



LEADING IN PRODUCTION EFFICIENCY

DÜRR AKTIENGESELLSCHAFT

DÜRR INVESTORS' DAY 2014

PRODUCTION EFFICIENCY

Dr. Hans Schumacher, President & CEO Application Technology
Manfred Weil, President & CEO Paint and Final Assembly Systems

Bietigheim-Bissingen, May 9, 2014

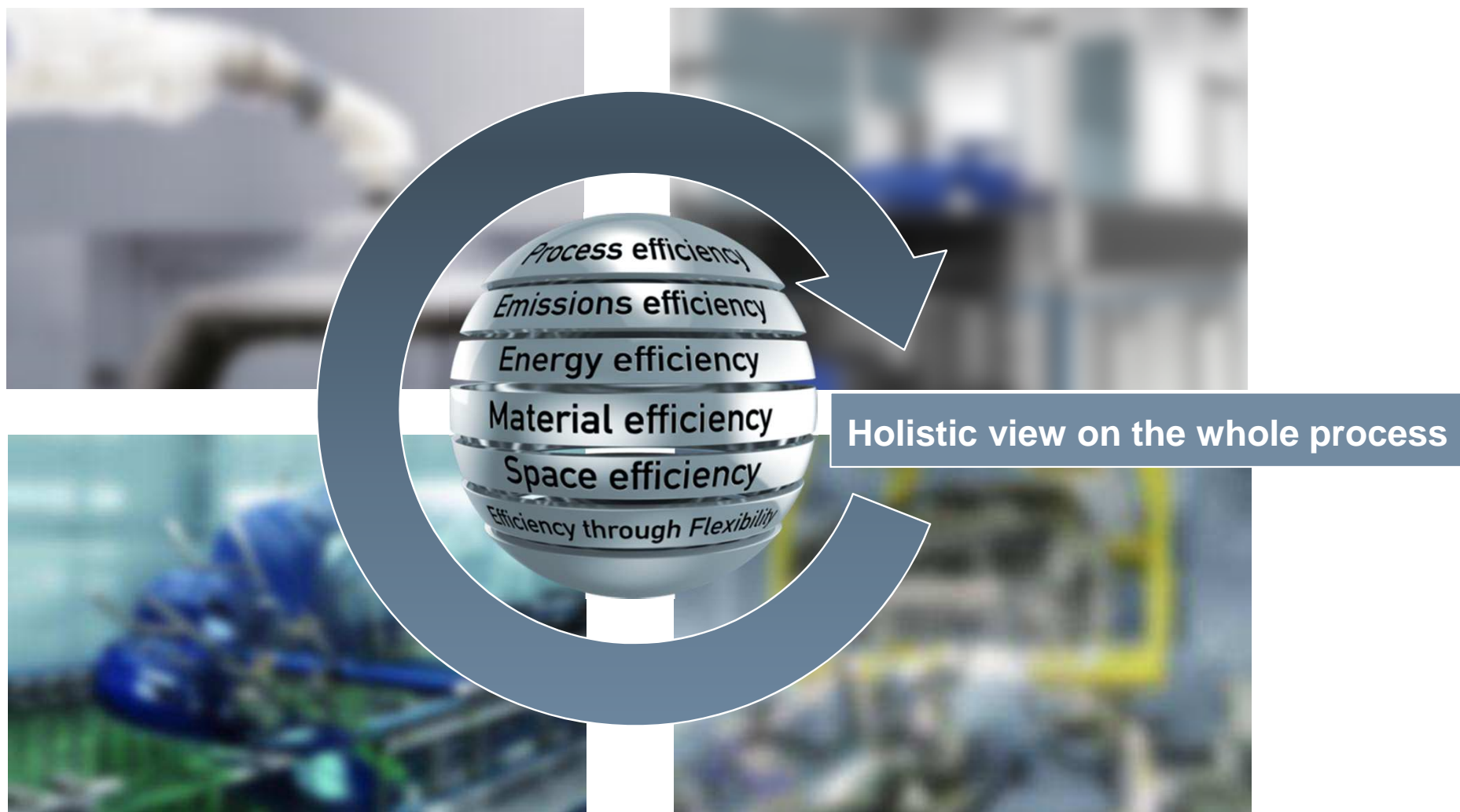
PRODUCTION EFFICIENCY IN PAINTING

Eco⊕Paintshop optimizes all production steps of the painting process



PRODUCTION EFFICIENCY IN PAINTING

Eco⊕Paintshop: Holistic view leads to next steps to increase efficiency and sustainability



ECO⊕PAINTSHOP



Achievements up to...



