

Design-Driven Enterprise From Configuration to Manufacturing

Variantenreiches MTS oder CTO

Gear 7-38 12.75

s/n 3941501

MT-450919

Teet

Advanced
Motor 30051
Prototype Phase

Torque

01.04.2022

THE BEST RUN



Our model company

Conveyor Solutions AG is a manufacturer of

- components
- equipments
- systems

for sorting and transporting of luggage or packages.

They

- configure to customers needs (CTO/MTS),
- design customer specific solutions (ETO, CTO+),
- manufacture in large quantities.



Conveyor's Challenge

Senior management would like to

- Become more **customer centric** and **agile**
- Reduce **cost** and **workload**

So, they engage an external consulting company to propose **a new approach**.



Design-Driven Enterprise

AGIL.EFFICIENT.CUSTOMER-CENTRIC

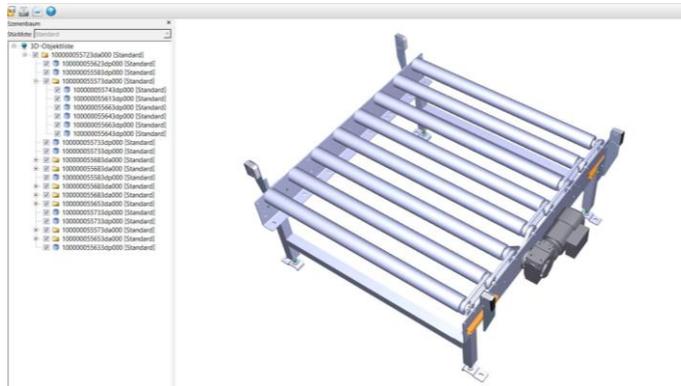
- **Increase the level of automation** in the process flow from engineering into sales, production, service with **model once configure anywhere.**
- Use a **smart product structure** as **single central solution** to achieve **high level of consistency, automation and accuracy** across all departments.
- Improve the leverage of their existing investment in the **SAP core. Reduce complexity** of applications outside of the core.



Relationship between CAD, Classic BOM and Product Structure

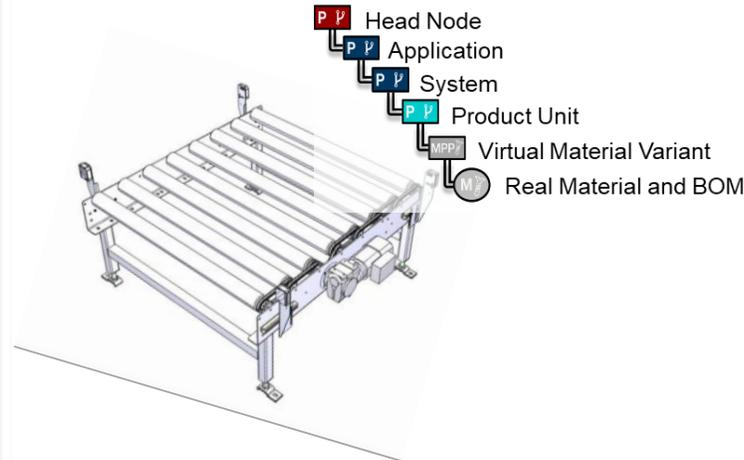
Why can't I use the CAD or Classic BOM instead?

CAD Structure



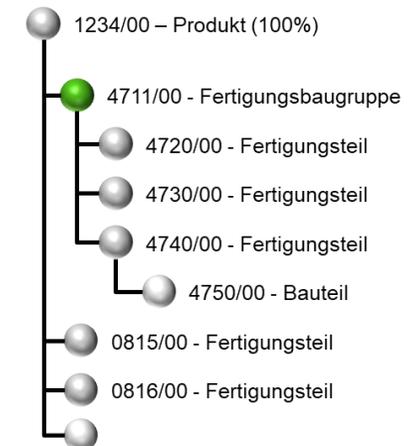
The **CAD Structure** describes the geometrical relationships between the BOM elements. The **variance** therefore is **implicitly described**.

Product Structure



The **Product Structure** models variance structurally and thus it is **able to incorporate variance information directly** and link it to CAD documents.

Classic BOM



The **Classic BOM models** variance on a material level and therefore **does not scale very well**.

Model once configure anywhere

Our Vision: Digital Thread 4.0 automates all business processes



Product Teams...

...feed the product model with new iterations and versions, aligned with customer requirements and compatibility

Feed



Consume

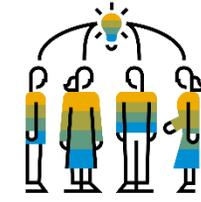


Digital Product Structure

Consume



Feed



Extended Enterprise...

...consumes product model/information to buy, make, sell/configure, simulate or maintain a product.

Webinar 1 – Create Portfolio & Product Structure

Webinar 1 – Consume in Sales

Webinar 2 – Consume in Manufacturing (01.04.2022)

Webinar 3 – Consume in Service (08.04.2022)

Recap – From Design to Sales: Detailed Process Flow



Anton
Product Manager



Barbara
Systems Engineer



Carla
Engineer



Daniel
Sales Rep



Overview product portfolio

Map product features

Extend product features

Revise product features

Adjust system models

Complete detailed engineering

Handover to sales

Sell via Configure Price Quote



How will Conveyor work in the future?



DESIGN-DRIVEN ENTERPRISE MTS/CTO

From Configuraton to Manufacturing



Product

- Variant Management
- Configuration Management
- Innovation Management
- Requirements Management
- Systems-Engineering
- Product Validation

Detailed Engineering

- Material Management
- Component Classification
- eBOM
- 3D-Model

Internal/external Collaboration

- Design Collaboration
- Document Collaboration
- Systems Engineering

in Production

- Routing Management
- Integration of MTM
- Work Instruction Management
- Change Mgmt and Integration across and within different SAP BOM-types
- BOM Knowledge Management, Conversion and Configuration
- Configuration of Quality Management

in Service

- Configuration of services, documents, and serviceBOM

in Sales

- Enhancement of configuration with application knowledge

Modelling

- Life Cycle Management of Product model
- Management of Variant Configuration with Engineering Knowledge

Customer Order - Configuration

Document Collaboration
Supplier Collaboration (only with Ariba)
Visual Product Analysis

Short- to Midterm-Planning and Optimization

- Order network
- Production Optimization considering product configuration dependent routing capacity, demand, takt times, set up times, man power and tooling while also considering material availability.

Order Management

- Generation and Release of production orders

Assembly

- Configuration specific work Instruction

Inline Quality Management

- Collection of configuration specific quality data during each production step.

Machine Integration

- Configuration specific machine control

Intelligent Asset Management

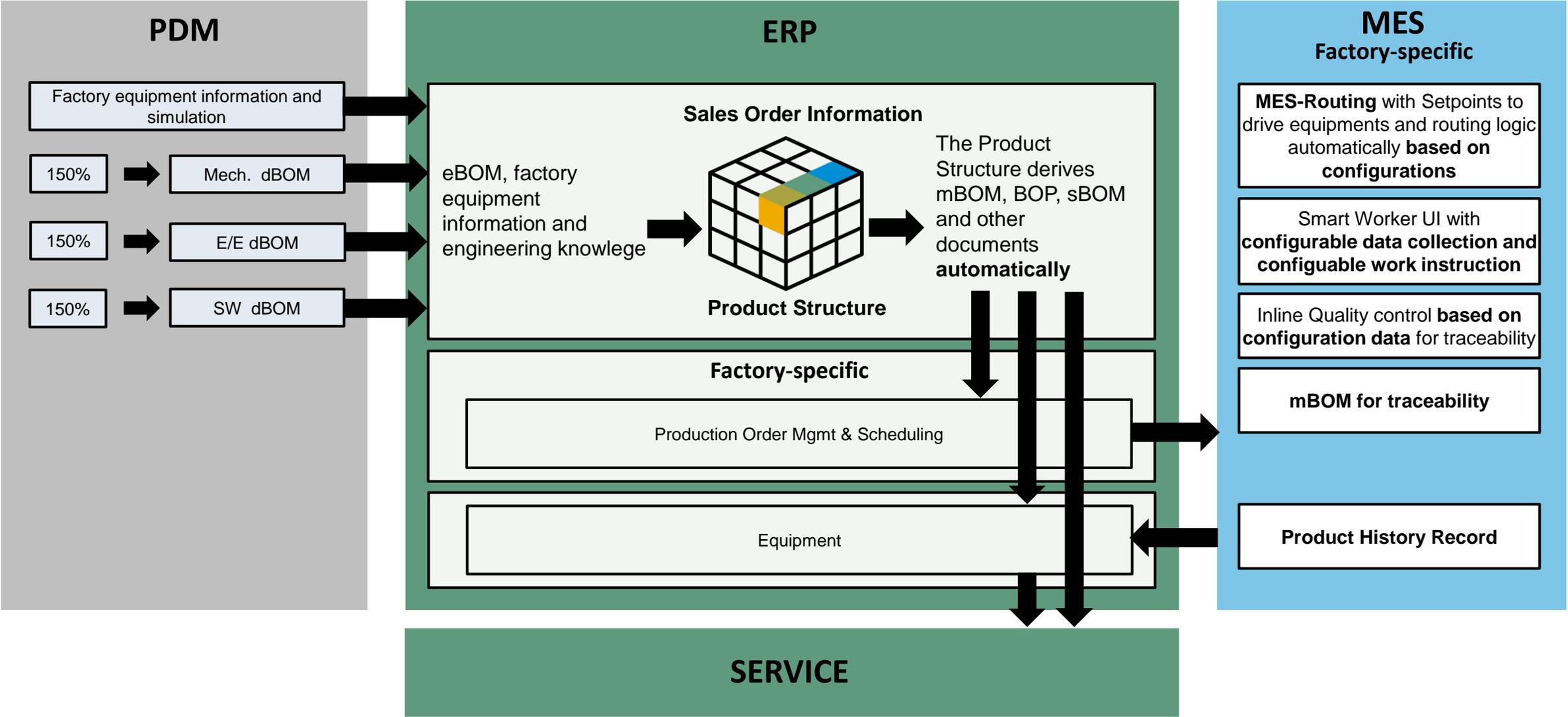
Providing the digital twin to internal and external collaboration partners IOT services

Service-Management

- Ticketing
- Service-Order Mgmt.
- Service Order Execution
- Visual Spareparts
- Visual Service-Instructions
- Digital Twin Insight
- Digital Twin Monetarization

Automatically generated Engineering Data for Planning & Execution

Architecture



Handling variants in Make-to-Stock and Configure-to-Order scenarios

Using Material masters or material variants per variant to run MTS.



MTS
Make-to-Stock



Design
Supply Chain
Manufacturing
Sell
Aftermarket Service

CTO
Configure-to-Order
closed



Design

Sell
Supply Chain
Manufacturing
Aftermarket Service

Configuration in sales order to run CTO.

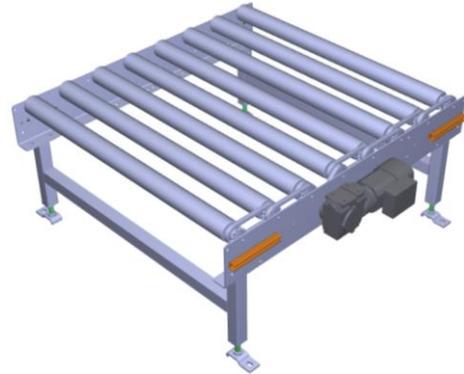
Optional:

