Sustainable materials, Energy demand reduction and Process optimization. Impossible trilemma or opportunity in disguise?

Debra Hudgens - Business Development Mgr. ProLeiT Corp. USA

We are Schneider Electric

A global industrial technology leader in electrification, automation, and digitization

Unprecedented partner network
>1 million partners

ESG champion
and sustainability partner

Multi-hub model
150k employees

World-leading portfolio
with increased digital footprint

Life Is On Schneider Electric

Electrical & Automation technologies are converging with Software, Services & Sustainability as enablers for rapid acceleration

Energy Management


Cooling


Data Center Infrastructure Management (DCIM)


Molded-case Breaker


Uninterrupted Power Supply, Single & 3 Phase


Final Distribution


Wiring Devices


Medium Voltage Products & Equipment

Software, Services & Sustainability

AVEVA

Wonderware by AVEVA

AVEVA PI System

etap

RIB

EcoStruxure Resource Advisor

Zeigo

ecoact

EcoCare

ProLeiT by Schneider Electric

Energy Performance contracting (VPP)

Industrial Automation


Software-defined automation


Triconex Safety


Foxboro Distributed Control System (DCS)


Programmable Logic Controllers (PLCs)


Multi-carrier Transport System


Drives & Motion Control


Control & Signaling


Contactors


HMI

DATA CENTERS

COMPASS DATACENTERS

SUPERNAP THAILAND

leading edge Data Centers

FTI FAITH TECHNOLOGIES INCORPORATED

BUILDINGS

HSBC

Blackstone

MARINA BAY Sands SINGAPORE

JLL

INDUSTRY

Pfizer

Shell

RioTinto

Nestlé

INFRASTRUCTURE

JFK JOHN F. KENNEDY INTERNATIONAL AIRPORT

