

SINGULUS TECHNOLOGIES

Annual General Meeting

Welcome

21 May 2025

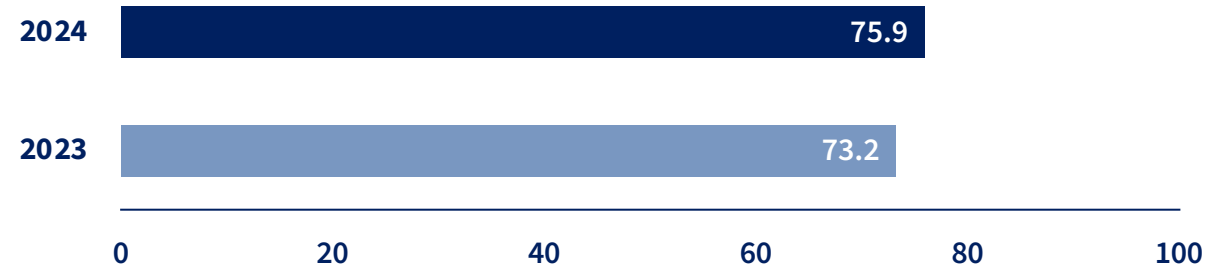


SINGULUS 

SINGULUS TECHNOLOGIES

Financial Year 2024

Turnover in € million



SINGULUS TECHNOLOGIES

Financial Year 2024

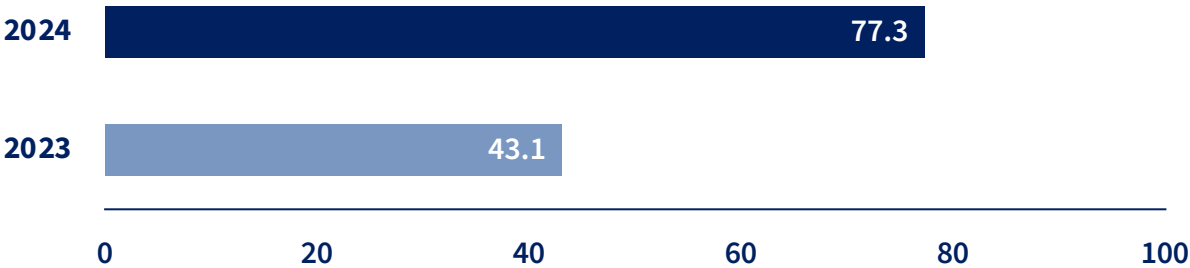
Key earnings figures

million €	2023	2024
EBIT	-10.1	-0.7
EBITDA	-7.3	1.9
Profit for the period	-9.8	-5.4
Financial result	-1.4	-2.7
Earnings per share in €	-1.10	-0.61

