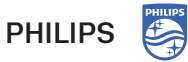


Project demonstrators

PHILIPS and JLR will apply PROPHECY PdM platform on specific production lines with the following challenges:



- Predictable tooling maintenance with respect to product quality in the micron domain
- Extended life time of tooling by data-driven maintenance and increased production uptime
- Realize predictable and acceptable spare part stock levels
- Manage resource planning of mechanics
- Manage production planning of production line
- Demo in a relevant production environment

Jaguar Land Rover



- Application of continuous condition monitoring and predictive analytics to identify failure precursors and minimise disruption to Business As Usual industrial production.
- Predictive Maintenance to be deployed on the industrial use case of prismatic part machining within a multi-axis machining centre.





PROPHESY

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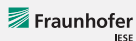
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PROPHECY

Platform for Rapid Deployment of
Self-Configuring and Optimized Predictive Maintenance

INNOVATION IN PREDICTIVE MAINTENANCE SERVICES



Step-Change Uplift
from Reactive,
Preventive Maintenance to
Predictive Maintenance



Background & Motivation

Current planned and preventive maintenance techniques are periodic, even though breakdowns may be random, they can lead to product quality issues (scrap), damage to other machine, tooling and productivity losses.

Industry needs

- Predictive Maintenance as the ultimate vision to optimize Overall Equipment Effectiveness (OEE)
- The transition from Preventive to Predictive Maintenance
- Deploy New Maintenance Technologies, e.g. Augmented Reality (AR)/Virtual Reality (VR)
- New Business Models & Opportunities for Machine Vendors

Despite these proclaimed benefits of Predictive Maintenance (PdM), most manufacturers have not fully implemented PdM in their FMECA (Failure Mode, Effect and Criticality Analysis) operations and instead have applied less efficient approaches such as condition-based or preventive maintenance. This is predominantly because manufacturers do not have a comprehensive approach at their disposal to address the main issues that prevent them from implementing PdM, such:

- Data Fragmentation & Lack of Interoperability between Manufacturing Systems
- Suboptimal PdM: Limited Integration with Business Information Systems
- Limited Exploitation of Advanced Data Analytics in Industrial Production
- Cybersecurity in Large Scale Production Environment



Vision

PROPHECY's vision is to act as a catalyst for the wider deployment and uptake of next generation, optimal, adaptive and self-configurable PdM services.

PROPHECY Value Proposition

- Lower the Barriers of PdM Adoption
- Enable the Ease of Secure Integration with Industrial Shopfloor Devices
- Establish Techniques for Data Consolidation & Interoperability
- Deployment of Novel Technologies
- Overall Business Benefits based on Optimised PdM Solutions

PROPHECY PdM

PROPHECY will deliver, validate and evaluate PdM services platform (**PROPHECY-PdM**) in industrial manufacturing environment, to alleviate issues preventing manufacturers from deploying PdM services, and enable manufacturers to close the loop from PdM activities to production processes.

The impact of the project is matched with the main elements of the integrated PdM platform:

- Industry 4.0 Ready PdM solutions
- Remote Support by Advanced Visualization and AR
- Predictive Data Analytics to Forecast Industrial Production Volume
- Training and Support in Applying PROPHECY Solutions



Innovation

PROPHECY-PdM will be built around the following core elements:

PROPHECY-CPS:

Platform for PdM Data Collection and Shopfloor Interaction

PROPHECY-ML:

Toolkit for PdM Data Management and Analytics

PROPHECY-AR:

Remote Maintenance and Training

Targeted community

PROPHECY will have impact on:

- Manufacturers
- Machine Tool Vendors
- PdM Service Providers
- Industrial Automation Service Providers
- Data Analytics Specialists
- AR Service Providers
- Academic Partners

