Knowledge grows

Asset Management in theorie (en praktijk) : Digital Production Platform

PPA 2024/01/25

Perry Jaspers – TPO – E&A

Agenda

Disclaimer : indien niet in het Engels zal het in het Vlaams zijn

- Introductie
- Integratie in bestaande werkprocessen
- Automatisering == of <> Digitaal
- Digital Production Platform
  - Wat
  - Waarom
  - Hoe
  - Volgende Stappen
- Q&A

Introduction

https://www.yara.com/

Perry Jaspers – MSc – Mechanical and Electrical – Electrical Energy - KUL

- °1975-04-15
- Living in Aarschot, Belgium
- Technical Process Owner – Electricity & Automation
- OpEx leadership team member
- Global responsibility for Electrical and Automation as well as Predictive Analytics

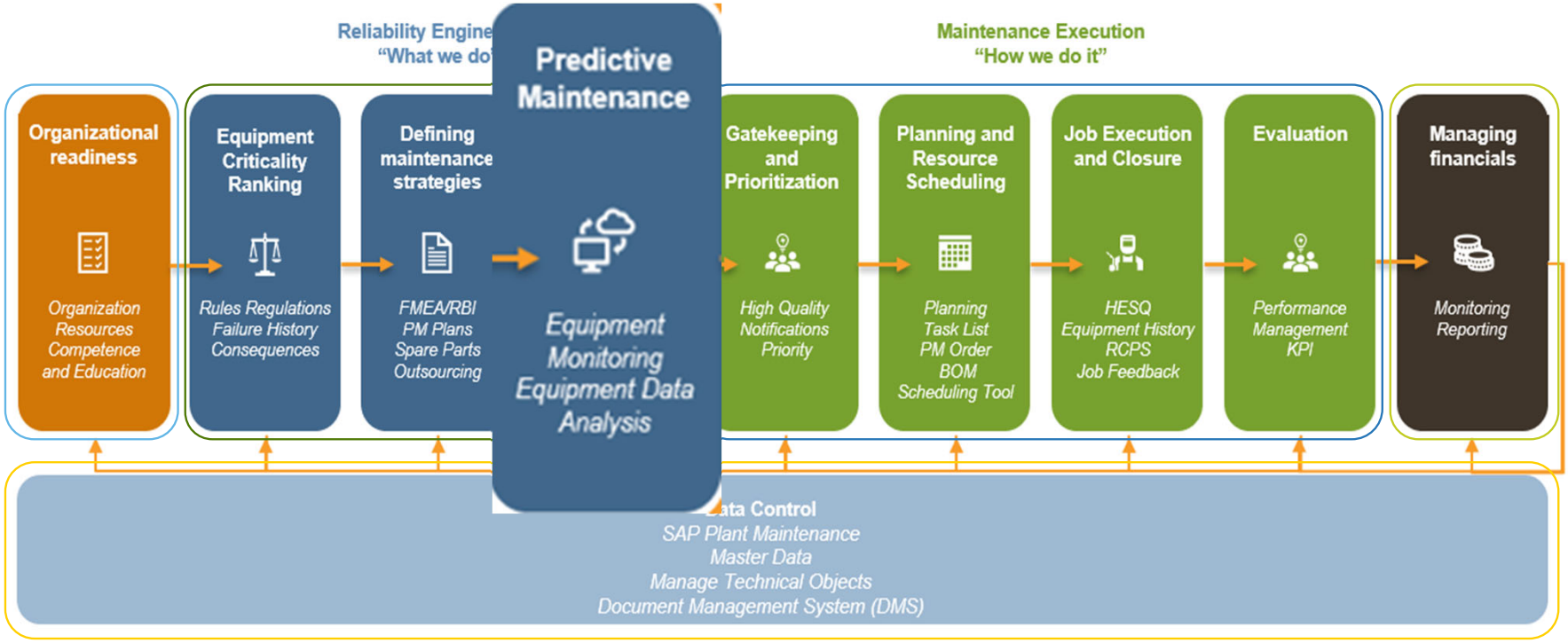
Make common sense common practice

Predictive Analytics, Automation and Electrical shall contribute to increased safety, reliability and availability while focusing on maintainability and optimal lifecycle cost.

