

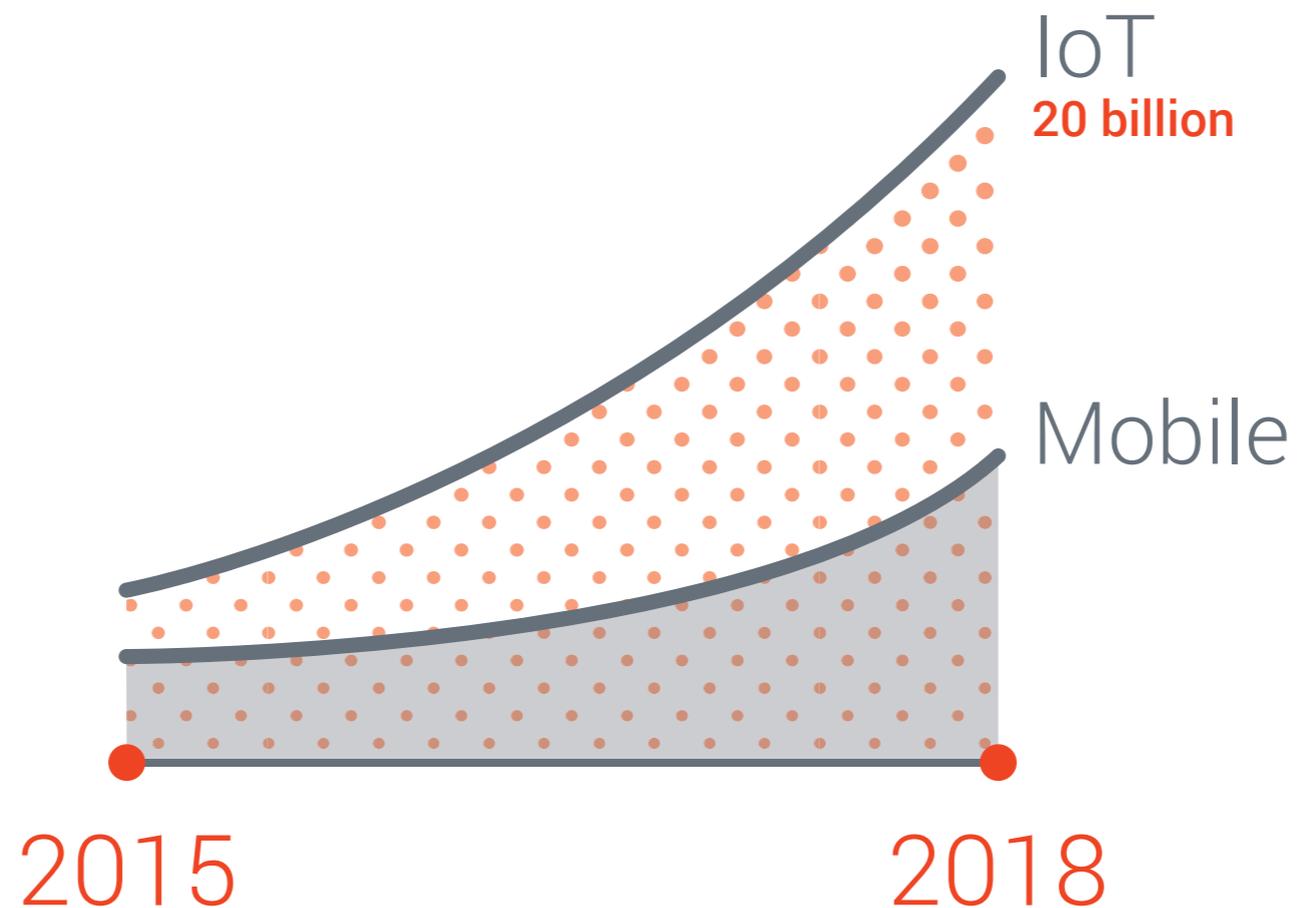
# Interfacing with the Internet of Things





## IoT Growth

Industry experts are predicting that, while smartphones and tablet use will continue to grow, single-purpose “things” will outpace them by 2X. Today there are roughly 6 billion devices in use -- and that number is estimated to grow to more than 20 billion by 2018. With numbers like this, the Internet of Things has proved itself to be more than just hype. This is a force to be reckoned with -- so it is imperative that companies learn how to play and win in this new technological frontier.



### 4 Super-Innovative Touchscreen GUI Applications

<http://www.altia.com/blog/2014/10/17/4-super-innovative-touchscreen-gui-applications/>



## Why is the IoT exploding now?

Industry experts have predicted this explosive growth for years...but why is it happening now?

The Internet of Things is exploding for a few reasons. Moore's Law. The engineering community went into overdrive. Things got really cheap.

