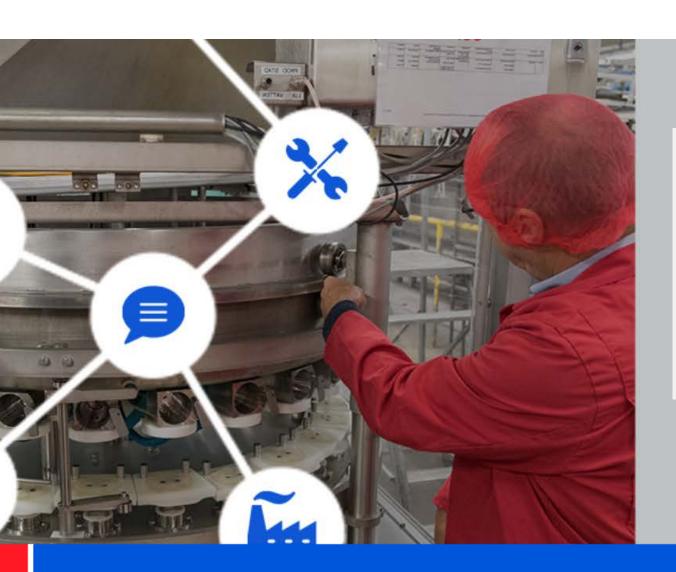
## Rethinking maintenance and reliability



A self-help guide to asset performance



## "The best way to predict the future is to create it"\*

Understand the As Is maintenance maturity

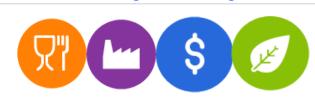


Defining an appropriate asset maintenance plan





Continuous improvement based on measuring, controlling KPIs









Monitoring performance of critical assets



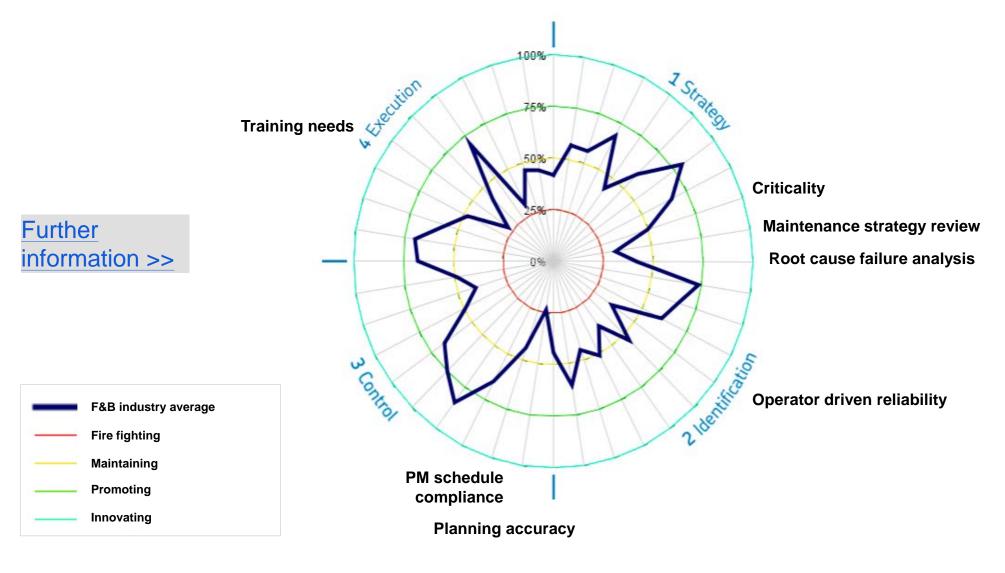


Root cause analysis





# Assess & benchmark – the basis of change design





### Monitoring asset performance by scalable means



Advanced diagnosing and analysis, turning data to corrective action

#### Criticality

Know when something is about to fail based on periodical vibration and temperature check



More information >>

Understand underlying sources of machine problems



Portable condition monitoring systems

Gain full visibility of equipment health with continuous online monitoring



Surveillance systems

More information for UK

More information for USA

Diagnostic capability



## Root cause analysis can reveal the unexpected

### Failure in critical labeling machine



### How to get help?

- Customized sealing solution in 1 or 2 days
- Just broken seals part needed!

### Was it the bearing?



No,

the seal was not effective against the aggressive washdown media

Root cause analysis >>





### Technology upgrades – you don't know what you don't know

**High efficiency seals** 



**Relubrication-free technologies** 







management

Lubrication

Food grade oil, grease



**Manual Iubrication** 



#### **Automatic Iubricators, Iubrication systems**





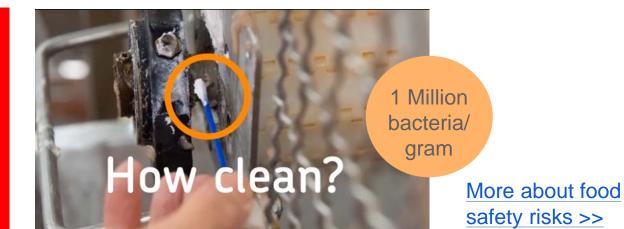


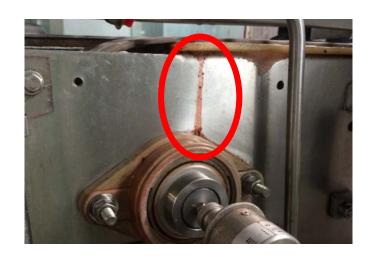
### Food safety can be at risk, with unconsidered aspects

+80%

increase in USDA and FDA food recalls since 2012 75%

of food recalls are due to bacterial contamination and undeclared allergens







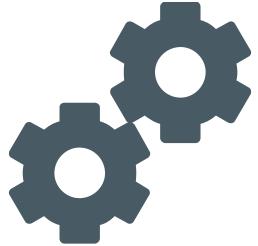




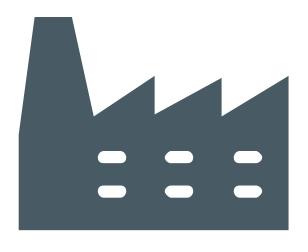
# A journey towards performance



Increase MTBF with technology and design upgrades.



Asset performance – with predictive maintenance, understanding of root cause and appropriate technologies.



Plant output and availability – driven by performance KPIs. Rotation for life.

