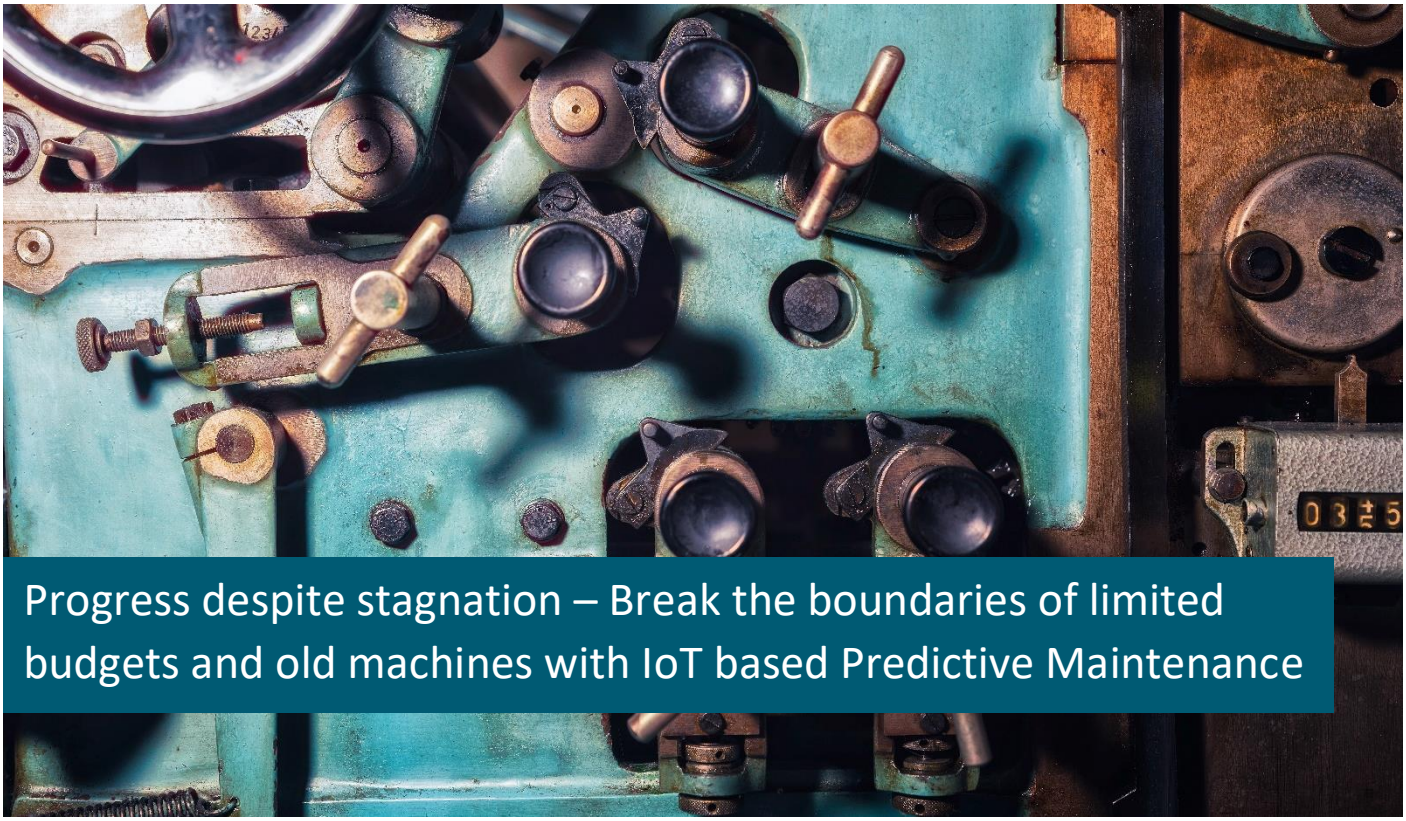


Progress despite stagnation – Break the boundaries of limited budgets and old machines with IoT based Predictive Maintenance

Capital intensive industries, like the cement industry, are characterized by high initial investments and an asset lifetime of 50 years and more. As a result, you will find building infrastructure and mechanical equipment which is in operation since decades. Tight financial targets for EBITDA and cash flow have resulted in reduced replacement CAPEX and have left many plants nearly in its initial technological stage (at deteriorated conditions). Unless a machine is falling apart, plant operators hardly get an approval for machine upgrades or renewals. Therefore, OEMs and machine builders offering replacements fail due to limited budgets.