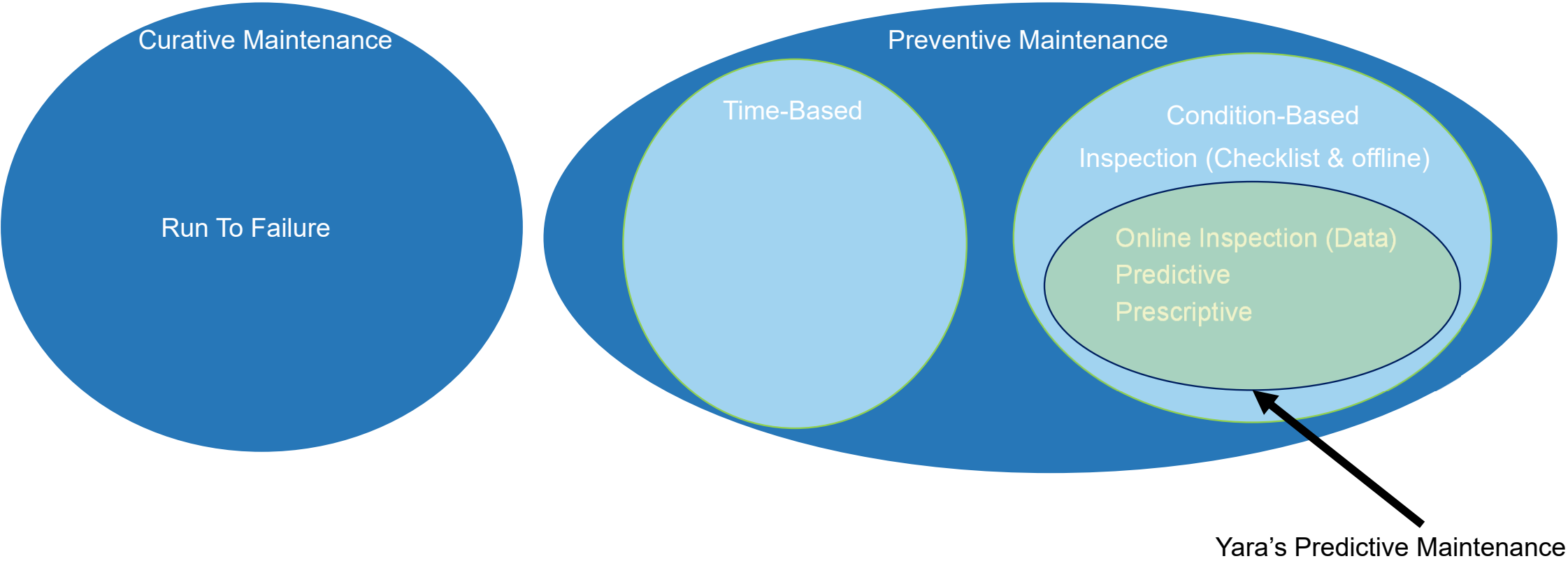
Teamwork, involvement, buy in, realism, data, integration

Successful predictive analytics deployment shall support people in taking the right data driven decisions & simplification of their tasks

