FEBRUARY 2, 2023

Striving for Operational Excellence

Dr. Thomas Rohe, COO – Capital Markets Day 2023

Disclaimer

All presentations at our Capital Markets Day 2023 contain forward-looking statements relating to the business, financial performance and earnings of SUSS MicroTec SE and its subsidiaries and associates.

Forward-looking statements are based on current plans, estimates, projections and expectations and are therefore subject to risks and uncertainties, most of which are difficult to estimate and which in general are beyond the control of SUSS MicroTec SE. Consequently, actual developments as well as actual earnings and performance may differ materially from those which explicitly or implicitly assumed in the forward-looking statements.

SUSS MicroTec SE does not intend or accept any obligation to publish updates of these forward-looking statements.

Operations overview: three manufacturing sites for semiconductor equipment

	**Garching	Germany (HQ)**	**Sternenfels	Germany**	**Hsinchu	Taiwan**
	 9,000 m² 238 empl.[1]	 15,000 m² 448 empl.[1]	 4,800 m² 196 empl.[1]
Photomask Cleaning		 MaskTrack X	
Exposure Systems	 Mask Aligner MA200/300		 Projection Scanner DSC300
Coater/ Developer		 ACS new generations	 ACS300
Bonding Systems		XBC300   XB8	

1) FTEs at 09/30/2022

Operations overview: organization with ~700 employees

COO

New since 12/22 R&D

- R&D Project Office
- Software
- Platform and Systems
- Modules
- System Architecture & Innovation

 # employees ~220

Production

- Garching
- Sternenfels
- Hsinchu

~350

New since 7/22 Logistics

- ~4.8 million incoming parts
- ~50,000 goods received

~50

Procurement

- ~€140 million purchasing volume
- ~30,000 different purchasing items

~40

Order Center

- ~400 customer projects

~20

Quality Management

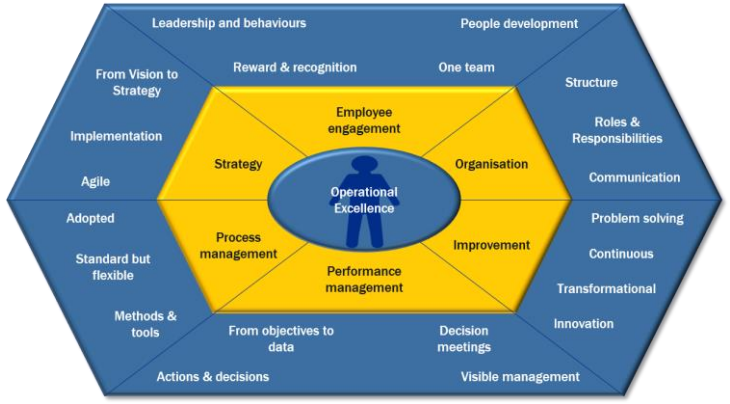
- Quality assurance
- Process management

~30

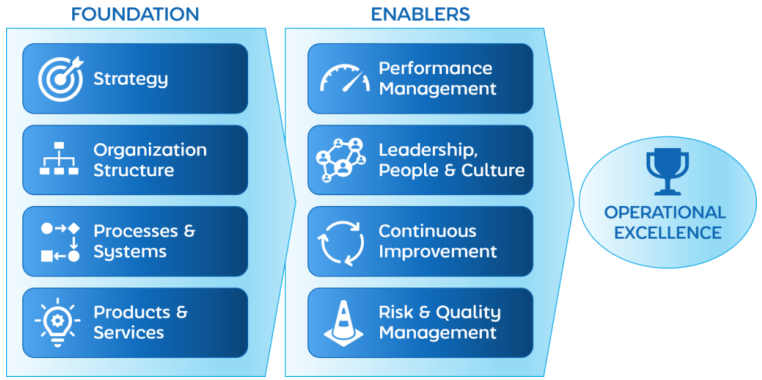
Total number of employees in operations ~700

There are many ways to define “operational excellence”

Source: https://nearwater.nl/what-is-operational-excellence/



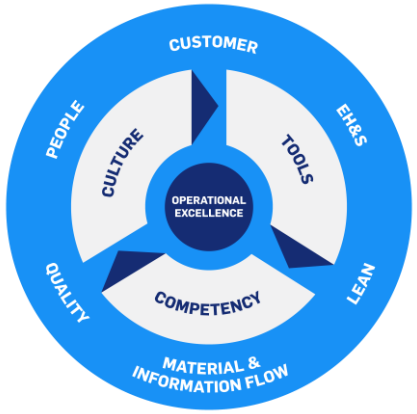
Source: https://www.wevalgo.com/packaged-services/product/operational-excellence-wide



Source: https://sixsigmadsi.com/operational-excellence/

Source: https://acuityinstitute.com/operational-excellence-vs-continuous-improvement/

Source: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.686624/full



Source: https://www.corporate.carrier.com/our-company/operational-excellence/

Source: https://www.korn-consult.com/de/insight/operational-excellence/

What does operations excellence means for SUSS MicroTec?

Strategy

- Organization
- Processes
- Products
- Leadership, people, culture

Which projects and programs are behind this general picture?

