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EMPOWERING SUPPLY CHAIN EXCELLENCE

Real Cost of Machine Downtime for Customers and OEMs

[Breakdown per Industry]

Refrigerators, drilling machines, automobiles, trucks, excavators, harvesting machinery, and airplanes—what do all of these machines have in common?

Firstly, they are most likely pricey, with some being more expensive than others. Secondly, they're not flawless—they're bound to breakdown at some point.

The good news for manufacturers is that customers don't expect machines to be flawless. However, they do expect their service experience to be flawless in the event that something goes wrong—especially when the consequences of machine breakdown are so severe.

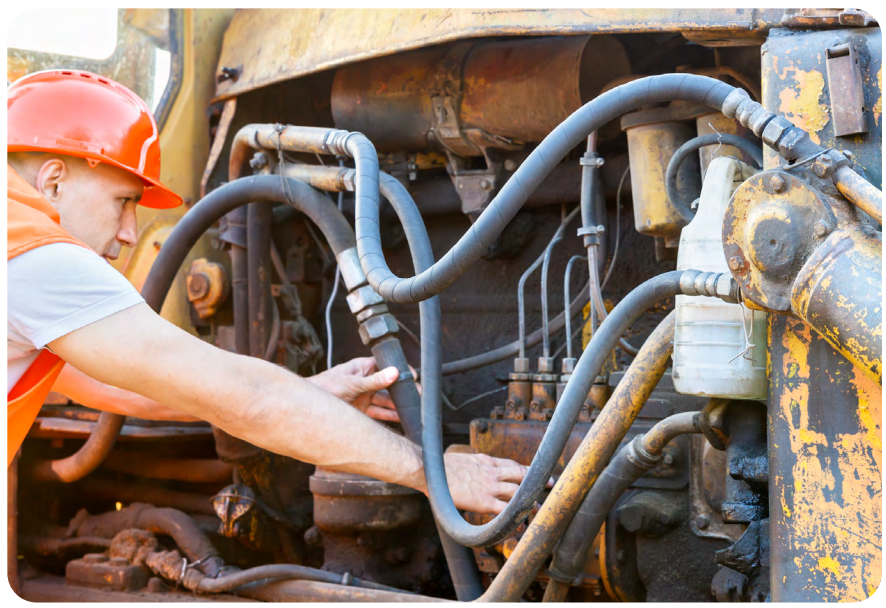
Whether it's empty shelves in a supermarket when trucks break down, construction sites coming to a halt due to a malfunctioning excavator, or a missed harvesting season due to broken down harvesting machinery—machine breakdown causes far-reaching issues across industries.

As an OEM, you may not be as responsible for repairs and maintenance as your dealers—but you're responsible for satisfying your customers' needs. It's not about building a perfect machine, it's about delivering a perfect customer experience.

Let's find out more about the costs of failing to do so.

What is machine breakdown?

Machine breakdown refers to the unforeseen malfunction of industrial assets and equipment that must be repaired or replaced to restore normal working conditions.



Industrial assets or equipment break down when they can't continue performing at their intended capacity. Machine breakdowns can happen for a number of different reasons, including abrasion, dirt, dust, or even bigger mechanical problems.

What are the main causes of machine breakdowns in Agriculture, Construction Machinery, and Material Handling?

There can be many reasons behind costly heavy machinery breakdowns or failure. Some of these causes are:

1. **Disregarding the operator's manual:** which shares key maintenance checklists and calibration instructions.
2. **Skipping daily maintenance:** such as checking engine oil, transmission fluids, and greasing lube points.
3. **Lack of proper cleaning:** leaves dust and dirt in machine connectors and wires.
4. **Overrunning machines:** experience premature wear and stress because of constantly running at maximum performance level.
5. **Replacing only the broken parts:** may fix the initial failure but can cause bigger problems when you don't check or replace other parts.
6. **Misaligned tighteners:** cause strain on the belt and lead to machine breakdowns.
7. **Coincidental breakdown:** can occur at any time!

Whatever the reason—you can guarantee one thing for sure: it's incredibly inconvenient. Let's look at what exactly these issues mean for agriculture, construction machinery, and material handling industries.

What is the cost of machine breakdowns in agriculture?

Typically, the cost of a machine breakdown are not limited to the repair cost. Machine downtime costs can be significant due to lost production and revenue, additional maintenance and repair costs, labor costs, and damage to reputation and customer relationships.

The opportunity cost of a harvesting machine breaking down during the peak crop season is about €25,000 a day. While machines sit idle, valuable harvesting time is irretrievably lost.

Let's consider the example of how the **John Deere strikes affected farmers in the United States** to understand the implications of machine downtime.

During and following the strikes, farmers found themselves waiting weeks and months for parts that would previously arrive within days. Machines were left unusable during peak harvesting times, affecting the agricultural industry and the individuals who work in it.

For example, despite ordering a new planter in May 2021, Iowa farmer Matt Danner couldn't use the machine for the 2022 planting season as it still hadn't arrived. He was unable to plant crops to the full capacity of his fields, and missed out on the value of those unplanted crops when it came to harvesting.

CNH Industrial, another agricultural machinery company, had to airfreight engine blocks from Brazil to keep production lines operational. That's thousands of dollars to transport engines all because CNH didn't have access to the parts they needed locally.

€25,000
per day in opportunity cost

What is the cost of machine breakdowns in construction machinery?

When construction equipment breaks down, the whole process comes to a halt. This results in a loss of time and money—employees are still on the clock, they just don't have the machinery necessary to get the job done.

