Industry 4.0: Preparing for the next phase of industrial innovation

PRESENTED BY: JASON HEHMAN & ANDREW HORNER

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Meet our Industry 4.0 experts

Jason Hehman
Client Partner

Andrew Horner
Principal Engineer

TXI closes the gap between ambition and reality.

We are a boutique product innovation firm who partners with courageous executives to create digital products that generate positive impact. Our clients trust us to deliver innovative solutions to their most challenging business problems.

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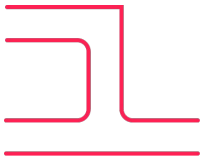

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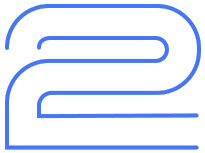
Introduction to IoT & IIoT



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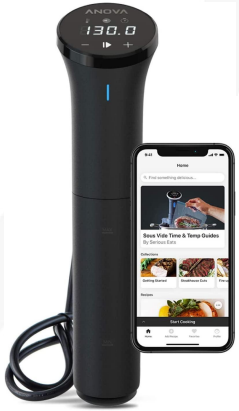
IoT

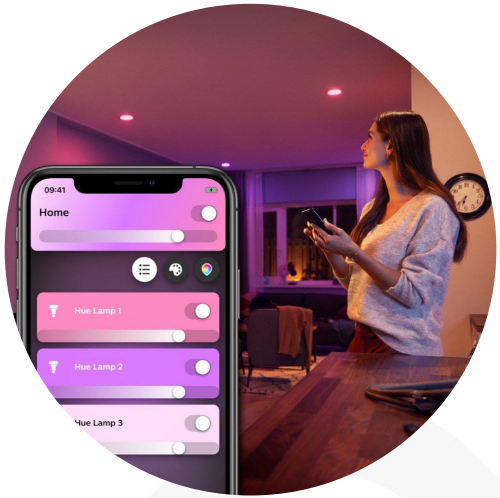
Internet of Things (IoT)

The Internet of Things (IoT) is an **interconnected network of devices.**

What's an IoT application?

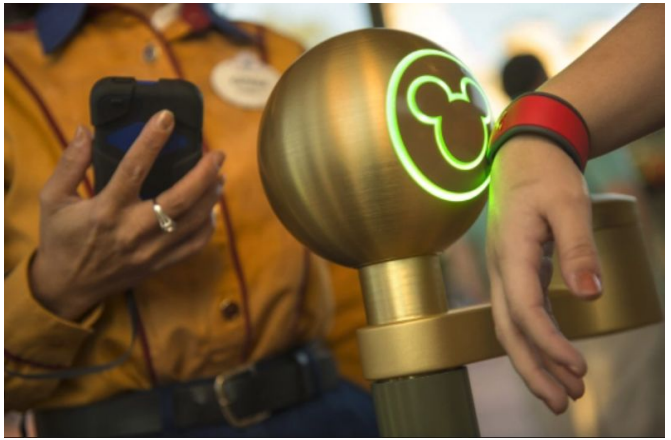
In the consumer world, **IoT applications are commonplace**.





What does IoT look like at scale?

Let’s look at **Disney’s MagicBand**.