Strategy

Organization

- R&D Organization
- Logistics
- Procurement

Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing

Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

Strategy

Strategy

Organization

- R&D Organization
- Logistics
- Procurement

Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing

Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

Reminder: Our strategy

Leader in enabling innovative

1. … in our markets.
2. … in quality of our products.
3. … in excellence of our manufacturing.
4. … in service and customer relationship.
5. … in profitability.

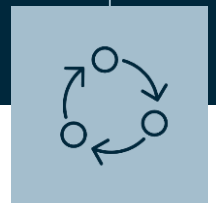
1. … is our DNA.
2. … for more cost effective and sustainable manufacturing.
3. … business processes.

R&D Organization

Strategy

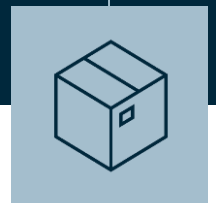
Organization

- R&D Organization
- Logistics
- Procurement



Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing



Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

Organizational changes in R&D enable clear focus and agility in a fast evolution of market dynamics

	Scalability	Methodology	Increasing complexity
Challenge	Historically grown mixed set-up is limited in scale	Market environment requires focused, structured and reliable technology & product development to ensure time to market	Market requires clear product and technology roadmaps that will be delivered on time at affordable costs
Target	▪ Defined functions and roles with clear ownership ▪ Central Group R&D as service provider for business units enabling scalability, focus & systematic R&D on group level ▪ Business units focusing on business related tasks and providing direction setting for central R&D	▪ New R&D project office providing **common development methodology and processes** ▪ **R&D project controlling** ensuring effective and in-time R&D project execution	▪ **Systematic and efficient technology & product development** with focus on **modularization** and **standardization** enabling **agility** in R&D projects (HW+SW) and improving **profitability** ▪ Technology and product **innovation** firmly anchored in R&D to drive **technology leadership** and support **differentiation**

We are aiming to grow fast and sustainable – enabled by high solutions with superior customer value.

Central R&D department assigned to COO

Clearer focus for R&D and business units

- Clear distinction between tasks of R&D and business units
- R&D with clear focus on product realization and **platform strategy**
- Business units with clear focus on product management, market intelligence and applications
- New reporting line brings R&D closer to operations and pushes for **design for manufacturability**
- Organization of R&D departments in functional modules like bonding, cleaning, etc. instead of capabilities (e.g. mechanics, electronics, etc.) pushes for focus on **process functionality**

Logistics

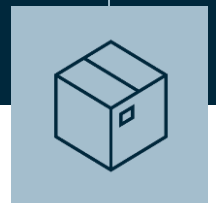
Strategy

Organization

- R&D Organization
- Logistics
- Procurement

Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing



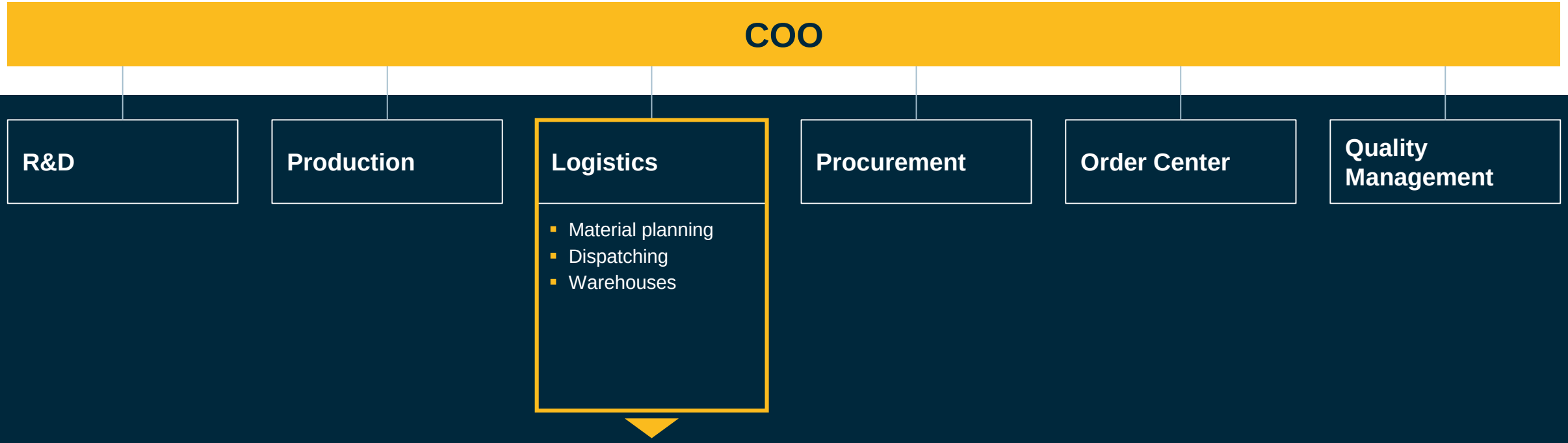
Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

New Logistics Department within the Operations Organization



- Logistics and material planning established as an own competency within operations and as an overarching function
- Clear and common processes for **material planning** for all business units and production sites
- Clear distinction between procurement and material planning
- Focus on translation between sales forecast and material planning and hence material procurement
- Responsibility clearly located in logistics department