- Sensors are really cheap
- Bandwidth is cheap
- Processing is cheap – Microcontrollers
- Wireless coverage is everywhere
- Big data availability



**Meet the Jetsons: UI in the Home**

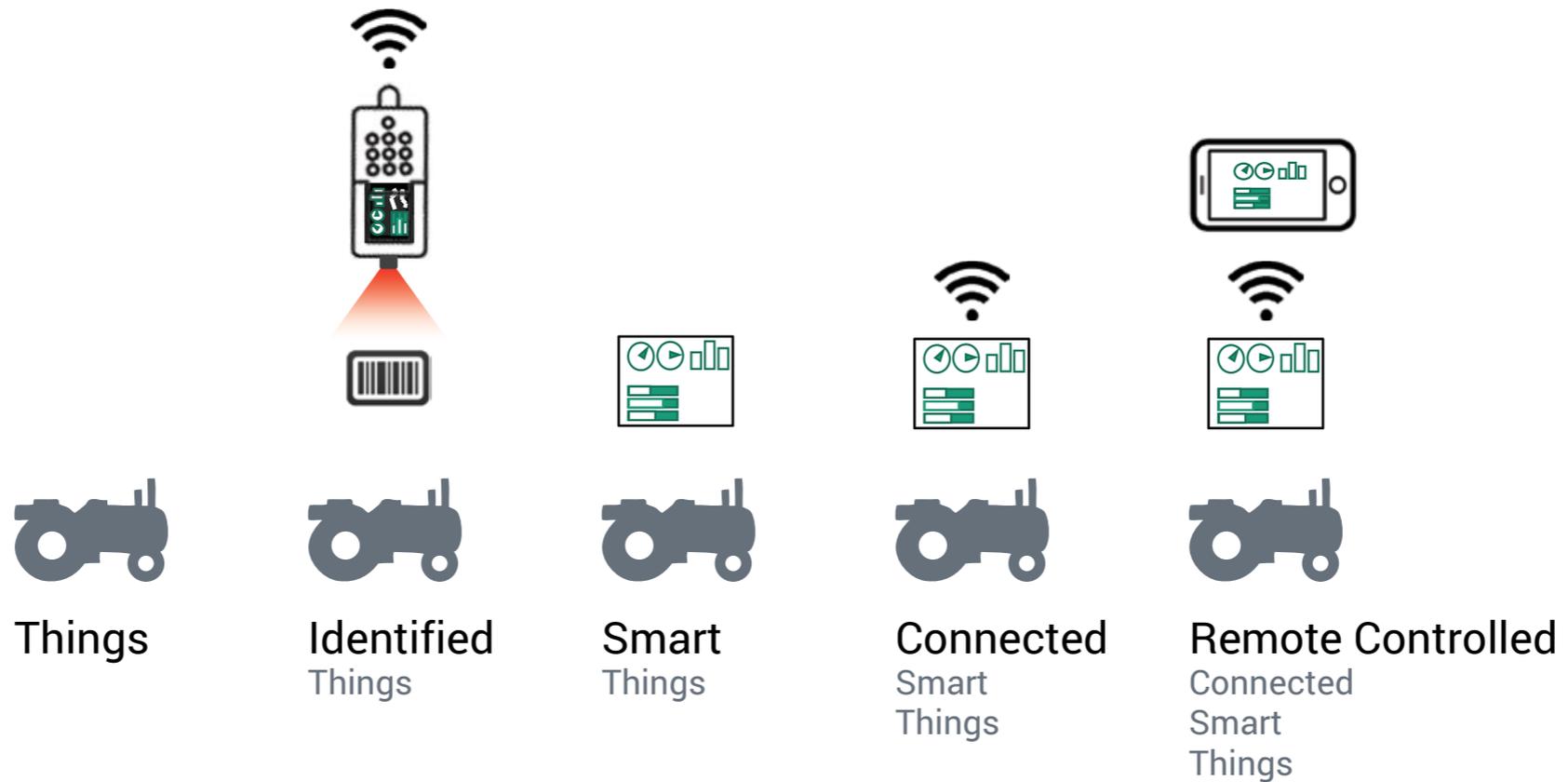
<http://www.altia.com/blog/2015/01/12/ui-in-the-home/>



# User Interface Opportunities for the IoT

Think about the general landscape for GUIs.

Not all things are connected or have a UI. In the world, there are Things, Things that have an ID tag or are trackable, Smart Things with processing power on board, Connected Things that communicate wirelessly with a larger network and Remote Controlled Things that allow the user to wirelessly monitor and control the Thing over the internet.