- 50% Energy



- 60% Water



- 30-50% Paint



- 60% Waste Water



- 90% VOC
- 50% CO₂

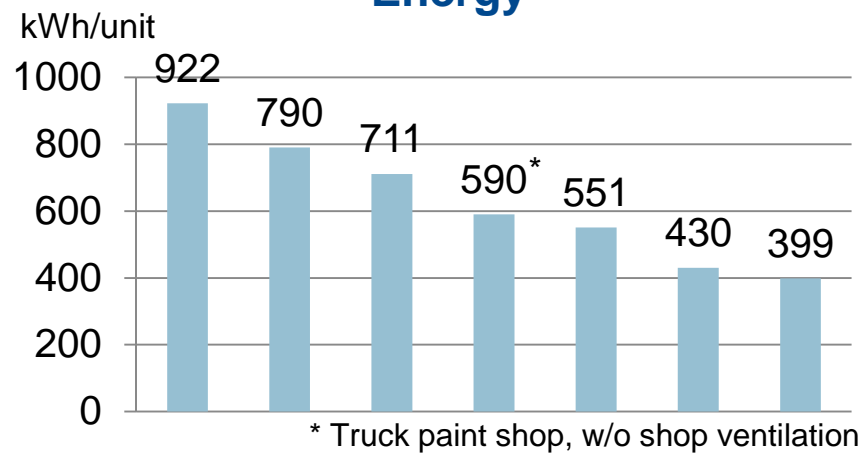
+ 10-20% Throughput



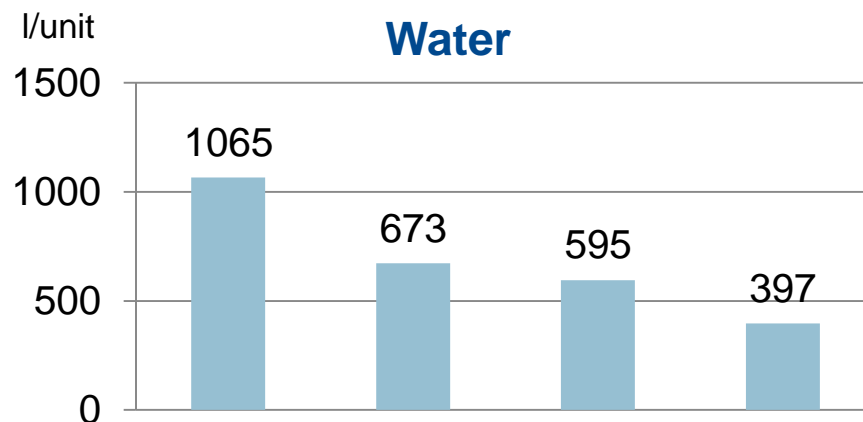
Efficiency criteria quantified

Dürr paint shops recently implemented

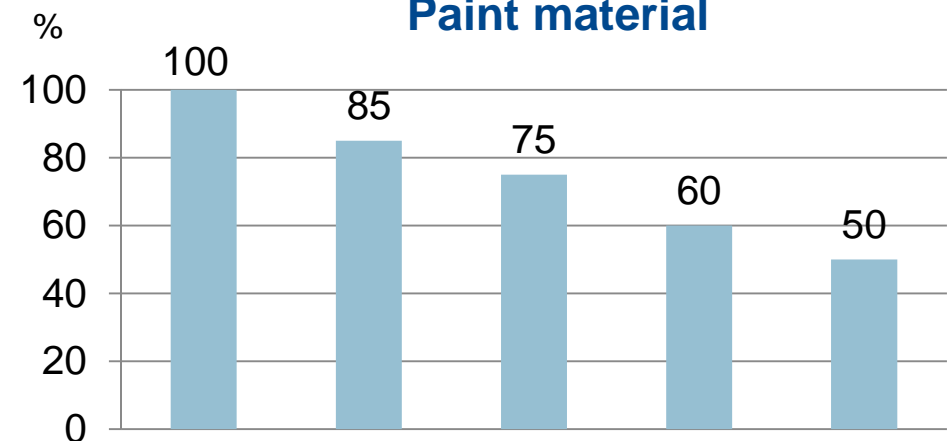
Energy



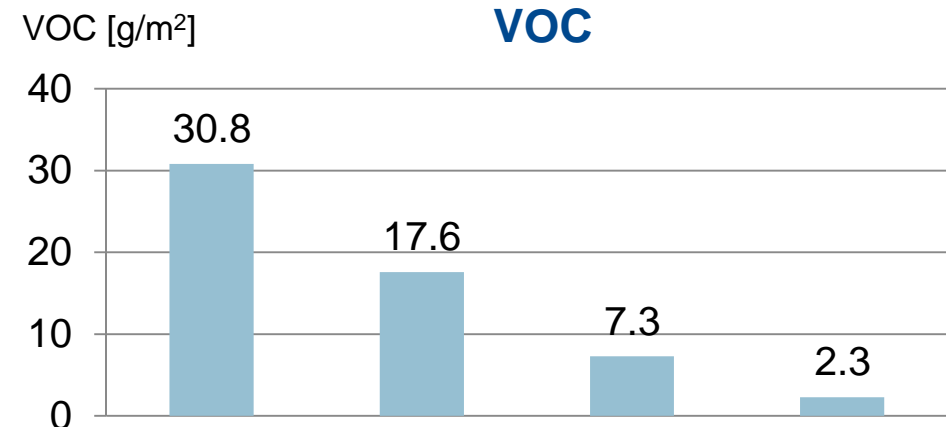
Water



Paint material



VOC



PRODUCTION EFFICIENCY

Dürr approach to combine and optimize economic & ecological performance



» Production efficiency is key to increase sustainability

SUSTAINABILITY TARGETS

Some quotes from OEMs



Sustainability takes top-level priority at the BMW Group.



...we define sustainability as a business model that creates value...



Energy diversity, resource conservation and CO₂ reduction are business imperatives.



...for us economic, environmental, and social responsibility go hand in hand.



For VW, the future focus is sustainable development.

