





Perfact Group in a nutshell

- Consultancy in:
 - Asset- and maintenance management
 - Turnaround and project management
 - Coaching and human development
 - Lean Manufacturing and Six Sigma
- Strong in analyses, advise and conceptial design
- Deep knowledge in maintenance, operations and engineering.
- Proven data science applied to maintenance and operations (Industry 4.0)



Netherlands Germany Belgium



150-200 FTE





Why Digital Transformation? (or smart maintenance, industry 4.0, etc)



LABOUR MARKET SHORTAGES

We face lower labour reserve compared to the previous business cycle, strong growth in employment and a dampening population growth and high demand for replacement by retiring workers due to an ageing population.



CONTROL & IMPROVE

Focus on primary process is vast and complex, systems and factors affect all plant value drivers. Areas for improvement: safety, health, sustainability, performance, cost and quality.



UP TIME & COST EFFICIENCY

Unexpected failure or events leads to uncontrolled situations or downtime and is time and cost intensive. The costs of loss and corrective actions are prohibitively inefficient and sometimes unsafe.





Improve

safety, performance, quality, reliability

Reduce

rework, scrap, costs, energy usage, footprint

Black = also for aerospace

Gray = not really issues for aerospace



Context Asset Management









Basics for

Digital Transformation Framework



Former PAS55

- CRISP-DM
- Lean Six Sigma
- Project management



Digital Transformation Framework

Vision – Strategy – Design – Roadmap



PEOPLE

Create urgency & awareness in your business and develop strategy creation!

Together we create roadmap, strategy, change management and teambuilding.



Using all the available knowledge and relations to deliver an integral solution.

We co-create, co-innovate and use project management skills to implement and Lean Six Sigma skills to improve.



TECHNOLOGY



Using latest technology for measurements, analytics and visualisations.

Easy access & standardised templates.

Edge and/or cloud platform for secure and easy deployment.

DEPLOYMENT

1. Business scan

2. Problem understanding

3. Data collection Algorithms

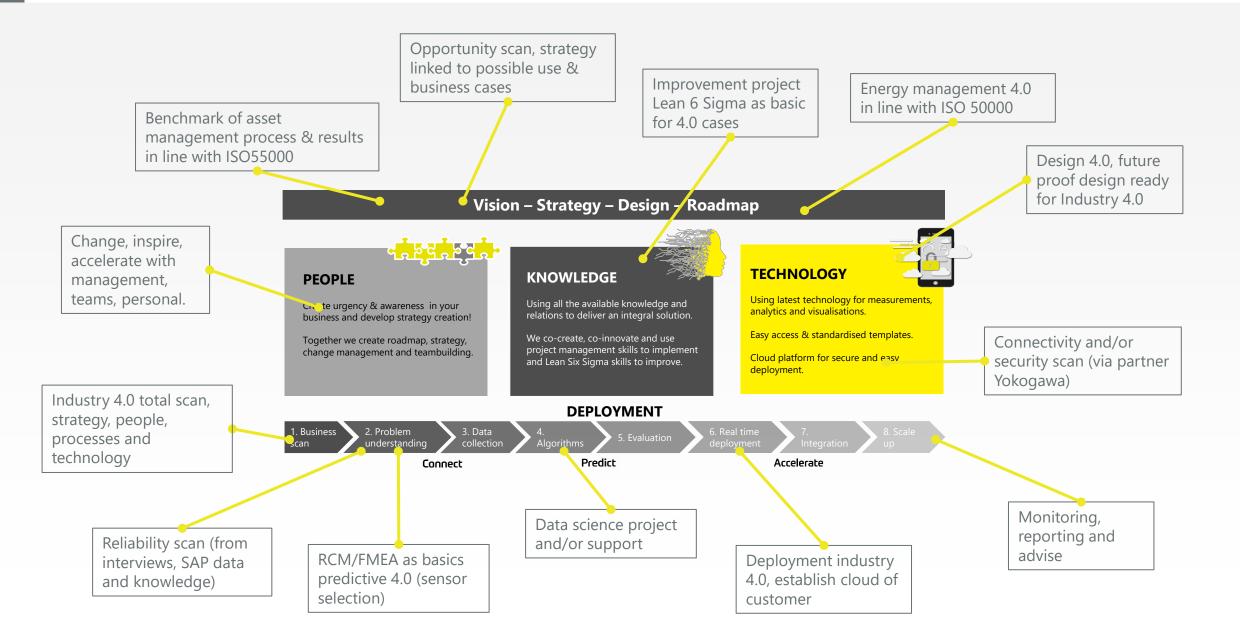
5. Evaluation

6. Real time deployment

Predict Accelerate Connect

Examples of solutions







Some give aways

E-book: Predictive Maintenance from scratch



https://www.perfact-group.com/insight/ebook-predictive-maintenance-from-scratch/

Use Case Tata Steel: Prescriptive Analytics



https://www.perfact-group.com/insight/lage-kosten-maximaal-resultaat-door-toepassen-van-intelligente-sensoren/

Scalability Scan: Cookbook Fieldlab SAMEN



https://www.perfactgroup.com/insight/kookboek-smartmaintenance-het-recept-voor-het-opschalenvan-projecten/



Think big, start small, scale fast.