VEOLIA

Iberdrola

enel

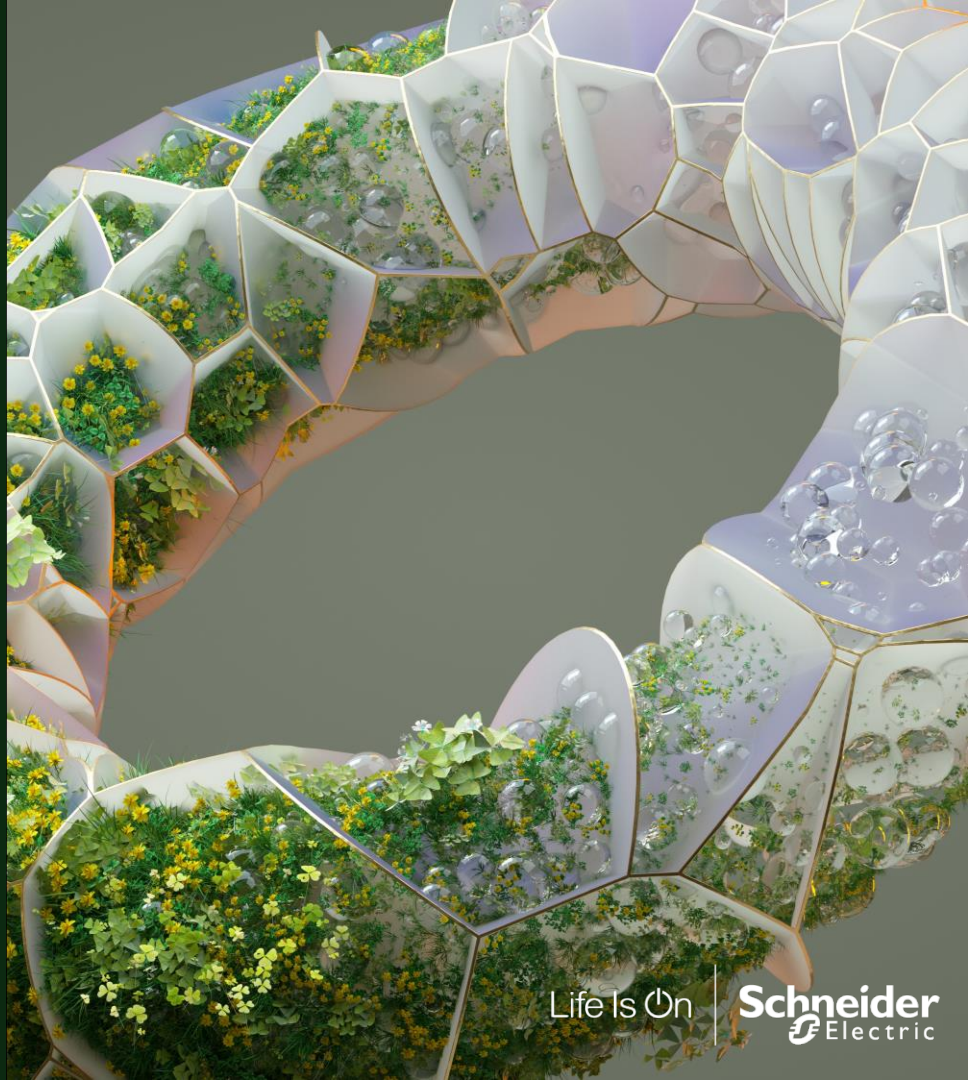
 |

Life Is On Schneider Electric

Our purpose is to empower all to make the most of our energy and resources, bridging progress and sustainability for all.

At Schneider, we call this Life Is On.

Our mission is to support you to build and operate efficient, reliable, and sustainable systems.

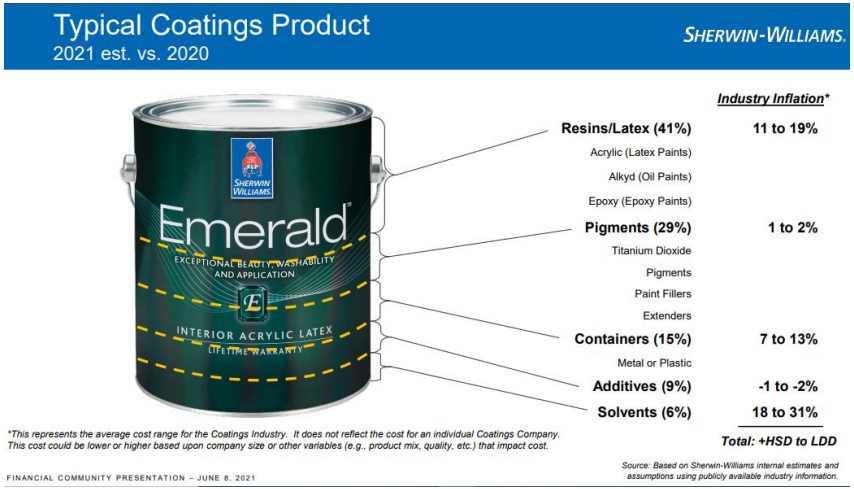


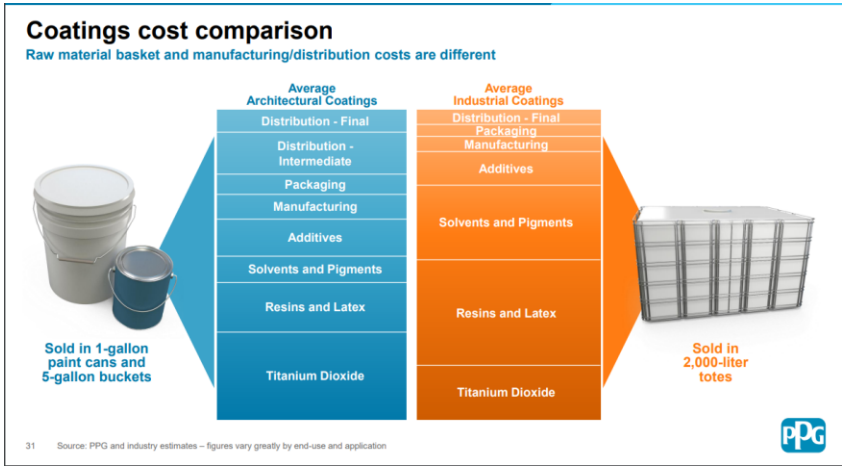
Recurrent industry challenges

1. **Increasing number of SKUs** – Flexible batch plant that supports multiple recipes – Increasing complexity in batch processing.
2. **Scaling of batch production** – small and large batch sizes combinations, CIP process, compatibility of batches. Achieving ‘Golden batch’ for production.
3. **Volatility of Raw material** cost due to dependency on oil markets – 50%-70% raw material coming from petroleum
4. **Regulatory and end customer pressure** to improve sustainability – Reduce VOC and GHG, reduce energy and water consumption
5. **Increased competition from local players** – No entry barrier, competition focus on front end innovation, DIY paint, application technologies etc.
6. **Low entry barrier** – No technology differentiator in production. (e.g. decorative, automotive) Formulation is key however, it doesn’t stop new players entering in this market. Only for few niche industrial applications, it is difficult to enter the market. (e.g. coatings for Yacht)

https://www.paint.org/coatingstech-magazine/articles/supplier-perspective-on-key-trends-in-the-paint-%E2%80%89%E2%80%89and-coatings-industry/