EFFICIENCY MEETS SUSTAINABILITY

Example: BMW Brilliance Automotive



Outlook BBA TIEXI paint shop consumption

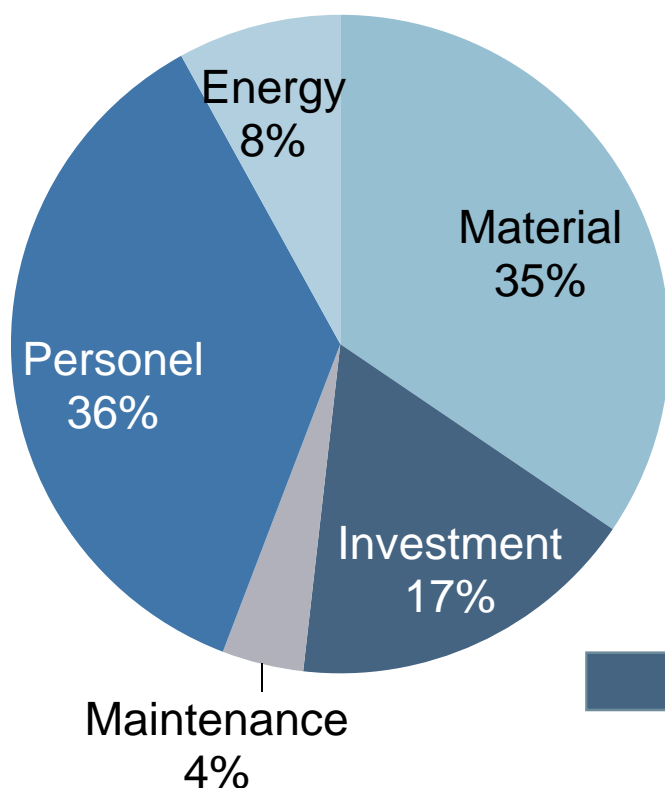
	Actual figure_March	Unit of measure	Target 2014	Status
Waste Water Consumption	0.39	m³/unit	0.4	😊
Used Solvent	3.81	Kg/unit	5	😊
Waste Sludge	3.75	Kg/unit	4	😊
Limestone	11	Kg/unit	12	😊
VOC	0.6	kg/unit	1.0	😊
Energy Consumption	0.7	MWh/unit	1.18	😊
Industry Water	0.86	m³/unit	0.7	😐

Source: BMW Brilliance, Automotive Ltd.

