

8

Tips to Help You Accelerate Your IoT Product Development

Designing

great Internet of Things products is a complex process. Developing new connected products requires expertise and technical skills in many areas that aren't part of traditional product design, including cloud services, network security, scalability, mobile application development, and more.

Manufacturers of connected products often **make mistakes** and struggle mightily, especially for their first foray into the IoT. It's easy to spend millions of dollars and years developing and launching first-generation offerings.

To help you prepare for what awaits you in the IoT, we've distilled our IoT platform expertise into 8 best practices to consider when planning, designing, and launching your first-generation IoT products.



Tip #1: Establish Robust Connectivity

Without robust connectivity, your IoT products won't function properly. It's not enough to think about adding a wireless connection to your product. Think holistically: Look at end-to-end connectivity from your product to the cloud, from the cloud to the mobile or web app, and everything in between.

Tip #2: Make Security a Top Priority

Rock-solid security is a must for any IoT product. Because security is only as good as its weakest link, you need to [integrate enterprise-class security](#) pervasively across the full spectrum from connected product to cloud to mobile or web app, and for any possible network type.

Because mastering and staying current with ever-evolving security technologies is so complex, you'll likely need to work with specialists in designing your IoT products. Ask potential security or IoT platform providers these questions:

- Does your solution take an AAA security approach, with Authentication, Authorization, and Accounting processes?
- How does your solution handle encryption, policy control, spoofing (IP address forgery), hardened systems, and patch management?
- Does your solution protect data at rest, in transit, and in the cloud?
- Does your solution support Role-Based Access Control (RBAC)?

Tip #3: Don't Leave Application Development for the End

Think about application development at the beginning of your IoT product design process. The mobile or web application is the driver of the user experience, and it is the primary factor for how customers



will judge your product. Also remember that beyond an app's look and feel, it also has to handle security, wireless access, registration, scheduling, and other capabilities.

The applications controlling your IoT products should also include [Role-Based Access Control \(RBAC\)](#), which allows your products to be controlled differently based on an individual's "role"—within an organization or a household, for instance—or based on conditions such as time or location.

Tip #4: Get the Most From Your IoT Data

The real value of the IoT lies in the data generated by connected products, and in how you use that data. IoT data lets you understand in near real time how your connected product is operating in the real world, as well as what features customers use and which ones they ignore. Harness your IoT data to:



- Create a feedback loop in your design process, using data from deployed products to iterate and improve the next generations of those products.
- Find and fix product issues fast—ideally, before a problem happens (preventive maintenance).
- Offer add-on services that provide value to customers and generate new revenue streams.
- Forge deeper and more meaningful relationships with your customers.

Tip #5: Build Flexibility into Your Products

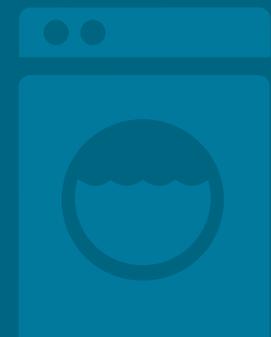
The one constant in the world of technology is that it will change, and the IoT is evolving at a blazing pace. Products designed for today's environment are at risk of becoming obsolete as things change. Build flexibility into your connected products so that whatever features, protocols, or related technologies are required in the future, you won't be stuck in some technology dead end.

Tip #6: Adopt Open Standards-Based Solutions

To facilitate interoperability and integration both now and in the future, use open native libraries and other standards-based solutions, and make sure that your cloud architecture is agnostic to any particular data types. An open platform allows your connected products to integrate with related products and services from other providers. It supports cloud-to-cloud connectivity with various IoT platform, manufacturer, and retailer clouds. It also makes it easier for your IoT products to reach global customers.

Tip # 7: Plan How You'll Support Customers

Turn customer support into a competitive advantage. Connected products released and shipped today are likely to be online for years. That means you need to think ahead about how you will support and manage your IoT products over the long term. Include secure

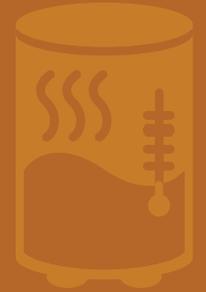


over-the-air (OTA) capabilities in your product design so you can update firmware or add features long after your products have been shipped and installed.

Tip #8: Decide if You'll Make or Buy Your IoT Platform

When you are looking at the IoT platform [build vs. buy decision](#), it's important to understand where and how you can best differentiate your products from your competitors. Where does your core expertise lie? Keep your key differentiators in-house, and outsource the needs where your core expertise doesn't add value. Almost all manufacturers will find that the IoT platform is an ideal candidate for buying from specialized experts.

When evaluating potential IoT platform providers, look at the expertise and the experience of the partner. Choose an [IoT platform architecture](#) that is complete—encompassing device, cloud, and



mobile or web app technologies—as well as flexible, scalable, interoperable, and secure.

Ayla Networks provides the industry's first agile IoT platform—a comprehensive, end-to-end, secure platform that makes it easy for manufacturers to create, ship, and iterate better IoT products, faster.

To find out more about how using the Ayla IoT platform can shorten and simplify your leap to the IoT, listen to our webinar, [IoT Panel Discussion: Accelerating Development in IoT & Embedded: New Age Smart Development Portfolio for a New Embedded Era.](#)

