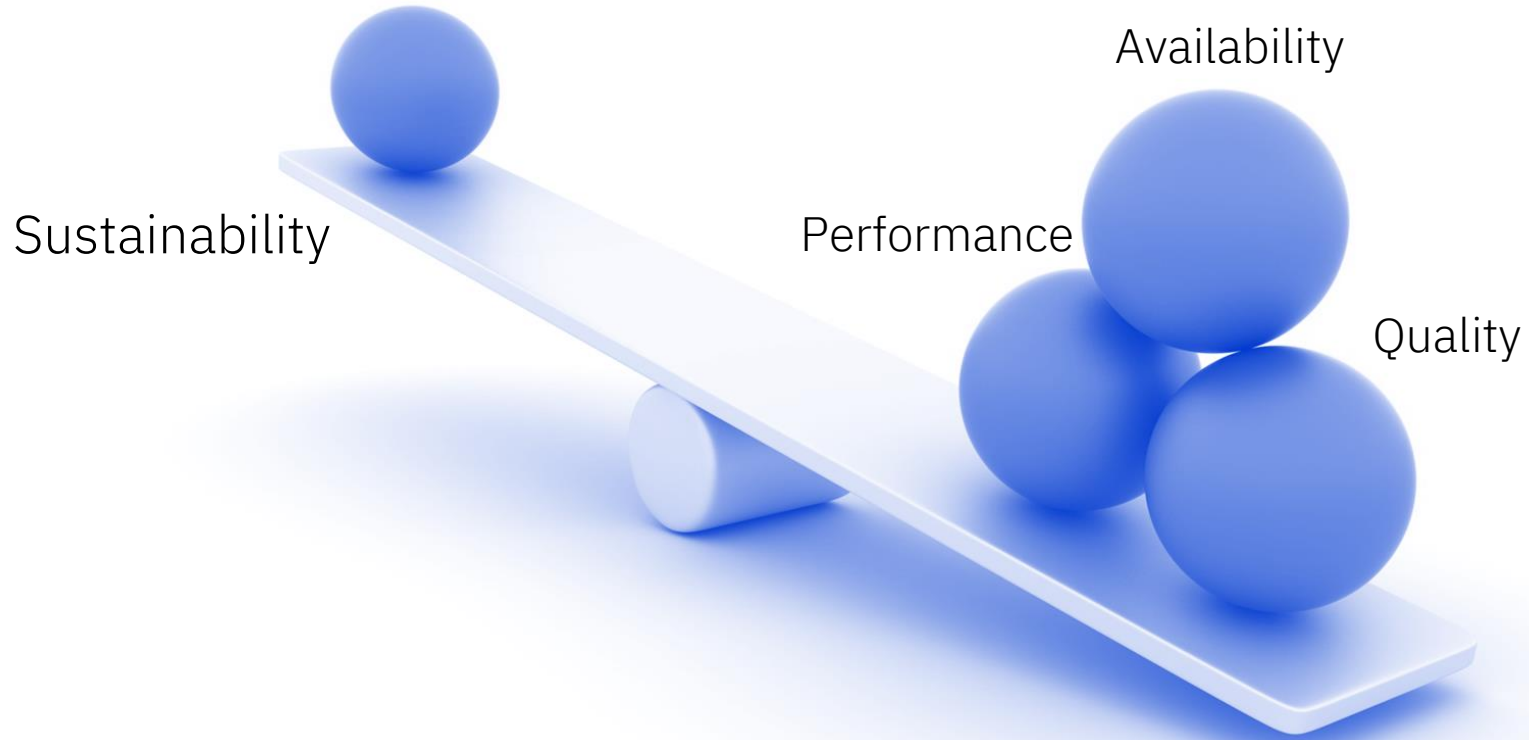# Ambition into action: How to balance sustainability, operational and energy saving requirements

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IBM

Balance?

Availability

Sustainability

Performance

Quality

The obvious…

From: slgckgc - Two-Ply is One Thing…., CC BY 2.0,
https://commons.wikimedia.org/w/index.php?curid=37905657

Better Quality =
Less Scrap =
Better for environment

But how?