Integration



Definition Predictive Maintenance



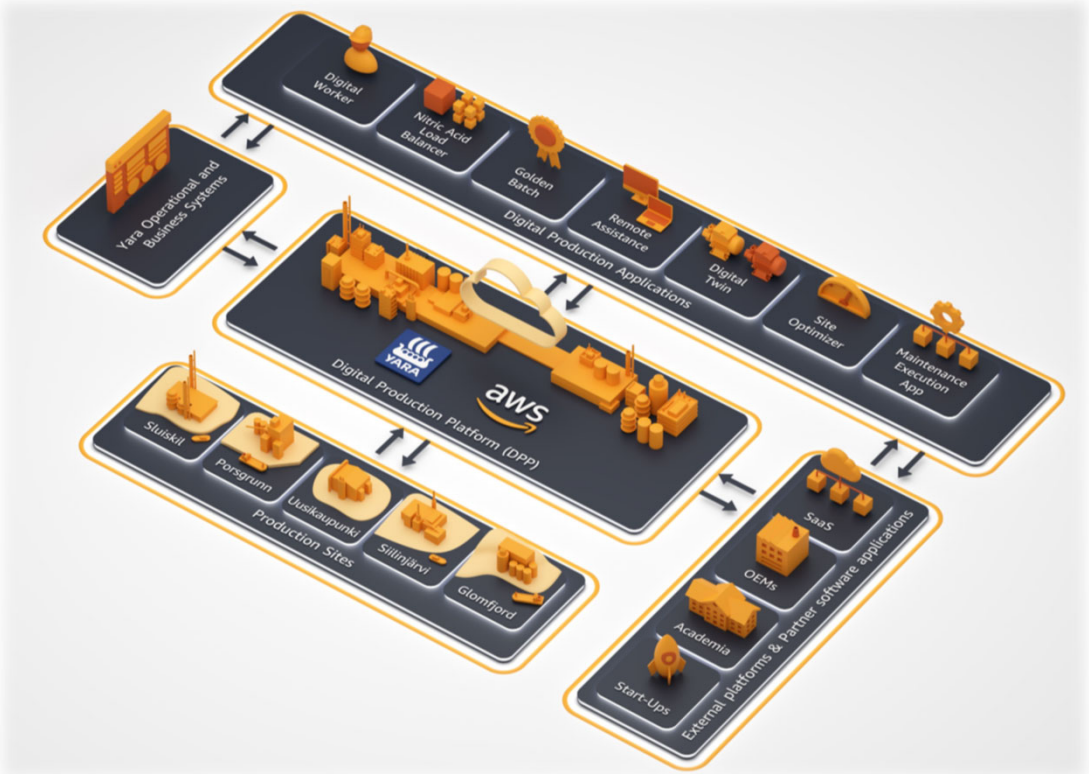
1 Condition Monitoring[1]