- Create material variants
- Configure in PPG



Overview of product variants and customizability

Variant RF17
RF17_EV01



Photoelectric barrier

no

Motor power

240V

Speed

2.00 m/s

Adaptable to customer requests

no

Variant RF18
RF18_EV01



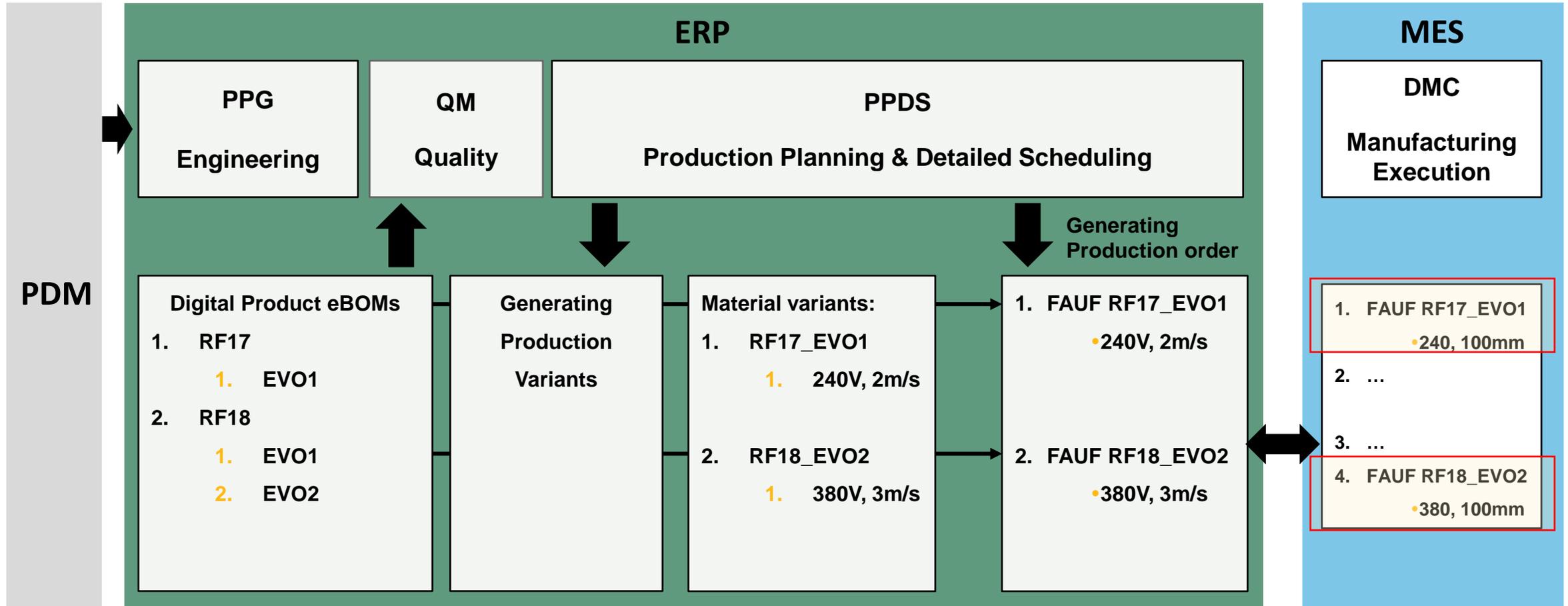
no

380V

3.00 m/s

no

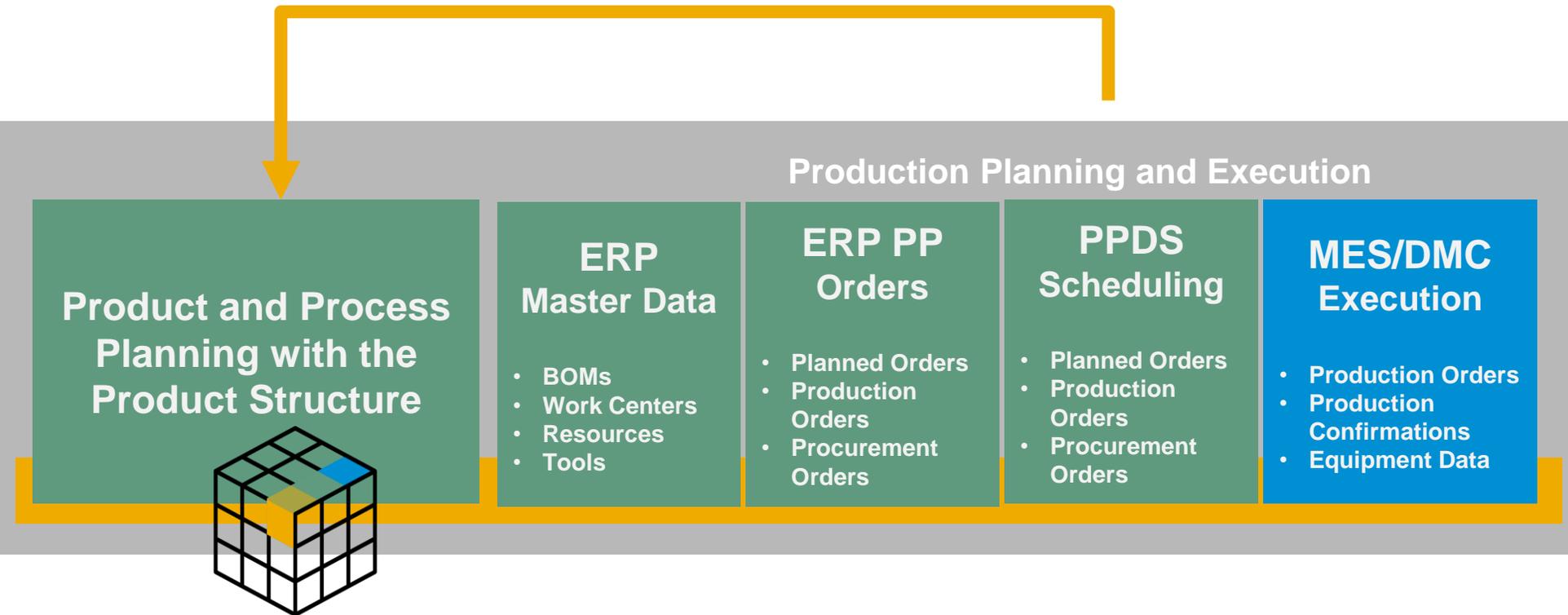
Overview product variants and production orders



Handover w/ LOIPRO 5
Production order with all
manufacturing data

Validation of Manufacturing Parameter in Product Structure

Industry 4.0 Feedback-Loop



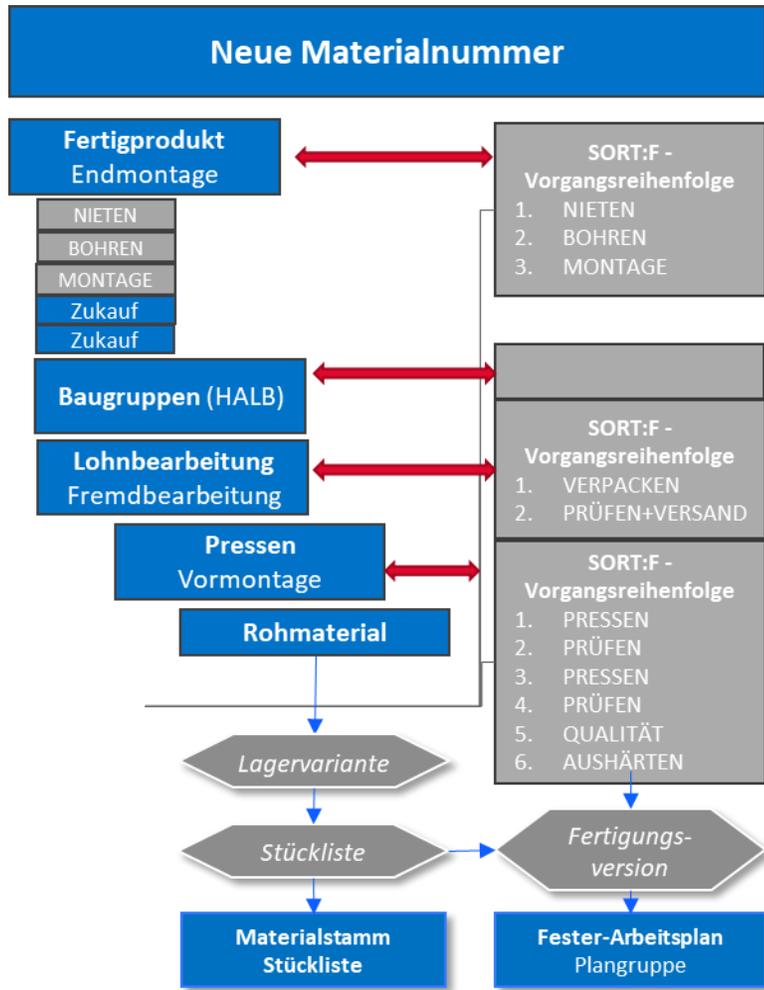
Validation can be used for many types of data: routings, set up times, tooling, sequences ...

Use Cases

- Simulation before production
- Monitoring and fine tuning during production
- Product mix scenarios
- Input into 3D simulation tools
- Feedback to PDM system to close the loop with design

Example: Routing Optimization via PPDS Simulation

Can I generate the routing for optimal capacity for a given product mix?



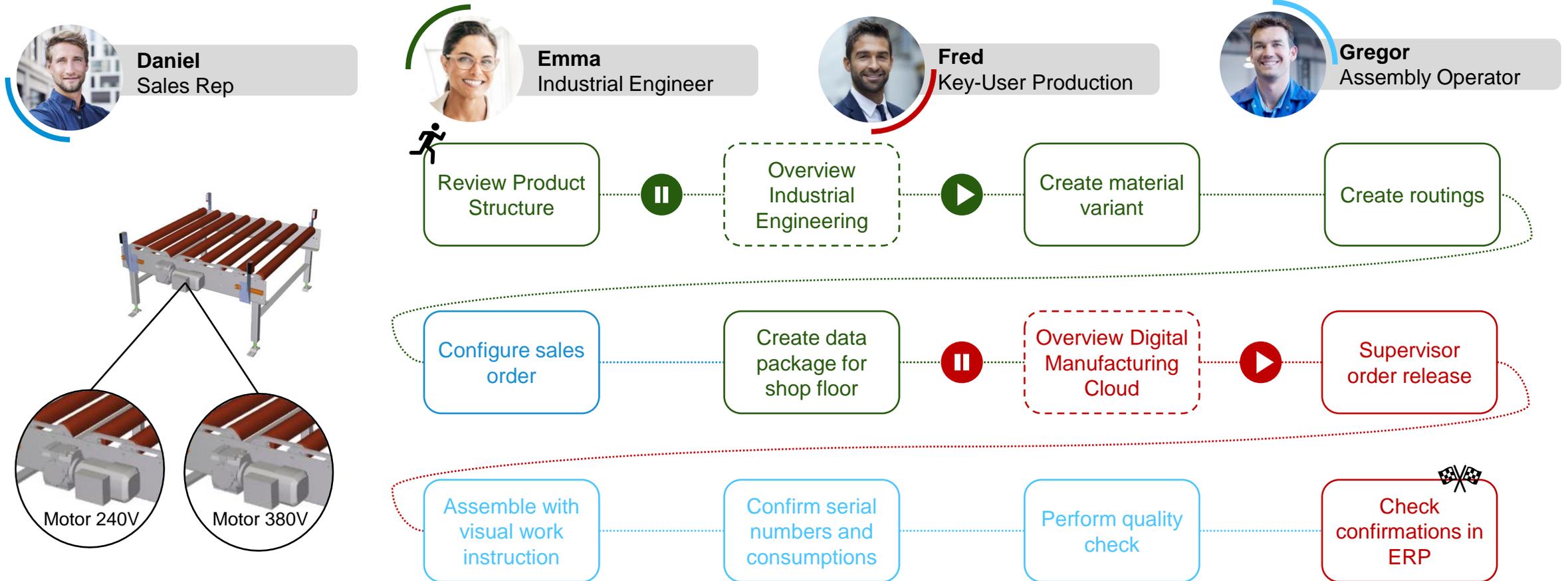
This block contains three screenshots from the SAP PPDS simulation environment:

- Product Overview:** A table showing product data for material A5E49165495. The table includes columns for Product Number, Product Short Description, Location, BUN, Target Location, Output Resource, Max. Del., Total stocks, Requirements, Forecast, Dat. Qt., Chz Or., Planning Date, and Ping Time. The data shows requirements and forecasts for various resources like WASSEM-PP_1010_001, WDRILING_1010_001, and WPACK01_1010_001.
- Detailed Scheduling Planning Board:** A Gantt-style chart showing resource usage over time. The 'Resources Chart' displays bars for resources like WSMT-PP (Surface Mount Tech), WTHHT-PP (Through Hole Tech), WCOAT-P (Coating), and WASSEM (Product Assembly) across different planning dates.
- Product Stock:** A chart showing the stock levels for material A5E49165495 over time, with a peak in stock around the end of the planning period.

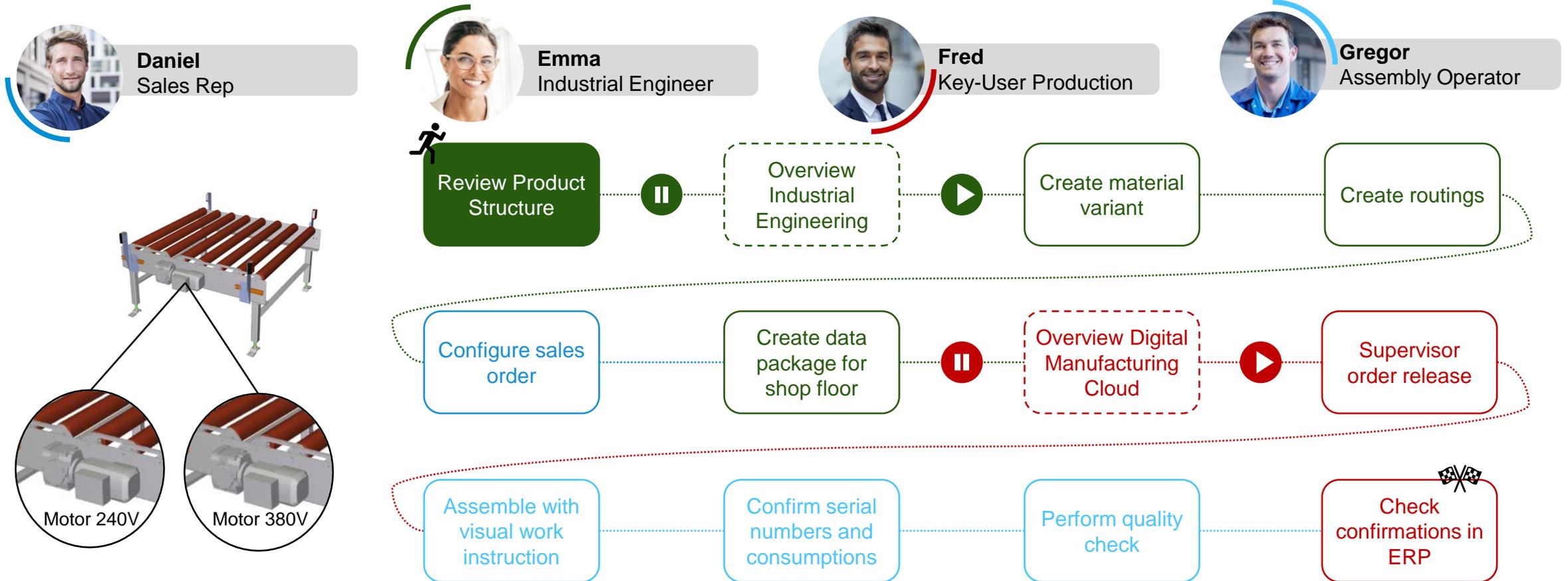
How will Conveyor work within SAP in the future?