For example, when an excavator stops working at a commercial construction site, you have to stop heavy-duty jobs like land clearing, mining, and trenching. On the other hand, trucks line up and workers stop working as the machine sits idle. A small interruption quickly causes ripples.

Plus, that's without even considering the cost of renting equipment when necessary. Renting a dozer, for example, costs upwards of $80/hour, which quickly adds up when you're managing hundreds of machines—each with an average downtime rate of around 30%.

Dan Corbett, equipment manager at Lancaster Development, estimates that **the 'collateral damage' of machine breakdown**—the cost of disruptions to production on the jobsite, idle operators, and temporary rental costs—comes to around $40,000 per machine, per year. Dan manages around 500 machines across upstate New York, meaning this combination of expenses associated with machine breakdown costs the company around $20 million each year.

$40,000
per machine, per year

$20 million
each year

What is the cost of machine breakdowns in material handling?

Businesses dealing with supply chains and warehousing often struggle with material handling problems too. From product manufacturing to transportation to distribution, these issues can appear at any stage. Examples include electric forklifts crashing during peak seasons or external events that hold up the material delivery.

A Vanson Bourne Research Study shows that **82% of manufacturing companies facing equipment downtime experience an average outage of four hours**. The cost of this downtime is estimated at two million dollars.

A notable example is when global trade took a €9 billion hit when the Ever Given container ship got stuck in the Suez Canal in 2021. Dozens of vessels carrying billions of dollars of freight were unable to enter the waterway for six days, as the ultra-large container vessel blocked the canal. The effects of external events like this were felt for months, causing a ripple effect through the entire supply chain.

The effects of machine breakdown are felt throughout the supply chain, especially when repairs and technicians aren't on hand to swiftly solve the problem. In peak seasons, customers need repairs ASAP—and two weeks' wait time just won't cut it.

Key industries depend on OEMs to provide the necessary support when machines break down—with important ramifications if they're unable to provide it.

Now that we've seen the cost of machine breakdown for customers, let's see what these issues mean for OEMs.

2 million
in average cost of downtime

What is the cost of machine breakdowns for OEMs

When customers can't get the parts and service they need to repair broken down machinery, they're forced to turn elsewhere—but what does this mean for OEMs?

Decreased customer satisfaction and loyalty

Customers rely on OEMs for aftersales service and support. Not receiving the support they were promised negatively impacts their trust in the OEM and reduces customer satisfaction and loyalty.

Alongside the disappointment of not receiving adequate service, customers are also often left unable to provide their service to their customers—which only exacerbates the dissatisfaction.

These delays prevent customers from resuming operations on time. As a result, customers gradually lose faith in the OEM from whom they purchased the equipment.

Reduced customer retention

When an OEM fails to deliver products on time, customers go to other suppliers to get non-original spare parts to resume work. While the OEM may have been their first choice, the priority is getting machines back up and running. In such competitive markets, it's not hard to find substitute parts elsewhere.
If another supplier can do this more efficiently, you're at risk of losing the customer long-term.

It's difficult to retain dissatisfied customers, and, with so much on the line for customers, you must be able to meet their needs in order to retain their business.

Missed aftermarket sales

Aftermarket business offers lucrative opportunities for OEMs to boost their profits—although not a main revenue driver, the parts and service industry offers high profit margins to OEMs when done right. However, the promise of superior aftersales services loses its appeal when OEMs can't deliver original replacement parts or conduct repairs on time. OEMs lacking the ability to deliver speedy services can't fully leverage the aftermarket service offerings.

Customers quickly turn elsewhere for the parts they need if you're unable to meet the demand promptly and effectively. This results in reduced revenue for the OEM—potentially at a larger scale if the customer decides to keep getting repair parts on other markets.

So, machine breakdown is a big issue for OEMs and customers alike—but what can you do about it?

How to prevent machine downtime

Some of the common ways to prevent machine downtime include:

Regular maintenance:

helps in flagging potential issues and reducing downtime.

Trained technicians:

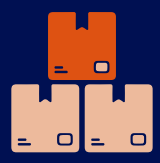
with the proper set of tools ensures adherence to OEM manuals and adequate service checks.

Upgrading equipment:

keeps away legacy system maintenance issues.

Process control monitoring:

flags variations between actual and desired performance levels.



Predictive part stockpiling:

knowing when and where machines are likely to need spare parts and replacements helps avoid machine breakdown.

While these are great ways to avoid machine breakdowns, OEMs should strive for a complete solution that can help predict, prevent, and resolve machine breakdowns. The best way OEMs can do this is with a downstream supply chain management solution—like ClearOps.

With ClearOps, OEMs have a central point of view on inventories, service and technician performance, and machine usage in the network—despite a multi-stakeholder supply chain of dealers, distributors and service facilities working in their own kinds of systems.

The **Advanced Inventory Management** module ensures OEMs and dealers can provide the right parts at the right time, and the **Technician Management Service solution** ensures there's an expert on hand to perform the necessary repairs.

Machine breakdown is inevitable—regardless of how much maintenance is performed—so the trick to happy customers is ensuring repairs and technicians are always ready and available.

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Make sure your customers are never left stranded

OEMs can’t deliver the best customer service without complete visibility of the supply chain network. ClearOps makes it possible for OEMs to connect the entire downstream supply chain to provide an optimized parts and service offering.

Book a demo today to see how ClearOps can help you increase network visibility and provide a seamless experience for customers.