

What is CONDITION MONITORING

and Important Insights to Preventing Unplanned Downtime

WHAT IS CONDITION MONITORING?

A series of activities to know at any point in time **the condition of ...**

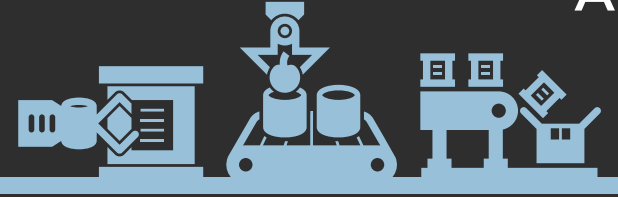
1

A single, specific machine



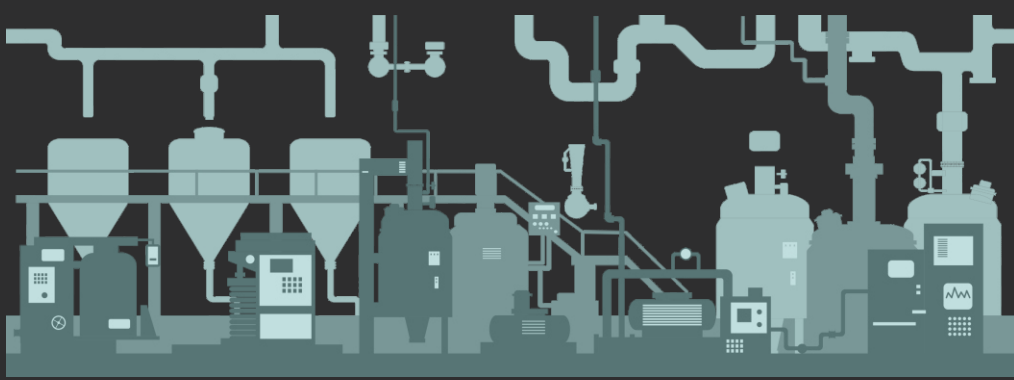
A series of machines

2



3

A complete process



4

Types of Maintenance Philosophies



REACTIVE MAINTENANCE

Fix it when it breaks

The most costly type of maintenance and condition monitoring can reduce the amount of reactive maintenance that is performed.



PREVENTIVE MAINTENANCE

Perform maintenance on a time schedule

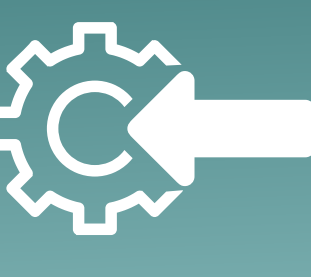
Condition monitoring can provide information so these time-based activities can be optimized. It promotes more of the, "If it isn't broken, don't mess with it" mindset.



PREDICTIVE MAINTENANCE

Fix it before it breaks

The only way to understand what the failure modes are and how fast they are progressing is to monitor various parameters on the machine (a.k.a. Condition Monitoring).



PROACTIVE MAINTENANCE

Engineer out the failure modes

To engineer out the failure modes. Knowing which ones exist on the machine and how fast they can progress is a key portion of this activity.



UP TO 70%

of companies are completely unaware of the appropriate time to maintain or replace equipment¹.

CONDITION MONITORING's IMPACT

on Plant Maintenance Practices

1 INCREASE IN MACHINE UPTIME

Machine uptime refers to when a machine or system is performing its expected functions without any hitches. Businesses that use the appropriate condition monitoring solution will keep their machines in top form, thereby ensuring that production doesn't stop due to unforeseen machinery breakdowns and that the company doesn't record losses.



2 MAKE PREVENTIVE MAINTENANCE MORE EFFICIENT

As we've mentioned, condition monitoring helps identify the failure modes of a machine and address them before they happen. This makes the company's efforts towards machine maintenance more efficient since engineers know the precise spots to review and repair.



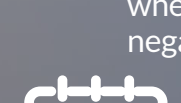
3 IMPROVE MAINTENANCE PLANNING

Maintenance planning refers to the schedule you keep for maintaining your equipment. A well-functioning condition monitoring system helps to draw up a better roster for this exercise. The business knows the right engineers and technicians to call for a specific repair and if special expertise is needed.



4 REDUCE UNSCHEDULED MAINTENANCE

Unscheduled maintenance is synonymous with unplanned expenses. Certain equipment costs hundreds of thousands to repair, and when it breaks down unexpectedly, it negatively affects a company's finances. With a robust condition monitoring solution, plant maintenance staff experience fewer unplanned and unscheduled machine downtime from impromptu repairs.



5 LESS WASTE

Some companies use perishable raw materials for their productions, where a breakdown in production for a day or two leads to spoilage. Such companies include food and beverage manufacturers and pharmaceutical. Effective condition monitoring solutions can strengthen continuous production, significantly minimizing waste.



6 INCREASED PRODUCTION

Often, production levels in a plant are not optimized due to the amount of machine failure and the corresponding machine maintenance performed. With condition monitoring systems, companies can avoid these breakdowns and, by doing so, increase production.



7 LONGER MACHINERY LIFE

Maintenance is essential to machine longevity. A piece of equipment that is not maintained will reach its end of life faster than one that is regularly maintained. These maintenance activities are not random. They are carried out according to the condition monitoring analysis, when performed effectively, will address the most worn out and damaged components.



8 INCREASE IN OVERALL EQUIPMENT EFFECTIVENESS (OEE)

Overall equipment effectiveness refers to the measure of the effectiveness of a manufacturing process relative to its maximum potential during the actual schedule (i.e., Are you getting the best out of a specific manufacturing process?) Thanks to less waste and increased production, businesses can enjoy better OEE.



9 INCREASE IN ROI

The ROI of the production department depends on the availability, quality, and performance of man and machine. While the first factor (employees) is also within the scope of condition monitoring from the analysis perspective, the second is greatly improved by the system. A functioning condition monitoring solution helps increase machine uptime, improve maintenance rounds, avoid waste, increase production, and reduce how often you buy new equipment. — leading to a significant increase in production ROI.



In the petrochemical industry downtime cost is estimated **\$18 billion+** per year²

In 2016 downtime cost an average of **\$260K** per hour

a **60%** increase from 2014³

SOURCES
1 Vanson Bourne Report / Study; 2 Aberdeen Group Study; 3 Aberdeen Group Study

CONTACT US

To learn more about how your business can benefit from a powerful condition monitoring solution.

Uptime means more.