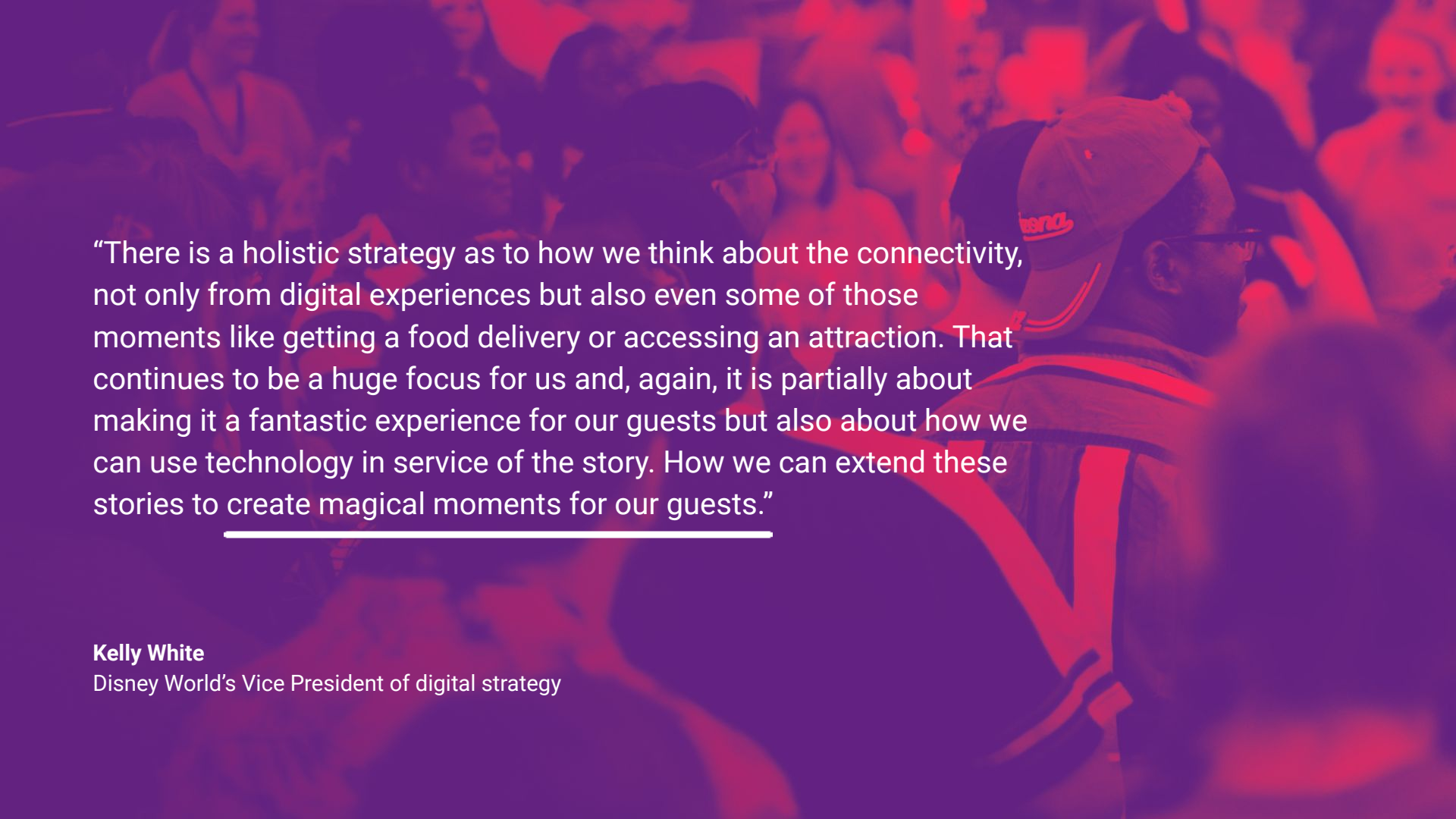
“The MagicBand is an example of how we use technology to create great memories through these really frictionless moments, whether it’s going to your hotel or getting on a ride…We have teams focused specifically on connectivity within our parks across all the sites at Walt Disney World and they are looking at everything from connectivity via wireless, wi-fi, bluetooth, all of it.”

Kelly White
Disney World’s Vice President of digital strategy speaking to Forbes in 2020

Creating magical experiences with IoT

Some ways Disney creates magic for their guests:

- Your name flashes up on screens when you walk by.
- Cameras take pictures of your face on rides and get uploaded directly to the MagicBand app.
- Sensors to manage drink refills.
- You can control every interaction & more from your smartphone.
- **Disney World has become an Internet of Things.**