Change of the existing material planning strategy

01 Step ✓	02 Step	03 Step	04 Step
Ordering based on typical customer configurations of a certain product Long-lead time items are ordered	Extension of typical customer configurations to medium-lead time items	Primary demand planning based on the probability of use for each single material and connecting to sales forecast	Connecting selected suppliers to our forecasts and implementing long-term order volumes
Done	Q2/2023	Q3/2023	Q1/2024

Material procurement based on incoming orders → **Proactive material planning and pre-procurement based on sales forecast**

Procurement

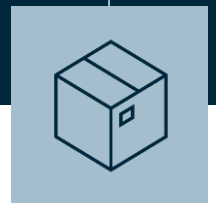
Strategy

Organization

- R&D Organization
- Logistics
- Procurement

Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing



Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

Implementation of strategic purchasing enables procurement excellence

1

One sourcing team

- Global optimization of the supplier base
- Increase localization rate Asia
- Global contracting

2

Commodity and sourcing strategy

- Implement bundling effects
- Price savings
- Concentration on a limited number of very reliable suppliers

3

Contract management

- Price stability based on long term agreements
- Price savings
- Delivery stability
- Flexibility to adjust volume to market requirements

4

Supplier management

- Supplier development
- Quality improvement
- new product introduction
- technology development

5

Outsourcing activities

- Reduction of complexity in production
- Reinforcing procurement of assemblies

6

Digitizing procurement process

- Increase efficiency

Processes for strategic purchasing are described and implemented

Roles for **material category managers** are described and positions have been filled

Example 1: Outsourcing C-part management

Outsourcing of complete C-Part management to external full-service provider (vendor managed inventory)

Source: Würth

Added value for SUSS MicroTec

- Reduction of storage space
- Reduction of stock capital
- Increase process efficiency
- Cost savings of €0.4 million/year

Example 2: Localization of supply chain in Taiwan

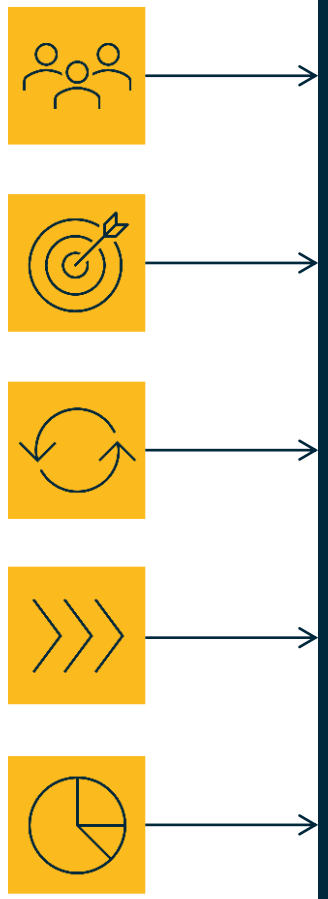
01 Establish purchasing organization in Taiwan

02 Roadmap Asia procurement activity and development

03 Establish Asia supply chain

04 Support transfer of Coater and Scanner production to Taiwan plant

05 Extend local supply chain in Asia

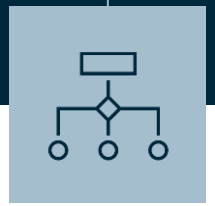


Achievements 2022

- ~45% of cost of goods localized
- ~600 components locally sourced
- **Piece price savings ~14%**

Process Landscape

Strategy

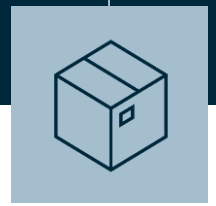


Organization

- R&D Organization
- Logistics
- Procurement

Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing



Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

Redesign of our process landscape

… to improve our internal processes
… to emphasize the relationship with our customers
… to better network the existing processes
… to reduce the number of our core processes