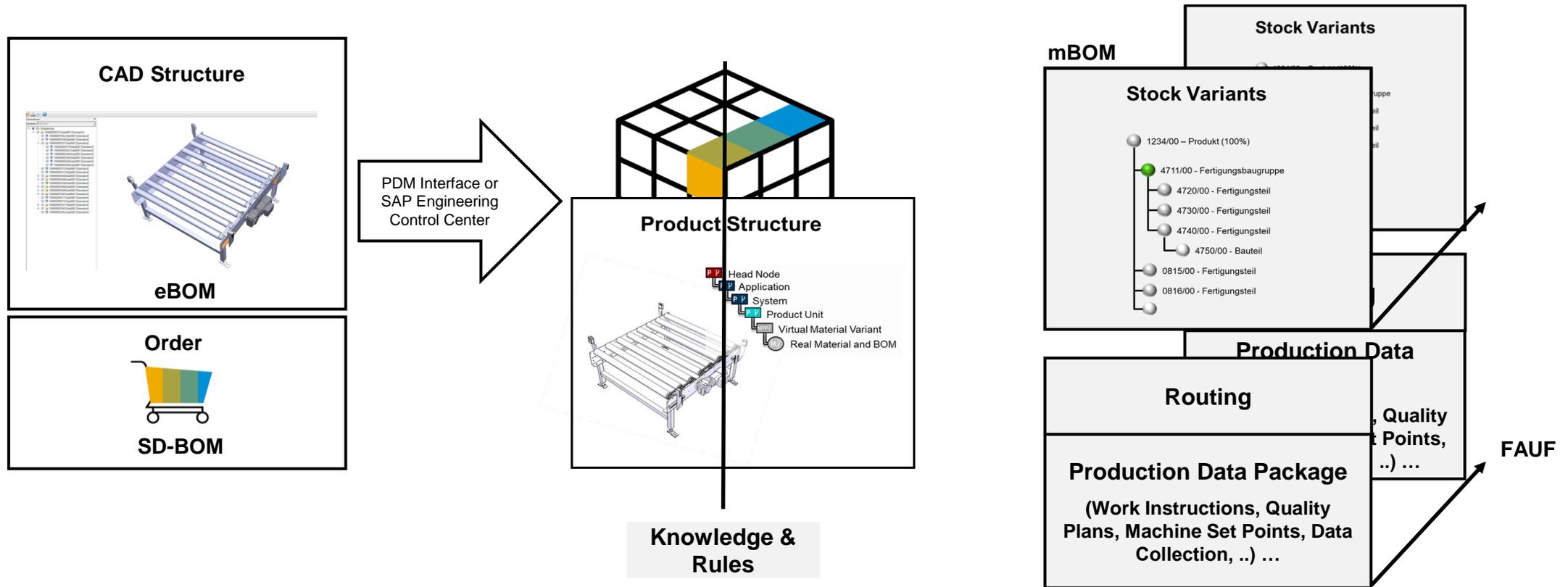
Process Flow: Industrial Engineering & Execution on the shop floor



Process Flow: Industrial Engineering & Execution on the shop floor

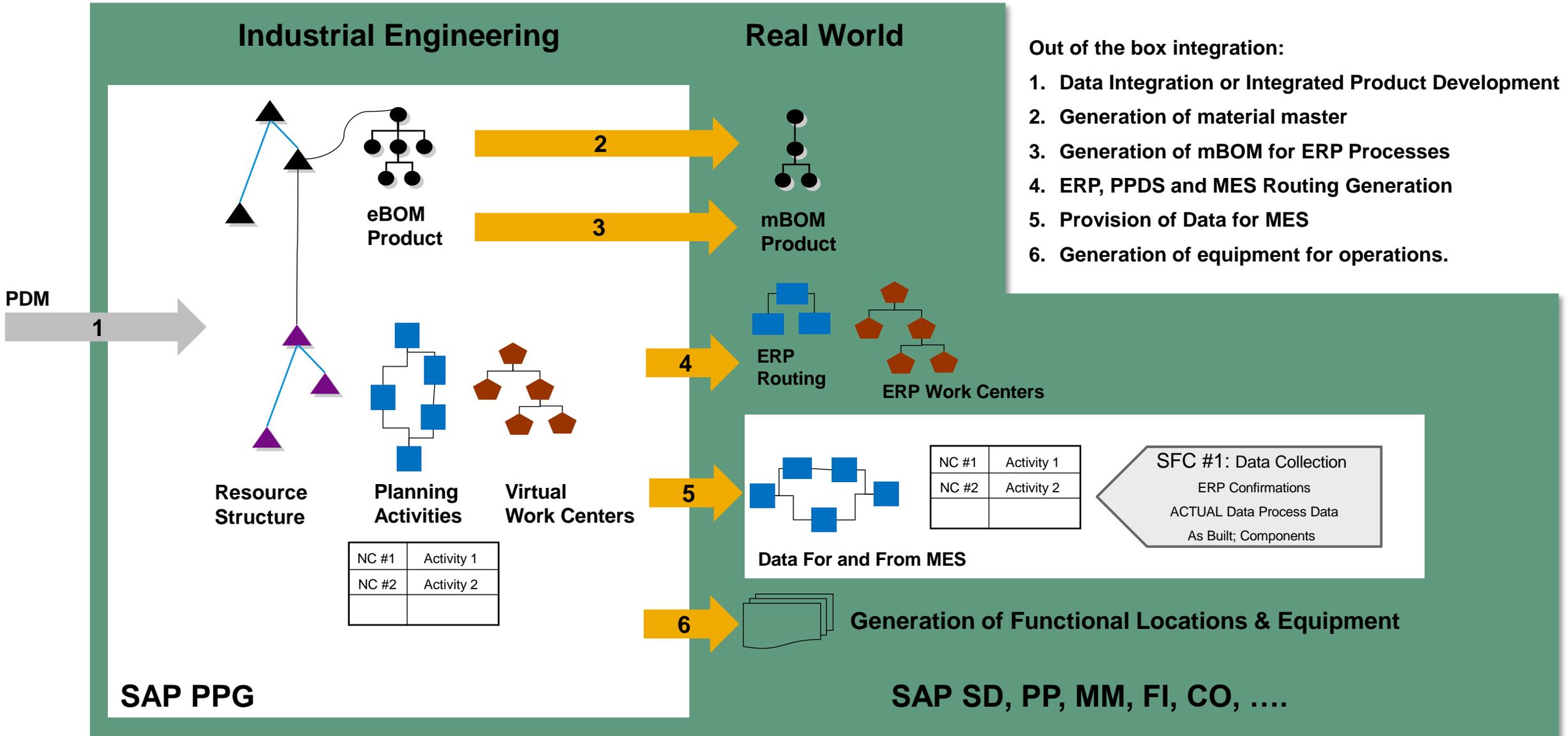


Review released product structure



- The **CAD Structure** provides the geometrical relationships between the BOM elements and the 3D (SAP VE) viewing data.
- The **Product Structure** contains different views for eBOM & mBOM.
- The **Product Structure** supports the sales configuration (Webinar 1).
- In this webinar the **Product Structure** generates the **Classic BOM models**, routings and other documents/settings for planning and production.

“Virtual” Industrial Engineering and “Real” ERP World in a single solution



Review Product Structure

Business Outcomes

“As an **Engineer**, I want to use the product structure so that downstream processes can be executed automatically.”



Emma
Industrial Engineer

The screenshot displays the SAP product structure interface. On the left, a tree view shows the hierarchy of components for 'FCC EBOM Adelin'. The main area shows a 3D model of a conveyor belt assembly with red rollers. Below the interface, a bar identifies the components: 'eBOM' (Engineering Bill of Materials) and 'mBOM' (Manufacturing Bill of Materials) are shown in blue and green boxes. The 'Digital Product Model' section includes 'MBOM Logistic Structure Werk x'. The 'Mat-BOM, PS-BOM, SD-BOM' section is shown in a grey box.

Process Highlights & Benefits



Provide integrated Information of product development disciplines including mechanical, electronic/electrical & software structures into one product definition



Plan the missing production data production aids, production documents, working instructions,



Synchronize product data, structures, access and documents across the extended enterprise

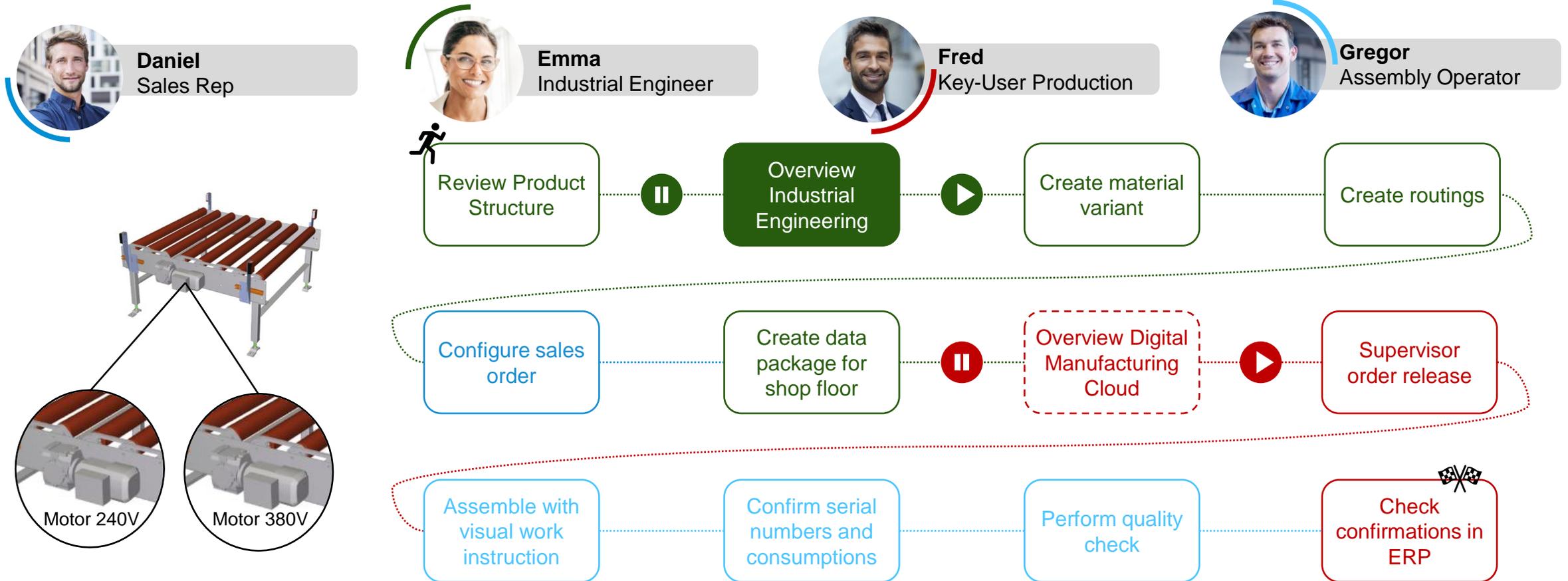


Provide digital twin foundation early in production phase

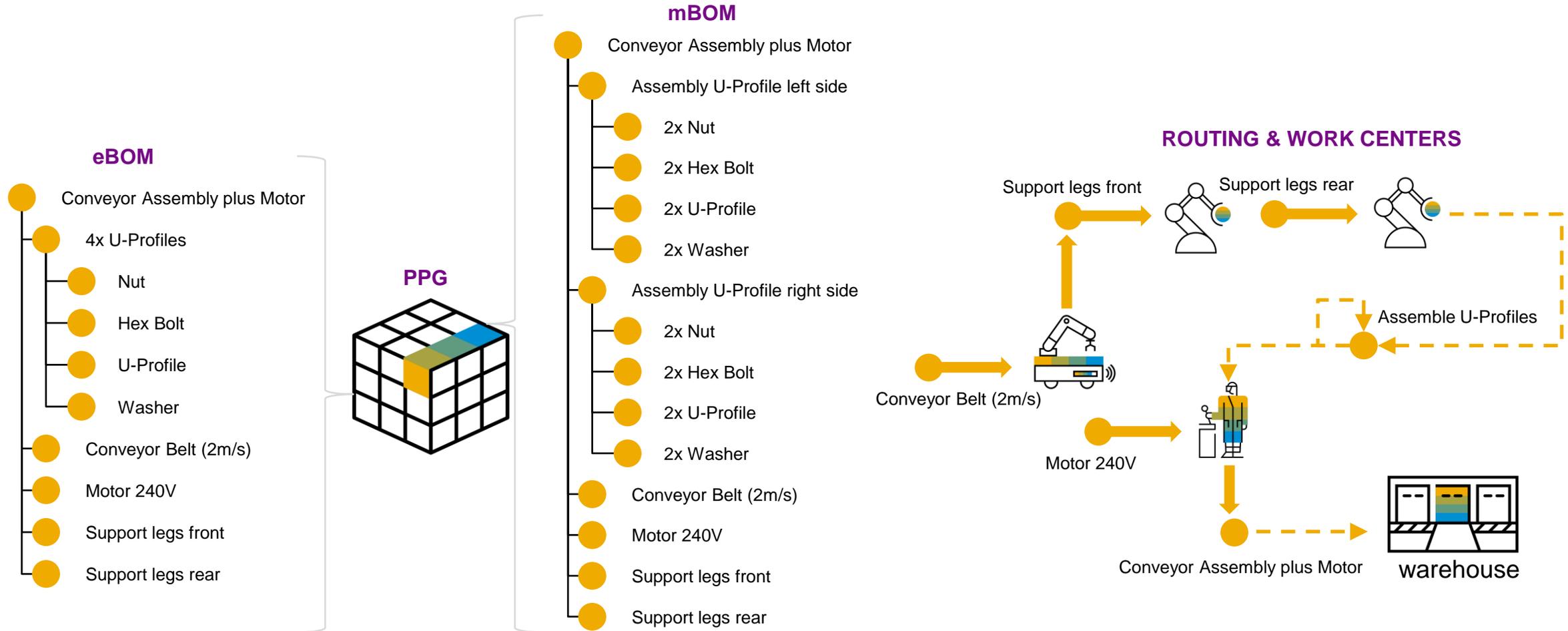


Better decision-making due to accurate definition of the product that combines design and business information

Process Flow: Industrial Engineering & Execution on the Shop floor



Engineering & Manufacturing View



- All parts of the mBOM are logistically relevant and can be used in SAP (SAP material ID required).
- The sequence is not defined in the mBOM but in the BOP (Bill of Processes).
- A complete mBOM always has a direct plant reference.