2 Predictive Maintenance[2]

3 Prescriptive Maintenance[3]

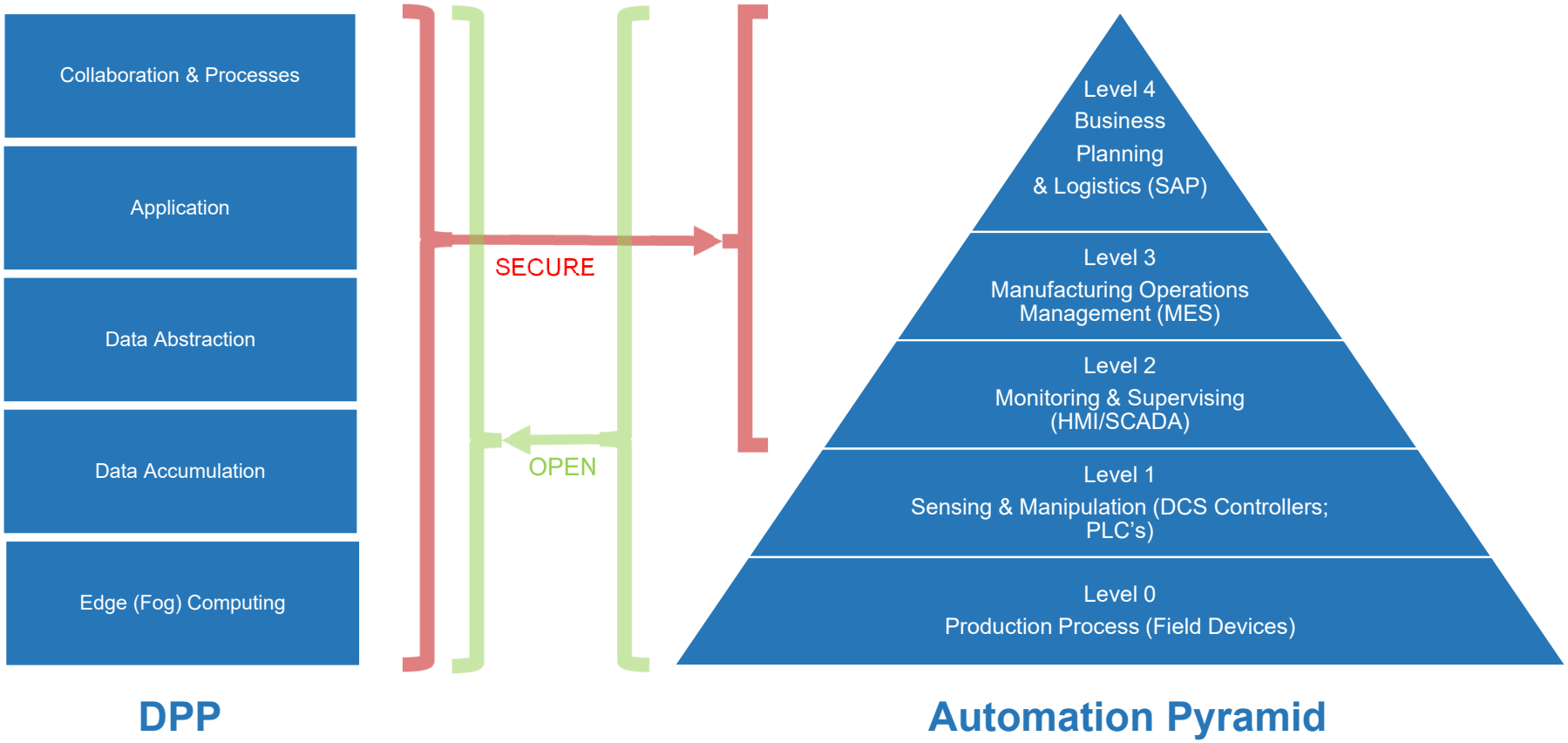
Building on a common enabler

Yara Digital Production Platform (DPP)



Increase transparency
Facilitate collaboration
Faster scalability
Reduce cost
Better governance

Why DPP ?



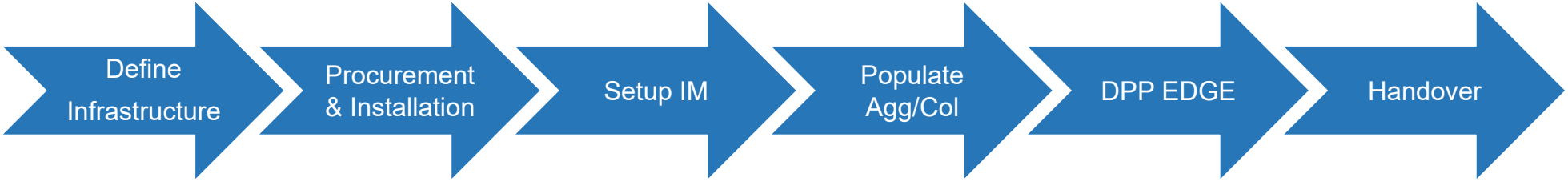
DPP **Automation Pyramid**

Connectivity Project

1. Site Connections:

Purpose: Establish reliable and secure connections between the site and YARA's Digital Production Platform (DPP)

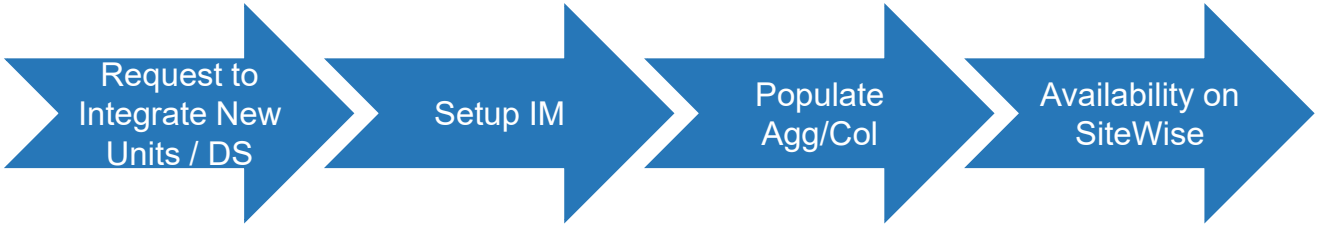
Tasks: Select/install appropriate communication protocols/topology and establish connectivity using Information Model



2. Scaling:

Purpose: Enable seamless expansion of industrial connectivity across YARA's sites and applications