## Issues with the “Interfaceless”

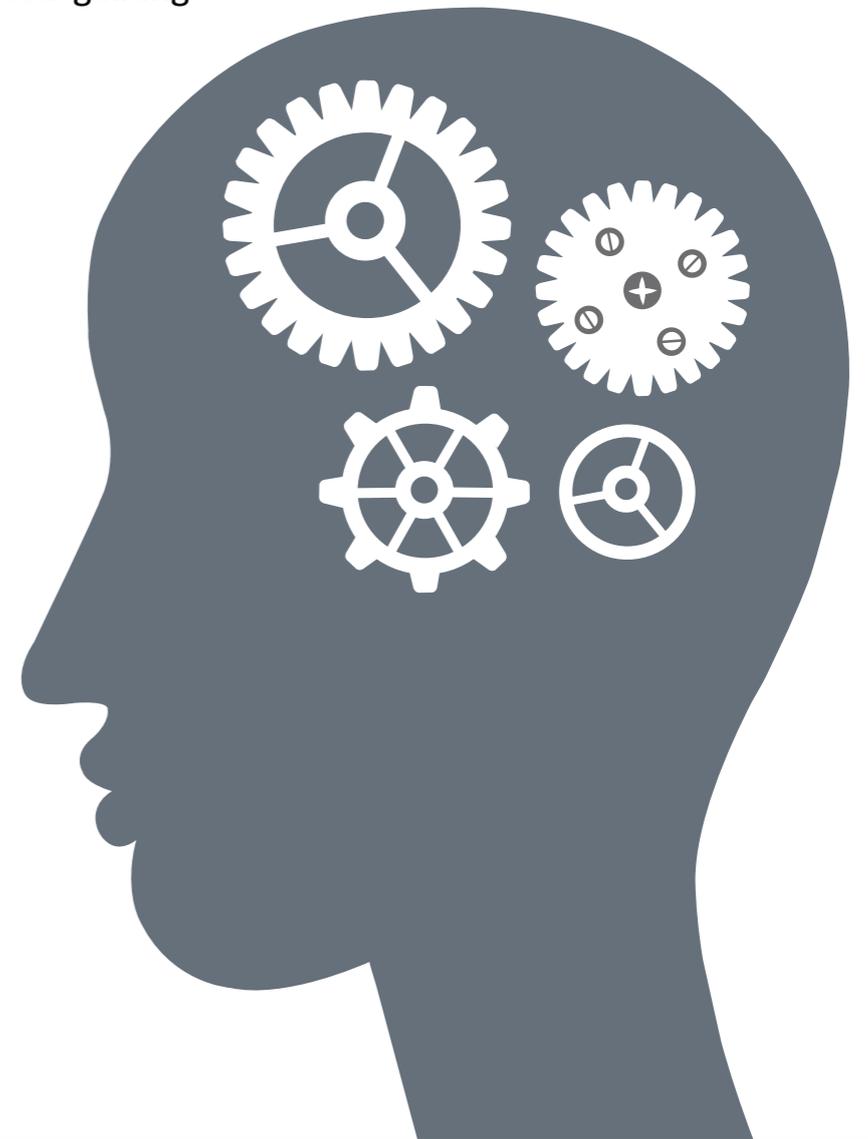
There are some big problems that the IoT world faces today. These are the hot-button issues the technology community has been talking about since the IoT first started gaining momentum.

They include:

- Privacy
- Security
- Regulations
- Lack of de-facto standards
- Difficulty of integration to the ecosystem of IoT devices

Think about wearable devices. Have you noticed how the first generation designs are giving way to new and improved next generation devices with GUIs on board? What other IoT products could benefit from an interface?

Take a look...



**UI Design from the Audience Perspective**

<http://www.altia.com/blog/2015/01/19/ui-design-audience-perspective/>



## Example: Fitness Bands

The first version of fitness bands were faceless black boxes that broadcast very personal information about the wearer's location, health status, heart rate, and sleep patterns. These devices send this personal information into cyberspace for all to see, monitor and log.

But now new fitness bands have their own displays for wearer-to-device interaction and control in addition to integration with smart phones and computers.