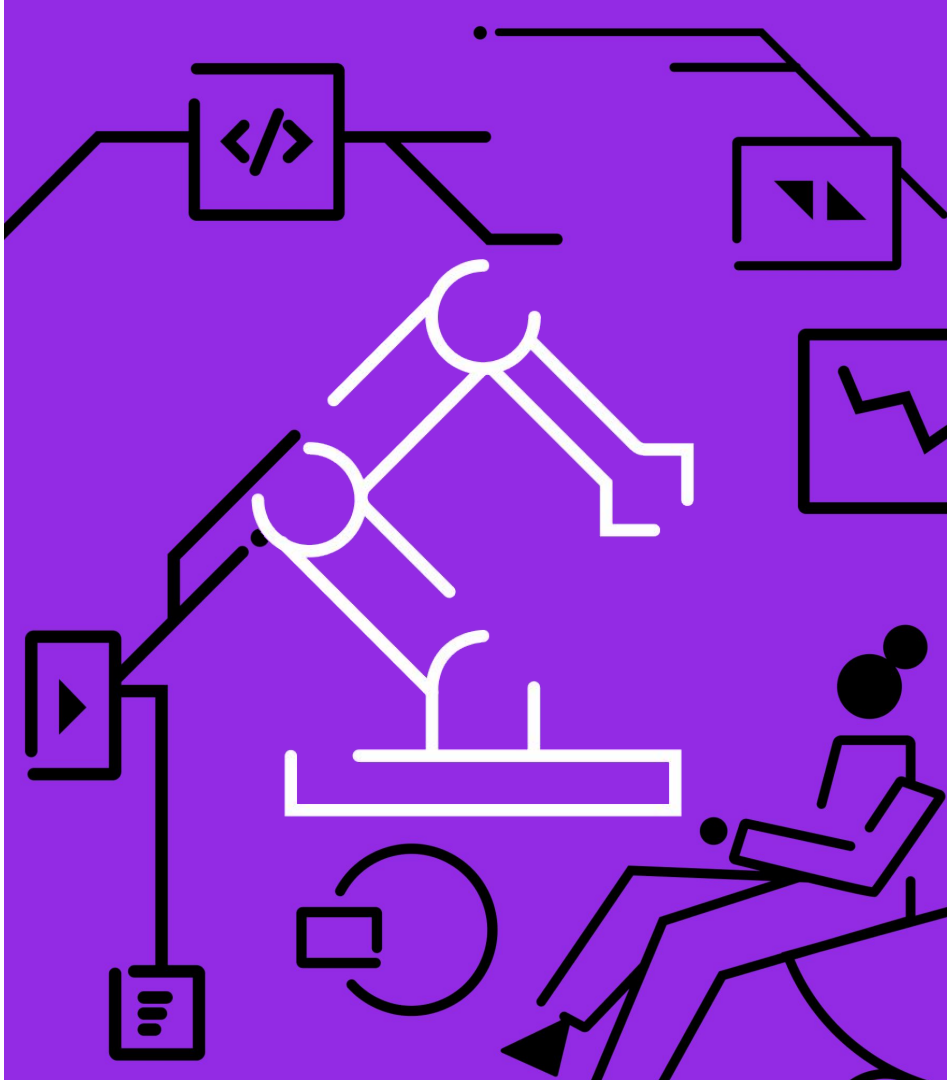
“There is a holistic strategy as to how we think about the connectivity, not only from digital experiences but also even some of those moments like getting a food delivery or accessing an attraction. That continues to be a huge focus for us and, again, it is partially about making it a fantastic experience for our guests but also about how we can use technology in service of the story. How we can extend these stories to create magical moments for our guests.”

