



# Top Three Industrial IoT Opportunities Driving the 4th Industrial Revolution

# Table of Contents

4

Asset Monitoring

5

Automated Field Servicing

6

Warehouse Optimization

The global Industrial IoT market is expected to grow from \$3.27 billion in 2018 to \$13.82 billion by 2023, at an impressive CAGR of 33.4% during that time period<sup>1</sup>. IoT technologies deliver significant promise to industrial organizations, enabling them to continuously monitor equipment, implement

predictive maintenance, and leverage IoT data analytics to derive valuable business intelligence. Growing adoption of IIoT solutions is ultimately contributing to the digitalization of legacy processes and equipment, ushering in the 4th Industrial Revolution (4IR).

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**1st Industrial Revolution:**

introduced mechanical production facilities leveraging water and steam to generate power

**1765**

**3rd Industrial Revolution:**

enhanced electronics and IT systems to automate production processes

**1969**

**1870**

**2nd Industrial Revolution:**

implemented divisions of labour to mass produce assets with the use of electricity

**Today**

**4th Industrial Revolution:**

increased use of automation and data exchange in manufacturing technologies, including cyber-physical systems

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This digital transformation is facilitating enormous economic growth and the rapid evolution of production and service delivery processes for improved operational efficiencies and value of offerings. Here are three of the most powerful

opportunities and technologies that IIoT businesses should consider to take part in 4IR and remain competitive in a continuously evolving industry.

IIoT could add up to \$14.2 trillion to the global economy<sup>12</sup>

70% of industrial organizations lack awareness as to when their assets need to be maintained<sup>2</sup>

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### Asset Monitoring

Industrial companies have traditionally faced challenges with business models that are often dependent on expensive, geographically dispersed, and highly specific pieces of equipment and machinery that must be properly maintained to avoid costly operational disruptions. Unexpected downtime can result in lost productivity or missed quotas, ultimately contributing to decreased revenues. One study estimated that unplanned equipment downtime can cost industrial organizations up to \$260,000 per hour<sup>2</sup>.

Asset monitoring solutions involve attaching or embedding IoT-enabled devices (i.e. sensors, RFID tags, etc.) to machinery or other pieces of industrial equipment to make them “intelligent”. These smart devices are connected to back-end systems or cloud services via wireless connectivity, and continuously collect and share data to actively monitor pre-determined, asset-specific information.

By continuously monitoring conditions related to quality, performance, damage or breakdowns, as well as other environmental factors, industrial organizations are empowered to more efficiently address any potential issues. Further, by analyzing IoT data regarding pre-determined conditions, they can implement predictive maintenance based on equipment condition analysis and performance trends to ensure optimal efficiency, reliability, and safety.



Predictive maintenance will help companies save \$630 billion by 2025<sup>3</sup>

### Automated Field Servicing

The global economy is shifting from a manufacturing-based economy to a services-based economy, as digital transformation and IoT technologies contribute to the creation of new service-oriented business models. Businesses can no longer remain competitive by simply manufacturing and shipping goods, and an increasing number of industrial organizations are adopting subscription and service models to stay relevant. In fact, 84% of business leaders say they are ready to create new, service-based income streams from IIoT5.

IoT-enabled field servicing solutions connect field service technicians – via tablet, wearable, or smartphone – to back-

end systems to enable automatic deployment and scheduling of preventative or emergency repairs. Technicians in the field are able to access the cloud-based information and applications needed to complete repairs, as well as remotely record service time, parts, readings, notes, and photos regardless of location.

Automated field servicing results in cost savings related to more effective and efficient repair processes and reduction in costly repeat visits. These solutions also generate added-value for downstream customers with service assurance, and present businesses with the opportunity to monetize existing field service operations with more accurate reporting and invoicing capabilities.