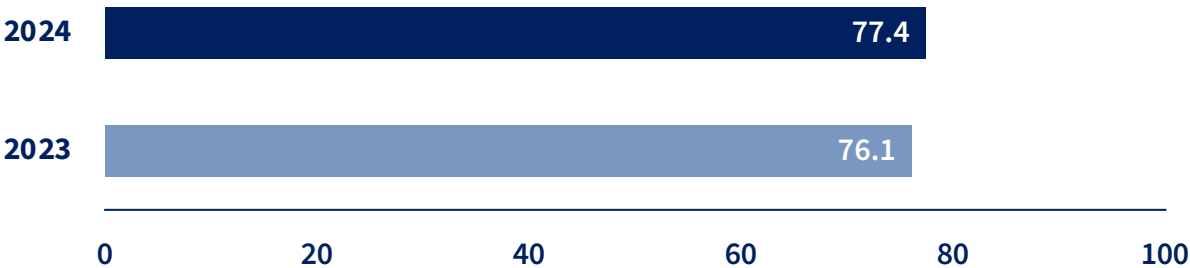
SINGULUS TECHNOLOGIES

Financial Year 2024

Incoming orders in € million



Order backlog in € million

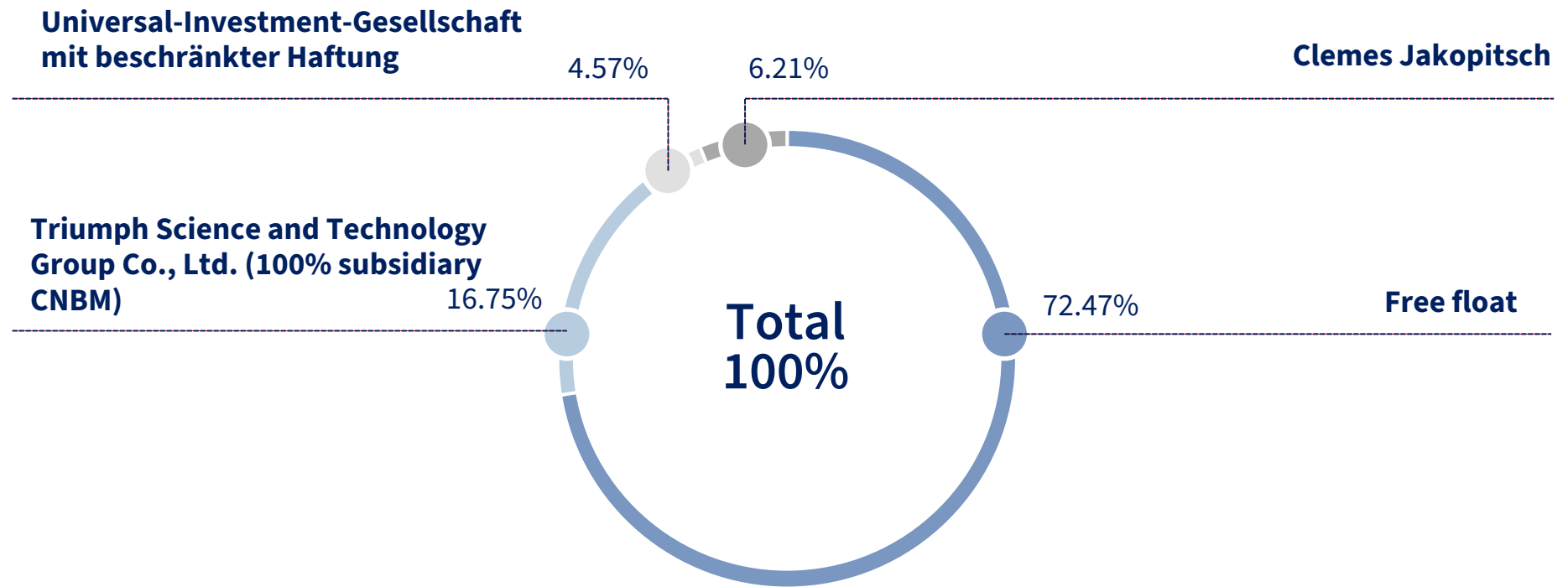


Employees

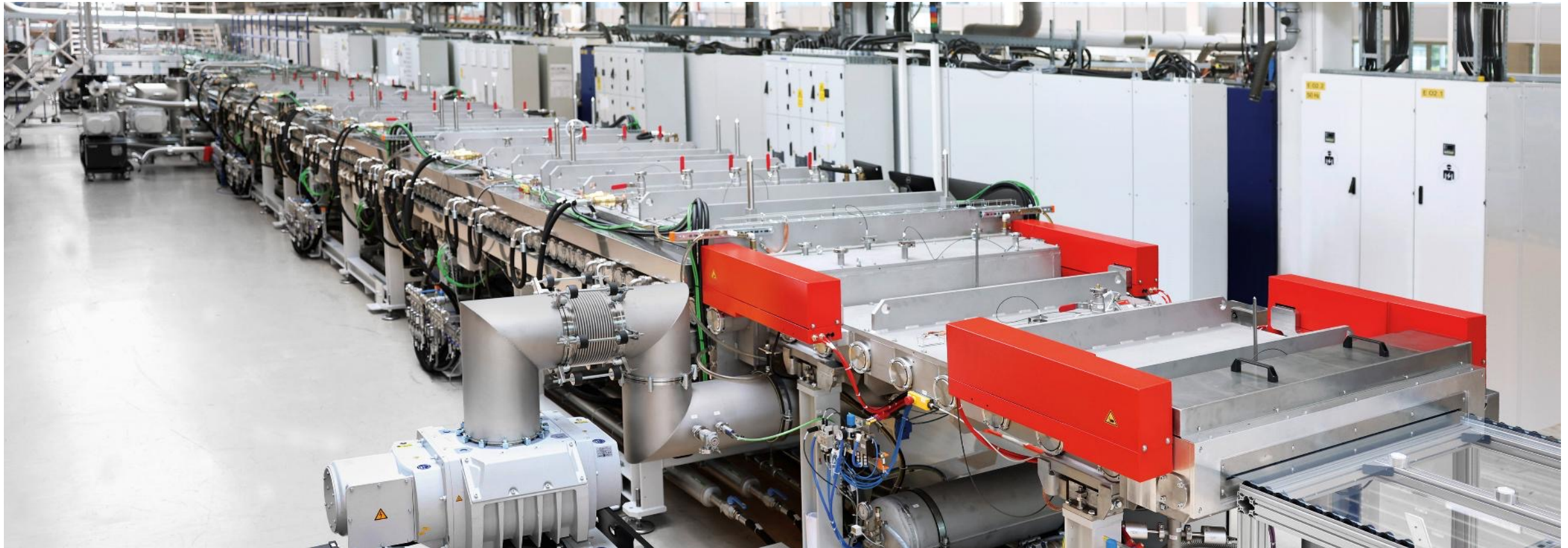
	Dec. 2023	Dec. 2024
SINGULUS TECHNOLOGIES Group	292	289
Domestic	248	246
Abroad	44	43