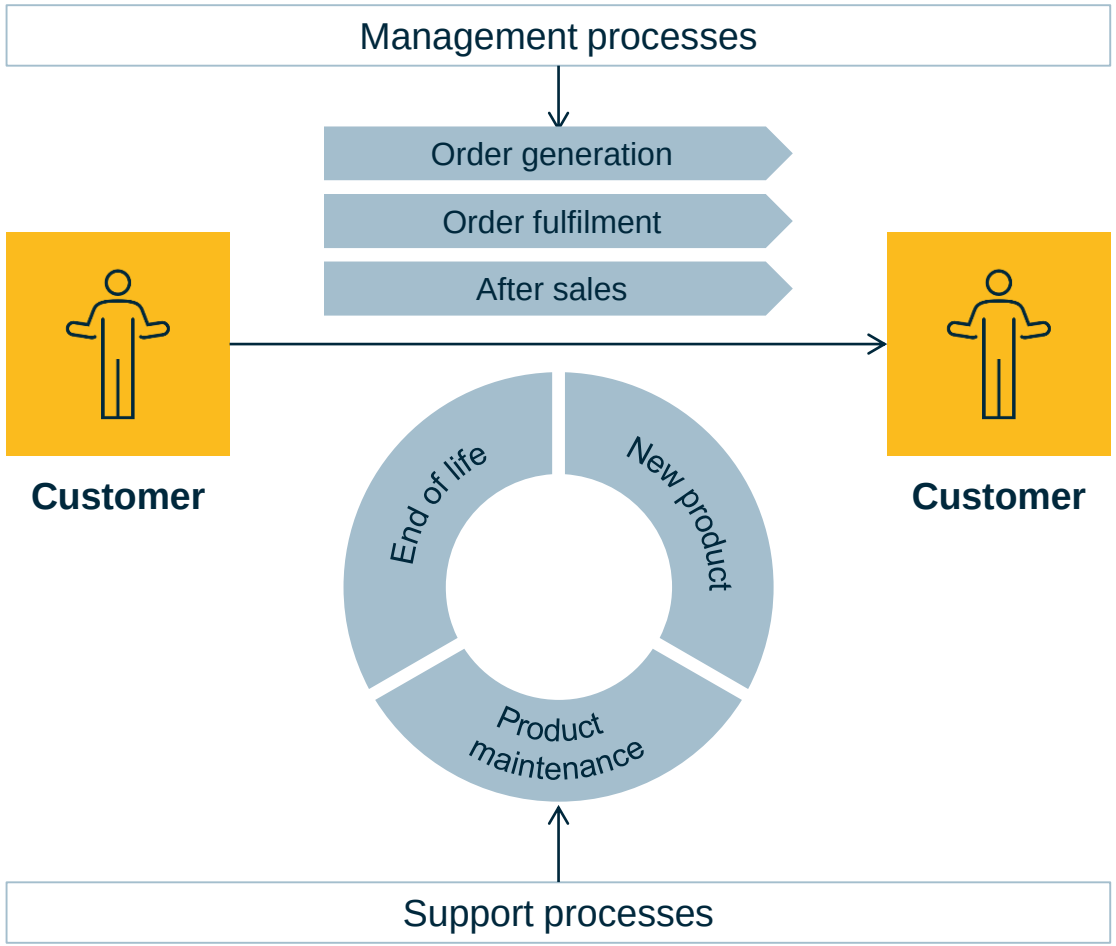
Examples for already improved processes

- Product development process for R&D
- Procurement processes
- Logistics processes (in work)

Effect on productivity

- **Higher quality** of process results
- Reduction of variable and/or fix costs due to higher efficiency
- Acceleration of processes
- **Profitability and productivity increase**

Timeframe: Renewal of complete landscape until Q2/2024



Outsourcing

Strategy

Organization

- R&D Organization
- Logistics
- Procurement

Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing

Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

Outsourcing – Purpose

Why outsourcing?

- **Reduction of inventory** due to transfer of supply chain to outsourcing partner
- **Increased flexibility** in production to react faster and better on market changes and customer demands
- make use of the **economy of scale** of a supplier leading to better quality and lower costs
- Re-allocation of highly qualified staff for higher-value creating tasks and hence creation of **additional capacity**

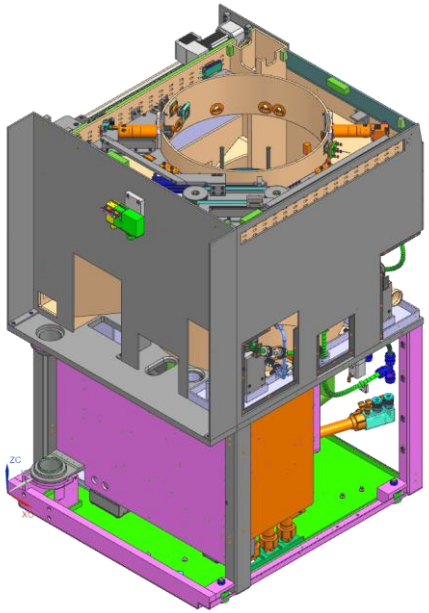
Status of outsourcing

- **Identification of modules** which can be outsourced has been done
- Outsourcing partners have been identified
- Testing at outsourcing partner is an essential prerequisite for outsourcing
- Modular product design will enlarge the potential for outsourcing
- **First outsourcing project is in execution**