Tasks: Develop scalable solutions and integrate new units / Data Source

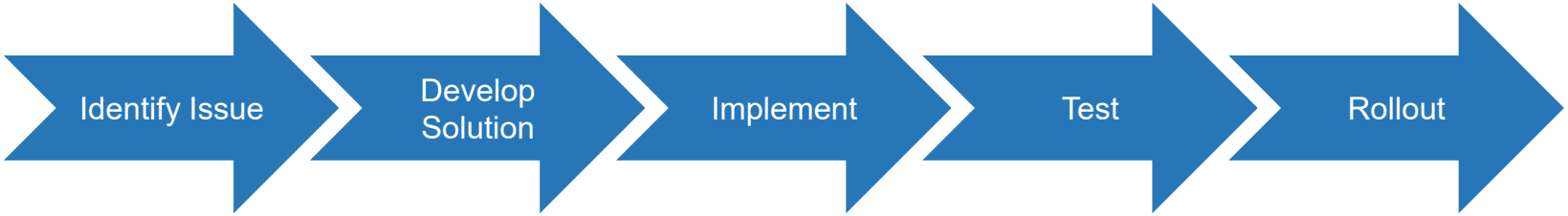


Operations

3. Maturing:

Purpose: Maintain and finetune accurate and reliable data stream to DPP

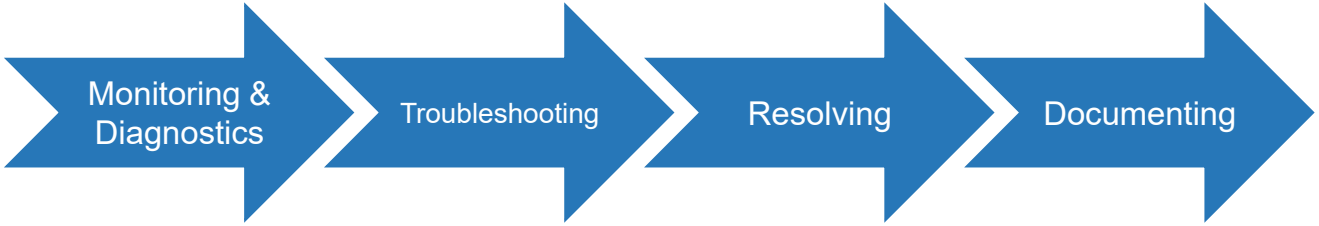
Tasks: Improve technical solutions, data quality and processes



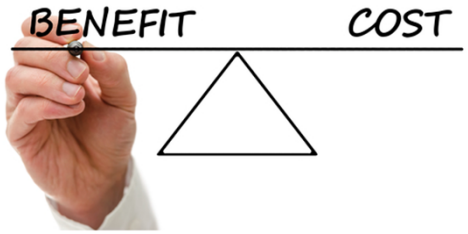
4. Operating:

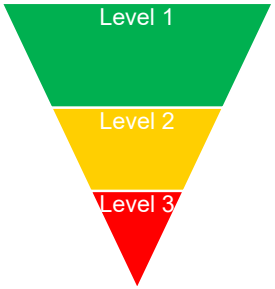
Purpose: Proactively identify and troubleshoot issues to minimize downtime and ensure smooth and efficient system operation

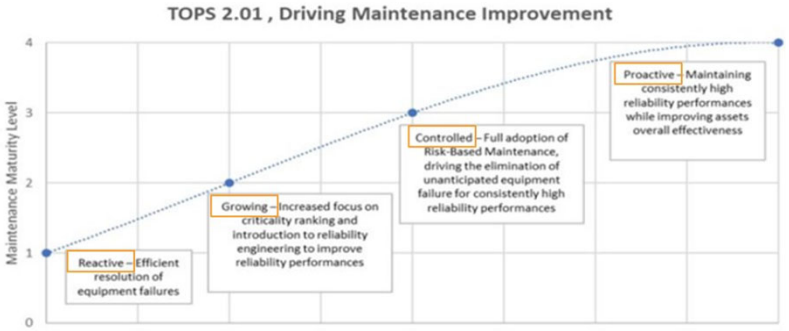
Tasks: Continuous monitoring, identifying potential issues by means of diagnostic tools



Multidimensional Approach







Re-activation of existing underused systems

User buy-in through small pilots

Rollout of successful pilots

Avoid focus on only high benefit applications

Simple Single Assets

Focus : Asset deterioration

Online condition monitoring : necessary data source available in or close to the asset itself

Functional Systems

Focus : Functional failure

Algorithms (data correlation) : multiple data sources (instrumentation, SAP, DPP, Environmental, ….)