**Will Wearable Tech Be the New Must-Have Accessory?**

<http://www.altia.com/blog/2014/10/27/wearable-tech/>

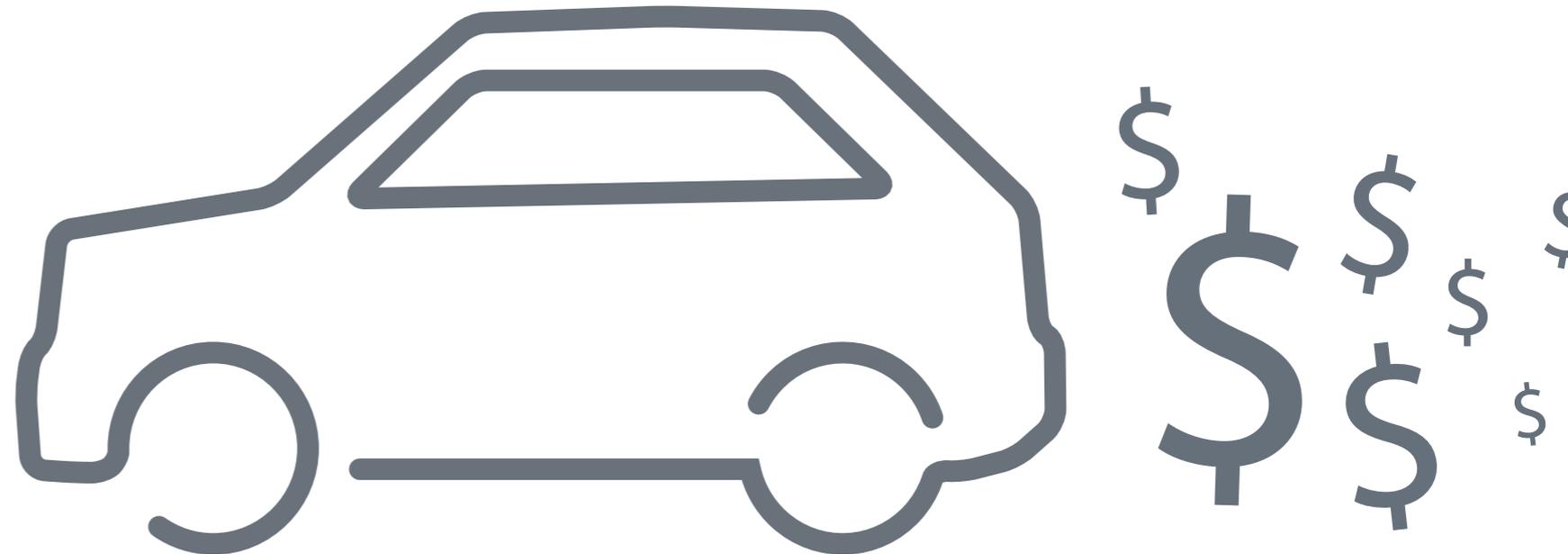


## Example: EZ Pass

Think about the EZ Pass for toll roads – that faceless box that beeps cryptically while silently deducting tolls from someone’s bank account. Wouldn’t it be great if it actually told the driver exactly how much money it removed every time a toll was collected?

This wouldn’t be difficult to do, but it does need a display.

Just like people, these billions of little boxes need regular face-to-face encounters to establish trust and communicate value.



**New Smart Desk Keeps You Fit**

<http://www.altia.com/blog/2014/01/16/new-smart-desk-keeps-you-fit/>



## Do IoT devices need GUIs?

The answer to this question is: **“Yes! The smart ones do.”**

By some industry estimations that magic number of devices is around 40%. Therefore, it is **really important** that companies get really good at building **great GUIs**.

This is where Altia excels. Altia provide tools and services for quickly generating the high quality C code driving some of the most innovative displays in the world – connected or otherwise. It’s no small challenge, especially when GUI development teams are trying to deploy onto the cheapest possible embedded hardware. (Remember the reason for the IoT explosive growth now?)



**Why a Medical Device GUI Won't Cut It – Interview with Altia CEO**

<http://www.altia.com/blog/2014/05/16/why-a-medical-device-gui-wont-cut-it-interview-with-altia-ceo/>



# Altia's Contribution

It's tough to build a solid embedded system that stands the test of time – and there aren't enough talented embedded systems programmers in the world.

Altia's mission is to help designers get a great GUI from to the lowest cost hardware in the shortest amount of time. We've spent thousands of hours optimizing and testing our graphics code generators for every new embedded micro out there, so developers can focus on building the Smarts driving the Things that are doing the real work of the IoT.

1



## DEVELOP CONCEPT

PhotoProto + FlowProto

2



## BUILD GUI

Altia Design

3



## GENERATE CODE

DeepScreen



Altia Design 11.1 ... Take Another Look at What's New

<http://www.altia.com/blog/2014/04/22/altia-design-11-1-take-another-look-at-whats-new/>

# Want to learn more about how we do this? Get in touch.

A new GUI is an entirely new way to engage customers. A well-executed, intuitive GUI can deliver the kind of experience that converts customers for the long haul.

Designing a GUI isn't simple ... but with a clear focus on your user, great design and product performance, you and your team are on the right track.

How do you fast track your GUI – and your company – to market leadership? [Contact Altia.](#)

Companies in the automotive, medical, home appliance, consumer device and industrial industries all over the world have used Altia's GUI development tools and services to get first rate user interfaces into production embedded devices. Contact our team of user interface experts to discuss the goals for your next product user interface and learn how Altia can help.

Your next great GUI is waiting!

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