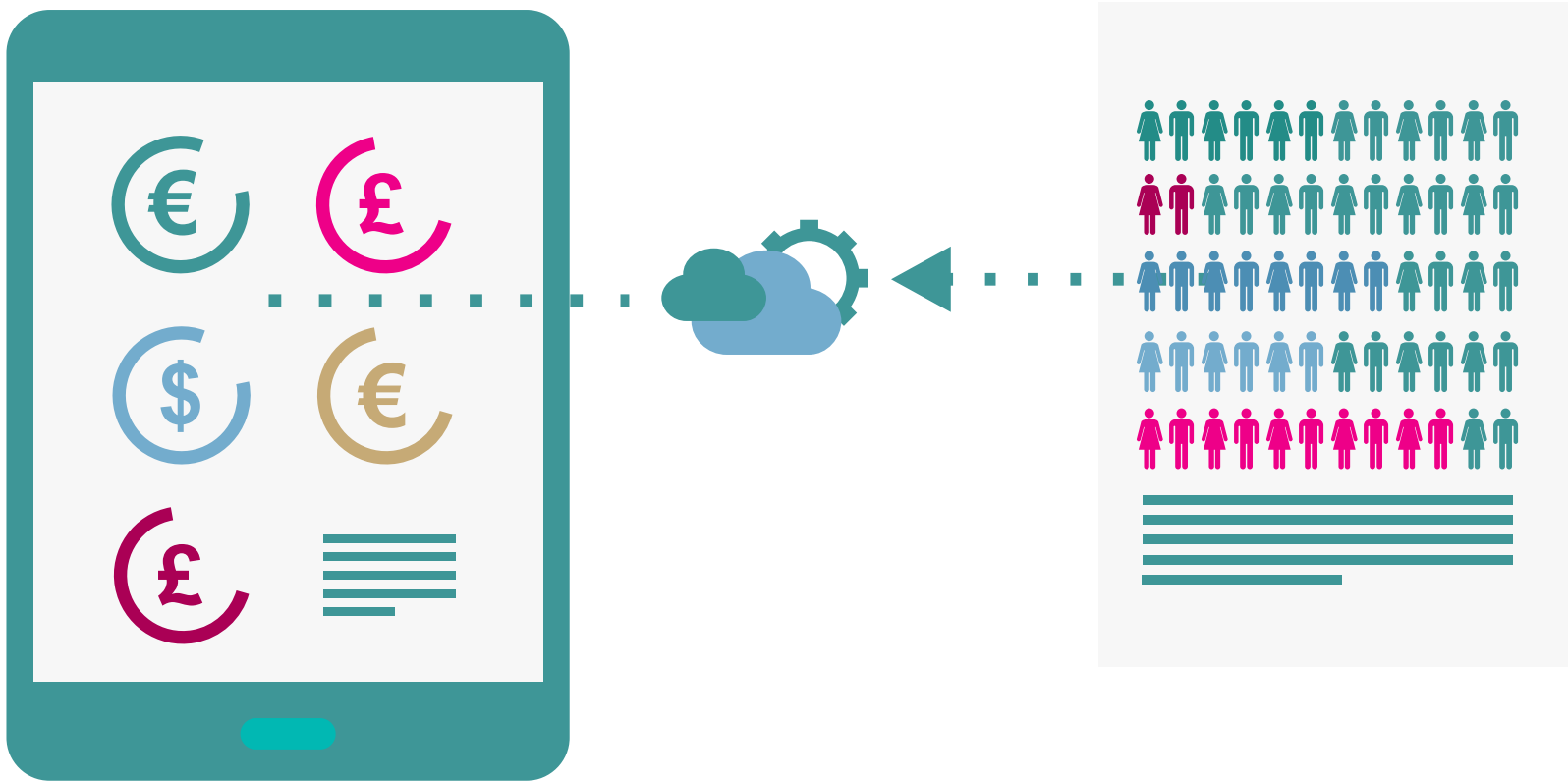
**It is also important to understand that the types of return you can achieve are not necessarily mutually exclusive.**

In healthcare, for example, being able to track the location of equipment can make it possible to get it to the patient more quickly when required, which will improve operational metrics. At the same time, the usage data will provide information which will help with decisions on investment in equipment, such as how many of a particular asset are required, and whether it will be more cost-effective to rent or buy. This will simultaneously improve the financial metrics. The key is not to think first about buying technology, but about solution planning, so it makes sense to talk to someone with consultative expertise.

**Lower costs – quicker wins**

However you decide to capitalise on IoT, the important thing is to do it. Doing nothing opens the door to more nimble, more disruptive competitors who have seen the potential of IoT and are now realising it – at your business’s expense.

Once you have identified an area for implementing IoT, you should find a use case that is relatively low risk and low cost, and which will be quick to prove its value. Choose the right project, and with only a limited investment you could see positive results within weeks rather than months.



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# Three case studies from Three

Company: Novaerus

## Moving into a whole new market



Novaerus is a Dublin-based leader in air purification systems, which had been selling successfully into care homes, hospitals and similar locations. However, to expand into the domestic market, a fresh approach was needed. By fitting a sensor to its consumer device, which measures air pollutants and sends the information back to the user’s smartphone, the company has created a consumer product – and a consumer market – that never previously existed.

Company: TireCheck

## Expanding Internationally



TireCheck is a pre-installed app on a ruggedised smartphone, which enables lorry or car fleet operators to run reports remotely on their fleets. Initially offering the service mainly in Ireland, TireCheck has used seamless connectivity to grow into an international business, operating on almost every continent.

Company: Europcar Ireland

## Revolutionising vehicle hire



It’s not easy to keep track of over 6,000 rental vehicles across more than 25 locations. Harder still to make sure they’re in the right place at the right time, and driven safely. By installing a connected telematics system in its entire fleet, Europcar Ireland has not only revolutionised car hire but also reduced its insurance costs and improved its customer service.

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## Where do you go from here?

3IoT opens up a world of possibilities for your business, whether you want to try new business models, deliver improved efficiencies, reduce costs or seek out new markets.



### Free 3IoT Starter Kit

Kick-start your IoT journey by ordering your 3IoT Starter Kit.

REQUEST KIT



### Speak with a Three IoT Adviser on 1800 330 303

GET A CALL BACK

Three Business. Make it count.

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