Outsourcing example: Cleaner module for photomask tool

Outsourced basic module
@ partner

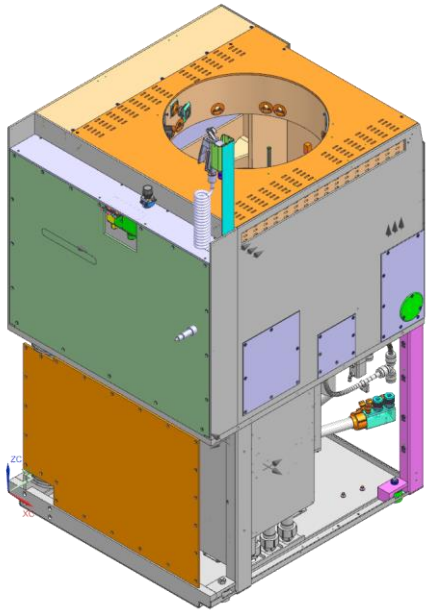
01



53% of workload is done by outsourcing partner

Completion of basic module
@ SUSS MicroTec

02



Alignment and adjustment is done in-house

Integration into Mask Track
@ SUSS MicroTec

03

Well-trained employees can be assigned to higher-value tasks

LEAN manufacturing

Strategy

Organization

- R&D Organization
- Logistics
- Procurement

Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing

Products

- Modular Product Design

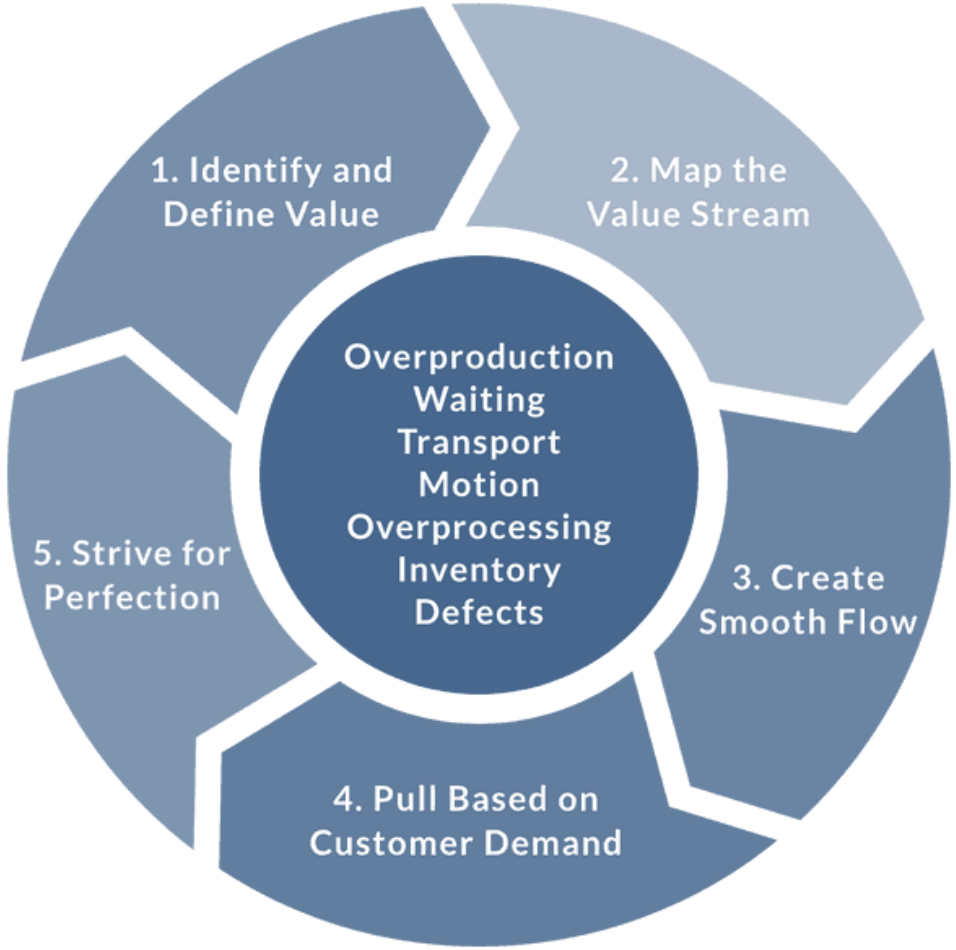
Leadership, people, culture

- Culture analysis
- People development

LEAN Manufacturing

Implementation of LEAN manufacturing principles to achieve

- Shorter process and lead times
  - To fulfil customer demands
  - To react faster on customer orders
  - To decrease the risk of order changes during order processing
  - To achieve a competitive advantage
- Higher efficiency
- Less waste
- Unleashing the potential of our employees
- Create more transparency in our production processes



Source: https://www.leanproduction.com/essence-of-lean/

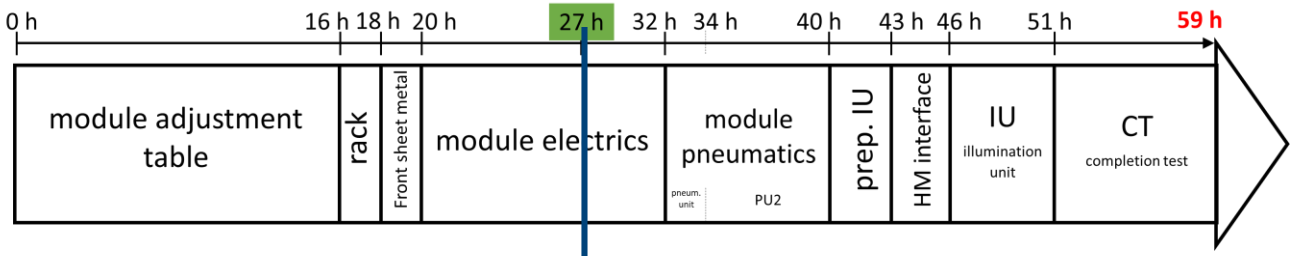
LEAN manufacturing principles applied to manual Mask Aligner