Kelly White
Disney World’s Vice President of digital strategy

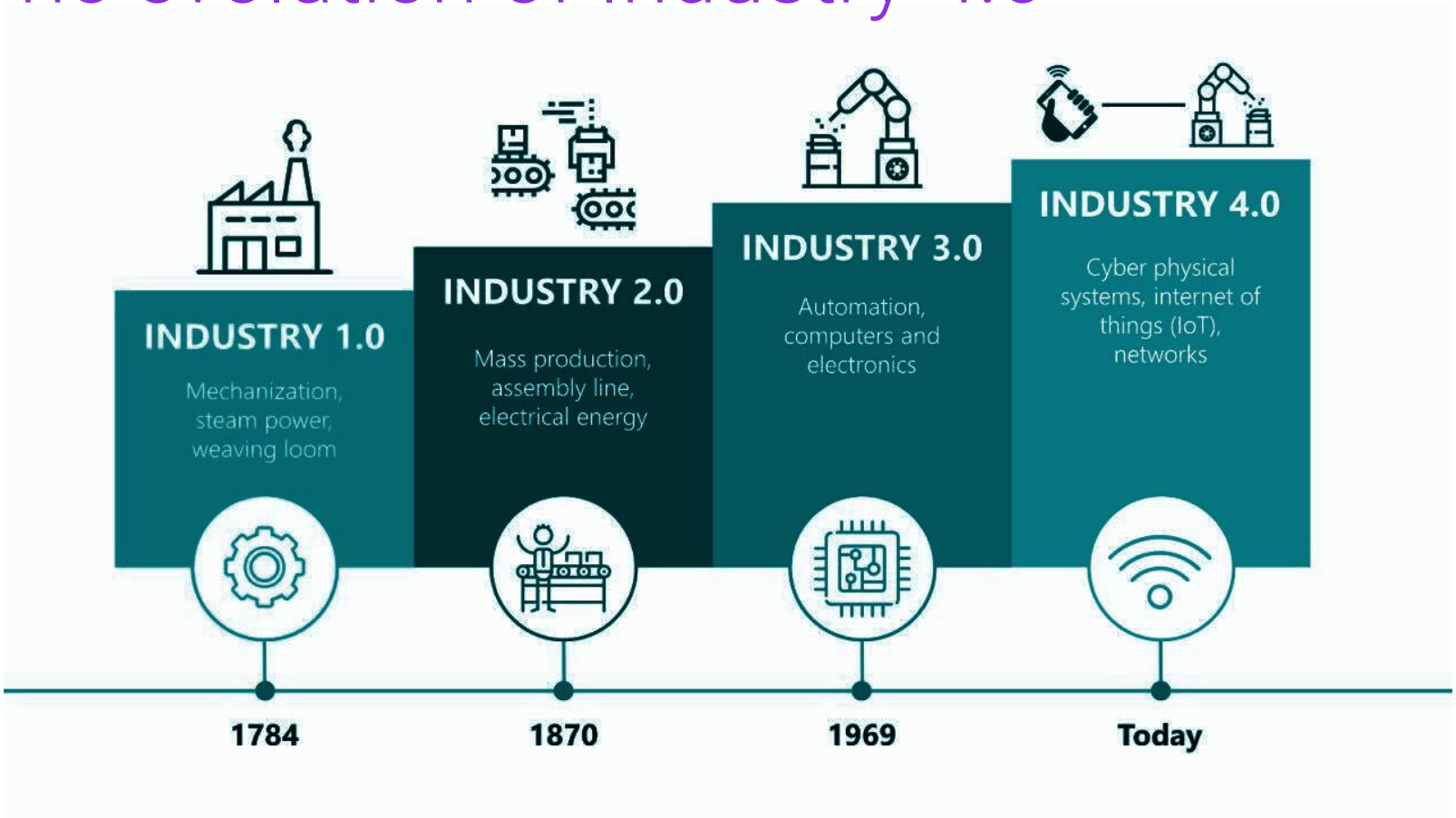
IIoT

Industrial Internet of Things (IIoT)

The Internet of Things (IoT) applied to the industrial sector = **IIoT.**



The evolution of Industry 4.0

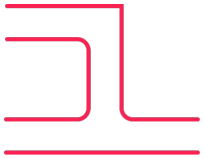


IIoT is the engine of Industry 4.0

The latest wave in industrial technology that's transforming the American economy is called Industry 4.0 – the Fourth Industrial Revolution.

- **Monitoring**
- **Connectivity**
- **Optimization**


Industrial digital transformation is human
as much as technical.