STANDARD

We have a large **library** of algorithms linked to many failure modes and other common problems. Some of them are translated to standard solutions.

CUSTOM

In many cases there is a need for customization because the situation is just a little different from common. By using **existing concepts**, we can create solution very fast and with high effectiveness.

TAILOR MADI

Sometimes we have to prove or test if some ideas work. Together with our partners we have 3 portable living labs, were we can **investigate** directly new ideas, without taking risks with the 'real assets'.







CHEMICAL COMPANY

Reduce downtime & energy costs

PROBLEM

Not knowing the fouling in **heat exchangers** can lead to energy losses. Also the lack of temperature sensors was a problem.



SOLUTION

After installing IIoT sensors on the heat exchanger, we calculate and predict the efficiency, the heat transfer and detect anomalies.

BENEFITS

Now the algorithms give a early warning before the fouling leads to big energy losses or down time. Also the real time performance is visible now.









STEEL MANUFACTURER

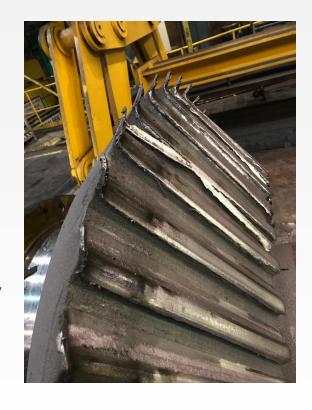
Reduce downtime and improve efficiency

PROBLEM

Customer had no insight in effectiveness of lubrication on **high critical assets**.

SOLUTION

By installing >200 IIoT sensors with developed scalable algorithms, insight in effectiveness is real time available a cost effective way



BENEFITS

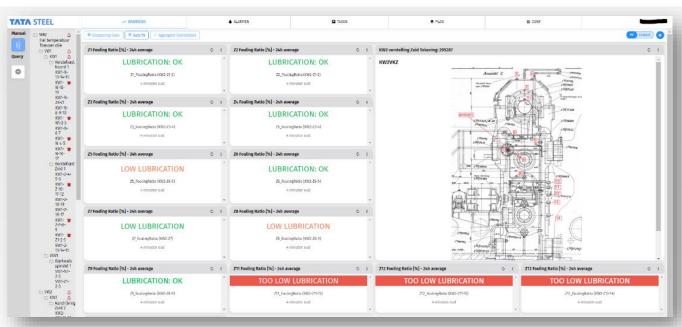
Prevented down time (€ 0,7 mln), extended life time, easier priorisation and cost reduction



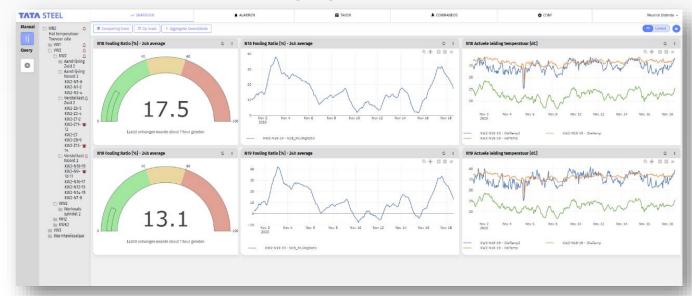


STEEL MANUFACTURER

Reduce downtime and improve efficiency



Via Plant Breakdown Structure toegang tot sub-dashboards naar meer dan 200 kpi's







INSULATION MANUFACTURER

Improve customer satisfaction
Reduce downtime & costs

PROBLEM

High rate of external complaints due to **leaking end products** and costs of scrap and rework

SOLUTION

Finding of new measures (6 Simga) and add continuous monitoring of seal quality by using prescriptive analytics (Industry 4.0)

BENEFITS

100% Inline inspection.
Algorithm to guard to process: human independent and pro active actions are flagged







MCSA ON MOTOR PORTABLE LIVING LAB

Motor Current Signature Analyses

Together with Artifficial Intelligence

PROBLEM

Failure of motors can lead to down time. Due to electrification more motors will be used in future.

SOLUTION

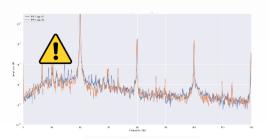
Using MCSA technology supported by AI to detect upcoming failures

BENEFITS

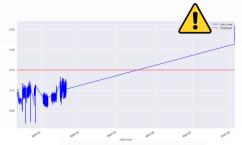
Anomalies in behavior can be detected and via spectrum analyses (or automated) the cause can be found and down time prevented.



Connect



Predict



Accelerate