HOLISTIC VIEW ON EFFICIENCY

Improved evaluation methods: adding the sustainability dimension

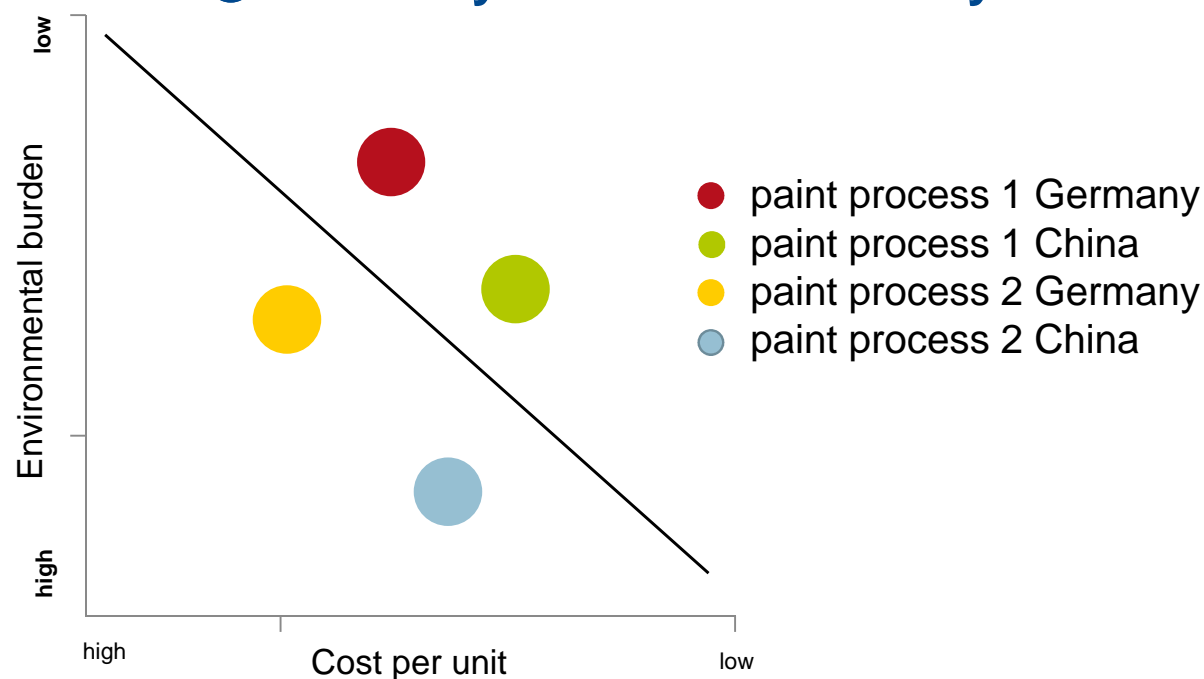
CPU calculation



Usage of certified evaluation methods



Eco⊕Efficiency / Eco-balance analysis

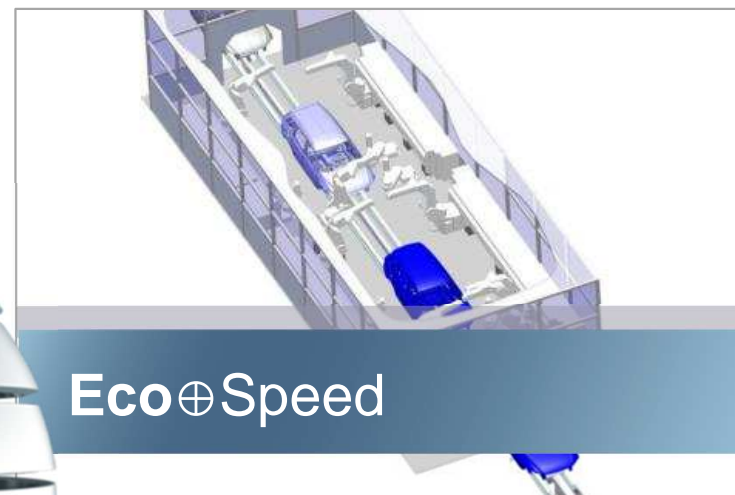


TECHNOLOGIES/EXAMPLES

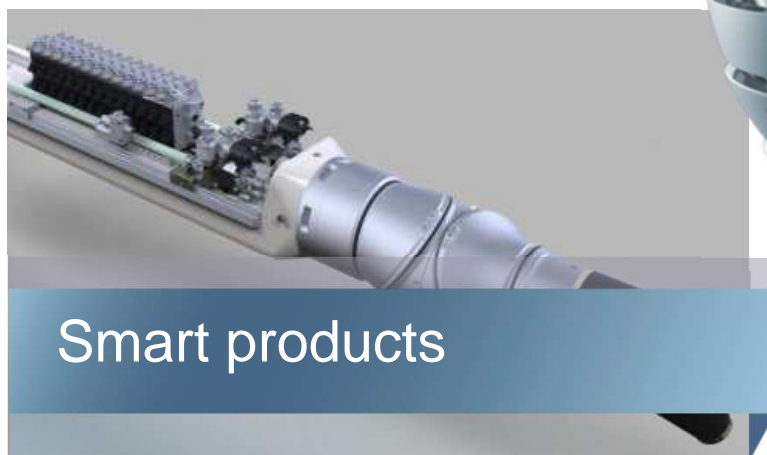
...for further improvements in production efficiency



EcoDry X



Eco⊕Speed



Smart products



Air control

EXAMPLE 1: DÜRR DRY SEPARATION FAMILY



EcoDry X

manual, multi-stage filter system

- » intentionally simple and robust
- » for small to medium overspray volumes
- » low cost, easy to operate technology

EcoDry B

semi-automatic, multi-stage filter system

- » overspray separation without additives
- » for any volume of overspray
- » recovery of filter brushes