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IIoT apps offer similar benefits to industrial organizations

With a full network of connected IIoT devices, industrial companies can enable things like:

- Automated data collection and analysis
- Remote environmental monitoring & climate control
- Predictive and anticipate events, e.g: equipment maintenance

The smart factory

In the modern smart factory, sensors are placed on machinery to collect data on everything from temperature and vibration to speed and other measurable parameters.

This data can then be analyzed in real time to identify potential issues such as equipment malfunction or inefficiency.

This helps increase production efficiency, improves safety, and reduces downtime.

IIoT by the numbers

70%

In manufacturing plants, the maintenance cost of industrial equipment can account for nearly **70 percent of the overall cost of production**

20%

Predictive maintenance allows manufacturers to **increase equipment uptime by 20 percent**

10%

Predictive maintenance **saves manufacturers at least 10 percent on maintenance costs**

50%

Predictive maintenance **reduces maintenance planning time by at least 50 percent**

Source: https://www.tti.com

In manufacturing & logistics, IIoT benefits more than the bottom line

Innovative IIoT products not only have a real impact on day-to-day business operations, but also the communities we live in.

Benefits of IIoT

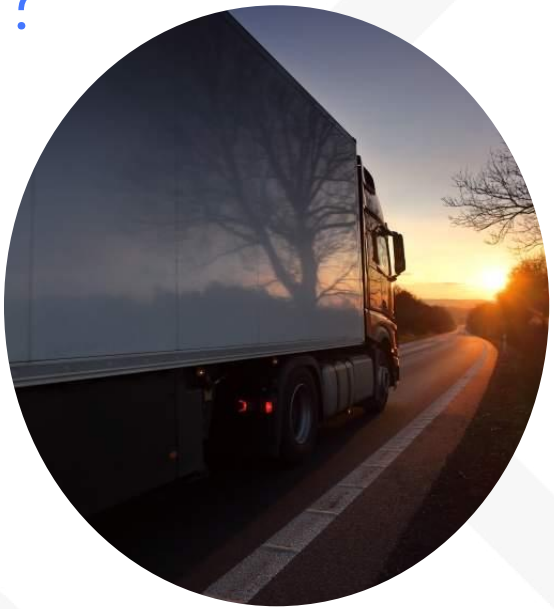
Pushing a 95-year-old manufacturing company forward with IoT connectivity and more

What's another example of an IIoT application in the real world?

Let's look at Motorcity Systems - an innovative, Michigan-based software and integration solutions provider for trucking companies.

The 3 major pain points for truck drivers are:

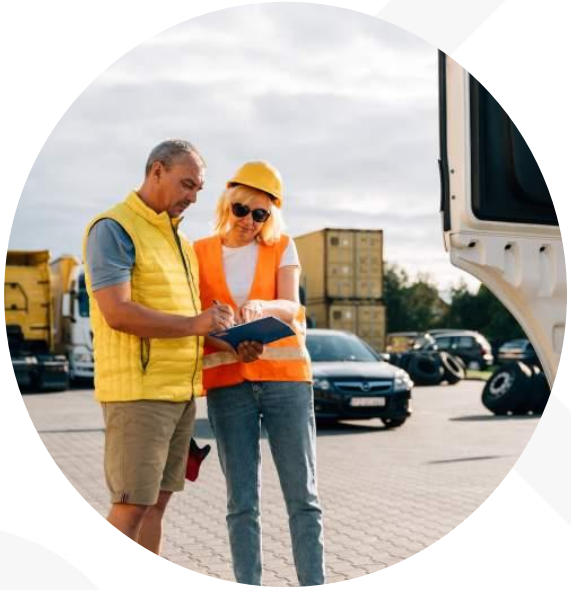
1. Communication with dispatch
2. Pre- and post-trip paperwork
3. Safety

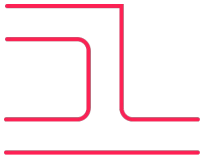


They partnered with TXI to develop the ROLLER app

A React Native app for Android and iOS, ROLLER was designed with four main features:

1. Messaging
2. Document Management
3. Offline Support
4. Safe and Intuitive Experiences





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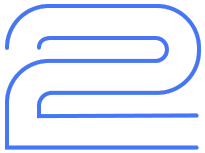

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What are the main barriers to innovation in Industry 4.0?

