

How Metals Companies Can Benefit From IoT

The global industrial Internet of things (IoT) market is forecasted to [reach \\$933.62 billion by 2025](#), according to a recent report from Grand View Research, Inc. The IoT provides many potential advantages to companies across the economy, including the metals sector. Here are six ways metals companies can benefit from the industrial IoT.

Improved Product Quality

Metals companies can track product quality and the factors that affect it throughout their production processes, enabling them to deliver products with more consistent quality. For example, the punch and die process often scraps [at rates of 15 to 20 percent](#), but internet-connected sensors can be used to identify any nonconformities that occur. IoT sensors can create pressure and maps that analyze the results of the punch-and-die process and then automatically adjust the punch angle, pressure and stroke as well as other factors to reduce variance between products. Smart sensors could allow manufacturers to continuously monitor conditions such as temperature that may affect the quality of their products.

Increased Uptime

Another powerful benefit of the industrial IoT is its ability to enable predictive maintenance, an approach to maintenance that involves predicting when failures might occur and preventing them from occurring. Predictive maintenance can increase equipment availability and uptime [by 10 to 20 percent](#).

In a facility that employs a predictive maintenance strategy, sensors collect data on equipment performance. Sensors might detect, for example, that a machine is operating more slowly or using more energy than usual. The predictive maintenance technology uses the data it collects to predict when failures might occur and alert a technician to the problem.

Enhanced Supply Chain Management

Data collected using IoT technology also allows for more precise management of the supply chain and inventory. Companies can use a central data management system to collect and analyze data related to supplier relationships, inventory management, manufacturing operations, product lifecycle management and enterprise resource planning.

This enables you to better align your operations with the needs of your customers, improving your load forecasting and production scheduling. This improved visibility into the supply chain can also help manufacturers reduce waste, increase recycling rates and purchase more recycled materials from suppliers. An increased use of aluminum especially could [lead to huge growth in the manufacturing industry](#) because of its infinitely recyclable nature.

Safer Workplaces

Safety is a major concern across all facets of the metals industry. Workers in factories and mines may work with heavy equipment and hazardous materials. Accidents during mining operations, as well as in factories, can have severe consequences. Because of these risks, metals companies take safety seriously. IoT technology can help improve safety for workers in the metals industry. Wearable sensors [can detect workers falls](#), monitor vital signs and keep track of employees' locations. If equipment is also equipped with GPS capabilities, the system can warn workers if they get too close to equipment.

Increased Efficiency

IoT technology can also help metals companies make their operations more efficient and reduce costs. By [analyzing energy usage and costs](#), facility managers can time operations for when electricity is cheapest. IoT enables managers to monitor energy usage down to the level of the individual machine, which can reveal when a piece of equipment isn't operating efficiently. This provides an opportunity to upgrade it.

Through monitoring operations, IoT devices can help uncover potential process improvements that could boost efficiency. The data might show that a particular step in the process is slower than others. You could then adjust the established procedures, provide extra training to employees or take other steps to try to improve efficiency.

Increased Customer Satisfaction

Using the IoT can provide added value for customers and improve customer satisfaction. Having improved transparency into your supply chain, manufacturing operations and distribution enables you to provide customers information about the exact time of delivery. It can also help you fulfill customer orders more quickly and accurately and also ensure more consistent quality in your products.

Revolutionizing Tech

The IoT is revolutionizing nearly every sector, and the metals industry is no exception. Smart IoT technologies can provide numerous benefits to metals companies including improving product quality, enhancing worker safety, increasing efficiency and reducing costs.

Bio:

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