Overview Industrial Engineering

Business Outcomes

“As an **Industrial Engineer**, I want to complete the product data so that downstream processes can be executed automatically.”



Emma
Industrial Engineer

The screenshot displays the SAP Industrial Engineering (IE) interface. On the left, a tree view shows the product structure for 'KW ANTRIEBSKETTEN'. The right pane shows detailed data for the selected component 'KW_ARPL_BUCHSE_M_GLEITLAGER', including its description, class, and various technical specifications like 'AG1 Endbearbeitung Buchse ohne Flächen'.

Process Highlights & Benefits



Unify product development disciplines including mechanical, electronic/electrical & software structures into one product definition



Manage detailed mechatronic engineering data on a single platform



Synchronize product data, structures, access and documents across the extended enterprise

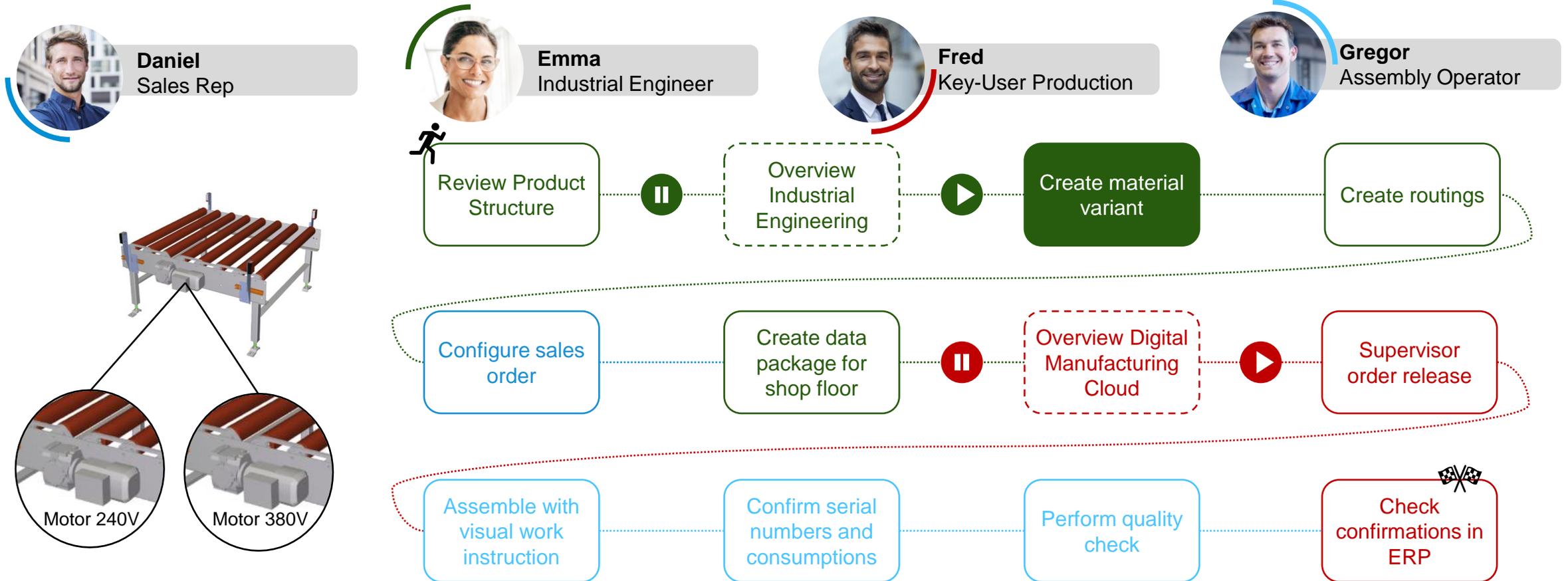


Provide digital twin foundation early in design phase



Better decision-making due to accurate definition of the product that combines design and business information

Process Flow: Industrial Engineering & Execution on the shop floor



Creating material variants

Variant RF17
RF17_EV01



Photoelectric barrier

no

Motor power

240V

Speed

2.00 m/s

Material number

XXXXX

Variant RF18
RF18_EV01



no

380V

3.00 m/s

ZZZZZ

In this demo, we will perform a configuration with material variant matching in the sales order (CTO) as well as the creation of material variants in the PPG.

As a result, we receive an invariant assembly with a substructure that can be manufactured.



Create material variant

Business Outcomes

“As an **Industrial Engineer**, I also want to be able to configure to enable efficient production with many variants.”



Emma
Industrial Engineer

	Variant RF17 RF17_EV01	Variant RF18 RF18_EV01
Photoelectric barrier	no	no
Motor power	240V	380V
Speed	2.00 m/s	3.00 m/s
Material number	XXXXX	ZZZZZ

Process Highlights & Benefits



Generate the different types of production BOMs and the stock variants



Generate routings for each variant or use configurable routings



Provide manufacturing data package for MES per variant

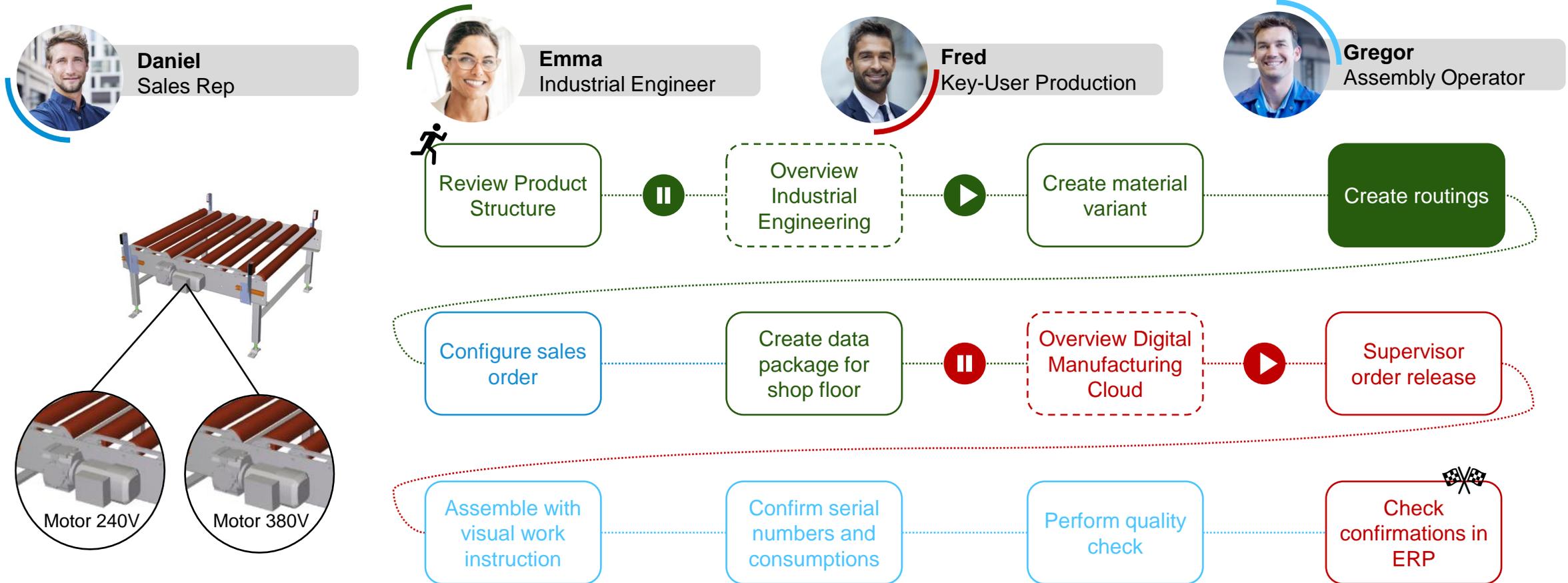


Change variants



Find and reuse variants in sales process

Process Flow: Industrial Engineering & Execution on the shop floor



Create routings

Business Outcomes

“As an **Industrial Engineer**, I want to create plant-specific routings to accommodate the different production situations in the plants.”



Emma
Industrial Engineer

Process Highlights & Benefits



Use **virtual routings** in early product development phases



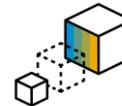
Create routings in one application



Integrated product and manufacturing view

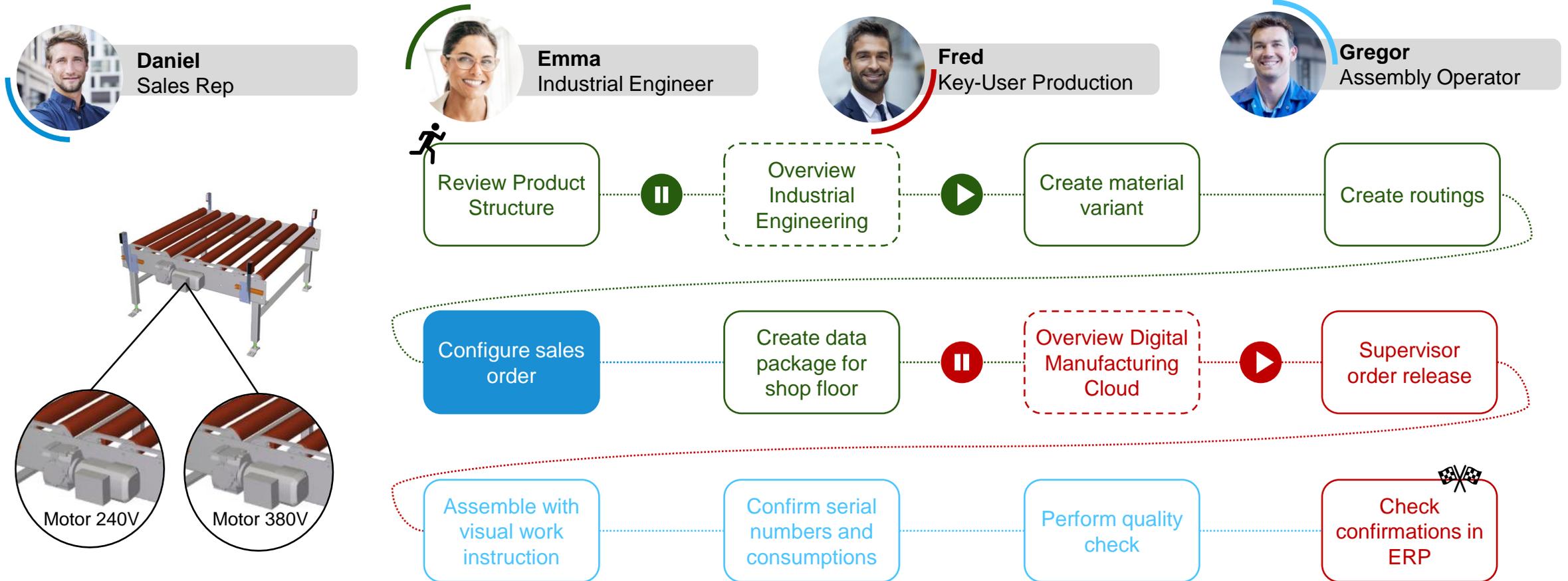


Manage variants



Use **3D models** for better planning processes

Process Flow: Industrial Engineering & Execution on the shop floor



Configure sales order

Business Outcomes

“As a **Sales Rep**, I want to be supported in configuring a sales order so I can do an order confirmation fast and error free.”