EcoDryScrubber

automatic, single-stage filter system

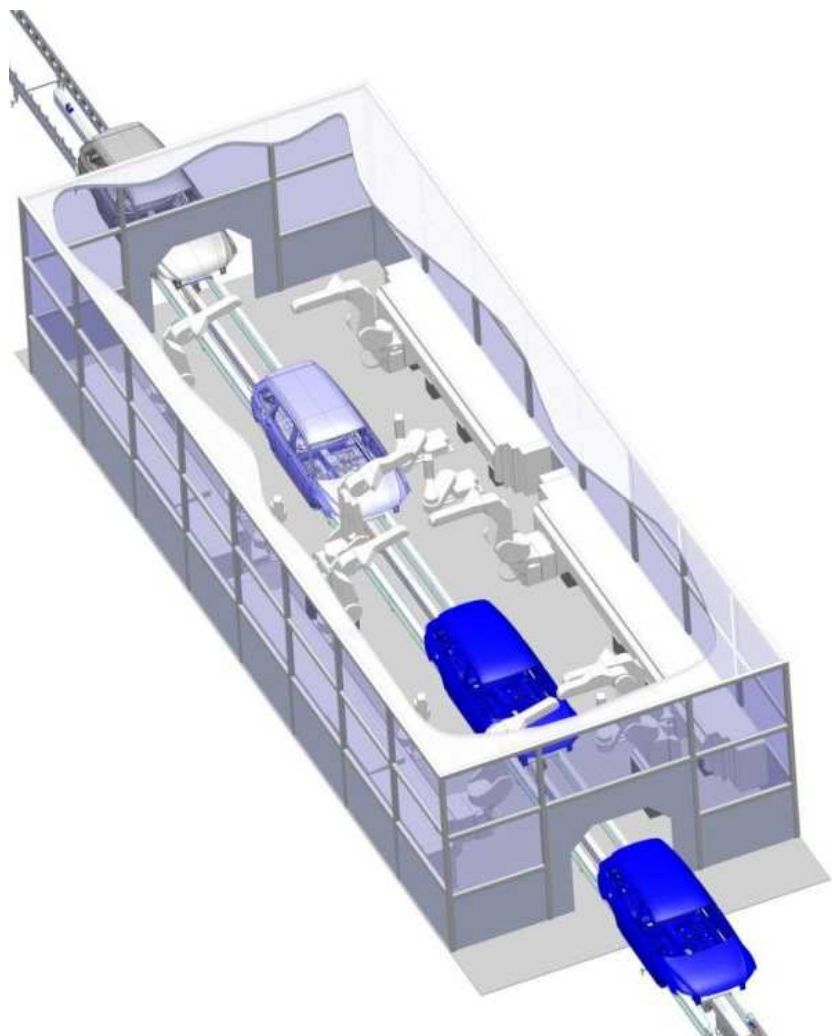
- » reliable and well proven technology
- » for high overspray volumes
- » most efficient separation system