Complex Functional Systems

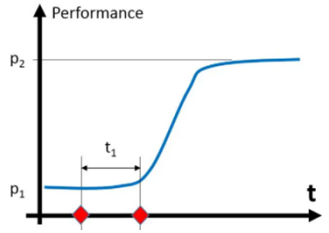
Focus : Functional failure

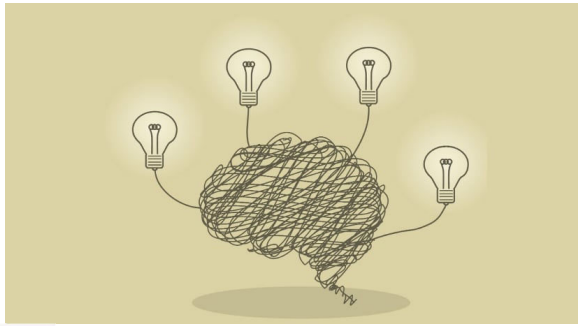
Complex and/or high-speed algorithms (data correlation) : multiple data sources (instrumentation, SAP, DPP, Environmental, ….)

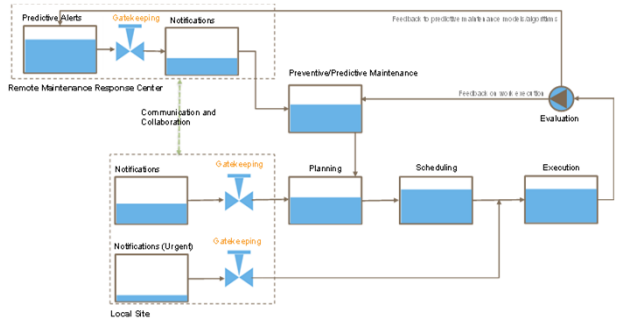
Rollout only in organizations

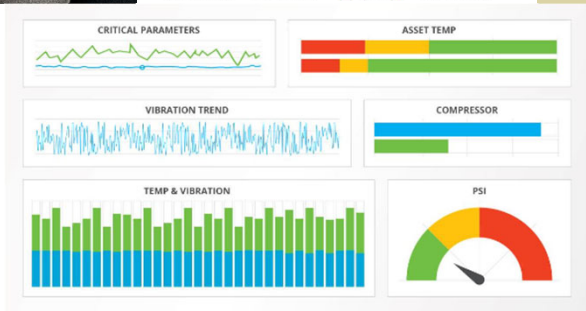
moving into ‘Controlled’ level

Pittfals & Realistic Expectations





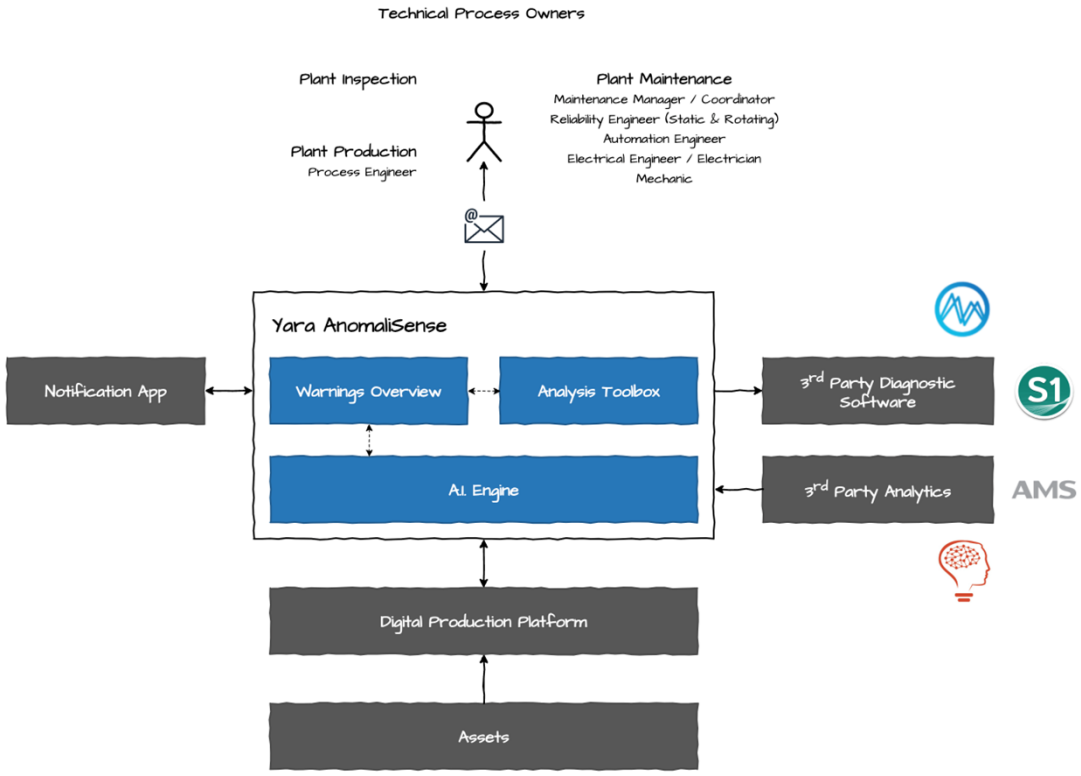




Predictive analytics will be a strong contributor for higher availability/reliability of the asset base through knowledge sharing and data-based decision making, avoiding sudden trips of (parts) of the assets and consequential damage