Artificial Intelligence on the shopfloor

Visual Inspection with neural networks identifies quality issue in production or assembly lines better than humans
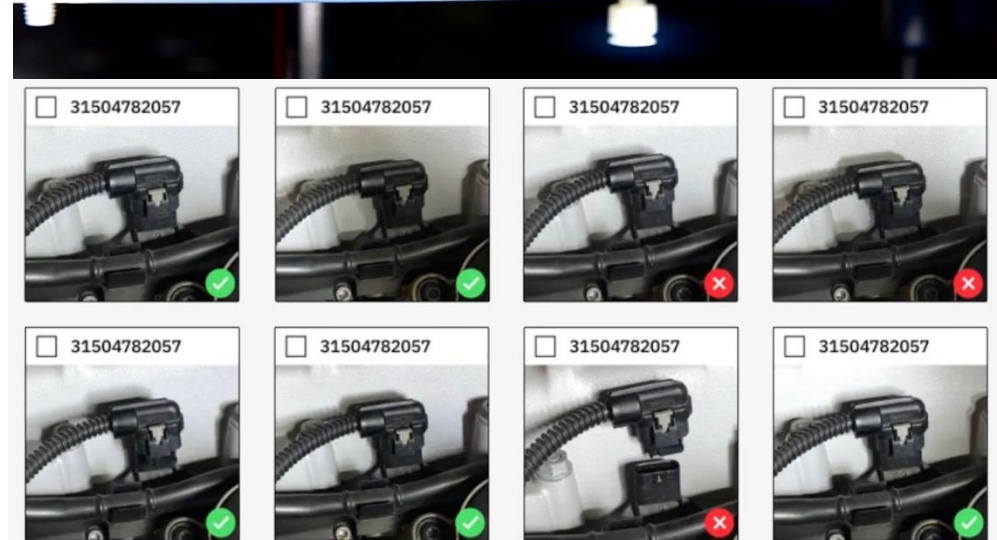
Assembly

Large American Auto Manufacturer

Detect production issues at the point of installation so they could be immediately corrected, increasing the quality of its product.
IBM Maximo Visual Inspection prevented 32 vehicle misbuilds in the first 30 days.

This "detect and correct" solution eliminated the need for a data scientist. As a result, the manufacturer can now respond to new processes or production requirements in hours rather than weeks or months. The manufacturer has since scaled the solution across many production inspection points, greatly reducing rework and improving overall product quality

Toyota

IBM Maximo Visual Inspection is enabling Toyota to quickly respond to manufacturing issues to reduce rework, warranty claims, improve overall product quality and most importantly pursue their goal of zero defects manufacturing.

The project leveraged the 5G capabilities of Verizon to demonstrate low latency and bandwidth available of 5G networks being able to drive new use cases in manufacturing plants.

https://youtu.be/4cJXA4t7PWo

Ford

The IBM Maximo Visual Inspection platform helps Ford easily find and correct defects before vehicles move down the line and delivers "real value to the company" MVI can help reduce defects and downtime, as well as enable quick action and issue resolution. Ford deployed the solution at several plants and embedded it into multiple inspection points per plant. The goal was to help detect and correct automobile body defects during the production process. These defects are often hard to spot and represent risks to customer satisfaction.
https://www.ibm.com/blogs/internet-of-things/ford-it-innovation-award-ibm/

