



the results company



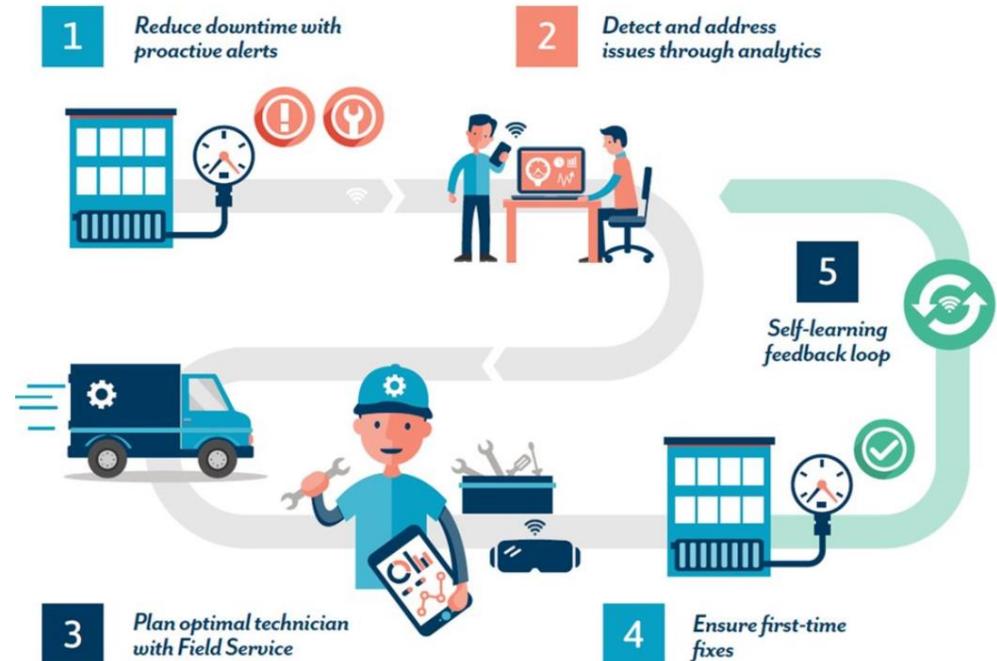
Envisioning Workshop

Smart Maintenance

Smart Maintenance, where to start?

Predict your maintenance activities based on data? You have probably already intended to start with smart maintenance. Or maybe you are already working on this. Certainly, in the technical services and manufacturing industry, smart maintenance is a term that is becoming more common.

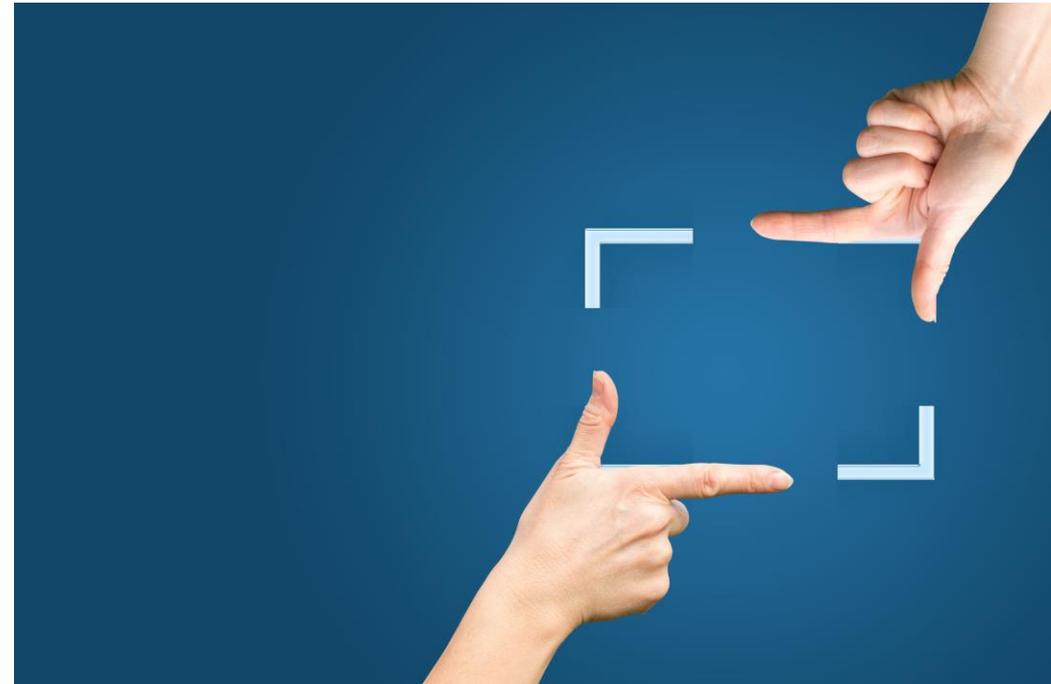
Smart maintenance involves optimizing maintenance processes using smart Artificial Intelligence (AI) algorithms and data analysis. Such projects can yield enormous benefits, **but where do you start?**



Smart Maintenance, start changing your focus

Where most providers of predictive maintenance technology assume the prevention of that **one fatal error**, in practice these errors are **very rare**. Most companies for whom uptime is crucial have already vastly optimized their production chain. Preventing that one failure, which may occur once every ten years, **won't quickly recoup your investment** in predictive maintenance.