Dürr overspray separation:
perfectly tailor made to meet customer requirements

EXAMPLE 2: Eco⊕Speed

New paint booth concept for interior painting



Technology

» Time reduction for body transfer and color change by 50%

Customer benefits

» Up to 15% capacity increase

» CPU reduction

» Higher profitability

» Improved Eco⊕Efficiency

EXAMPLE 3: INTELLIGENT CONTROL CONCEPTS

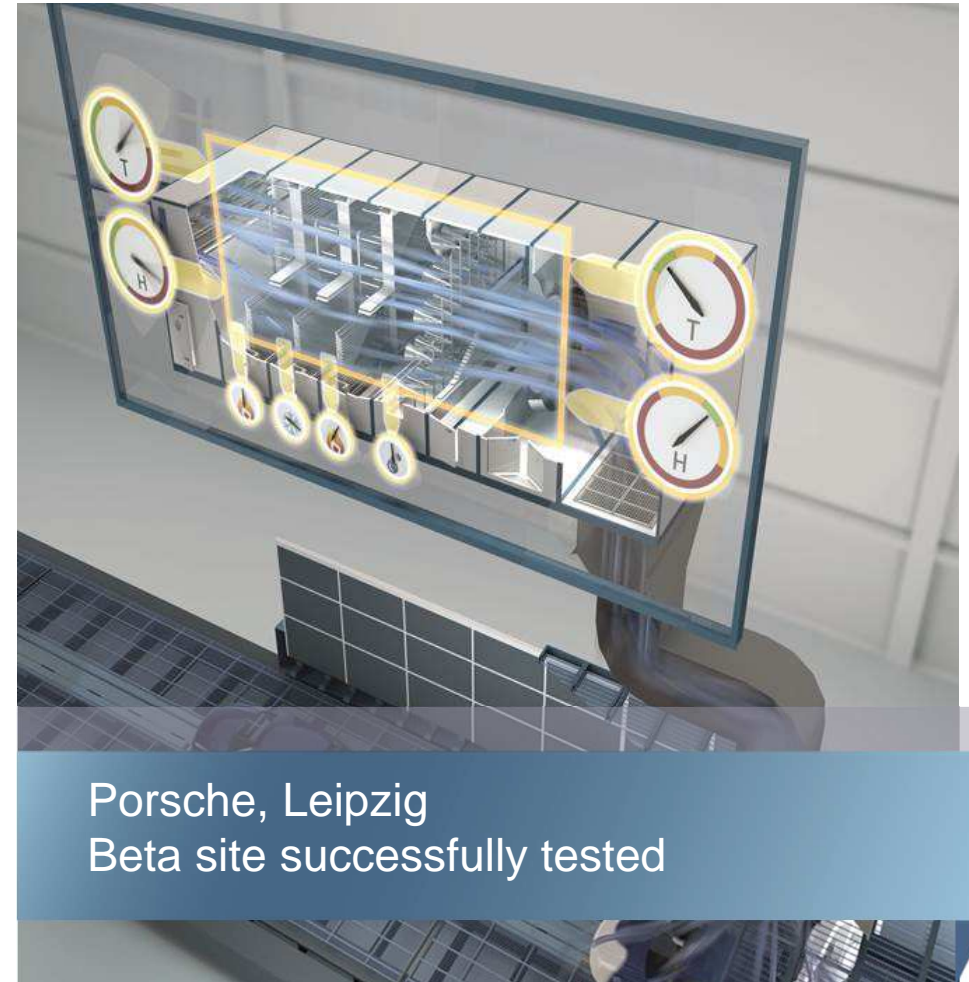


Intelligent Dürr air control: EcoSmart AC

Optimal control of air supply units and recirculation air units

Customer benefits:

- » Minimal energy consumption through coordinated process management
- » Automated process control without manual intervention
- » Stable process conditions in spite of changing climate conditions (outside)



Porsche, Leipzig
Beta site successfully tested

EXAMPLE 4: SMART PRODUCTS AND FUNCTIONS



Technology

- » Simplified equipment operation
- » Reduced complexity
- » Improved diagnostic and maintenance
(e.g. QR code) routines