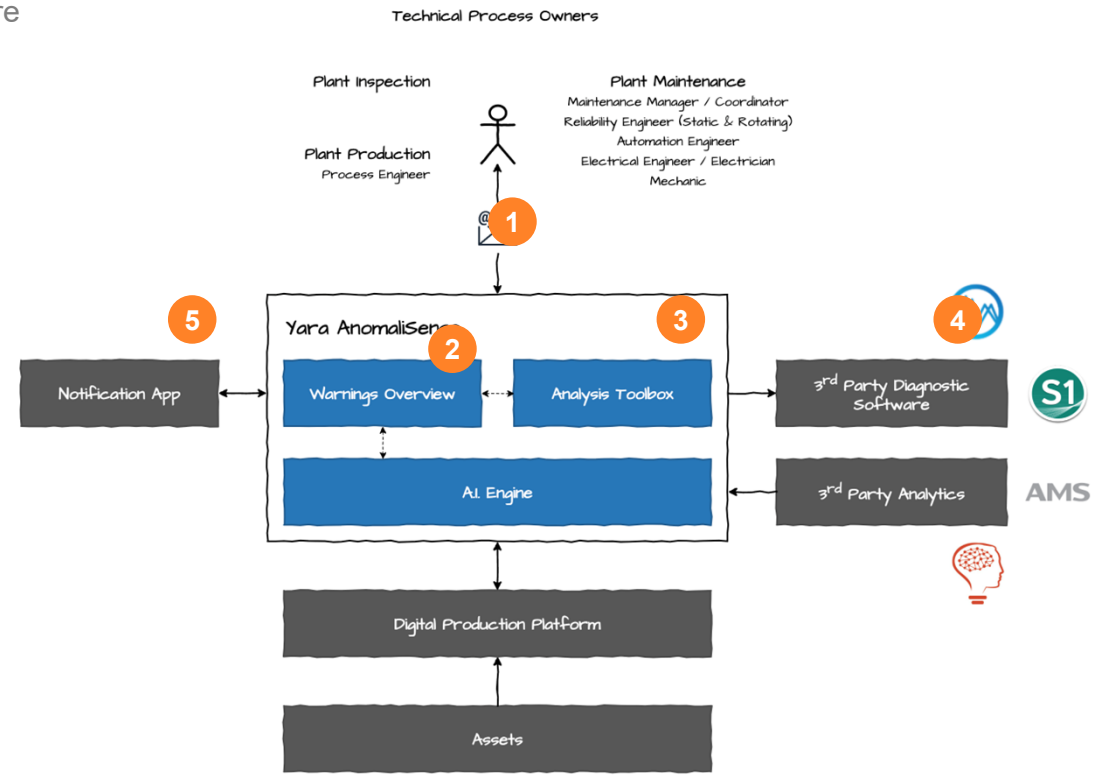
What is Yara AnomaliSense?

AnomaliSense is a cloud-based digital application *developed by Yara* which **warns personnel when equipment behaves abnormally** using AI. It offers both time and cost savings by eliminating the need for frequent check-ups on equipment and detecting potential failures before they occur.



Why Yara AnomaliSense?

Typically, assets that are instrumented with measurements in a plant are intended for protection. They are configured with alarms in the control system to only alert operators. These measurements are however not monitored unless an alarm is triggered.



Q&A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