Process/assembly times for specific assembly steps have been reduced by 37% by

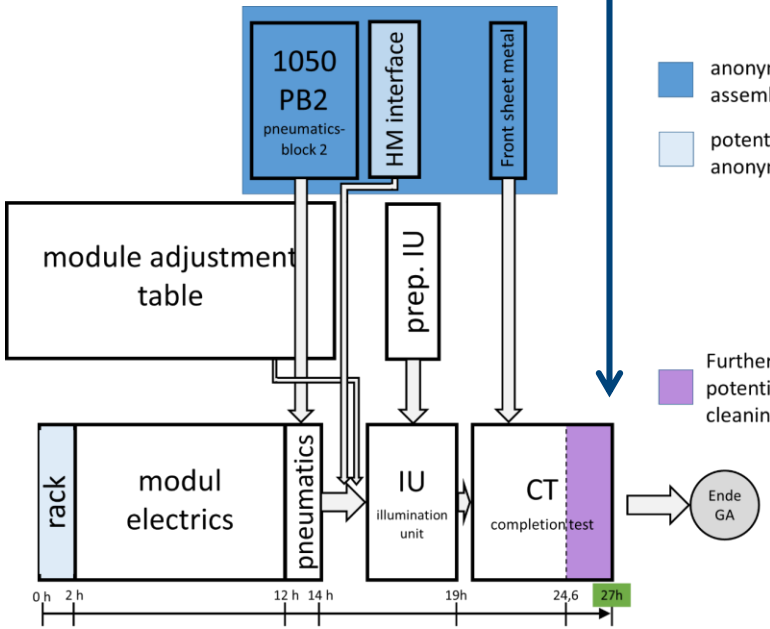
- Standardization
- Assembly tools
- Differentiation between production and logistic tasks

By changing the arrangement and the sequence of the assembly the **process time** has been reduced from 59 hours to 27 hours which is a **reduction of about 54%!**

BEFORE

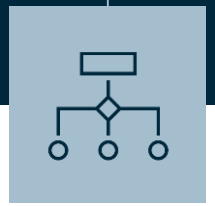


AFTER



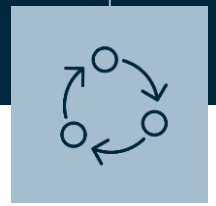
Modular Product Design

Strategy



Organization

- R&D Organization
- Logistics
- Procurement



Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing

Products

- Modular Product Design

Leadership, people, culture

- Culture analysis
- People development

Modular Product Design – Historical product layout

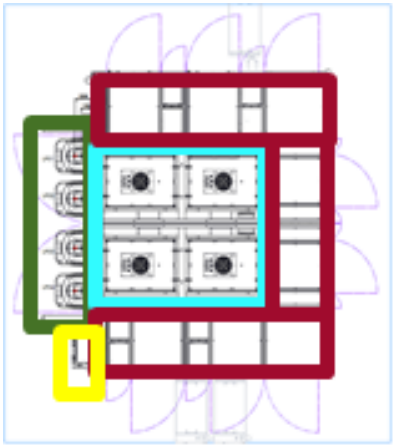
Variety of automated 300 mm tools

- Different robots in use
- Different number of process modules
- Different handling solutions
- Different layouts
- Etc.

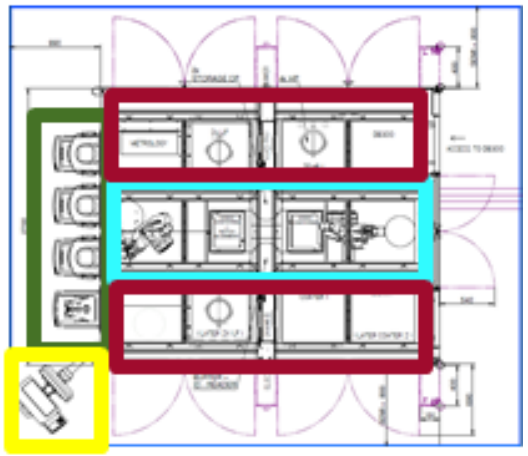
What could be synergies?

- Identification of common parts/modules
- Economy of scale by communality in parts
- Higher volumes in procurement
- Higher repeatability of modules resulting in higher quality
- Standardization of modules enable outsouring

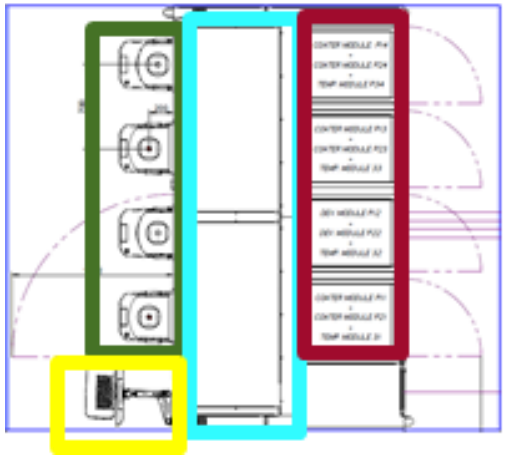
ACS300G4 (8M)



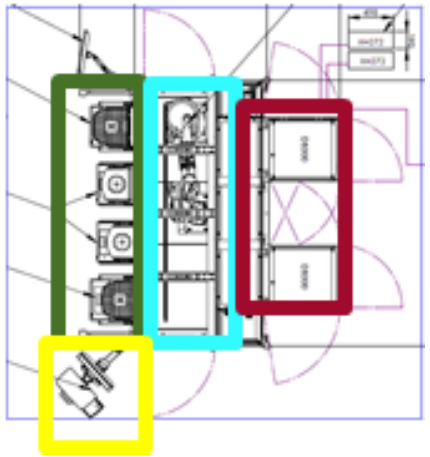
XBS300 (6M)



ACS300G3 (8M)



XBC300G2 (2M)

