Particle

THE SIX WAYS TO MAKE MONEY WITH IOT

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Connect your things, solve problems, make money

According to the McKinsey Global Institute, IoT will have a total potential impact of up to $11.1 trillion a year by 2025. With so much opportunity, it makes sense why so many companies are looking to connect their devices and enter the IoT arena.

But simply adding an internet connection to your widget doesn't mean your business will make immediate profits. IoT products come with significant ongoing costs – web infrastructure, networking, and other connectivity and data-related costs. If you can't justify the additional value to your customers, those costs will eat away at your margins.

The most successful IoT products are those that deliver recurring, continuous value for your customers (and recurring revenue for you). While there are a lot of ways you can create value, we've found that there are six different primary ways companies make money off of their IoT products:

1. Asset Tracking

IoT technologies allow companies to monitor their constantly moving assets (like equipment or vehicles) in real time. With increased visibility, they can solve problems before they occur.

2. Preventative Maintenance

Connect your machines or equipment and recieve alerts the minute something starts to go wrong. This helps companies save money by eliminating issues before they become larger.

3. Compliance Reporting

By remotely monitoring sensitive assets, IoT devices are allowing businesses to dramatically reduce the costs associated with regulatory compliance.

4. Automatic Refillment

IoT technologies allow companies to automatically recieve alerts when consumables elements (like fuel, oil, filters) are low, which allows them to forecast demand and more.

5. Enviromental Monitoring

IoT sensors can be used for commercial farming, water monitoring, and more. By protecting valuable resources, companies can deliver recurring value for customers and their business.

6. Premium Consumer Upsell

Companies can create a high-end connected product and sell it at a premium. However, the product must introduce novel functionality or improve services that are valuable for the customer for this to work.

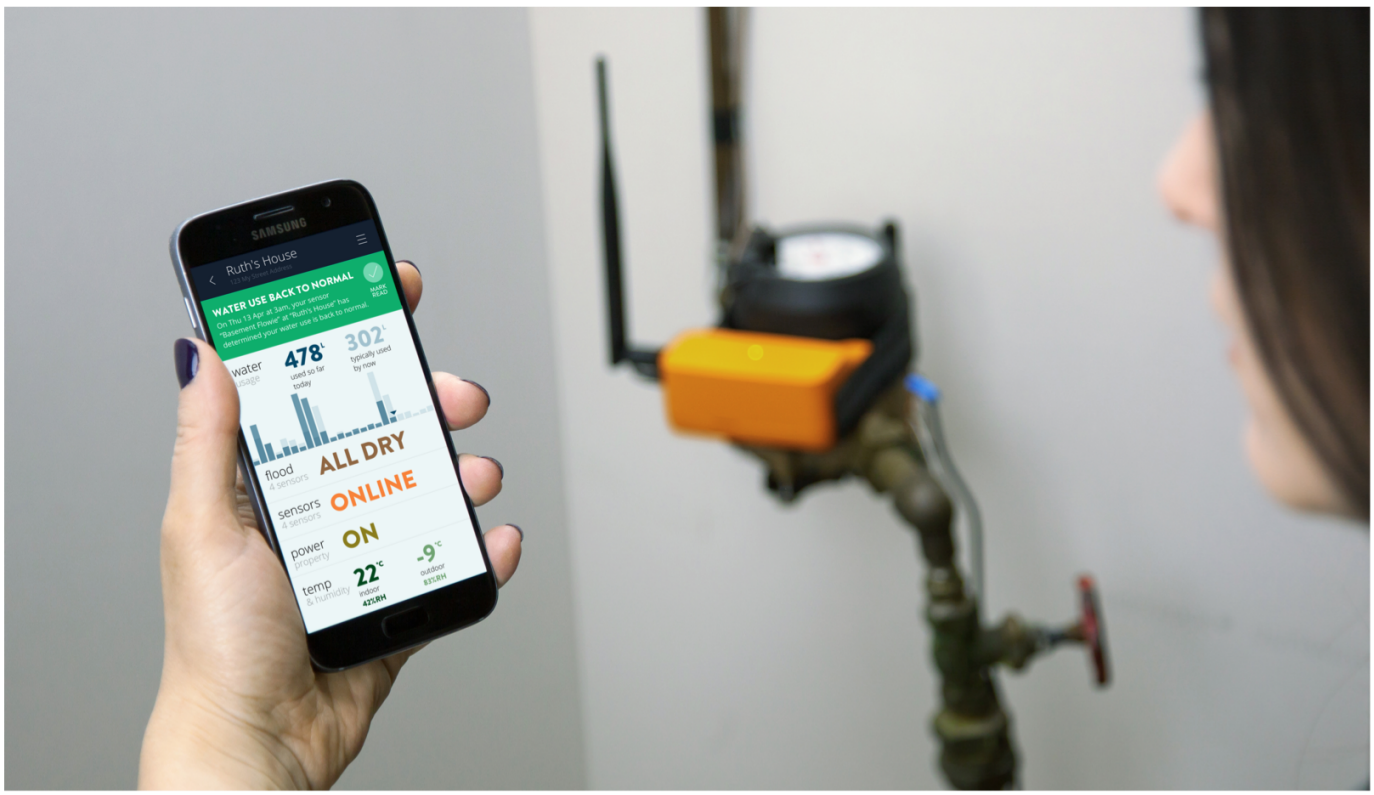
SafeTransport is using Particle's IoT platform to bring safety and transparency to the school commute.