This situation leaves many OEMs and plant operators in a dilemma: The older the machine, the higher the risk of a breakdown. Therefore, a proactive maintenance strategy is required to lower this risk. However, proactive replacements of key components or cost-intense machine upgrades are mostly restricted by limited budgets. As a result, plant operators end up in reactive maintenance to keep their CAPEX. How can machine builders solve this dilemma for plants if only low budgets are approved for the legacy assets? With Predictive Maintenance!

Predictive Maintenance lets outdated machines win the race

Specifically for OEMs, the industrial IoT technologies and cloud-based systems open the door for retrofitting the fleet of legacy machines. Enhancing an outdated machine with new sensors, data acquisition and predictive algorithm is a win-win for the machine owner and the OEM. It fits easily into low budgets but brings huge benefits for both:

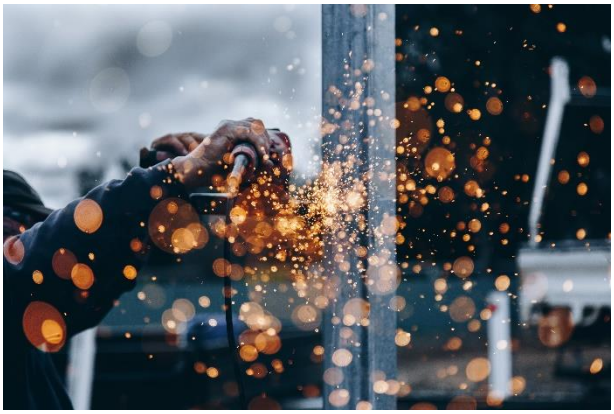
- ☑ The **machine owner** can sustain its low investment strategy and benefits from additional knowledge about the condition of its machine and a lifetime prediction of key components in real time. Therefore, the plant operator has not to take the risk of a machine breakdown anymore as he can identify urgent maintenance needs ahead and allocate his limited budget accordingly.
- ☑ At the same time, the **OEM / machine builder** learns more about the machine behavior and it´s condition. Consequently, he will be able to continuously improve the machines, and offer proactively services and required spare parts ahead of time. Hand in hand the machine availability will thus be improved.

Upgrade what suits best for your machines

Upgrading outdated machines with Predictive Maintenance is not a big deal. However, finding the right solution isn´t as easy. Therefore, preparation is key! Think about the requirements which need to be fulfilled by the Predictive Maintenance Solution and carefully check which solution suits best. In our blog, you will find more about this topic (e.g. Industrial IoT, sensor selection and considerations for applying Predictive Maintenance).

The older the machine, the higher the risk of breakdowns, high costs and non-availability of spare parts. A Predictive Maintenance Solution meets the requirements of limited budgets and supports machine owners and the OEM to secure a high machine and spare parts availability.

- Formulate precisely what you like to predict. List the available data, and involve people from operation, maintenance, and machine design to brainstorm about symptoms and failure modes. Finally confirm the available sensors and define which sensors are required additionally. These can be added as well to old machines.
- Machine owners and operators may not want to invest in upgrading nor extending their IT/OT infrastructure or they are just afraid of interfacing to it. For these situations, the wide use of mobile cellular networks with 4G (and soon 5G) is a good communication channel to connect signals from the field to the cloud in a simple, low cost and safe way.
- Technology should support people in their daily business. Therefore, it is crucial that the results from the Predictive Maintenance Solution will be presented in a meaningful way, focused on the end users to draw actionable conclusions. These factors enable user acceptance and will translate into platform success.



Fit for future with Predictive Maintenance

Retrofitting old machines with condition and performance monitoring as well as Predictive Maintenance is a good way to deal with limited budgets. The costs for an IoT based Predictive Maintenance solution are manageable and worth it. Especially if you want to provide amazing services and a high machine reliability at low CAPEX without risking a complete breakdown with its massive consequences. Predictive Maintenance is nothing magic but a smart way to see what others can´t see and detect what is hidden by the usage of today's technologies.

Author: Michael Bruckhaus, Managing Director, PREMAS AG
Pictures: unsplash.com

Want to know more about Predictive Maintenance? Contact us.

PREMAS
Preventive Maintenance Service AG
Haldenstrasse 1 · 6340 Baar · Switzerland
Phone +41 41 766 82 01
info@premas.ch · www.premas.ch