Daniel
Sales Rep

Process Highlights & Benefits



Reduce creating sales order time



Enhance the sales order configuration process with engineering knowledge to create error free sales order without additional engineering support



Start manufacturing and procurement processes

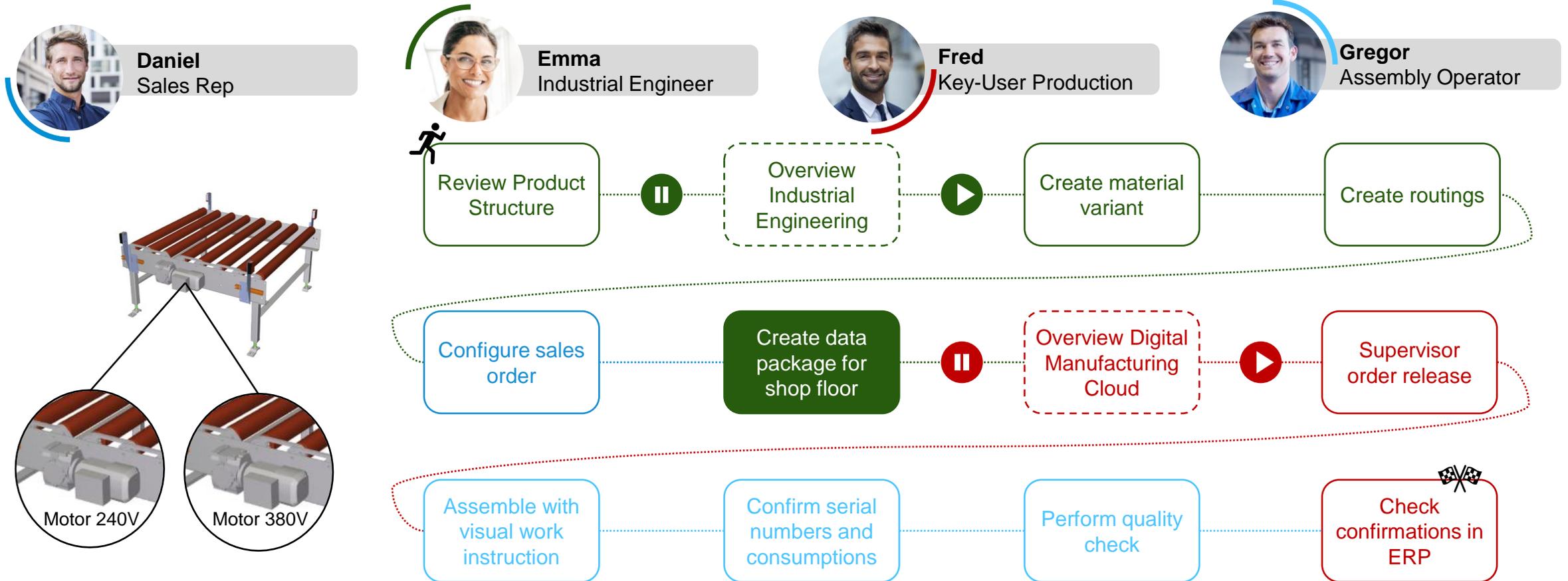


Automated document generation

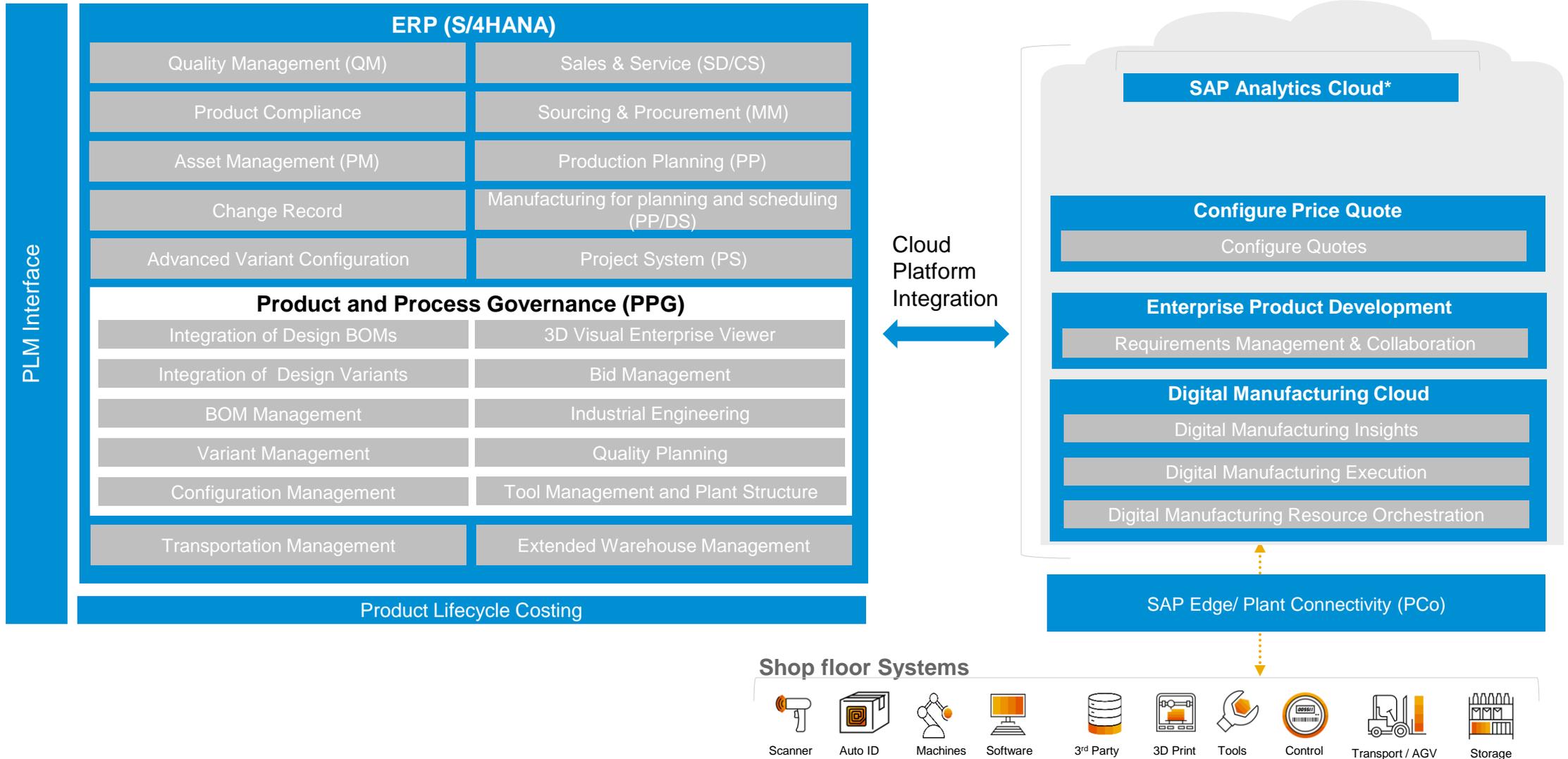


Integrate Front- and Backend Systems

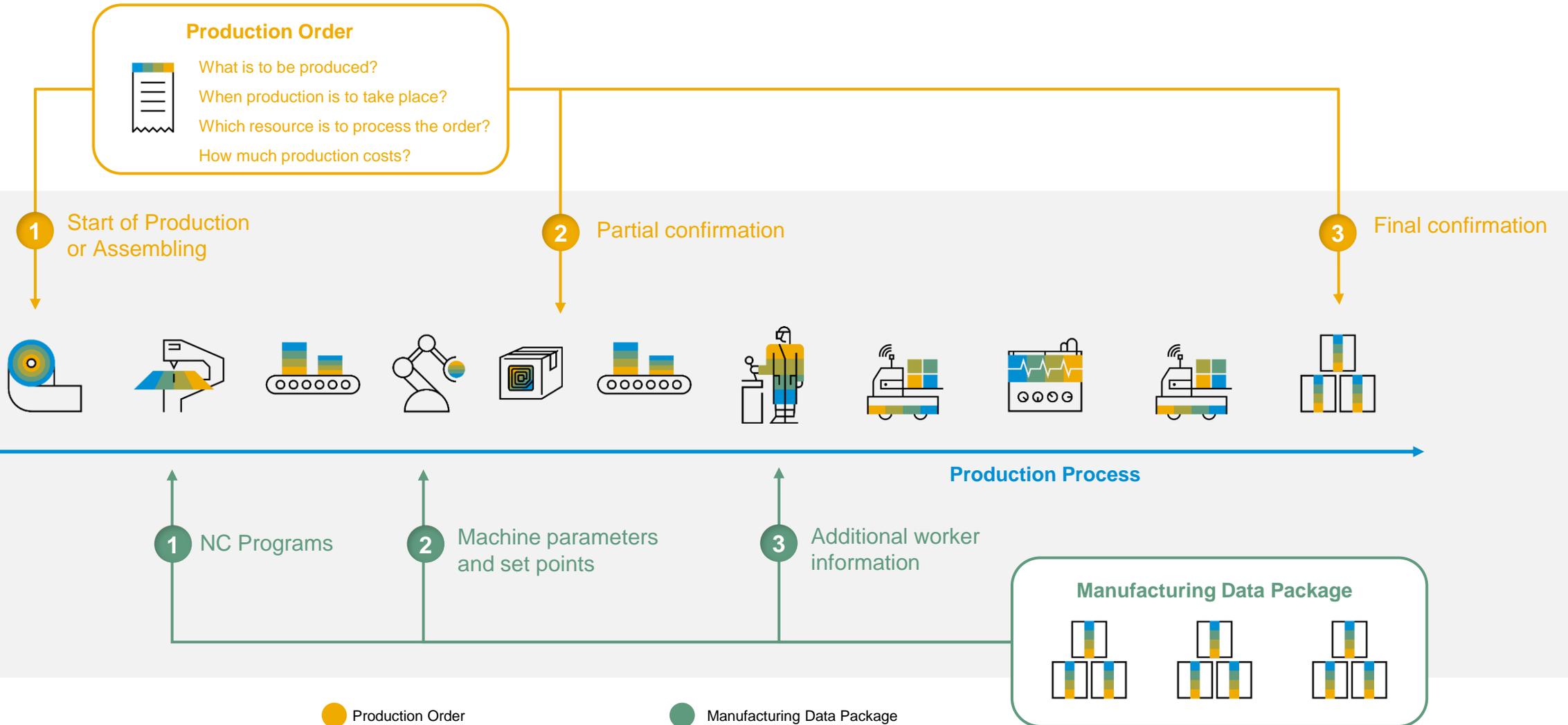
Process Flow: Industrial Engineering & Execution on the shop floor



Architecture ERP & MES



Manufacturing Information Flow



Create manufacturing data package for shop floor

Business Outcomes

“As an **Industrial Engineer**, I want to supply the shop floor with all the relevant data so that production can be started and there are no queries.”



Emma
Industrial Engineer

34	LIN+2++021296335:EN						
35	PIA+I*9610096100:RA						
36	PIA+5*01_Serie 01-02						
37	PIA+5*700_SYSTEMLINE, Edelstahl-Optik:303			021296335			
38	PIA+5*H_Waagerecht / waagerecht:304			021296335_00001	10		
39	IMD+F+:::YP-L-210:Profil L vertikal			021296335_00002	10		
40	IMD+C++9:KFL:92						
41	IMD+C++72101:APL:92						
42	IMD+C+1:ZON:92						
43	MEA+PD+LN+MMT:2100						
44	MEA+PD+WD+MMT:90						
45	MEA+PD+TH+MMT:90						
46	QTY+21:1:PCE						
47	QTY+52:1:PCE						
48	DTM+2:20220120:102						
49	DTM+63:20220121:102						
50	FTX+EEB+ART*A_Autitraag						
51	FRI+AAA:8.04:::PCE						
52	RFF+ON:11909910:170						
53	RFF+SRN:51188						
54							
55							
56							

A	B	C	D	E	F	G
AUTOID	KUNDENR	ARTIKELNR	BEZEICHNUNG	KNDARTIKELNR	KNDBESTN	SYSTEMNR
1	205	27514 983000.11.99	GRIFFMULDE L-FORM SENKRECHT	9010096100		983000.00.99

A	B	C	D	E	F	G	H
AUTOID	KUNDENR	ARTIKELNR	POSITION	KOMPONENTE	MENGE	ME	BESCHREIBUNG
236	219	15714 983000.11.99	10	901009.61.00 4600	1	1	GRIFFMULDE L-FORM SENKRECHT
237	220	15714 983000.11.99	1010	983000.30.99	1	3	Mehrpreis Sägeschnitt
238	221	15714 983000.11.99	1020	983000.32.99	1	3	Mehrpreis Holzleiste einschlagen
239	222	15714 983000.11.99	1030	595082.00.00 900	2	3	Holzleiste

A	B	C	D	E	F	G
AUTOID	KUNDENR	ARTIKELNR	POSITION	ARBGNR	AG_FOLGE	BESCHREIBUNG
169	95	27514 983000.11.99	10	31269		0 ABLAENGEN AUF MASS (OBJEKTFERTIGUNG)

Process Highlights & Benefits



The **automation level increases** if the shop floor is provided not only with a variant specific routing and mBOM but also with all other instructions in a single data package.



Change management is simplified if only the data package needs to be edited. Thus new products can be launched faster.