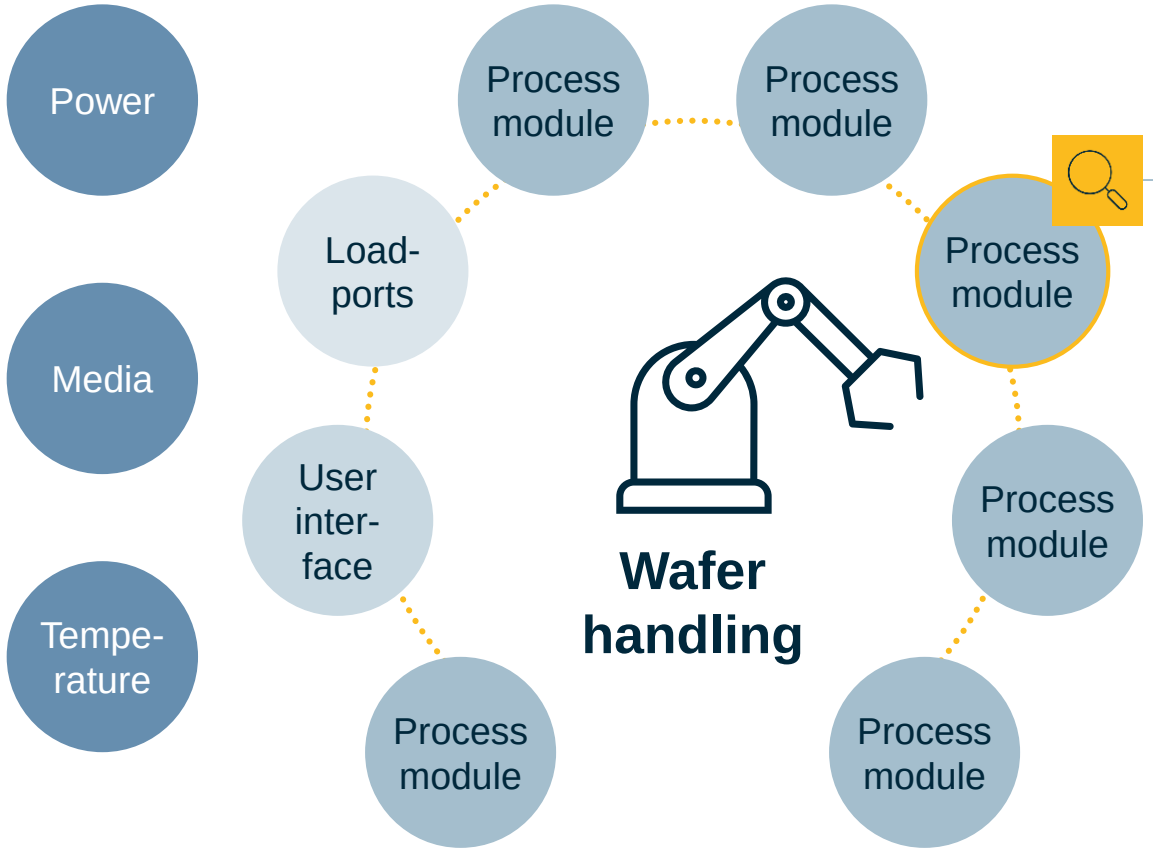


User Interface Loadports Wafer Handling Process Module

Modular Product Design – Approach

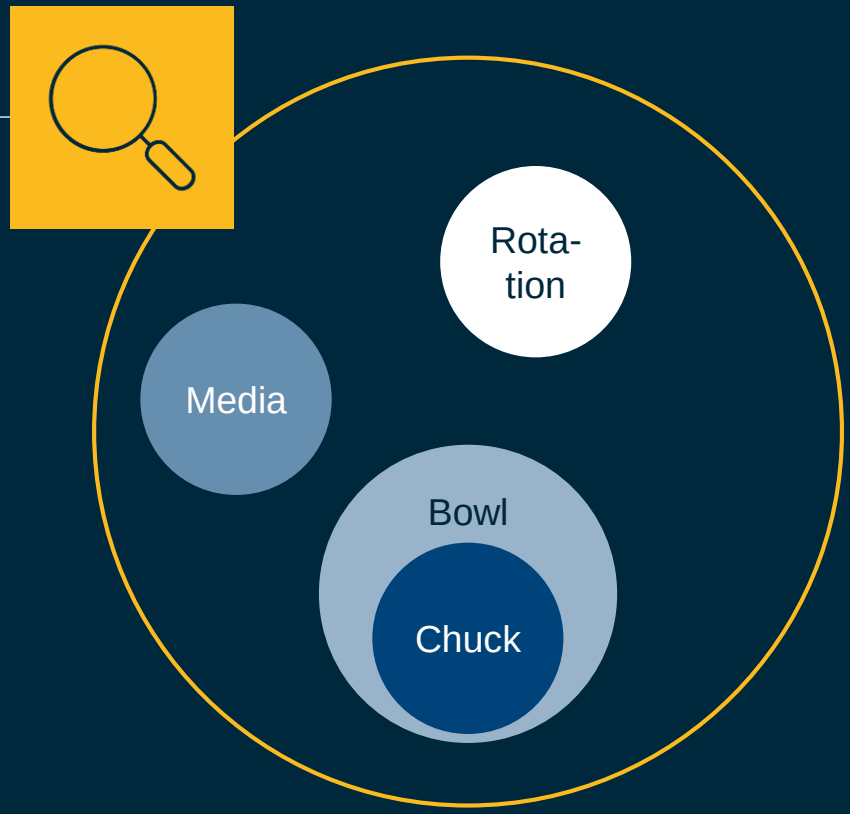
Implementation of a cluster design

based on combination of process modules and (as far as possible) standardized basic modules



