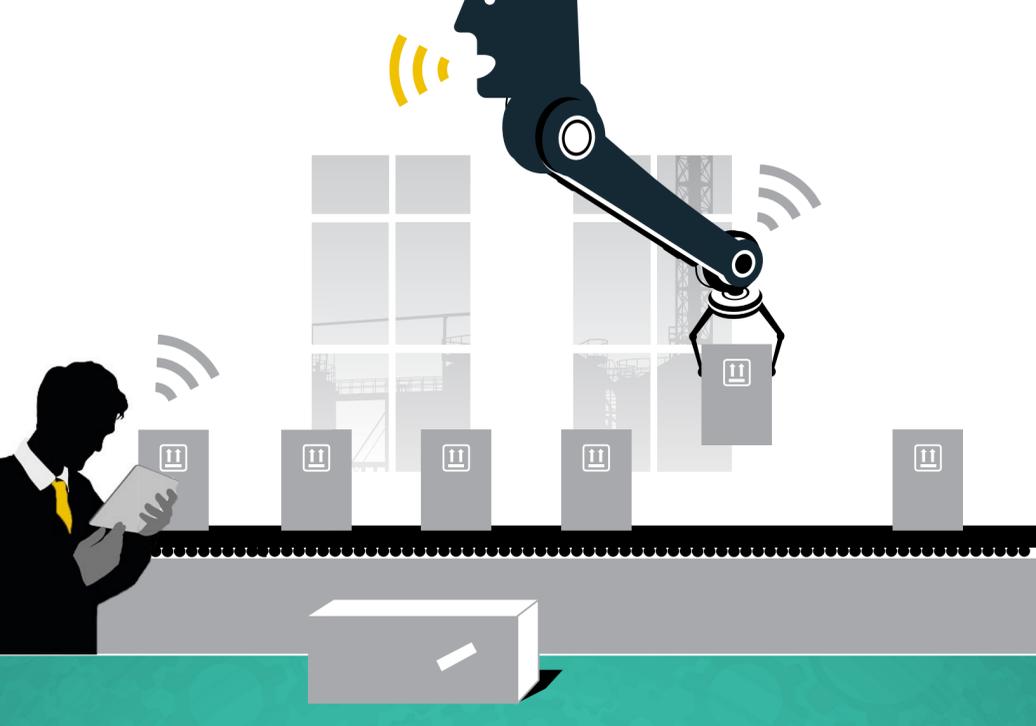


Are your preventive maintenance efforts wrenching away precious resources?

Time to listen to your machines.



Most companies are aware of waste in their preventive maintenance efforts, but aren't quite sure how to eliminate it.

Listen to your machines!

40%

of preventive maintenance costs are spent on assets with negligible effect on uptime failure¹

30%

of preventive maintenance activities are carried out too frequently¹

45%

of all maintenance efforts are ineffective²



Traditional preventive maintenance embraces a time-based approach. This consumes unnecessary resources and may actually cause failure by disrupting the equilibrium of stable assets.³



Only **18%** of assets have an age related failure pattern³

82% of asset failures appear random³

and yet...

A full **40%**

of organizations are not using any form of predictive maintenance.⁴

Only **23%**

of organizations that are using predictive maintenance integrate work order systems.⁴

For example, on one oil rig

99%

of data collected from sensor-enabled assets went unused.⁵

How do you know where to spend your time, money and resources?

Listen to your machines!



Predictive Maintenance is a discipline that uses the Internet of Things to monitor asset conditions and trigger preventive maintenance actions.

This can help you **predict and prevent** unplanned downtime.

You can:



Monitor and analyze asset health data, both historical and real-time



Intervene at the right time, before assets go down



Prioritize and optimize resources



Reduce maintenance costs by up to

25%⁶



Eliminate up to

70%

of breakdowns⁷



Reduce downtime by up to

50%⁵

The results speak for themselves.

Cut unplanned outages by up to

50%⁶



Reduce scheduled repairs by up to

12%⁷



Reduce capital investment by

3-5%⁵



By implementing predictive maintenance:

Total spend on preventive maintenance can be reduced by up to

50%⁴



Total preventive maintenance hours can be reduced by⁸

50% to 70%

Your machines are talking. Are you listening?

Learn more about how you can maximize uptime, visit: ibm.co/pmoc

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¹ Source: Oniqua Enterprise Analytics, Reducing the Cost of Preventative Maintenance, <http://www.plant-maintenance.com/articles/PMCostReduction.pdf>

² Source: T.A. Cook, Maintenance Efficiency Report 2013, August 2013, http://uk.tacooc.com/fileadmin/files/3_Studies/Studies2013/T.A._Cook_Maintenance_Efficiency_Report_2013_En.pdf?trcked=1

³ Source: ARC View, Optimize Asset Performance with Industrial IoT and Analytics, August 2015 <http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?subtype=WH&infotype=SA&htmlid=WWL12350USEN&attachment=WWL12350USEN.PDF>

⁴ Source: Enterprise Asset Management and Field Service Management, ARC Advisory Group, 04/17/2016, <http://www.arweb.com/market-studies/pages/enterprise-asset-management.aspx>

⁵ Source: McKinsey https://www.mckinsey.com/sites/mck_files/files/unlocking_the_potential_of_the_internet_of_things_full_report.pdf

⁶ Source: Fortune <http://fortune.com/2015/07/22/mckinsey-internet-of-things/>

⁷ Source: G.P. Sullivan, R. Pugh, A.P. Melendez and W.D. Hunt, "Operations & Maintenance Best Practices: A Guide to Achieving Operational Efficiency, Release 3.0," Pacific Northwest National Laboratory, U.S. Department of Energy, August 2010.

⁸ Source: IDC/ON Inc., Optimize your Preventive Maintenance, <http://www.idcon.com/resource-library/articles/preventive-maintenance/528-optimize-preventive-maintenance.html>