Typical Coating Product cost breakdown of raw materials





https://s25.q4cdn.com/953898558/files/doc_presentations/2021/2021-PPG-Investor-Overview-August-2021.pdf

Cost breakup	%
Material cost	60%
Labor	15%
Energy	5%
Packing	10%
Maintenance	10%

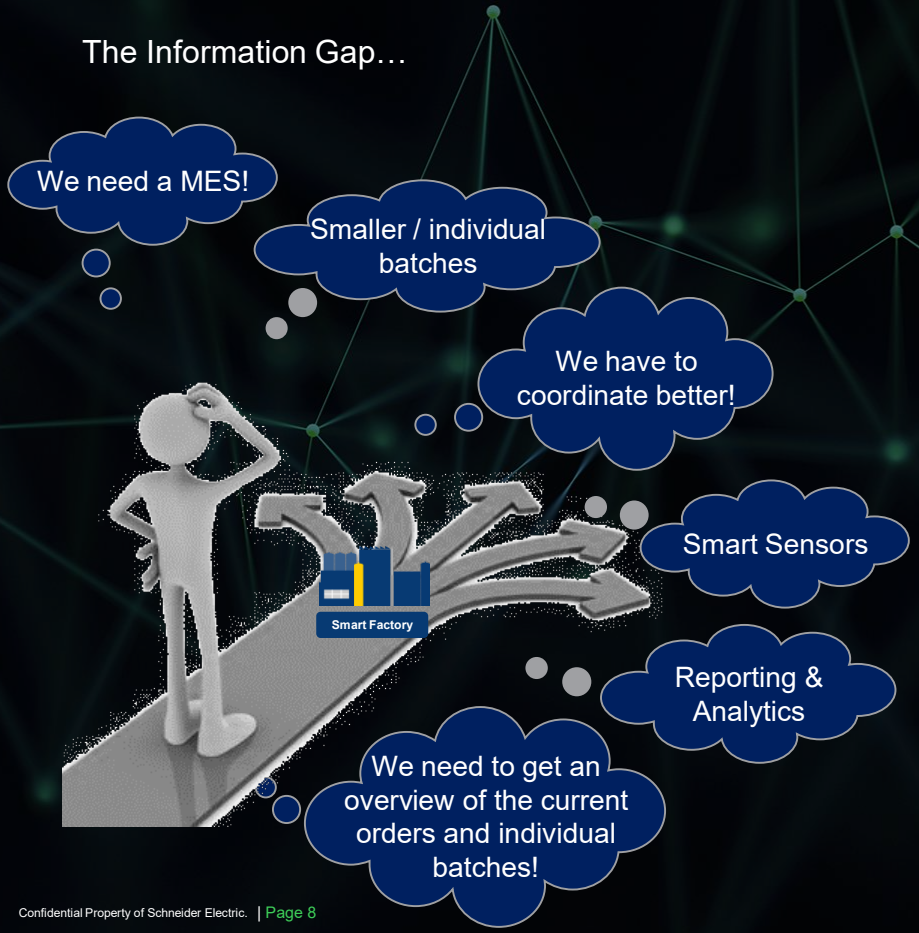
Key strategies adopted by many manufacturers…..