At the end of 2017, services<sup>1</sup> accounted for 86% of total United States employment<sup>4</sup>

### Warehouse Optimization

There are numerous operational processes that take place within an industrial warehouse that require a large number of different inventory items, pieces of equipment, and other supplies to complete. Attempting to track, manage, and schedule these materials can be extremely challenging when using dated, un-automated systems leading to increased costs and lost revenues. In fact, it is estimated that industrial companies have an average of \$1.40 worth of inventory for every \$1.00 of revenue<sup>7</sup>.

IoT warehouse optimization solutions leverage connected sensors and other devices that are attached to shelving units

and inventory items and monitor variables such as stock levels and location data. These solutions can automatically generate alerts if stock is running low, and enable warehouse workers and operators to quickly find the materials they need.

With accurate, real-time information about how many materials are in-house and where they are located, industrial organizations can not only improve inventory management processes, but also help employees do their work more efficiently. These technologies can also lay the foundation for greater warehouse automation, enabling real-time demand signals that can guide robotic picking and putaway systems.

Nearly 1/3 of organizations are prioritizing IoT for warehousing and logistics functions<sup>6</sup>

### Navigating IIoT Implementation

Successfully implementing any IoT solution – regardless of use case – can be extremely complex and requires careful planning and strategizing across a broad range of technologies. However, there are several critical areas specific to IIoT deployments that are key to reaping the benefits of 4IR:

KEY AREAS	CHALLENGE	RECOMMENDATIONS
<b>Organizational Alignment</b> 57% of professionals with active IIoT projects said that overcoming cultural barriers and organization silos was their biggest challenge in achieving alignment and uniting IT and OT domains <sup>9</sup>	IoT encompasses a broad range of cross-departmental technologies, processes, and systems making it critical for leadership teams to agree upon IoT vision and strategy	<ul style="list-style-type: none"><li>• Facilitate innovation in IoT with cohesive, strategic communications</li><li>• Invest in educating employees on the benefits of IoT</li><li>• Foster a culture of learning that supports employees in changing in roles</li></ul>
<b>Business Oriented Strategy</b> By 2021, 20% of midsize to large enterprises will deploy a holistic, business-outcome-related IoT plan, up from 5% in 2017 <sup>10</sup>	The most successful IoT solutions target key business processes to support business outcomes such as cost savings, operational efficiencies, or new revenue streams.	<ul style="list-style-type: none"><li>• Create an IoT vision that supports business goals and strategies (not technology)</li><li>• Assess maturity level for deploying IoT to achieve various business goals</li><li>• Prioritize IoT solution roll-out in alignment with business strategy, KPIs</li></ul>
<b>IoT Partnerships</b> More than 30% of executive implementing IIoT believe there is a major skill gap in their companies when it comes to IoT readiness <sup>11</sup>	The skillsets needed to implement and manage IoT solutions are complex, and many organizations don't have sufficient IoT resources in-house. Engaging a trusted partner is necessary for a smooth deployment.	<ul style="list-style-type: none"><li>• Assess internal skillsets and identify potential gaps</li><li>• Engage an IoT partner that can fill as many of the skill gaps as possible</li><li>• Outsource IoT-specific requirements as needed, enable internal teams to focus on data, insights, and outcomes</li></ul>

### Learn More

The rapid growth of IoT technologies is enabling industrial organizations to revolutionize operations, reduce costs, improve productivity, and introduce new business models and revenue streams. However, the IoT ecosystem is highly complex and it can be challenging for industrial organizations to deploy, manage, and sustain connected solutions while maximizing returns on IoT investments. For more information on how to successfully implement IIoT, reach out to KORE today to learn how we can simplify the complexity of IoT so you can focus on what matters most to your organization.

### About KORE

KORE is a pioneer, leader, and trusted advisor delivering transformative business performance. We empower organizations of all sizes to improve operational and business results by simplifying the complexity of IoT. Our deep IoT knowledge and experience, global reach, purpose-built solutions, and deployment agility accelerate and materially impact our customers' business outcomes.



For more information, reach out to KORE to learn how we  
can simplify the complexity of IoT for your business.

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