Talking about AI – Yes, after more than ten years it is still on the list: Condition & Predictive Maintenance
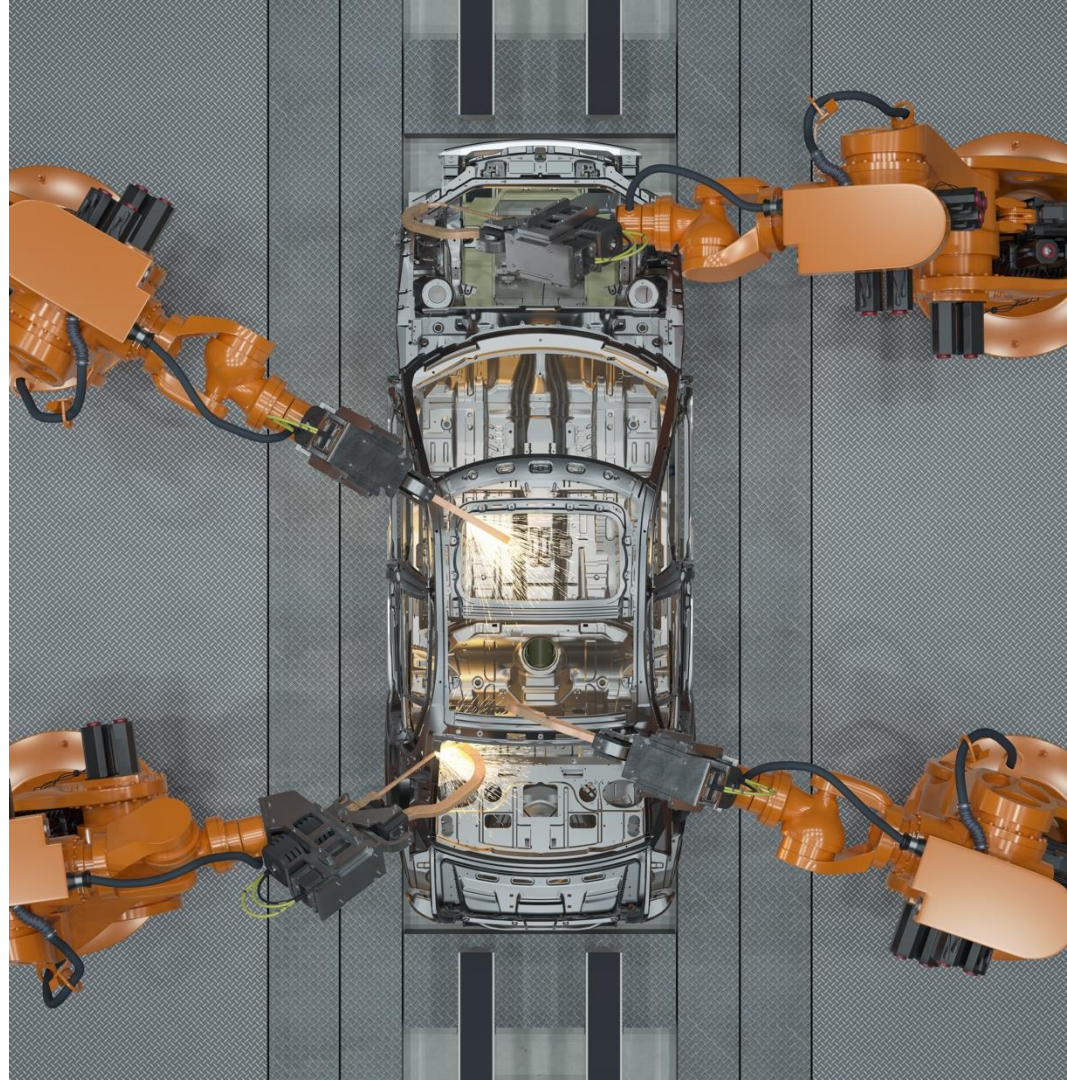
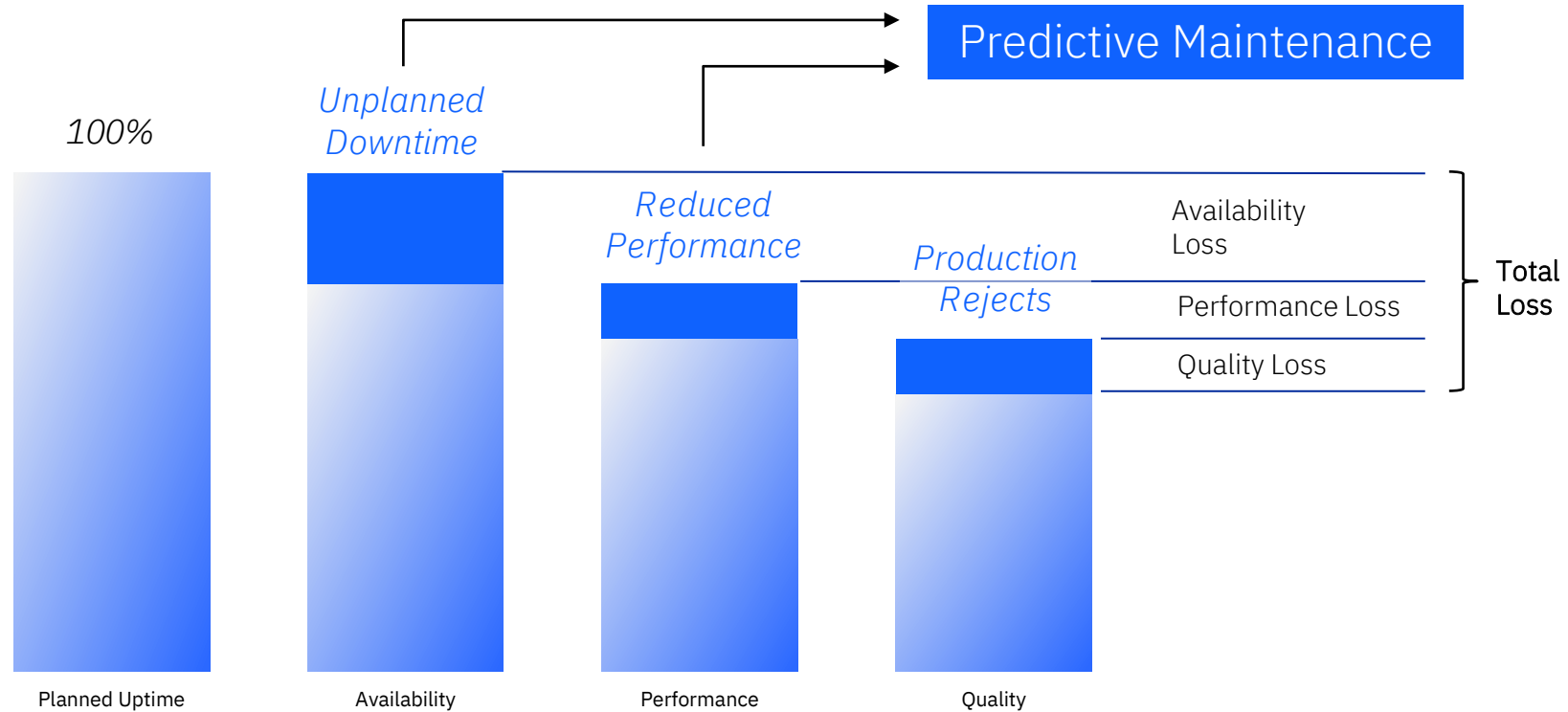# IBM helped Reckitt modernize, and escape "pilot purgatory"