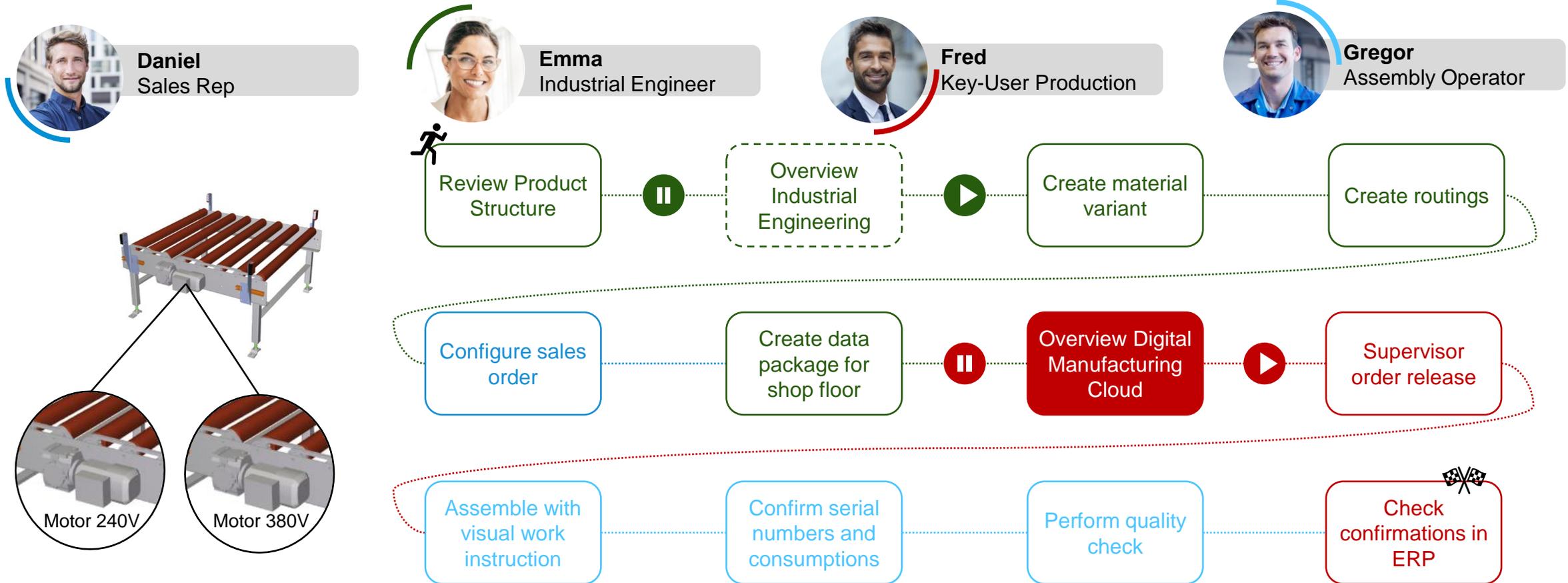


The ability of the product structure to **configure the manufacturing data package automatically** allows to fully leverage the flexibility of the robots.



The **complexity** in the manufacturing execution system and customization effort is **reduced**.

Process Flow: Industrial Engineering & Execution on the shop floor



SAP Digital Manufacturing Cloud – Launchpad

SYNTAX Home Plant: 2000 (Modellfabrik, SAP Webinar)

My Home Manufacturing Insights Manufacturing Execution Personalized Dashboards, Reports, and KPIs Manufacturing Master Data Management Enterprise Hierarchy Manufacturing Automation Manufacturing Insights Configuration AI/ML Scena

Favorit

- Manage Orders
- Montage (Montage Pod)
- Manage Alerts
- Product History
- POD Designer

Insights

- Global Insights
- Plant Insights
- KPI Analytics
- OEE Insights
- Manage Alerts

Execution

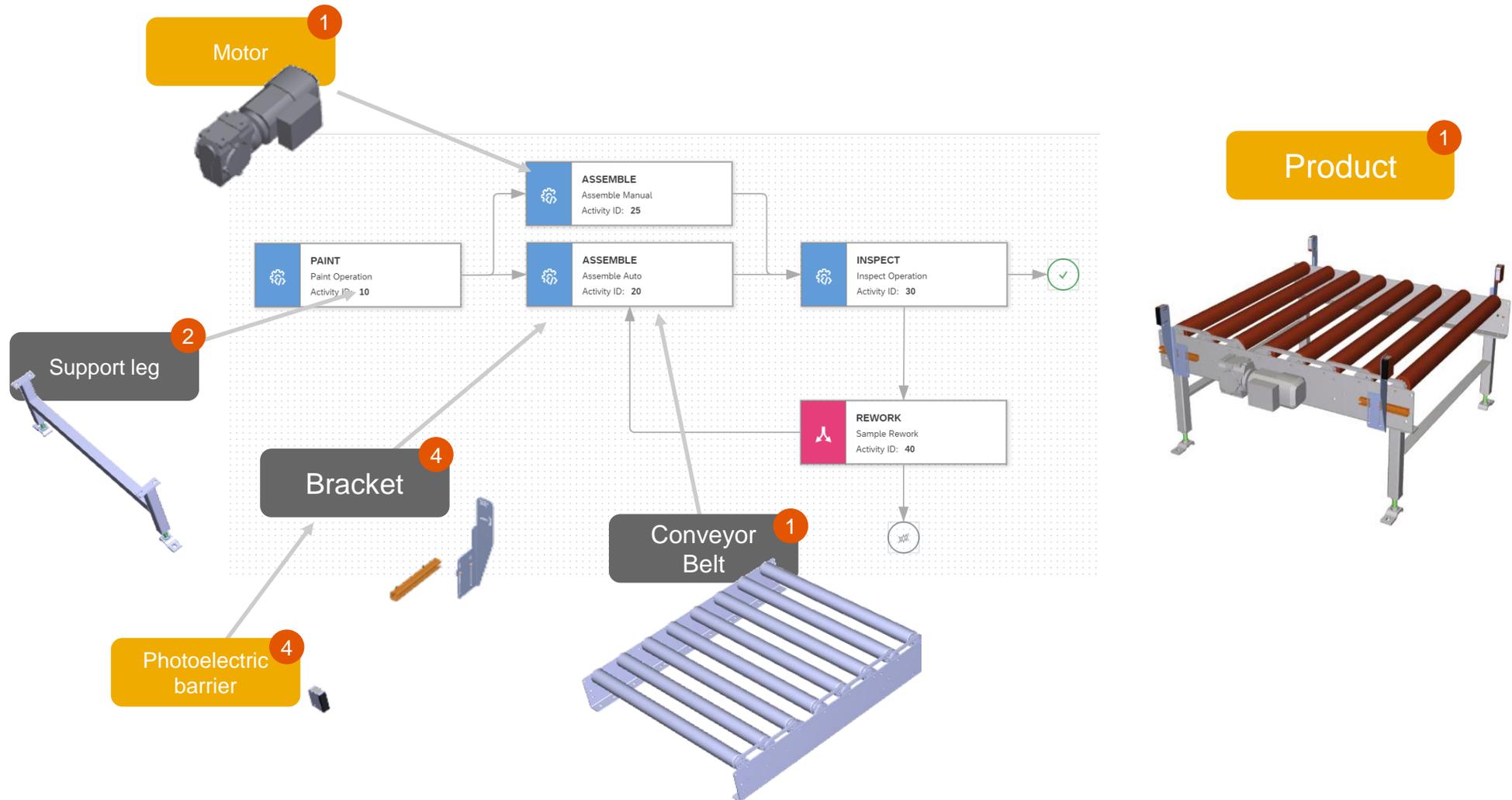
- Dispatching and Monitoring (Old Version)
- Dispatching and Monitoring 2.0
- Schedule Labor
- View Labor Schedule
- Schedule Tools
- Work Center POD (Default)
- Order POD (Default)
- Operation Activity POD (Default)
- OEE POD
- Post-Production Reporting POD (Default)
- Manage Holds
- Manage Resource Assignments
- Load Resources with Components
- Manage Floor Stocks
- Manage Staging
- Manage Orders
- Manage Cancellations
- Manage Tool Assignments

Digital Manufacturing Cloud is an MES solution.

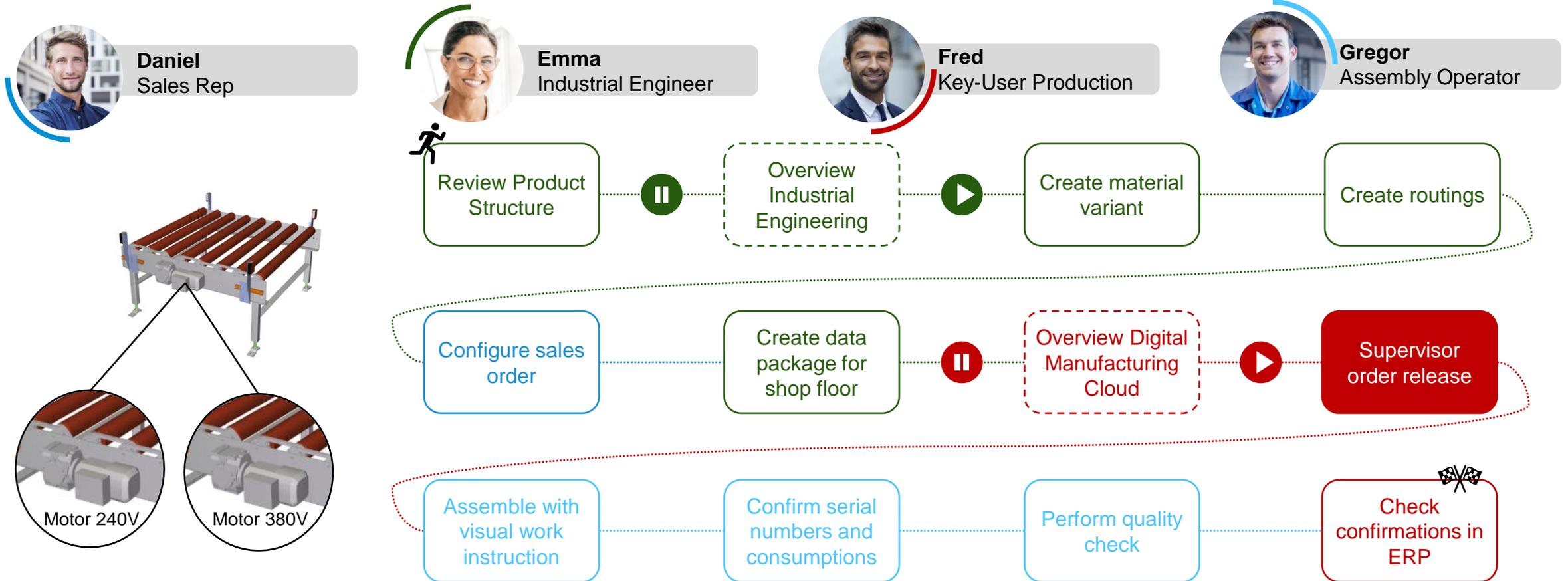
The MES solution covers manufacturing execution, analytics and scheduling. It guides the worker, integrates with machines and provides full traceability of the production process.



Flexibility in the SFC Definition enables the exact Genealogy



Process Flow: Industrial Engineering & Execution on the shop floor



Supervisor order release

Orders

Go Clear Adapt Filters (1)

Items (7)

Order ID	Material / Version	Material Description	Release Status	Execution Status	Order Quantity	BOM / Version	Planned Start Date/Planned Completion Date	Quantity Progress Completed	UOM	Batch
1000129	209570 / 1	Roller conveyor	Releasable	Not In Execution	1 EA	209570_RF_240V / 1	Mar 29, 2022	0 of 1	EA	>
1000135	209570 / 1	Roller conveyor	Released	Active	1 EA	209570_RF_240V / 1	Mar 31, 2022 – Apr 1, 2022	0 of 1	EA	>
1000131	209570 / 1	Roller conveyor	Released	Active	1 EA	209570_RF_240V / 1	Mar 29, 2022	0 of 1	EA	>
1000132	209570 / 1	Roller conveyor	Released	Hold	1 EA	209570_RF_240V / 1	Mar 29, 2022	0 of 1	EA	>
1000133	209570 / 1	Roller conveyor	Released	Active	1 EA	209570_RF_240V / 1	Mar 29, 2022	0 of 1	EA	>
1000130	209570 / 1	Roller conveyor	Released	Not In Execution	1 EA	209570_RF_240V / 1	Mar 29, 2022	0 of 1	EA	>
1000143	209570 / 1	Roller conveyor	Released	Not In Execution	1 EA	209570_RF_240V / 1	Mar 29, 2022	0 of 1	EA	>

Release Order

1000129

Material: 209570 / 1 (Roller conveyor)

Order Information

Production Type: SFC-Based

ERP Order: Yes

BOM / Version: 209570_RF_240V / 1

Routing / Version: 209570_ROLLER / 1

Priority: 500

Planned Material / Version: 209570 / 1

Build Quantity: 1 EA

Available Quantity to Release: 1 EA

Quantity to Release: 1 EA

Batch:

Planned Start: Mar 29, 2022, 4:02:41 PM

Planned Completion: Mar 29, 2022, 4:03:41 PM

Scheduled Start: Mar 29, 2022, 5:00:00 PM

Scheduled Completion: Apr 1, 2022, 9:15:00 PM

Release Edit Copy Hold Release Close

Release Cancel

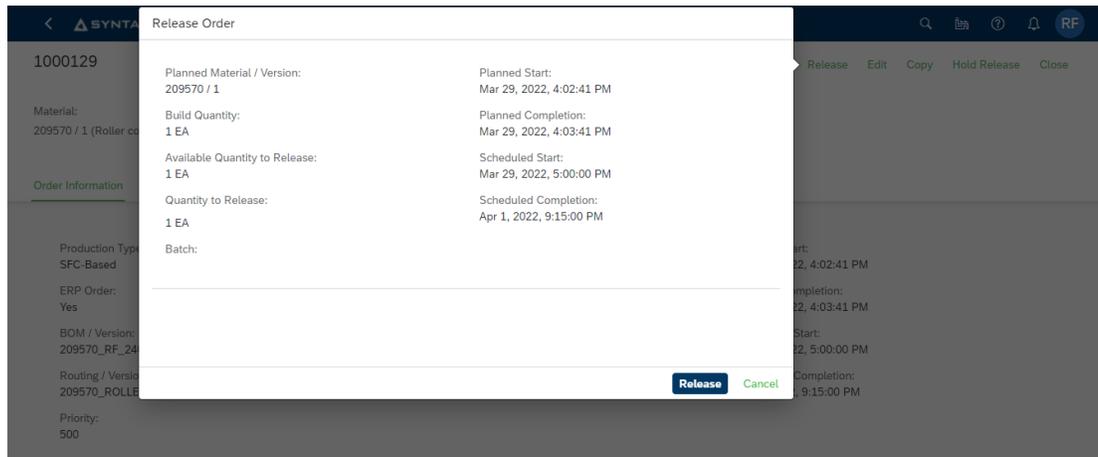
Supervisor order release

Business Outcomes

“As **Key-User Production**, I want to decide which order should start so that I can influence the priority.”



