ptc

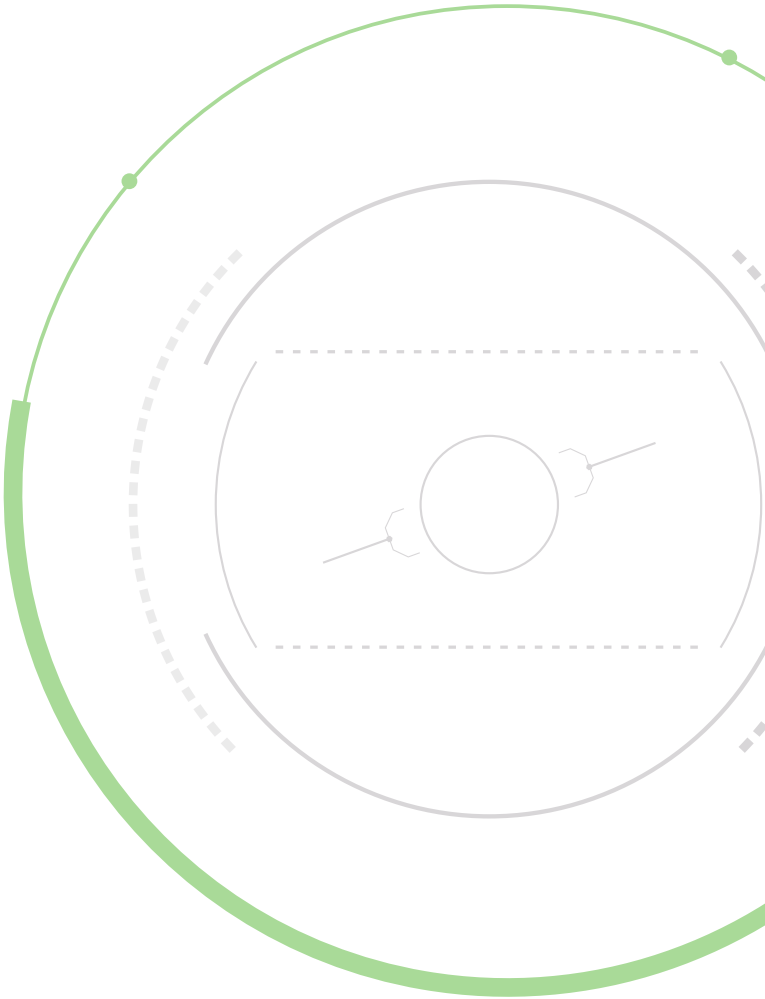
The Hidden Drains & Drivers Impacting Your Asset Efficiency

and How to Choose the Right Technology to Help

Digital transformation, Industry 4.0, the industrial Internet of Things (IIoT), Big Data, robotics, cloud computing, augmented reality . . . manufacturing technology is advancing at warp speed. Many manufacturers struggle to keep up with the buzzwords, let alone parse through what technology can truly put them ahead of the competition.

But even amidst the new terms and tech, key manufacturing goals stay the same. One major driver for any factory is asset efficiency. It's easy to see why—if you use your equipment more effectively, you can cut costs, up production capacity, and save on labor. But if your assets are inefficient, your equipment can turn into a logjam that impacts your Overall Equipment Effectiveness (OEE), workforce efficiency, competitive standing, and bottom line.

Technology may evolve, but machine and asset efficiency are always going to be an important part of any factory. Let's look at the real-world results behind the buzzwords to see how manufacturers are implementing new approaches to solve the hidden drains—and optimize the key drivers—behind asset efficiency.



ASSET EFFICIENCY DRAIN:
Unplanned Downtime

Unplanned downtime is one of the biggest drains on asset efficiency. Preventing and minimizing unplanned downtime is key to avoiding bottlenecks that impede productivity, quality, and overall output.

Beyond the Buzz: What to Look for in a Solution

In order to effectively increase efficiency, look for technologies that provide real-time performance data—along with powerful predictive and prescriptive analytics—that will help you uncover hidden causes of downtime and expose potential efficiency gains.

The Real-World Results: IIoT for Increased Uptime

Industrial IoT (IIoT) increases real-time visibility across machines, lines, plants, and enterprises regardless of equipment age, manufacturer, or level of connectivity. Real-world results show that IIoT drives improvements in uptime by:

- Preventing unplanned downtime with predictive maintenance, which in turn increases machine availability
- Providing real-time visibility into asset performance and health with condition monitoring
- Exposing abnormal conditions with real-time alerts

The Broader View: The Impact of Uptime

IIoT is proven to reduce unplanned downtime, a vital component of machine and asset efficiency. With more reliable assets, you also improve overall availability, performance, and quality—the three big components of OEE. Over the long-term, increasing asset uptime also influences costs for labor, materials, and overhead.