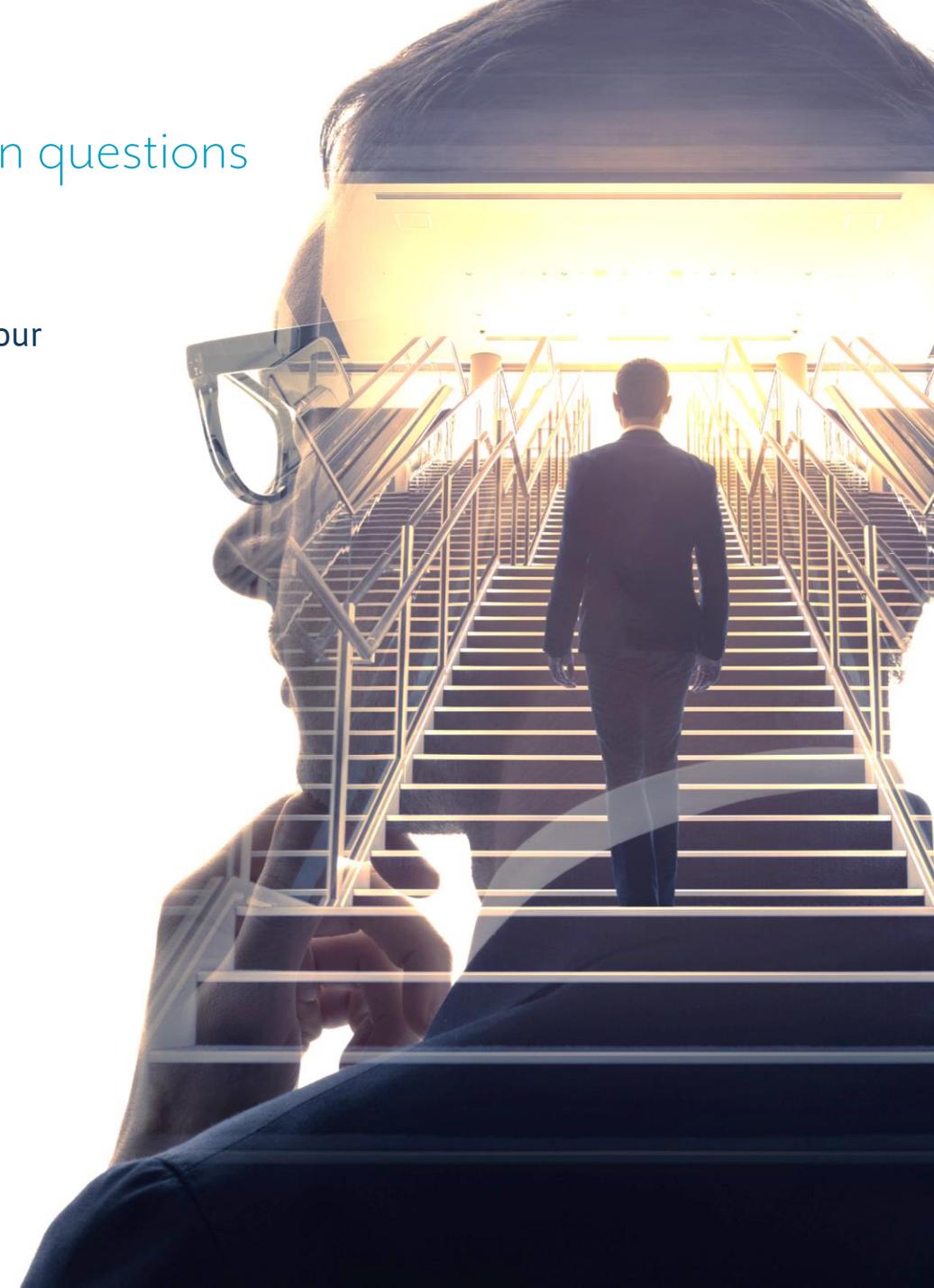
Instead, we say: **look further**, at the indirect, perhaps '**smaller**', **effects** that do deliver a high return on investment. I like to make a comparison with the tire pressure of a car. Instead of doing everything you can to prevent a blowout that might happen to you once in a lifetime, it's better to make sure that you always drive with optimal tire pressure. That's safer and you'll also save a lot of fuel, and therefore money.