Fred
Key-User Production



Process Highlights



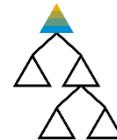
Release an order to the shop floor



Review all relevant Order details before release



React just in time changes e.g. Priority

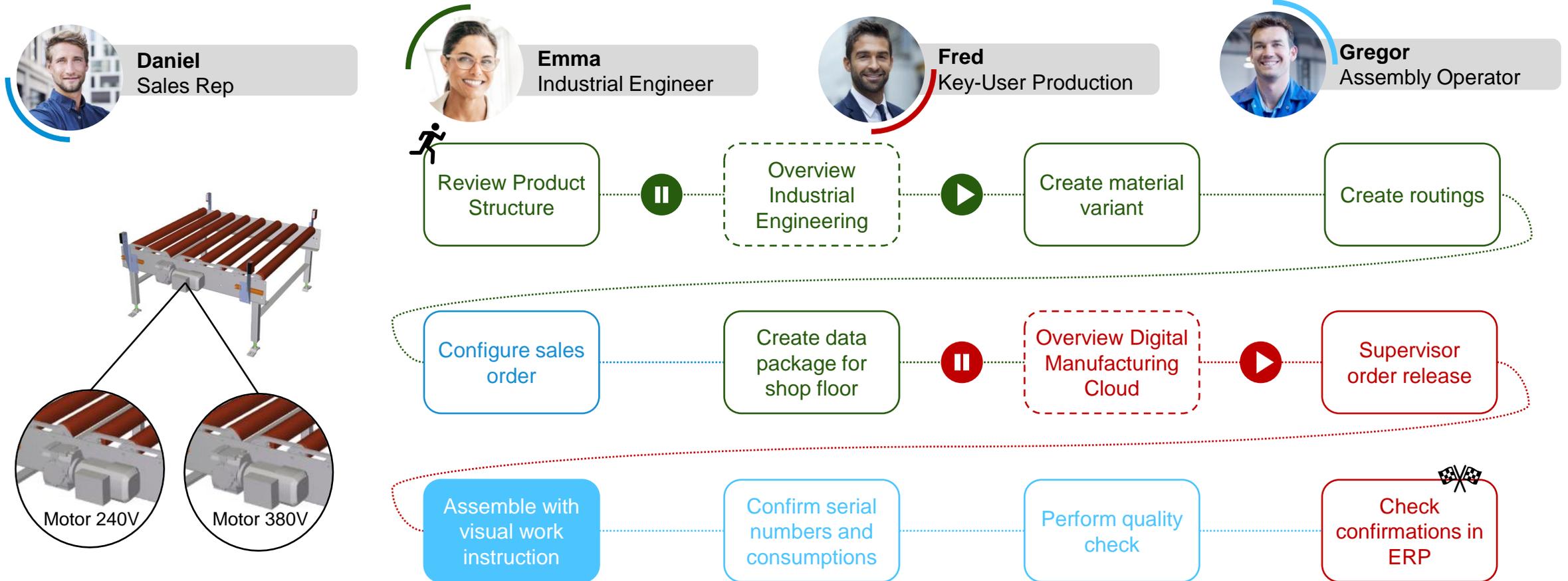


Visualize Bom, Routing, Status and Yield/Scrap Progress view



Full integrated interface with ECC, S/4HANA and S/4HANA Cloud

Process Flow: Industrial Engineering & Execution on the shop floor



Assemble with visual work instruction

SYNTAX MONTAGE Plant: 2000 (Modellfabrik, SAP Webinar)

Main Page / Arbeitsplatz 21:41:13

Start Operation Sign off Operation Complete Operation Create Notification

Operation Activity List (1)

Operation Activity/Step ID	Activity Description	Status Icon	Qty	Action
0010/10	Assembly instruction (69Nm)	◆	1	Start

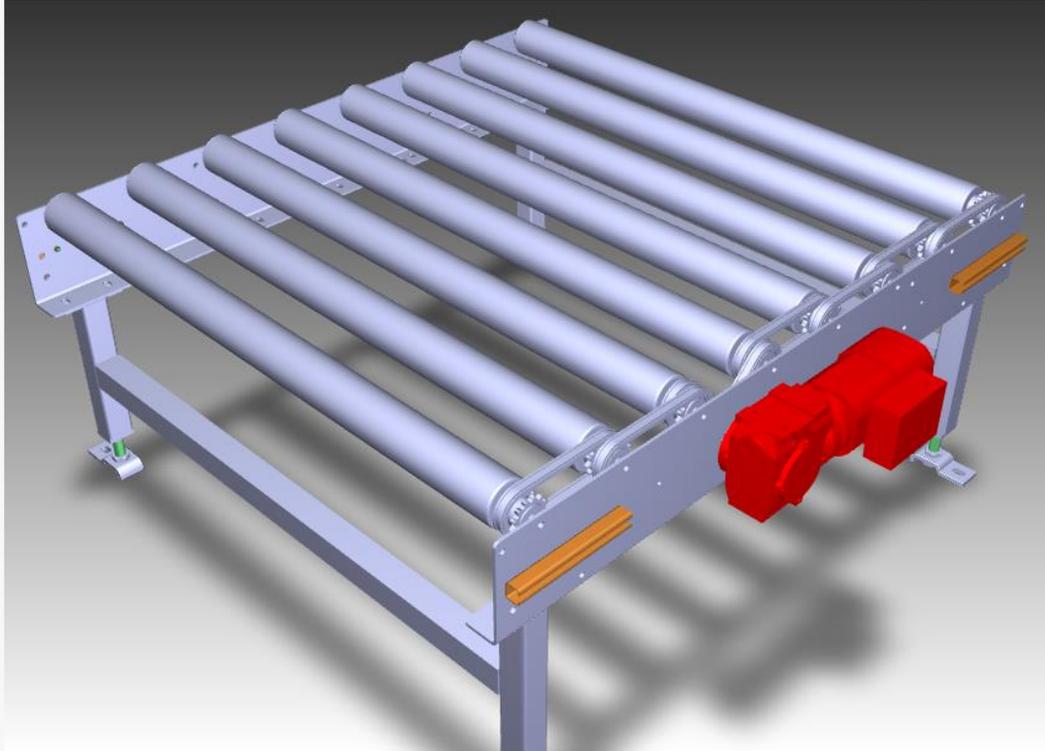
Instructions Data Nonconform... Features Components

Component List

Assembly Sequence	Component/Version	Description	Required Quantity	Remaining Quantity	Action
Not Assembled					
30	209576 / 1	Engine 240V	1	1	Assemble
40	209617 / 1	Support	2	2	Assemble
Assembled					
10	209575 / 1	Assembly group bent sheet metal	4	0	Remove
20	209578 / 1	Conveyor 2m/s	1	0	Remove

Work Instruction ROLLENFOERDERER_MODELL_240V/1, Mode: Independent

3D Object



Assemble with visual work instruction

Business Outcomes

“As an **Assembly Operator**, I want to see which components I have to use and how many remain so that I am always informed.”



Gregor
Assembly Operator

The screenshot displays the SAP Montage interface. At the top, there are navigation buttons: 'Start Operation', 'Sign off Operation', 'Complete Operation', and 'Create Notification'. Below this is the 'Operation Activity List (1)' table:

Operation Activity/Step ID	Activity Description	Status Icon	Qty	Action
0010130	Assembly instruction (69Nm)		1	Start

Below the activity list is the 'Component List' table:

Assembly Sequence	Component/Version	Description	Required Quantity	Remaining Quantity	Action
Not Assembled					
30	209976 / 1	Engine 240V	1	1	Assemble
40	209617 / 1	Support	2	2	Assemble
Assembled					
10	209575 / 1	Assembly group bent sheet metal	4	0	Remove
20	209578 / 1	Conveyor 2m/s	1	0	Remove

On the right side of the interface, there is a 3D model of a roller conveyor assembly with red rollers. The text above the model reads: 'Work Instruction ROLLENFOERDERER_MODELL_240V/1, Mode: Independent'.

Process Highlights



List all components based on CTO/MTS BoM



Use text based work instructions and visual work instructions like images, drawings or 3D models



Choose the Assembly Mode: Choose Sequence and Choose Auto Next

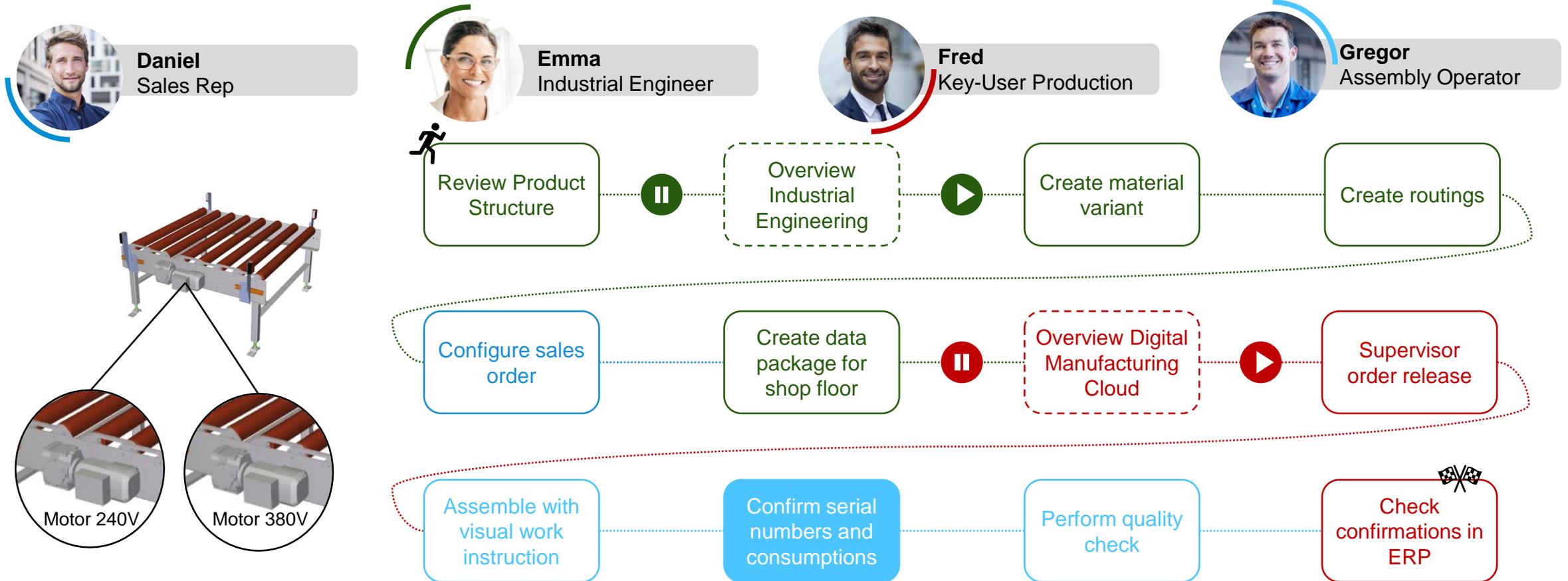


Allow Skipping Components



Executing Discrete or Time-Based Assembly

Process Flow: Industrial Engineering & Execution on the shop floor



Confirm serial numbers and consumptions

The screenshot displays the SAP Montage interface for a plant named '2000 (Modellfabrik, SAP Webinar)'. The main page shows an 'Operation Activity List (1)' with one activity: '0010/10 Assembly instruction (69Nm)'. Below this is a 'Component List' table with columns for 'Assembly Sequence', 'Component/Version', 'Description', and 'Required Quantity'. The table is divided into 'Not Assembled' and 'Assembled' sections.

Assembly Sequence	Component/Version	Description	Required Quantity
Not Assembled			
30	209576 / 1	Engine 240V	1
40	209617 / 1	Support	2
Assembled			
10	209575 / 1	Assembly group bent sheet metal	4
20	209578 / 1	Conveyor 2m/s	1

A modal window titled 'Komponentenliste' is open, showing 'Assemble Components' in 'Mode: Sequence'. It indicates '0 of 1 components assembled'. The 'Component Details' section shows: Component Name: 209576, Version: 1, Description: Engine 240V, and Quantity: 1. The 'Assembly Data' section shows SERIALNUMBER: 51279745. An 'Add' button is visible at the bottom right of the modal.

