



# Project IVE

PrescriptIVE Production Assistant

EUROPEAN  
MANUFACTURING  
INNOVATION

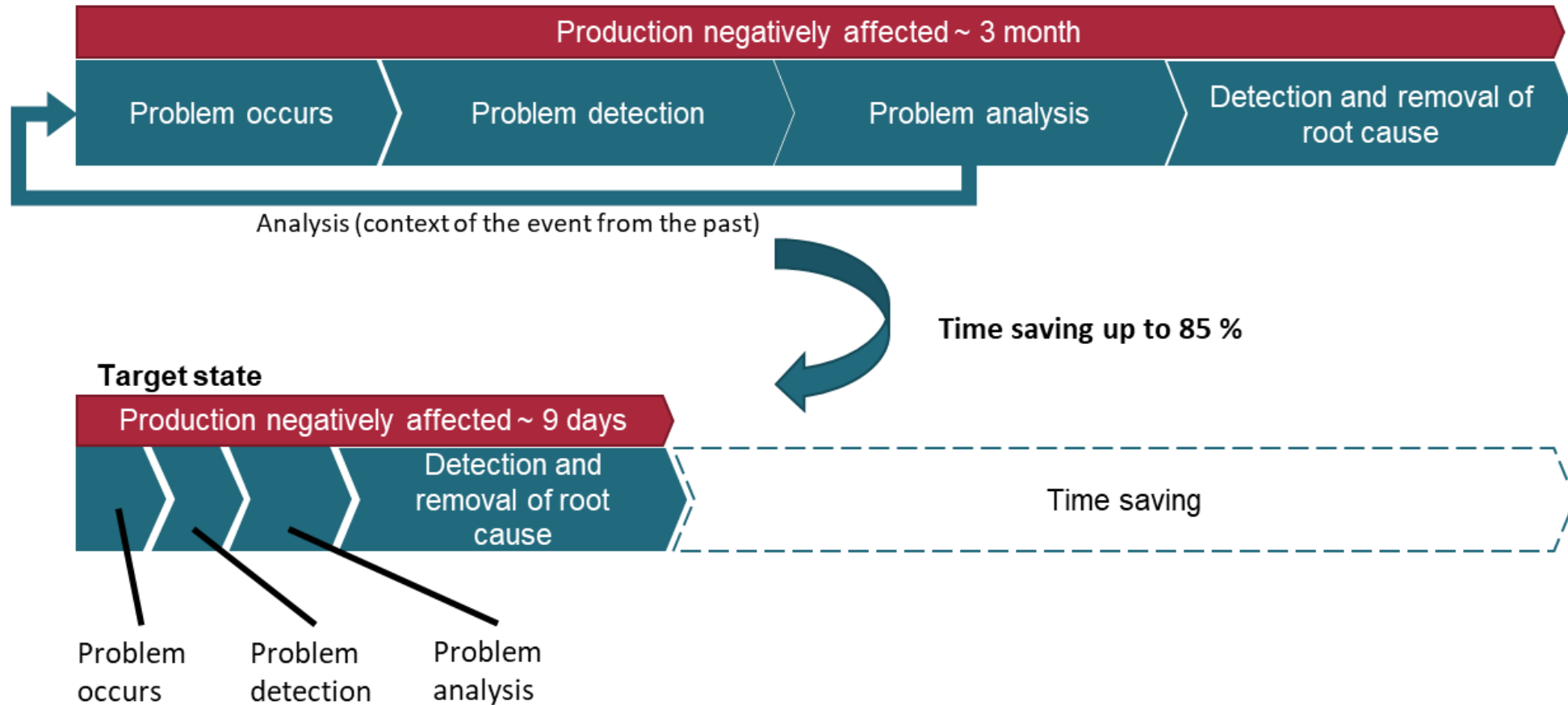




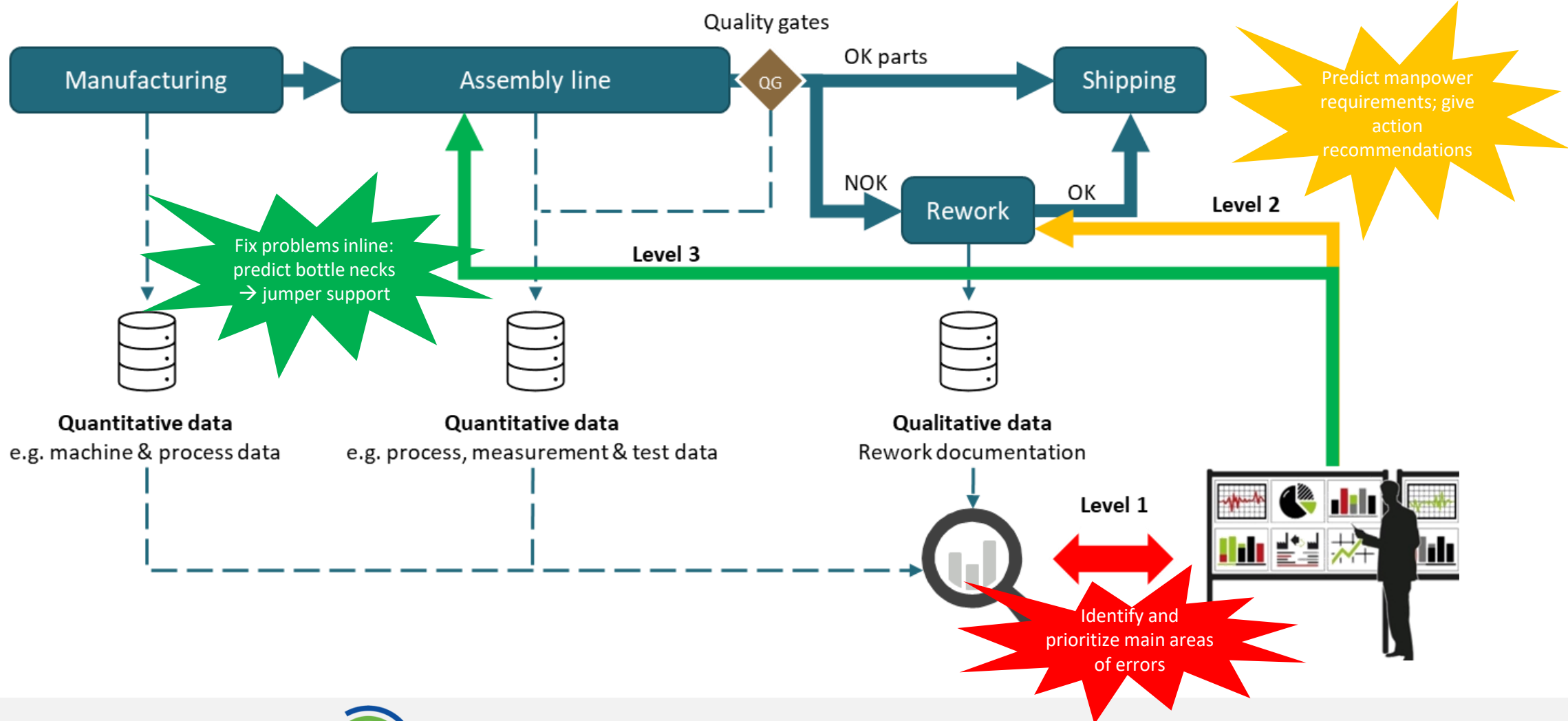
SFM Systems



- Our Motivation: Use data to give workers action recommendations
- Goal: Support employees in solving problems through identification and prioritization of main areas of error
- Promoting discussions at the dSFM
- Use ML to give action recommendations



# SIA – Shopfloor Intelligent Assistant



☰ DigitalTeamboard + ?

- 👤 Nacharbeit Achse
- 🏠 My Dashboard
- 🗨️ Performance Dialog
- 💡 Problem Solving
- 📖 Knowledge Database
- 👤+ Personal KPIs
- [Rework](#)
- 🚪 Logout

Select Team: Nacharbeit Achsmontage

Rework quota

14%

20.05.2019, 8:30 Uhr

**Fehlerscore Nacharbeit Achse**

1. Bremssattel nicht montierbar
2. Hinterachswelle Gewinde defekt
3. Getriebe undicht

DETAILS

## Rework

RECORD DEVIATION
DOCUMENT REWORK
All
Open
Closed
Search

Deviation	Date	Product ID (FzNr)	Affected Part	Status
Nicht montierbar	01/09/2020 09:45	ZHD-5218	Bremssattel	<span style="border: 1px solid red; padding: 2px;">NEW</span>
Gewinde defekt	01/09/2020 09:55	26S-H237	Hinterachswelle	<span style="border: 1px solid red; padding: 2px;">NEW</span>
Undicht	01/09/2020 10:20	637-SH09	Getriebe	<span style="border: 1px solid red; padding: 2px;">NEW</span>

☰ DigitalTeamboard + ?

## Record Deviation

Title and so on are mandatory

**Description**  
Undicht

**Creator**  
Nacharbeit Achse

**Process ID**  
Station 20

**Product ID (Achstyp)**  
HP-1331 EE

**Product ID (FzNr.)**  
637-SH09

**Affected Part**  
47182732 Dichtung XV42

Click here to upload