Real-World Proof Points

Leading energy equipment supplier **CIMC** deployed IIoT in two plants and **reduced unplanned downtime by 30%**.

World-leading provider of drilling services, equipment, and mining tools, **Bogart Longyear** improved uptime (including adding **65 hours** in drilling time) and OEE by enabling predictive maintenance and real-time asset health monitoring for critical Oil and Gas rigs.

ASSET EFFICIENCY DRIVER:

Workforce Productivity

Efficient workers create efficient assets. With a better view of data and insights into how machines are operating, plant floor workers can be more productive themselves while driving better machine performance across the enterprise.

Beyond the Buzz: What to Look for in a Solution

To fully optimize your workforce productivity, look for a technology that seamlessly connects people to real-time data and insights. Digital work instructions are a good first step, as they help drastically eliminate the rework, scrap, and time wasted from relying on outdated or missing maintenance and assembly instructions.

The Real-World Results: IIoT for Increased Workforce Productivity

The IIoT enables plant floor operators to proactively react and respond to operational issues that impact efficiency. Real-world results show that the IIoT improves workforce productivity by equipping operators with the best information to:

- Avoid unplanned downtime through real-time visibility into issues that may impact production efficiency
- Increase quality through a better-trained, flexible workforce with less turnover
- Accurately capture all tool information for product genealogy and traceability, creating improved product quality through efficient process capture

The Broader View: The Impact of Worker Productivity

From reducing downtime to improving quality and operations, IIoT-connected workers expand the limits of machine, factory, and enterprise-wide efficiency. A more efficient and aware workforce drives overall asset efficiency and helps create a holistically productive plant floor.

Real-World Proof Points

Groupe Beneteau saves **$18 million a year** through IIoT-enabled digital work instructions, which improved assembly time and quality while accelerating workforce training, skill development, and retention.

Using IIoT, a **leading home furnishings manufacturer** drove a **30% increase in workforce productivity** while increasing uptime and throughput.

ASSET EFFICIENCY DRIVER:

Capital Expenditures (CapEx)

Manufacturers need to make the most of the CapEx they've invested today and budgeted for tomorrow. By ensuring efficient and safe asset operations, manufacturers can extend the useful life of equipment, while ensuring and increasing maximum output.

Beyond the Buzz: What to Look for in a Solution

To get the most bang for your buck (or rather, limit the machinery bangs that eat up those bucks!), look for a technology solution that holistically addresses common efficiency challenges. CapEx applies to the whole machine, people, and productivity ecosystem, and so should any technology that you onboard to help reduce CapEx.

The Real-World Results: IIoT for Lowered CapEx

The IIoT improves machine and asset efficiency, which reduces CapEx costs—which in turn frees up capital to drive other efficiency improvements. Real-world results show that IIoT helps CapEx budgets by:

- Improving OEE and machine efficiency through real-time health monitoring and predictive maintenance
- Ensuring safe operating conditions that extend machines' useful life and reduces risks, saving CapEx maintenance costs

The Broader View: The Impact of Improved CapEx

As machine and asset efficiency increases, CapEx is reduced. This leads to more budget flexibility to truly solve problems beyond reducing downtime, improving availability, increasing product quality, and other OEE-based concerns—those have been taken care of with real-time data, empowered workforces, and improved efficiency. Choosing IIoT as a CapEx solution optimizes efficiency and opens innovation in new ways.

Real-World Proof Points

Brembo, a world leader in development and manufacturing of car components, r**educed scrap and unplanned downtime** with the IIoT, and is driving better business decisions through automated data capture and unified IT and OT systems.

Global brewing company **Carlsberg Group** implemented a cloud based IIoT real-time performance tracking system to accelerate OEE improvements, increase packaging line performance, and gain real-time visibility into factories. They **improved OEE** with minimal disruption on operations, even as they acquired and deployed more than ten new breweries.

ptc

Learn More About How IIoT Can Improve Your Machine and Asset Efficiency

The ThingWorx industrial IoT platform drives improvements in machine and asset efficiency for manufacturers of all shapes and sizes. Learn more about how it can help you minimize unplanned downtime with predictive maintenance, enable workforce efficiency through up-to-date work instructions, and provide real-time visibility with asset health monitoring.

CONTACT AN EXPERT >>

Sources:

1. PTC Customer Results
2. *Fourth Industrial Revolution Beacons of Technology and Innovation in Manufacturing*, World Economic Forum white paper (with collaboration from McKinsey & Company)