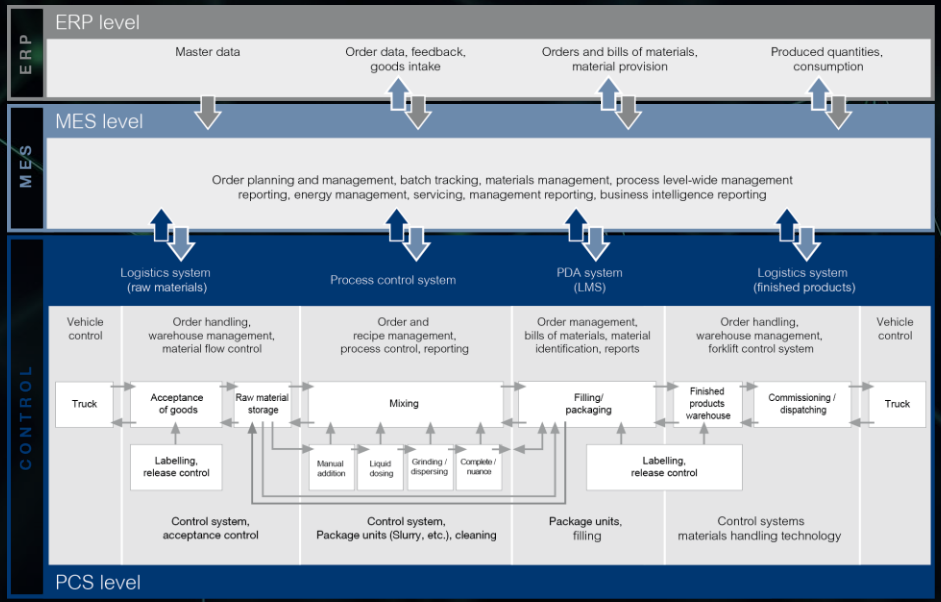
Drive standardization and simplification while ensuring differentiation

- **Reduce raw materials variants :** Reduce variants at plant level and shift towards end use application. e.g. Automotive paints, color mixing machines
- **Increase batch sizes :** Reduce number of small batches, Powder feed system rather than bags
- **Recovery and reuse :** Pigging systems**,** Use by-products to reduce waste, increase material efficiency, and deliver savings
- **Sustainability :** Bio sourced material, Shift from Solvent based to water-based paints, reduce waste in process, reduce waste stream and reduced GHG emissions across value chain (supplier-manufacturing-customer)
- **Standardized packaging :** Standardized batch sizes, standard recipe and packing
- **Smart coatings :** coatings that have other functions in addition to protecting and decorating, antibacterial coating, Self-healing coatings and use of nano materials. AI to be applied to formulation development and to paint manufacturing.
- **Paint as product to ‘paint as service’ :** Marine coatings, sensors to detect corrosion for vessels

…. but can we respond efficiently to these challenges?