Use Case:

Reckitt is a CPG company behind some of the world's most recognizable and trusted consumer brands in hygiene, health and nutrition, including Air Wick, Calgon, Dettol, Durex, Lysol, Mucinex, Nurofen. With 20m products sold daily across 200+ markets.

The PM project for EAM anticipated 10% reduction in maintenance costs and activities. The Results "**Improved connectivity and rapid data visibility allow our excellent people to really understand and analyze our operations** and how we can improve them. But individual insight is just the first step in this maturity curve. When we apply AI algorithms to the data, Reckitt can better predict and plan for the future." -Ben Ellins - IT Director for Manufacturing, Reckitt Group PLC

https://www.ibm.com/case-studies/reckitt-group/

The Value to Manufacturing KPIs again is obvious ...

100%

Unplanned Downtime

Predictive Maintenance

Reduced Performance

Production Rejects

Availability Loss

Performance Loss

Quality Loss

Total Loss

Planned Uptime

Availability

Performance

Quality
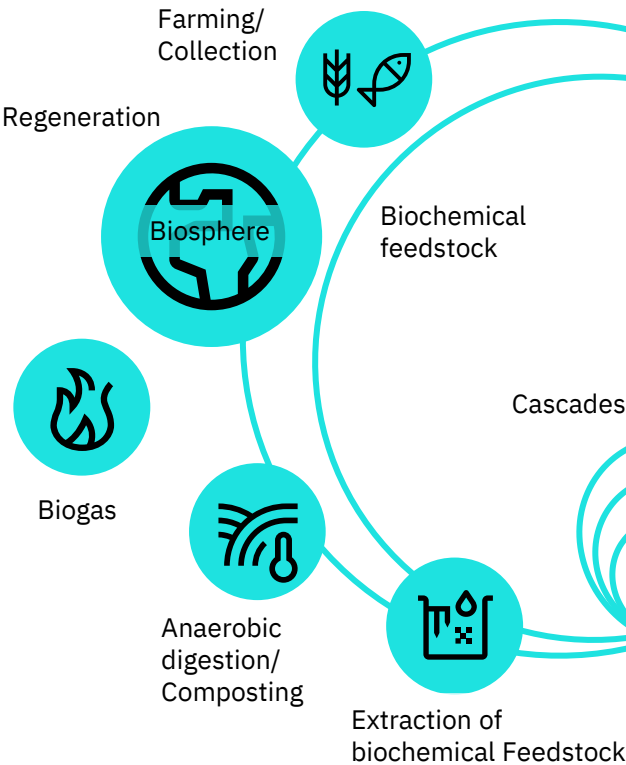
But it has received a boost from ESG – with good old maintenance becoming a key factor