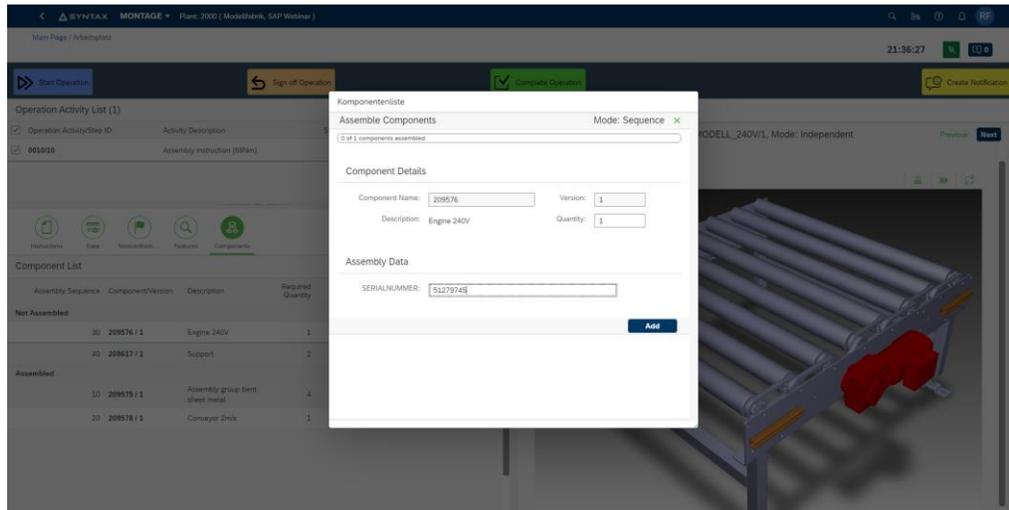
Confirm serial numbers and consumptions

Business Outcomes

“As an **Assembly Operator**, I want to confirm my material consumption so that I know how much I still have.”



Gregor
Assembly Operator



Process Highlights



Assemble components based on CTO/MTS BoM



Validation of Serial # or Vendor Data



User guidance and Assembly steps

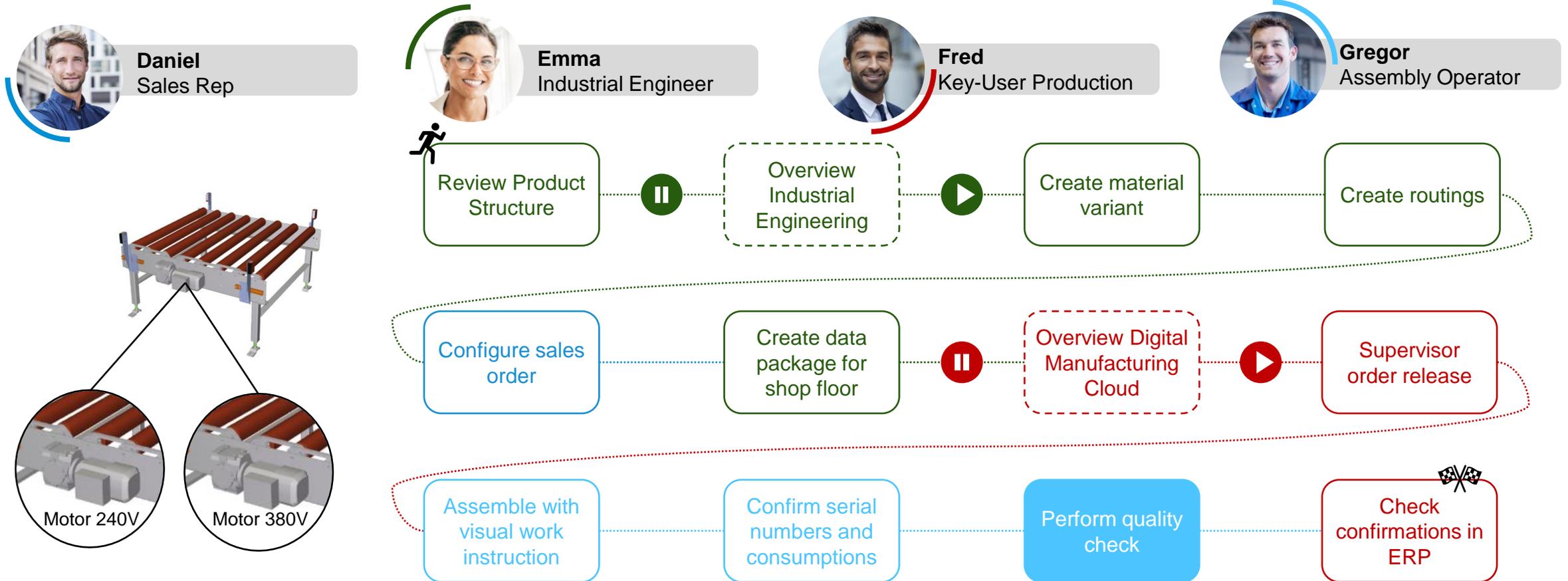


Enrichment Order-Specific Objects (Tolerance, Assembly Data, etc.)



Executing Discrete or Time-Based Assembly

Process Flow: Industrial Engineering & Execution on the shop floor



▶▶ Start Operation

↶ Sign off Operation

☑ Complete Operation

😊 Create Notification

Operation Activity List (1)

Operation Activity/Step ID	Activity Description	Status Icon	Qty	Action
0010/10	Assembly instruction (69Nm)	■	1	Complete

- Instructions
- Data
- Nonconform...
- Features
- Components**

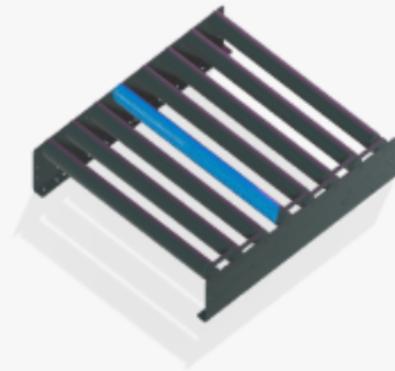
Component List

Component/Version	Description	Required Quantity	Remaining Quantity	Action
Not Assembled				
209575 / 1	Assembly group bent sheet metal	4	4	Assemble
209578 / 1	Conveyor 2m/s	1	1	Assemble
209576 / 1	Engine 240V	1	1	Assemble
209617 / 1	Support	2	2	Assemble

- Instructions
- Vis. Inspector**
- Assembly st...

2000384

Resume 🔍 136% 🔍 Source



✖ SFC 2000384 is likely nonconformant. ✖

Inspection Results

NC Code	Prob...	Logg...
FEHLER_ENDABM	Fehler Endabnahm	88% Log NC

Perform quality check

Business Outcomes

“As an **Assembly Operator**, I want to perform a quality check so that I know where I have to perform rework .”



Gregor
Assembly Operator

The screenshot shows the SAP MONTAGE interface for Plant 2000. The top navigation bar includes 'Start Operation', 'Sign off Operation', 'Complete Operation', and 'Create Notification'. The main area displays an 'Operation Activity List' with one entry: '0010/10 Assembly instruction (69Nm)'. Below this is a 'Component List' table:

Component/Version	Description	Required Quantity	Remaining Quantity	Action
209575 / 1	Assembly group bent sheet metal	4	4	Assemble
209578 / 1	Conveyor 2m/s	1	1	Assemble
209576 / 1	Engine 240V	1	1	Assemble
209617 / 1	Support	2	2	Assemble

On the right, a 'Resume' panel shows 'SFC 2000384' with a '136%' completion rate. A red notification banner states: 'SFC 2000384 is likely nonconformant.' Below this, an 'Inspection Results' section shows 'FEHLER_ENDABNAHME Fehler Endabnahme' with an '88%' status and a 'Log NC' button.

Process Highlights



Connect machines with the DMC



Log automatically machine signals



Using Artificial Intelligence for quality checks

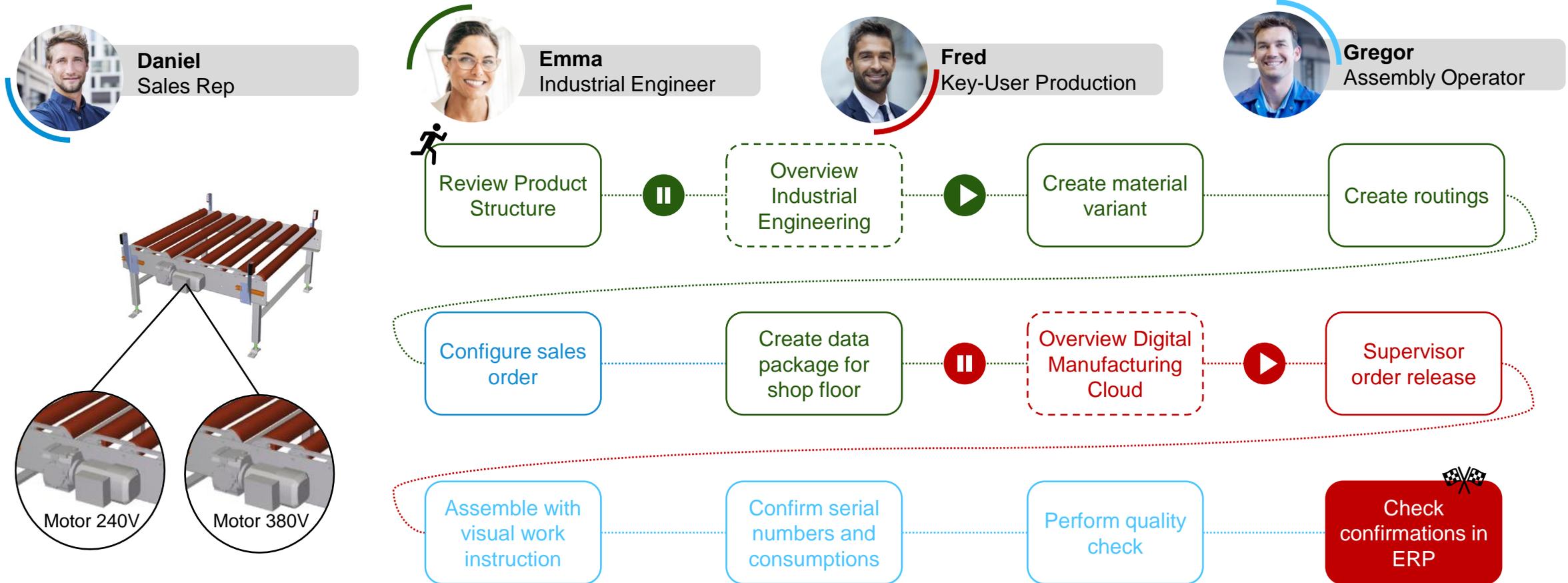


Allows to log AI based non conformance



Inspect the finished product visually

Process Flow: Industrial Engineering & Execution on the shop floor



Check confirmations in ERP

Business Outcomes

“As an **Key-User Production**, I want to see the confirmations from the shop floor in ERP so that I can easily share the data with engineering, quality management, service, and so on.”



Fred
Key-User Production

The screenshot shows the SAP interface for displaying production order confirmations. It includes fields for Order (0004981), Material (020_DMC_CONTROL_HEAD_WHITE_SIMPLE), and Material Descr (Head Unit - White Cover Simple Wing). The main table lists operations with columns for Operation/Counter, M., Quantity, Scrap, Unit, OprShrtTst, C, R, F, T, Posting Date, and WPS Name.

Operation/Counter	M.	Quantity	Scrap	Unit	OprShrtTst	C	R	F	T	Posting Date	WPS Name
0010		5	0	EA	Label Creation						
0011		1	0	EA						28.04.2020	
0012		1	0	EA						28.04.2020	
0013		1	0	EA						29.04.2020	
0014		1	0	EA						29.04.2020	
0015		1	0	EA						29.04.2020	
0020		5	0	EA	Preparation of assembly						
0021		1	0	EA						28.04.2020	
0022		1	0	EA						28.04.2020	
0023		1	0	EA						28.04.2020	
0024		1	0	EA						29.04.2020	
0025		1	0	EA						29.04.2020	
0030		5	0	EA	Assembly of components						
0031		1	0	EA						28.04.2020	
0032		1	0	EA						28.04.2020	
0033		1	0	EA						28.04.2020	
0034		1	0	EA						28.04.2020	
0035		1	0	EA						28.04.2020	
0040		5	0	EA	Inspection of control head						

Process Highlights



Powerful plug & play integration between ERP, EWM and DMC



Easily access and share manufacturing data (digital thread & digital twin)



Start collaborations and establish feedback loops to improve product quality or business processes



Fully automatic postings in ERP



Gain detailed views through shop floor Control Unit (SFC) when needed

Summary

The Design-Driven Enterprise is AGIL.EFFICIENT.CUSTOMER-CENTRIC

- ✓ **Increased the level of automation** in the process flow from engineering into sales, production, service with **model once configure anywhere.**
- ✓ Using a **smart product structure** as **single central solution** to achieve **high level of consistency, automation and accuracy** across all departments.
- ✓ Improved leverage of their existing investment in the **SAP Core. Reduce complexity** of applications outside of the core.



A woman in a blue uniform and safety glasses is working on a blue robotic arm in a factory setting. She is holding a red flashlight and a blue component. The background shows industrial machinery and a factory floor.

Design-Driven Enterprise

**From Manufacturing to Customer for
Configurable Components and End-products**
Variantenreiches MTS oder CTO

08.04.2022

Thank you & see you soon.