

# An Introduction to IoT Platforms

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You're a business with some useful applications. You want to use data collected from sensors out in the world to create a value chain, and you know the IoT is the way to do it.

In an earlier time, you might have been able to run your value chain through a network you controlled, to devices you owned, and protocols you had designed. But with the IoT, sensors originate from a vast number of different vendors, and the data they produce travels over a variety of networks, using numerous communications protocols.

It's an immensely active and vital system, but one that is almost impossible to manage. How do you get data from a particular sensor, process it, and get the result back to the appropriate actuator?

## Enter the platform

The point of a platform is *abstraction*. It is a way of taking the specificities of all those sensors and networks and turning them into straightforward interfaces that can be easily interacted with. As a result, a business can understand its particular value chain, abstracted from the details of particular implementations, and focus on the development and deployment of its specific applications.

And platforms do a number of other things for you:

- They help you *scale* while maintaining reliability, adding new types of devices, new networks, new users.
- They help you be *secure*. The platform handles your user authentication and authorization, and enforces security at every level, from device to application.
- They help you *understand*. The best platforms include analytics that enable you to visualize, diagnose problems, predict, and plan.

## Platforms: use them wisely

Before investing in a platform, a business has to seriously interrogate its business goals, and understand how the capabilities of a platform can help it reach those goals. The same process is necessary for any technology acquisition, but the IoT's scale and complexity dwarf anything previously encountered.

Understanding your offering, and its requirements, will help you decide what features and capabilities are most important in a platform.

- Are you managing a large system with remote assets, such as oil fields or municipal lighting? You need data capture and predictive maintenance to keep your assets functional.
- Are you managing a complex supply chain or community of linked devices, such as a factory? Predictive maintenance, load and usage optimization, and inventory control allow you to run leaner and use less energy.
- Do you provide apps that allow people to make decisions about the world, whether farmers planning irrigation or city sanitation workers ensuring that waste bins are picked up optimally? Data handling and analytics will allow you to provide the best service.
- Is your product a smart, connected product itself, whether an aircraft engine or a medical device? Supporting the function of your devices and enabling them to provide the most useful data to their users will increase their value.

Picking a platform, and the right mix of support services from that platform, may well be the most important business decision you will make.

## Learn More About Platforms

Want to learn more about platforms and how to evaluate them, based on your specific requirements? Download the free white paper from O'Reilly Media, [Evaluating and Choosing an IoT Platform](#).