Renewables Flow Management

Renewables

Finite Materials

Stock Management

Farming/Collection

Regeneration

Biosphere

Biochemical feedstock

Biogas

Cascades

Anaerobic digestion/Composting

Extraction of biochemical Feedstock

Parts Manufacturer

Product Manufacturer

Service Provider

Consumer

Collection

User

Collection

Share

Reuse/Redistribute

Maintain/Prolong

Refurbish/remanufacture

Recycle

Minimize systemic leakage and negative externalities

Quelle: Ellen MacArthur Foundation
Circular Economy Systems Diagram

Maintenance

Renewables Flow Management

Stock Management

Renewables   Finite Materials

Farming/Collection

Regeneration

Biosphere

Biochemical feedstock

Parts Manufacturer

Product Manufacturer

Service Provider

Recycle

Refurbish/remanufacture

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Reuse/Redistribute

Biogas

Cascades

Anaerobic digestion/Composting

Extraction of biochemical Feedstock

Consumer

User

Maintain/Prolong

Collection

Collection

Minimize systemic leakage and negative externalities

According to Sund & Bælt by optimized maintenance the lifetime of a bridge can be extended to 200 years versus 100 years with traditional maintenance
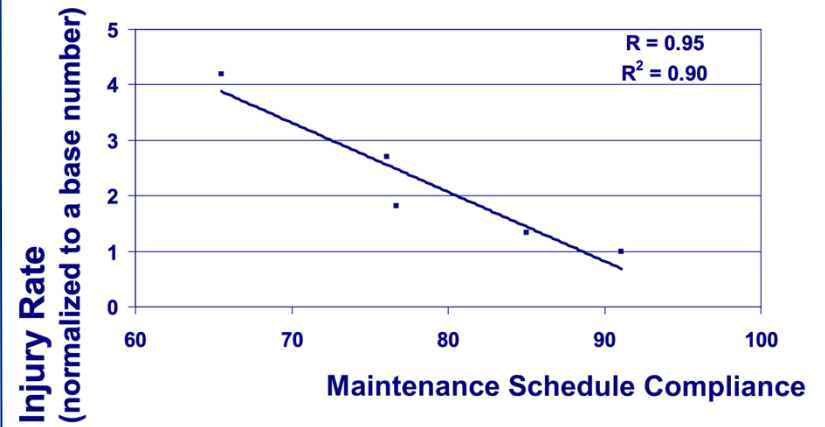
There are more topics on environmental savings in manufacturing leveraging maintenance – e.g. re-furbish, re-cycle, optimization of spare parts
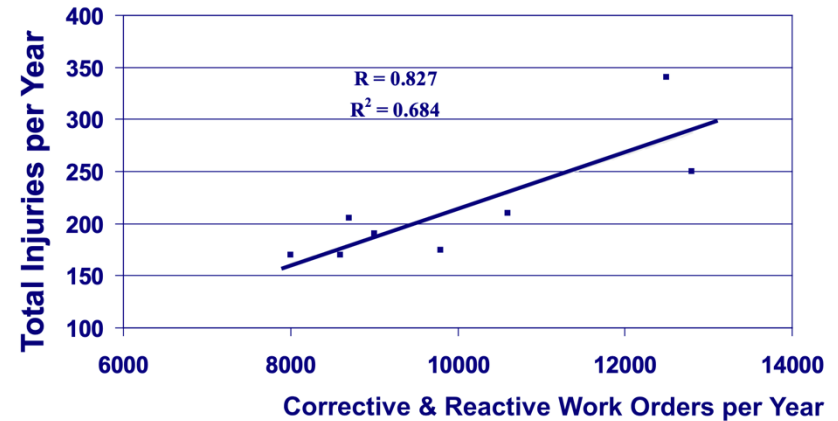
And good maintenance improves also social KPIs in manufacturing

Source: large industrial manufacturer (US)

Source: large chemical plant (US)

Summary

Questions?

IBM