1. Tracking your assets

Moving assets from one place to another is still a pretty manual process, which creates a lot of inefficiencies. Products get lost, or "fall off the back of the truck" – stolen and sold on the black market. Rented equipment – from cars to construction equipment – are stolen. Stores are either carrying too much inventory of the products they sell or they're constantly out of stock. These inefficiencies all result from imperfect information about where things are and how they're used.

According to Business Insider, IoT technologies are expected to have a $1.9 trillion impact on the logistics and supply chain management industries. That's because IoT technologies like asset tracking allow companies to monitor their logistic operations more accurately, which also helps them make better decisions and save money. For instance – if you oversee a fleet of trucks, how do you know if your drivers are deviating from their routes or are behind schedule? If your trucks/containers/packages are being tracked, you can identify potential problems quickly and solve them before they become bigger issues, saving money along the way.

IoT has become one of the most comprehensive solutions for monitoring and managing assets. You can learn more by visting *Particle.io/solutions/iot-asset-tracking*



Alert Labs' smart water sensors. Credit: Alert Labs

2. Preventing machine failures and maintenance issues

Things break. When they break, problems happen. If you can avoid maintenance issues, you can avoid the problems that result from those failures – and that saves money. In fact, industry experts report that preventative maintenance can provide up to 545% ROI for businesses.

For example: Alert Labs uses smart water sensors that help customers detect leaks and provide insight into water consumptions. Consumers can place these sensors underneath water heaters or other appliances that are prone to leaking, which helps them protect their homes from machines failures and can curtail maintenance issues before they become bigger problems. With continuous monitoring, Alert Labs provides constant protection for the customer, which also helps them make money through their monthly monitoring plans.

Particle can connect your machines to prevent maintenance issues before they happen. Learn more by visting *Particle.io/solutions/iot-preventative-maintenance*

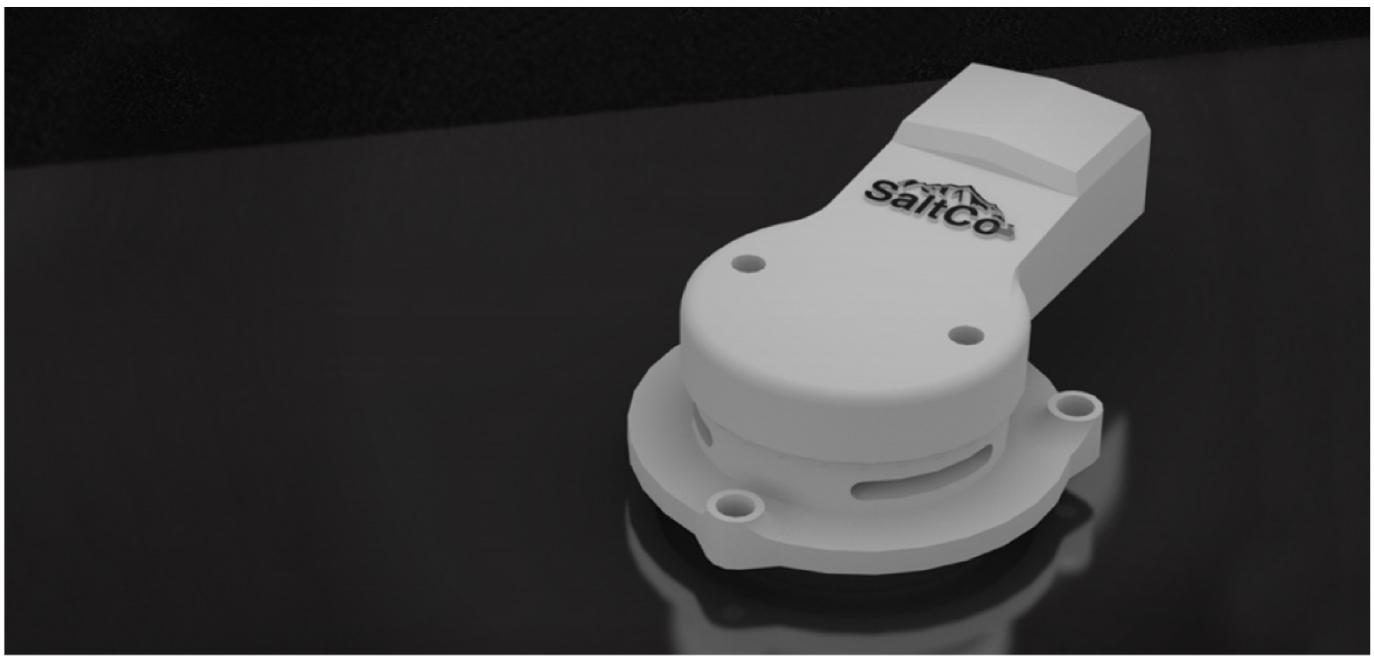
Canary Compliance monitoring fuel volumes. Credit: Canary Compliance

3. Reduce the overhead of staying complaint

According to the Manufacturing Institute, American manufacturers spend an estimated $192 billion on regulatory compliance. That's because almost every industry, in some capacity, requires a field agent to physically inspect equipment to ensure compliance. However, one of the easiest ways to create value through IoT is to replace those inspections with internet-connected sensors.