Process modules

based on common sub-modules



Modular Product Design – Effect

Advantages

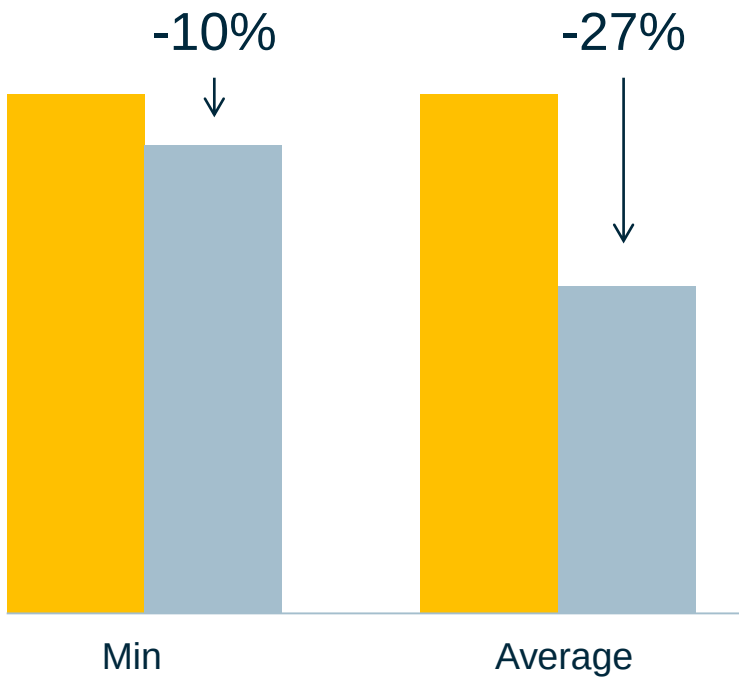
- Standardized modules enabling outsourcing
- Pre-production of anonymous and pre-tested modules
- Lower lead times due to pre-produced modules
- Flexibility in production due to flexibly deployable resources
- High variance in customer products is maintained
- Increased use of equal parts
- Scalability of production

Effect on Productivity

- Effect starts in 3 to 5 years for new product generations
- cost reduction potential in the range of 10+% of COGS are feasible

Cost reduction

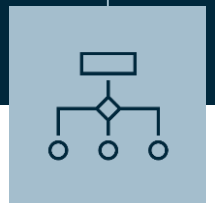
Expectation for our complex products



According to a case study of 28 cases provided by: TCW Transfer-Centrum für Produktions-Logistik und Technologie-Management GmbH & Co. KG, Prof. Dr. Dr. h.c. mult. Horst Wildemann, Munich
Source: Modularisierung von Produkten und Produktprogrammen (tcw.de)

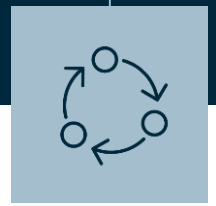
Culture analysis and people development

Strategy



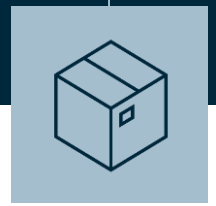
Organization

- R&D Organization
- Logistics
- Procurement



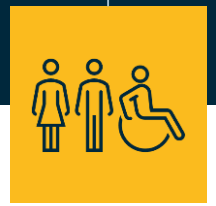
Processes

- Process Landscape
- Outsourcing
- LEAN Manufacturing



Products

- Modular Product Design



Leadership, people, culture

- Culture analysis
- People development

Leadership, People, Culture

Leadership training

- Based on our actual leadership trainings and our core values, this training will set the basis for a common leadership culture within SUSS MicroTec
- Start in summer and to be continued for existing and all new leaders within SUSS MicroTec

Employer branding

- Making SUSS MicroTec more visible for potential employees to attract more talents
- Start in spring

Employee benefits & employees well-being

Implementing clear processes to select the right and effective activities to improve the attractiveness of the company, e.g. by offering employee benefits (job bicycle, computer leasing), improve the infra-structure (electric charging stations for green power) etc.

Culture analysis

- Analysis of our actual culture within SUSS MicroTec, followed by a clear identification of our values and implementing these values into the company
- Starting in spring and to be continued over the next years

Building Blocks for Operational Excellence

1 Modular Product Design
Long-term improvement program with potential high impact of two-digit cost reduction in 3 to 5 years

2 Outsourcing
Short term program to improve flexibility and scalability of revenue with small impact on costs (only in the range of tenths of a percent)

3 LEAN Manufacturing
Continuous program to decrease lead times and avoid waste in our production with potential on cost reduction in the percentage area

4 Logistics
short to mid-term program to avoid material shortages and reduce inventory, but based on long-term relationships with selected and promoted suppliers

5 Procurement
New organization implemented and work on cost reductions started (local sourcing, cumulating purchasing volumes, etc.) with large potential on cost savings in the percentage range

6 Process Landscape
General approach to streamline internal procedures with large impact on efficiency and process times