Smart Maintenance Common questions

The following questions probably pop-up in your mind while you are thinking of implementing Smart Maintenance:

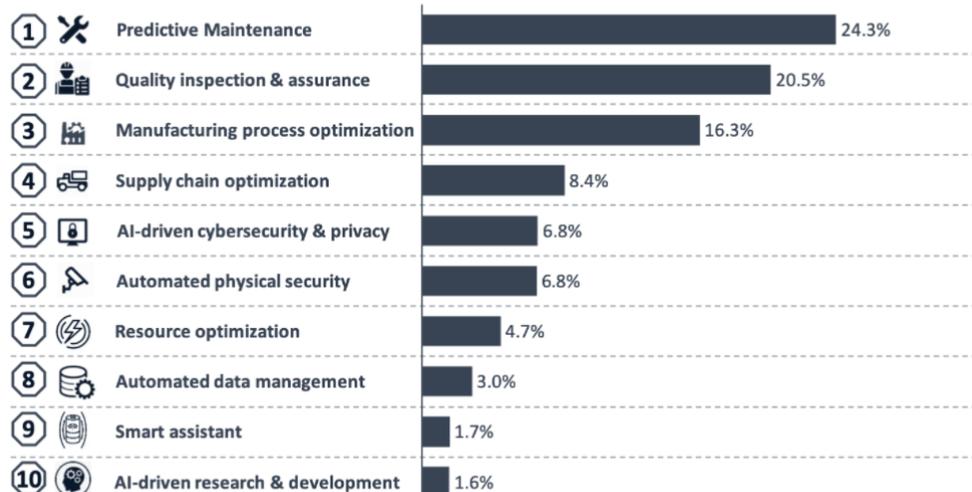
- How to make the shift from preventive to predictive maintenance?
- How to define the value of data?
- Is my organization ready?
- Are my customers ready?
- How to connect assets with IOT?
- Should we invest in new IT platform?
- What are the first steps for servitization?
- What data should we collect for future use?
- How to define a business case?



The huge potential of Smart Maintenance

The McKinsey 2020 AI survey shows that artificial intelligence (AI) has become a revenue driver and companies are planning to invest even more in AI the coming years. AI is not only generating revenue but also results in cost reductions. At research done by IoT Analytics also shows that **Predictive Maintenance is by far the most common use case** in Industrial IoT.

Top 10 industrial AI use cases



Note: The percentage indicates the share of the global "Industrial AI" market in 2018 as estimated by the IoT Analytics analyst team. The percentages do not add up to 100% because other use cases that cannot be classified into these 10 categories were not included. Source: IoT Analytics Research 2019 – Industrial AI Market Report 2019-2025

Benefits of Smart Maintenance

- Pay by the hour/meter
- Performance bonus
- Predict High risk events
- Condition based Maintenance
- Optimized planning and logistics
- Customer Satisfaction
- Returning customers
- Improved accuracy
- Improved quality
- Reduce waste & energy
- Utilization

Smart Maintenance, how to overcome the pilot phase?



You see the potential and you have probably already intended to start with smart maintenance but so far you don't know how to overcome the pilot phase as it is difficult to find the right use-case or get the involvement of the right stakeholders to really benefit from the potential of AI.

Our answer: **keep it small but think big.**

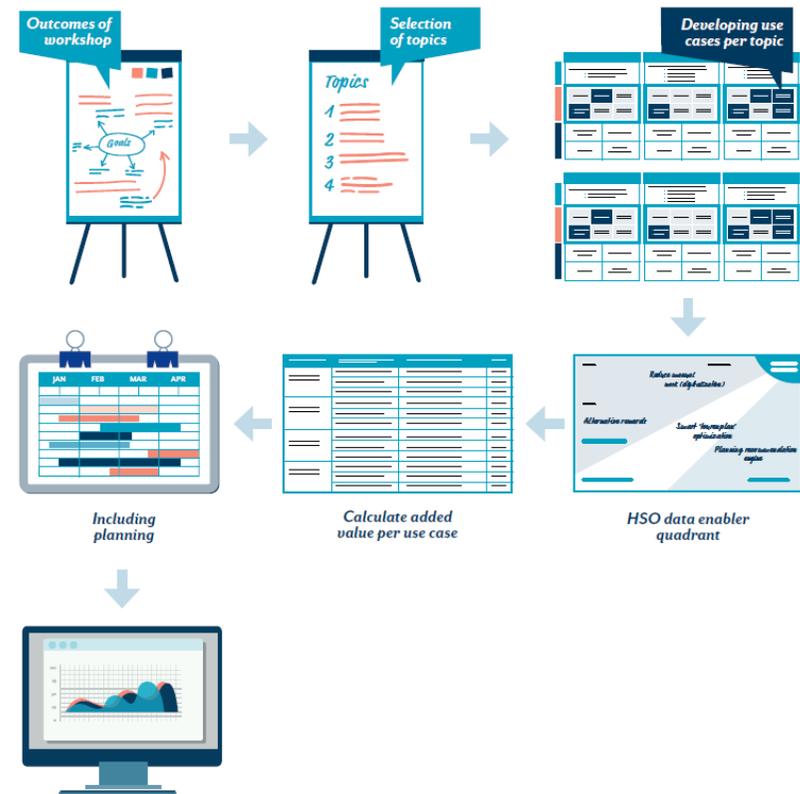
- Start with use cases that can be concretely named and can be approached pragmatically
- Discover and be open minded
- Data exploration and cleaning are key
- Involve domain experts & stakeholders
- Disrupt data quality myths
- Apply an agile way of working