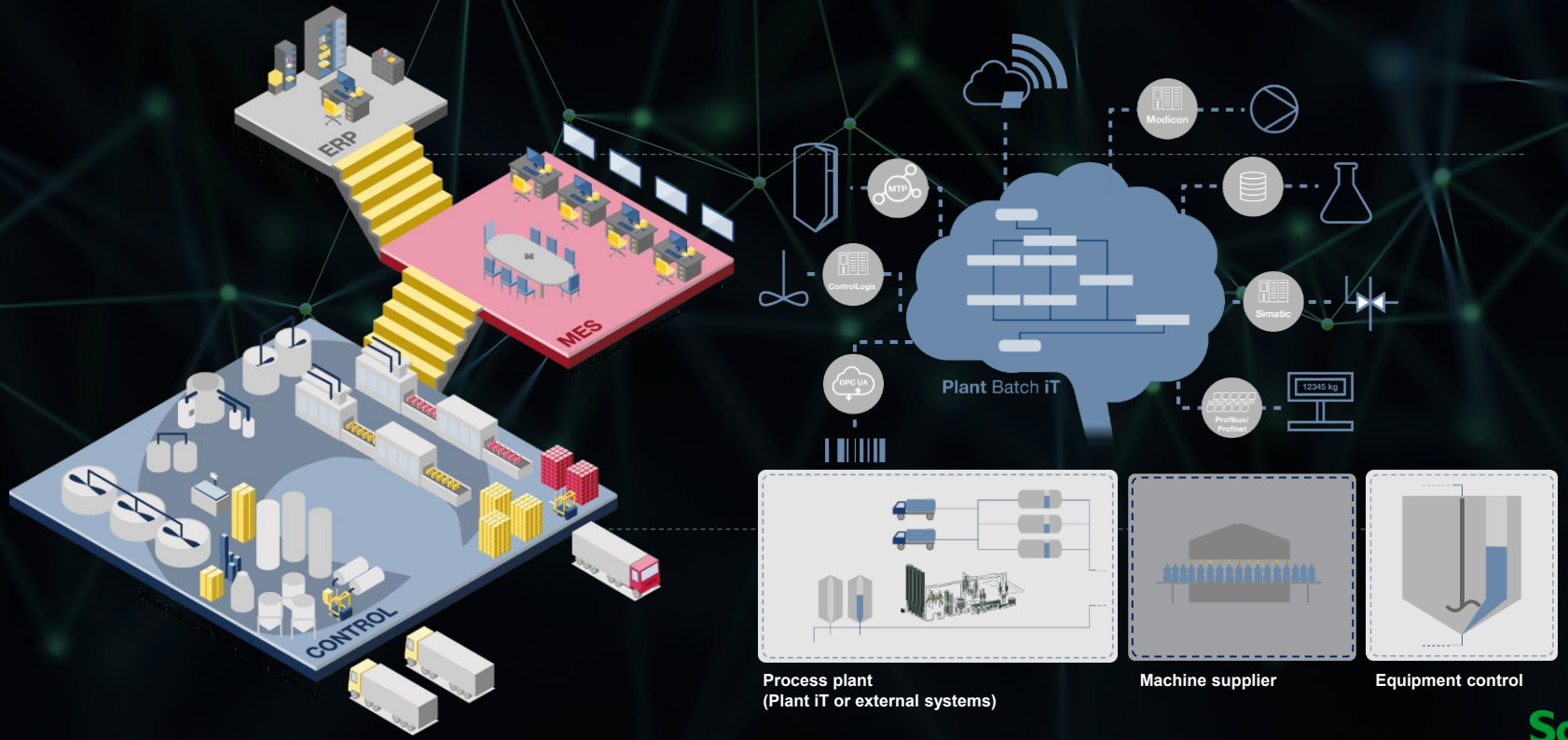
The Information Gap…





System landscape evolution

Process Orchestration System for modular automation and plug & play production



IT OT convergence

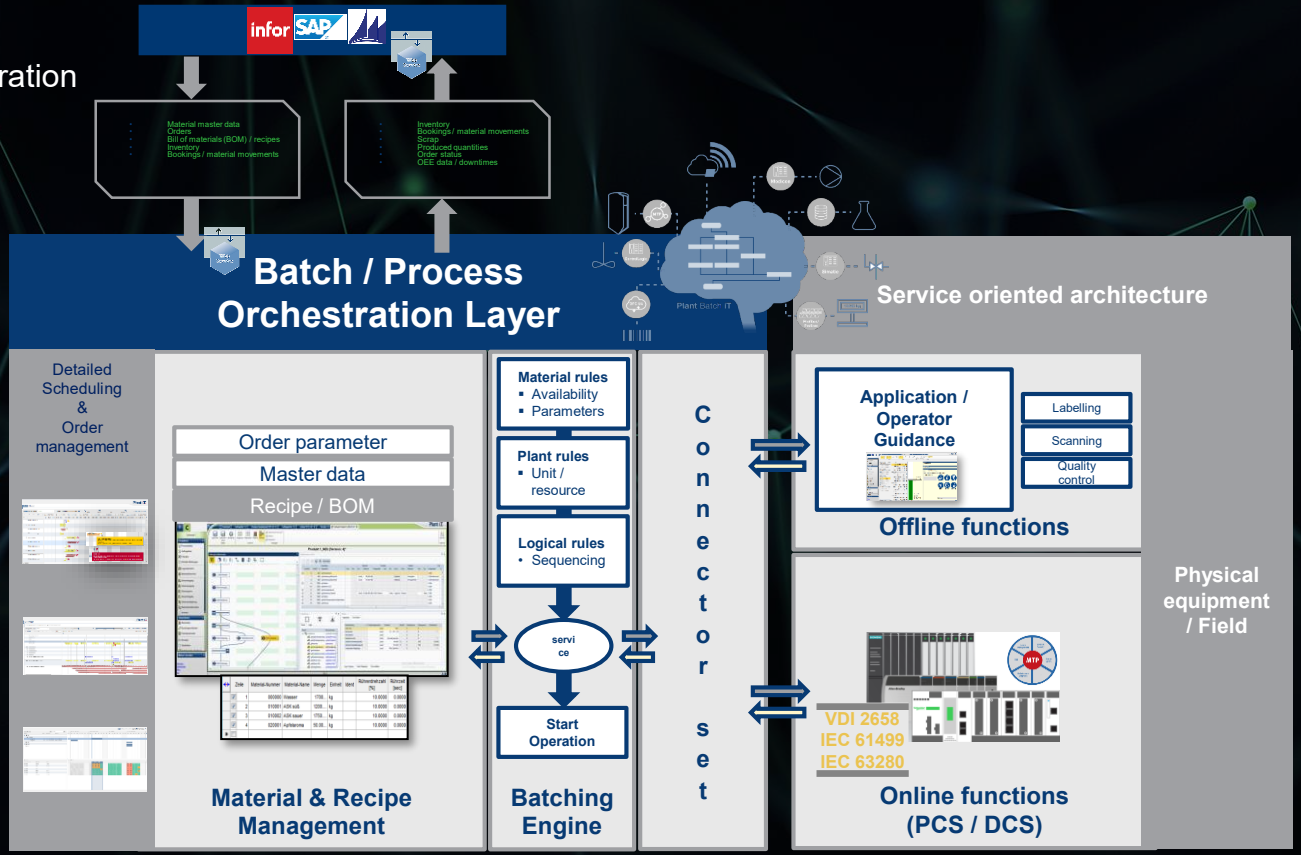
…supports Transparency

Availability and quality of materials and equipment are essential for increasing productivity, product quality and saving resources!

Schneider Electric

IT OT convergence

…supports Seamless Data Integration



80% of projects have an ERP interface, and 90% interface SAP

Schneider Electric

IT OT convergence

…supports Traceability & Paperless Production

Information on goods receipts is essential to provide an inventory overview and to ensure that the right batch is used for the right order!

Customized MES for WEILBURGER Graphics

Customer Challenge

- Address increased demand and competition
- Modernize production facilities

Solutions

- Two-way connection of MES & existing ERP – orders & feedback
- MES steers the underlying systems
- Optimized automated process flow and exact recipe specifications
- MES customized to create dynamic assignments between mobile scales and weighing stations

Customer Benefits

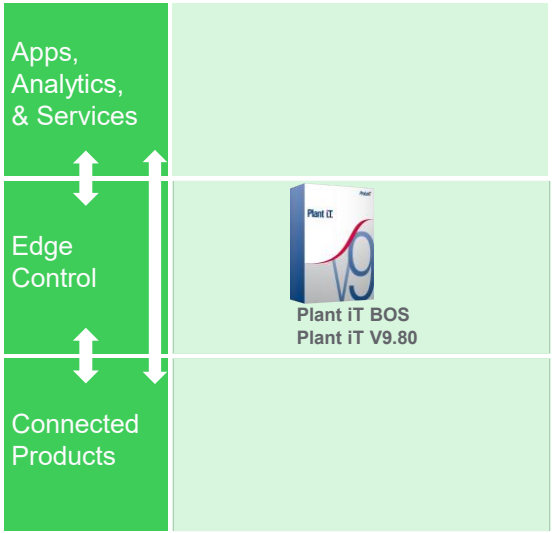
- On-time production and delivery to the customer
- High and consistent product quality
- Preventive maintenance
- Time available to focus on optimization potential
- Production pressure distributed over several shoulders due to the increased transparency.

The Results: Life Is On with...

High and **constant** product quality, preventive maintenance, on-time production and delivery to the customer as well as a high degree of **transparency**

Link

Expand production capacity while being future-ready



ProLeiT by Schneider Electric

Life Is On Schneider Electric

Together Everyone Achieves More

Let's get started!

The industry specific solution for the paint and coatings industry

Scalable

Demand driven

Industry-specific solution

Open, modular solution

High level of flexibility

Can be extended at any time

Tested technology

High level of standardization

Line Automation

Adaptable, scalable and flexible system and add-ons with standard interfaces to generate customized solutions

System availability

Reliable system, 24/7 support
easy adjustments

Plant Transparency

Visualization and monitoring in real time, integrated and consistent system, ensure traceability

Operational Excellence

Process optimization, increased availability of machines and plants

90%

90% reduce time
for collecting and analyzing data

10%

Up to 10%* more productivity
because real-time analyzing and optimizing without downtimes

100%

100% satisfied customers
about their transparent processes

Please connect with

Debra Hugens
Business Development – Paints and Coatings
debra.hugens@proleit.com

Verena Mersmann
Branch Leader Chemical Business
verena.mersmann@proleit.com

Life Is On Schneider Electric

Life Is On | Schneider Electric