Customer benefits

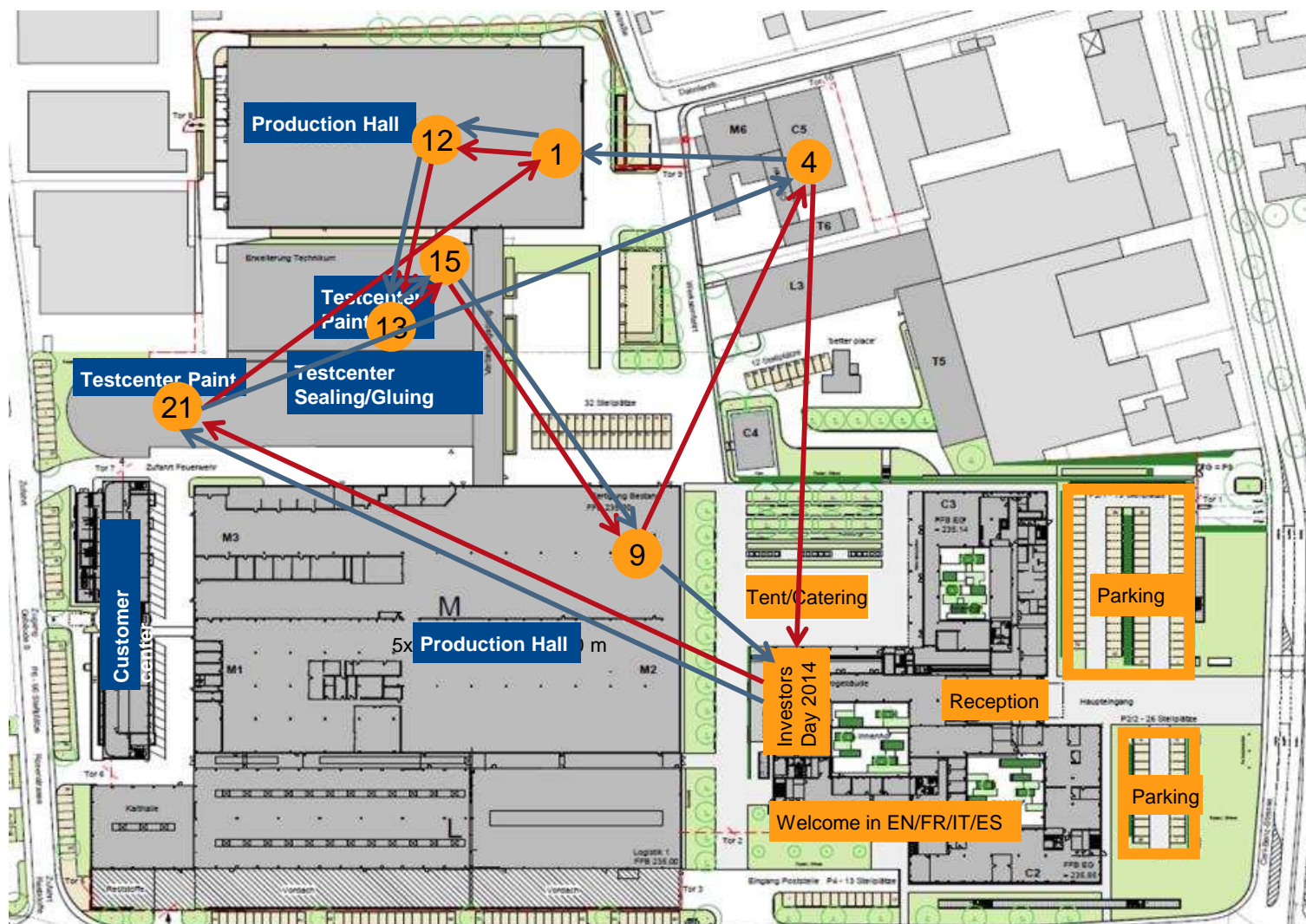
- » Higher quality
- » Higher uptime
- » Live time increase
- » CPU reduction



OUR COMMITMENT / SUMMARY

- » Continuously increase (eco-)efficiency of our products and solutions
- » Strong focus on quality, productivity, sustainability and people
- » Holistic view on the entire painting process
- » Sustainability will gain more and more importance in the future
- » Dürr combines optimization of CPU and sustainability with its in Eco⊕Efficiency concept

OVERVIEW GUIDED TOURS



Investors Day tour 1

- » **EcoBell3**
- » **EcoCLab**
- » **Eco⊕Speed**
- » **PT/ED**
- » **EcoReBooth**
- » **Filling, Testing, Balancing**
- » **Eco⊕Energy**

Investors Day tour 2

- » **EcoBell3**
- » **Eco⊕Energy**
- » **EcoCLab**
- » **Eco⊕Speed**
- » **PT/ED**
- » **EcoReBooth**
- » **Filling, Testing, Balancing**



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