Common barriers to innovation:

1. Isolated experience with innovation cycles
2. Limited access to data
3. Widespread resistance to change

How do you overcome these barriers to prepare for the future of IIoT?

1. Build a culture of innovation, and embrace experimentation
2. Stay attuned to new technologies
3. Listen to new ideas

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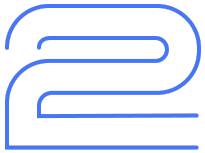
& IIoT



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What should companies look for in an innovation partner?

Knowing that you can be competitive and profitable by investing in the Internet of Things is one thing, but how do you make this into a reality?

Successful innovation partnerships should be defined by these 5 key principles:

1. A clear value system for product innovation
2. An immersive approach to building trust among in-house teams
3. A collaborative mindset for discovering new ideas
4. A strategic perspective on IIoT development
5. The drive to foster a culture of ongoing innovation

5 takeaways for continuous improvement in digital transformation:

1. Start small
2. Measure the impact of each change (on customers, employees, supply chains, etc.)
3. Commit to learning from every change, whatever its impact
4. Think of digital transformation as a mindset rather than a destination
5. Seek out partnerships with experts in areas where you have knowledge gaps

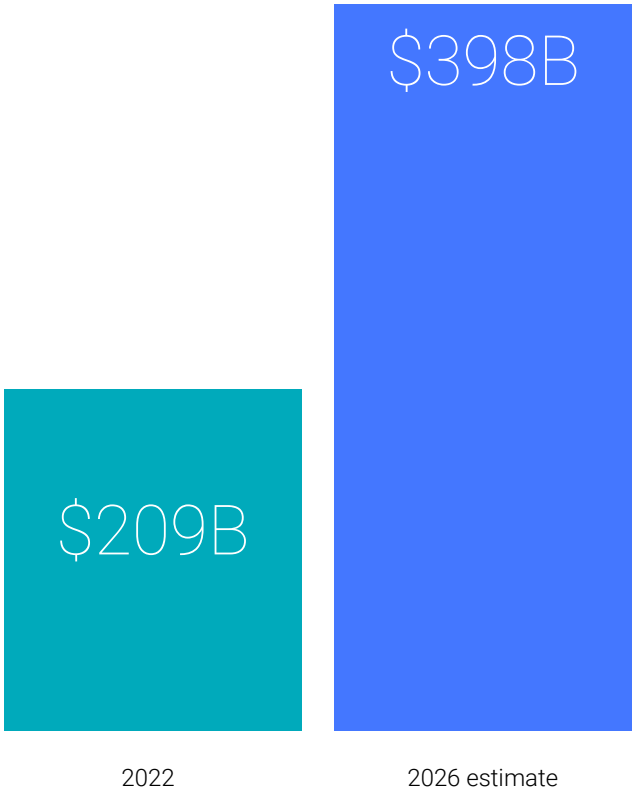
IIoT by the numbers

IIoT is expected to rise in 2023

Manufacturers globally now recognize the disruptive potential of IIoT and are racing to adopt this technology.

2022 global market value of IIoT
In 2022, the estimated market value of IoT in manufacturing was $209.44 billion globally.

2026 estimate global market value of IIoT
Market value is forecasted to reach $397.86 billion by 2026 at a 17.4% CAGR.



Source: https://www.tti.com

Next steps

Want to take the next step in your IIoT transformation journey?

To succeed in digital transformation and lead in Industry 4.0, it's time to adopt new ways of thinking, operating, and delivering products.

We recommend to find an innovation partner who can help you transform the products, culture, and mindset at your organization

That's what we do at TXI.

Questions?
Let’s start a conversation.

Jason Hehman
Client Partner
jason.hehman@txidigital.com
917.208.7904

Andrew Horner
Principal Engineer
andrew@txidigital.com

Thank you!