**Status**  
NEW

**Actions**

SAVE

TASK

PROBLEM

REWORK

CANCEL

Affected Part	Description	Date	Status

2020 SUMMIT
20

## Error Score Rework

Thursday, September 24th 2020

📅
✎
✕

**TOP 3 total errors**

1. Brake caliper not mountable
2. Rear axle shaft thread defective
3. Gearbox leaking

**Error score by product family**

Product family	1. Error	2. Error	3. Error
APX4292	Brake caliper not mountable -> Check clamping rods for defect	Gear box screwing defect -> Replace screws, check thread	Gear box leaking
APF04219	Gear box screwing defect	Brake caliper not mountable	Pressure check not ok
ALL90239	Axle bridge missing	Rear axle thread defect	Gear box leaking

1

## IMPROVED DATA QUALITY

Standardized deviation & rework recording tool



2

## IDENTIFICATION OF MAIN ERRORS

Developed error score sharpens the daily focus on the shop floor, considers effort, time tendency as well as sporadicity



3

## MACHINE LEARNING MODEL

Prototyp to predict manpower requirements & to give action recommendations to reworkers





# Manufacturing matters!

The manufacturing industry is a global base for **prosperity** and key to Europe's **economic, social** and **environmental** sustainability. Manufacturing is a main driver of **industrial innovation, job creation** and growth for the European society



Over **2.1 million** manufacturing enterprises



**16.1%** of the share of EU-28 GDP<sup>2</sup> (2016)



**32 million** jobs (16% of the total EU working population)



Total turnover of EUR **7.11** trillion<sup>3</sup>



Approx. **13 million** jobs in the growing high-tech manufacturing industry<sup>1</sup>