

# 5 essential tips for successful IoT product design



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Reading time 7 mins

## Key Points

- The Internet of Things (IoT) has revolutionised and optimised how we work, learn, live, and play
- The interconnectivity, communication, and automation capabilities of products/devices connected via a network depend on successful IoT design
- Tips to ensuring these capabilities are met: understanding user needs, choosing the right platform, selecting reliable components, crafting an intuitive user interface, and testing the device carefully
- There's no one-size-fits-all for IoT product design: the time spent on researching your options carefully will prevent wasted efforts and resources later on
- Links to free templates and background reading to help your IoT device reach its full potential are included in the article below.

**Is your business ready to harness the potential of IoT? Our expert team can help design and implement bespoke IoT solutions. Reach out to us now to kick-start your IoT journey.**

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Successful IoT product design is at the heart of most of our work and the projects we're passionate about. Devices connected via a network, also known as the Internet of Things (IoT), have revolutionised how we live, learn, work and play to the extent that it's hard to imagine what the current and future technological landscape would look like without it. If you want to get into IoT product design, here are five tips to help you create innovative and successful projects.

1. **Understand user needs** and identify the problem you're creating a solution for
2. **Choose the right platform** that will support the functionality your device needs to have
3. **Select reliable components** that will seamlessly come together to form a complete IoT system
4. **Craft an intuitive user interface** that customers will find comfortable to use
5. **Test your device carefully** and regularly throughout the product development cycle to ensure it's fit for market

It's important to remember that the key benefits of building a device that can be connected or networked with other devices are the resulting interconnectivity, communication, and automation capabilities. The IoT product design tips below are essential to ensuring these ends are met successfully.

# Build your IoT device on a solid foundation

## Tip 1: Understand user needs

As with any product design process, understanding the user's needs should be one of your primary considerations. This means understanding who your users are, their goals, and what features they need to achieve them. Researching existing products in the market can also be helpful as it allows you to identify features that could be improved upon or left out altogether. Our free [product/market fit template](#) and [product testing survey template](#) will help build you the foundation needed to ensure your IoT design puts user and customer needs first.

## Tip 2: Choose the right platforms

Another building block that ensures your IoT design's success is the platform you use. [An IoT platform](#) includes software and hardware and manages internet-connected devices and the controlling networks. Platforms can be classified based on the services they provide to end-users, and different platforms will come with different requirements.

For example, platforms that meet consumers' needs will have capabilities different from those designed for industrial, automotive, or manufacturing applications. Select an IoT platform that fits all your desired features and any budget restraints, if applicable. In addition, consider how compatible your product might be with other technologies like Alexa or Google Home when designing for an interconnected world. [Read our post on LoRa technology](#) for an overview of what a robust IoT platform can help you accomplish.

## Tip 3: Select reliable components

Choosing components is one of the most crucial steps in creating a successful IoT device since even small mistakes can mean huge problems down the road. Make sure all components are compatible with each other and chosen for reliability: battery life, power consumption and sensor accuracy should all be considered carefully when selecting parts for your project. Some of the [essential IoT components](#) to consider at this stage include:

- The user-interface
  - Sensors that will be used to collect data from the device, e.g. temperature, humidity, pressure, proximity, light intensity
- Cloud storage to manage the massive amounts of data generated by IoT devices
- Data analytics that converts the data/information gathered by sensors and connected devices into actionable insights
- The network interconnection that will enable the communication of connected devices
- System security is often overlooked in the IoT design process, but it's a crucial competent in ensuring your device will recognise and withstand malicious attacks

It's also important to research existing products on the market before selecting components, as this ensures compatibility between technologies throughout the development stages. In addition, look into the benefits of [using Arduino to build your prototype](#) before moving on to a final integrated PCB (printed circuit board) design.

#### Tip 4: Craft an intuitive user interface (UI)

Creating an intuitive and easy-to-use UI is essential when building any device, but especially true when dealing with IoT technology due to its complexity at times. If applicable, users must feel comfortable navigating menus and pushing buttons on smartphones or voice assistants. Ensure text is readable without straining the eyes and that buttons are easy enough to access without frustration or confusion.

A good UI will improve the user experience, ultimately leading to more successful projects!

#### Tip 5: Test your device carefully

Testing is always necessary when releasing a new product, but thorough testing should occur before launch day! Ensure you've adequately tested prototypes on actual users during development stages: look at feedback not just from functionality but also aesthetics such as comfort levels if applicable, then use these results to make improvements before full-scale production begins or release into marketplaces occurs.

Our [Failure Modes and Effects Analysis \(FMEA\) template](#) and the [insights gained from product testing](#) surveys will help you in this regard.

## Our final thoughts on successful IoT product design

Creating successful IoT devices requires careful planning and implementation, but following the above tips will help you. With these tools under your belt, it won't be long before you're on your way towards building amazing projects!

That said, regardless of whether you're just starting or have a lot of IoT product design experience behind you, technologies are advancing at such a rapid rate that the range of options can be overwhelming. If you'd like some help narrowing it down or have helpful tips you'd like to share, contact us!

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