WHAT DOES THE IoT MEAN TO MECHANICAL ENGINEERS?

It's a New Game and a New Playbook

AUTODESK.

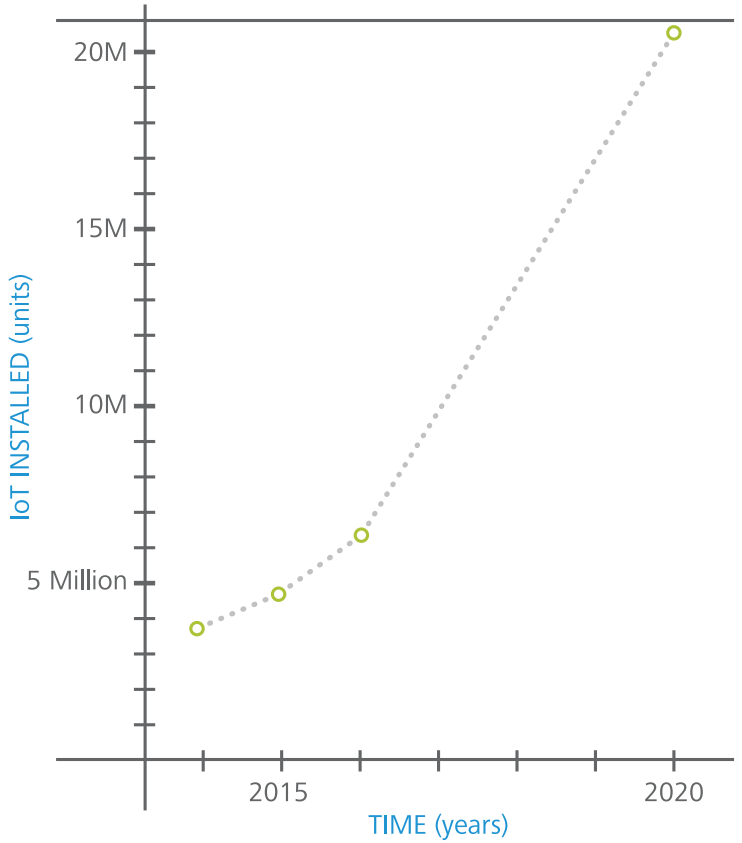
THE IoT IS TAKING A STRONG FOOTHOLD

Mainstream products for the consumer

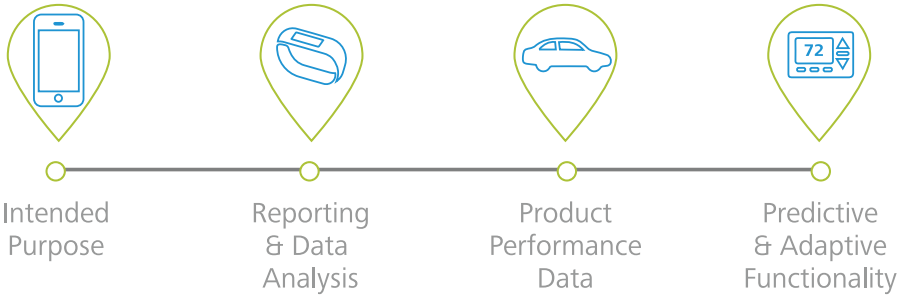
IoT introduces cool, new tech gadgets to make everyday life easier, more fun, and more efficient. This is where the IoT is first realized and the expectations for functionality are set.

Manufacturing products for the industrial community

IoT capabilities enable and enhance industrial equipment performance monitoring and control. This is where the IoT is projected to generate the most revenue and have the greatest impact.

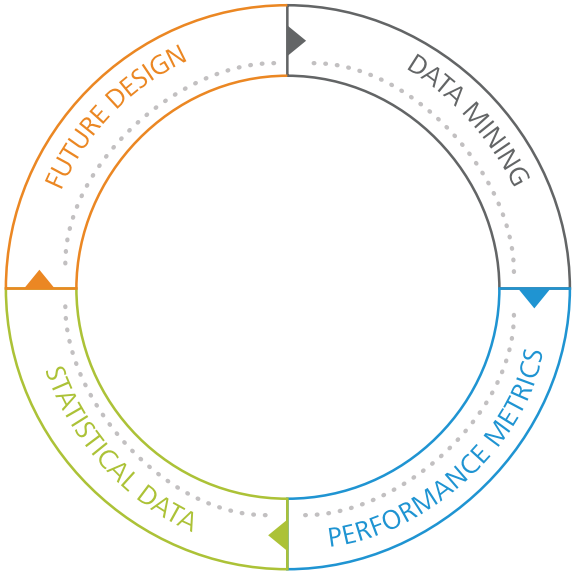


WHY IS NOW THE TIME FOR IoT?



Sensors and processors have been in place for quite some time, the game changer is how the data is being collected and analyzed for future performance enhancements and to determine if the product is being used as intended and performing optimally. The ability to affordably connect these devices to a network allows visibility and accessibility to the data and to implement product software updates remotely. Embedded software is being enhanced to take advantage of the up and downstream flow of information, allowing product settings to be adjusted to improve the product's performance over time.

WHAT IoT MEANS TO MECHANICAL ENGINEERS



- More sensors will be embedded in products, driving change in the early phases of design.
- Design-intent needs to incorporate the ability to install push updates and make field upgrades.
- Data mining, performance metrics, and other statistical data on usage and application will influence the future design of that product.
- Engineering Firms may be adjusting their go-to-market strategy and customer relations processes to incorporate new perpetual life-cycle management programs.

HOW DOES THIS IMPACT MY PRODUCTS?

First, the way product intelligence can impact an end-user company's operations will be a driver of what the sensors are tasked with detecting and how that information is processed.

A clothing donations receptacle is currently on a weekly pickup schedule. What if a weight sensor could notify the organization when it is full to eliminate unnecessary truck rolls and respond more promptly to a receptacle that is approaching its capacity?

Second, the way your product performs under certain conditions can provide meaningful data for the future design of the next-gen product or to provide modular component upgrades for when repairs are needed.

A conveyer belt with a sensor tracking its speed for consistency alerts the manufacturer of the typical lifespan of these components and identify points-of-failure that can be improved.

A conveyer belt with a noise sensor to detect shrieking when a belt is about to fail alerts the manufacturer of the typical lifespan of these components and identify points-of-failure that can be improved.

OPPORTUNITIES ON THE HORIZON

- Identify troubleshooting techniques and product enhancements that can be done remotely. In manufacturing time is money so the sooner a piece of equipment can be remediated and their operations resumed the better.
- Identify the necessary materials on hand for end-user conducted replacements and repairs that can be guided through a remote support center.
- Functionality driven by software can be programmed continuously. Leveraging this capability can enhance the end-user's experience over time to automatically adjust key settings.

Increasing the speed, or limiting the speed can improve the product's throughput, or conversely, protect the health of the equipment.

PREPARE FOR THE FUTURE

The IoT allows for product differentiation and price-performance to be more diverse across a given industry. The challenges facing mechanical engineers are about embracing the technical evolution that comes with IoT and thinking strategically about how existing and future designs can be enhanced for client satisfaction and ongoing support.

Stay apprised of how your competition adapts and identify opportunities to improve the end-user experience – this is necessary to offer a unique value proposition to your clients.

Look through a consumer products lens even if you do not work in that space is a challenge – ultimately there is a person with expectations for your product to perform and to align with the consumer mindset of faster, more flexible, more responsive interactions with products.

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