Take Canary Compliance, who uses Particle's IoT hardware to monitor fuel volumes in storage tanks underneath gas stations. Their remote monitoring system allows enterprises to provide real-time inventory feeds to haulers and up-to-the-minute inventory reports on demand. While keeping track of fuel levels seems like an easy task, uncontrollable elements like storage leakage and extreme weather conditions make it difficult for gas station owners to keep perfect records. Small business owners who own gas stations can often face large fines if their storage fuel levels and records don't match. IoT systems that constantly keep track of fuel add another failsafe for business owners, and in turn, can save them lots of money.

IoT technologies can reduce the overhead associated with compliance and significantly limit a company's exposure to policy payouts. You can visit *Particle.io/solutions/iot-compliance-reporting* to learn more.



Saltco's smart sensor. Credit: Saltco

4. Fulfilling consummables

Many products have a consumable element – fuel, oil, filters, etc. It's common for the consumable to be a big money-maker for the company (like razors and razor blades, where the razors are sold as a loss-leader to get a revenue stream of razor blade sales). However, what if your products could automatically order their consumables when they're needed?

Automatic fulfillment of consumables improves conversion, locks in recurring sales, and makes it easier to forecast demand. At the same time, your customers benefit from reduced downtime (i.e. the consumable is out of stock) and a better experience with the product.

Saltco offers a perfect example of this with their salt level sensors. Some homeowners need salt plumbed into their water supply system to get rid of calcium and magnesium buildup. Although, buying salt is not a onetime purchase; customers constantly need to monitor their salt levels, so their pipes aren't damaged or clogged. Saltco's sensors automatically notify delivery specialists when the salt levels get too low, which means homeowners don't have to worry about it. Not only does this model help generate ongoing salt sales, but it also helps Saltco better understand how their customers consume salt to make better business decisions.

Opti's stormwater management system. Credit: Opti

5. Managing the environment

Today, the vast majority of cities aren't equipped to handle the environmental damage that can occur from earthquakes, hurricanes, and floods. For example, the CBO estimates that hurricane damage cost $28 billion a year alone. Fortunately, companies like Opti have developed ways to combat inadequate infrastructure with IoT solutions that deliver recurring, continuous value to cities.

Opti's CMAC (continuous monitoring and adaptive control) drainage system monitors weather forecasts and controls drainage valves to minimize flooding and environmentally hazardous run-off. When these systems are installed throughout a city, they will monitor weather forecasts and control drainage valves to minimize flooding and environmentally hazardous run-off. By installing these CMAC systems around cities, Opti saves the city money by protecting valuable infrastructure. They also deliver value to their customers every time a storm hits – year after year.

With Particle, Opti is transforming the field of stormwater management and saving cities in one fell swoop. You can learn more about Opti's smart water system here.

6. Upselling a premium product

If you make widgets, the simplest way to create value through IoT is to make a high-end "connected" or "smart" widget and sell it at a premium. But despite its simplicity, this business model is most likely to fail because it assumes that your customers are willing to pay more for a smart widget than a dumb widget – and that is not always the case.

The difference between successful and unsuccessful "smart" products is simple: the successful ones solve real problems. We don't need smart hairbrushes or smart basketballs. But don't throw the baby out with the bathwater; there are some real problems out there worth solving.

Take, for instance, "smart" thermostats like Nest and Ecobee. While these thermostats make our lives a bit better by making us more comfortable, their real value is in energy efficiency. HVAC (heating, ventilation, and air conditioning) systems are the #1 consumer of energy in the home, so anything that reduces the amount of heating and air conditioning saves real money. While a smart thermostat is more expensive than a traditional thermostat, they are typically a one-time purchase that continues to deliver value (energy efficiency) for years. The manufacturers may also create value in other ways, such as, working with utilities to create demand response programs.

The bottom line

Many companies entering IoT do so technology-first. They start by imagining the connected product, and work backwards to the value proposition. And their products end up in the IoT graveyard – either because they don't get to market or because they're not successful when they do get to market.

In contrast, the best IoT companies start by saying: what problems do my customers have and what problems do I experience in my day-to-day business, and how might a connected product help solve those problems?

Start building your IoT product by checking out our *hardware kits on the Particle Store* or contact our team of experts at *Particle.io/sales* to discuss solution development.