Smart Maintenance: *HSO approach*

Big Data and AI have been hot topics for quite a while, but as is often the case: bringing them in practice is more difficult. Some organisations have been gathering data for years. However, very often, they do not have the appropriate software to interrogate data in-depth. So how do you develop an AI business case that delivers added value for your organisation?

As a result, initiatives do not lead to results, or nothing happens. **HSO has developed a unique approach to help you find out exactly what the impact of AI will be in your company.**

Which use cases can you start working on immediately and what will be the expected impact on your business? What do you need and what does it deliver? We translate abstract technology into concrete applications, that you can start using immediately. In this fact sheet you will read more about our approach.





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Workshop: **Smart Maintenance in 60 minutes**

- Turnaround time: 60 minutes
- Location: Online workshop via Teams or on-site
- Free of charge

In an online 1-on-1 session of 60 minutes, we jointly discuss the questions around smart maintenance in your industry and company and outline how you can take the first steps. We identify concrete use cases that can be tackled pragmatically by leveraging Microsoft Dynamics 365, Azure IoT and the Power Platform.



**MAINTENANCE
NEEDED**

Experiences from customers

"We are now able to prioritize maintenance on (expensive) assets to prevent downtime using asset risk scores."

- large machine manufacturer-

"We have never overcome the pilot phase of possible AI use cases, the Envisioning workshop from HSO helped us to streamline our ideas, plan it in time and define the next concrete steps. A well spent 8-hours!"

"The envisioning workshop completely changed our way of thinking of possible use-case. We have stopped thinking of that one fatal error that can occur, but started thinking of indirect, maybe smaller, effect that do deliver a higher return on investment in the long run."



**MAINTENANCE
NEEDED**



**VERIFICATION
IN PROGRESS**

Stolt Tankers, an example



Corporate objectives

- Improve operational uptime & forecasting
- Enhanced risk management
- Competitive advantage
- Voyage management capabilities

Project deliverables

- Scope use case
- AI technical architecture
- Data insights and visualizations
- IOT data discovery
- Machine learning models for predicting engine status and failures

Benefits of business case

- Prevent 1-2% of fuel inefficiency loss
- Controlled and guaranteed up-time
- Cylinder liner lifetime has been extended
- Active voyage management
- Strategic sourcing of spare parts

We suspected that it should be possible to make predictions of the expected failures in the engines of our tankers. With our own data team, we didn't know how to underpin our suspicions with a working algorithm. The approach of HSO led to a concrete predictive model.“

Berend Vree, Stolt Tankers



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Interested in the possibilities?

Interested in the possibilities for your business or attending a workshop?
Contact me at:

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Whitepaper smart maintenance solutions





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Sinds 1989 is HSO actief als Microsoft Solution Integrator en uitgegroeid tot een succesvol ICT-bedrijf met meer dan 1200 medewerkers en vestigingen in Europa, Noord-Amerika en Azië. HSO ondersteunt lokale en internationale bedrijven in de retail, groothandel, industrie en (technische) dienstverlening om met digitale technologie het verschil te maken. Het fundament hiervoor is Microsoft Dynamics 365: een compleet platform van CRM, ERP, Office 365 en BI-software. HSO verzorgt de implementatie, optimalisatie en het 24/7 beheer van deze cloud oplossingen. HSO behoort tot de Microsoft Dynamics Inner Circle en is in het trotse bezit van het predicaat 'Meest klantgerichte partner van Microsoft'. Meer informatie over HSO is te vinden op <http://www.hso.com/nl> of volg HSO op Twitter via @HSO_NL.