Shareholder Structure as of 13 May 2024



Production Plant for Thin-Film Solar Technology



Key Financial Figures Q1-2025

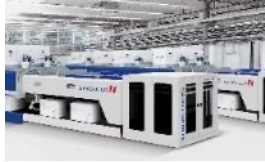
Q1-2025
(preliminary and unaudited)

million €	Q1-2024	Q1-2025
Turnover (gross)	20.6	16.4
Incoming orders	33.2	6.4
Orders on hand (31.03.)	71.6	67.4
EBIT	0.6	0.5

SINGULUS TECHNOLOGIES

Product portfolio

PVD Sputtering



GENERIS PVD
Inline Sputtering System with
Horizontal Substrate Transport



HISTARIS
Inline Sputtering System
with Horizontal Substrate
Transport for Glass Applications



VISTARIS
Inline Sputtering System with
Vertical Substrate Transport



SPUTTERING SYSTEMS
for R&D and Pilot Production



POLYCOATER
Inline Sputtering Machine for
Metallization of 3D Parts

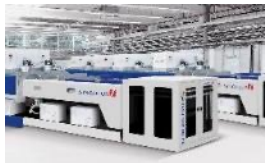


SEMICONDUCTOR
300 mm Cluster Tool



Micro LED
Vacuum Deposition Tool

Plasma Enhanced CVD (PECVD)



GENERIS PECVD
System for Plasma-enhanced
CVD (PECVD) Processes

Evaporation/ Sublimation and RTP



SELENIUS
Processing Systems for
Evaporation of e.g. CIGS
Thin-Film Solar Cells



CSS
Close Spaced Sublimation (CSS)
for the Production of e.g. CdTe
Solar Modules



CISARIS
Selenization/Sulphurization
with High-End Rapid Thermal
Process (RTP)

Edge Passivation



GENERIS PET
System for Edge Passivation

Wet Chemical Treatment



SILEX III
Batch System for High
Performance Solar Cells



MEDLINE
Cleaning & Deposition of Medical
Products



MATERIA
Cleaning of SILOCON

Surface Refinement



POLYCOATER
Inline sputtering system



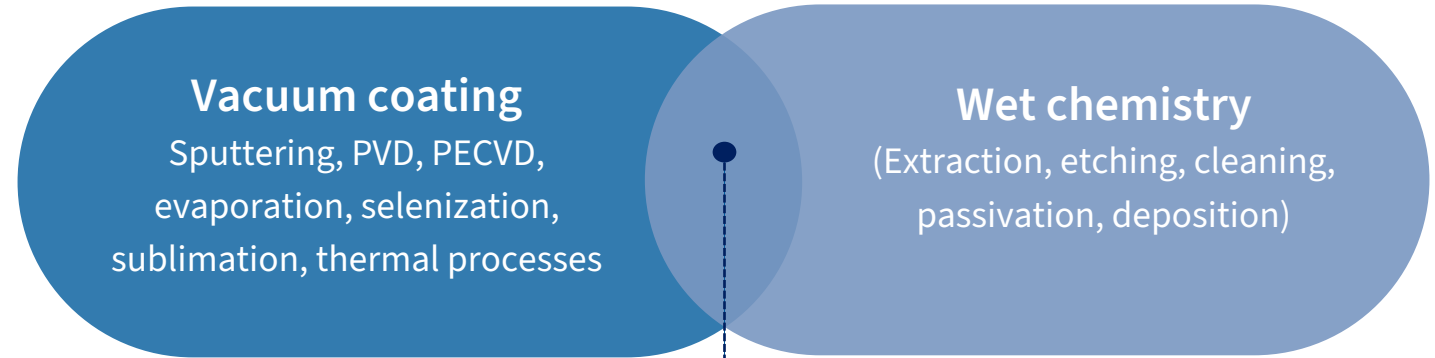
DECOLINE II
With Integrated Lacquering System



PAINTLINE
Inline Lacquering System
for 3D Parts

Strategic Business Development

- Strengthening SINGULUS' unique position as the only equipment manufacturer to offer solutions for both vacuum coating and wet chemical processes
- Identification of business opportunities that exploit our competitive strength
- Expansion of the SINGULUS platform with existing technologies to open up new markets
- Further development of competencies and skills beyond Germany



Important unique selling point

Opening up new business areas

- Components for electrolysis and low carbon
- Components for solid-state batteries
- Medical technology applications
- Semiconductor applications, especially for sensors
- Production lines for solar cells
- Perovskite applications

SINGULUS TECHNOLOGIES is Active in Both Areas: Crystalline and Thin-Film Solar Cells

Silicon wafer material - PERC, HJT, IBC, HBC, TOPCon and perovskite technology

- High cell and module efficiency
- Largest market share
- Advanced technology potential



Thin-film solar - glass or flexible material -
CIGS, CdTe and tandem PV

- Excellent stability
- Good performance in low light (including shade)
- Lower sensitivity to overheating
- Complete value chain in production
- Lower energy consumption in production (per Wp) compared to c-Si

Production Systems for Thin-Film Solar Technology CIGS & CdTe



Range of Systems for the Production of Perovskite Solar Cells

TCO 1
TCO 2
ETL
Perovskite Absorber
HTL
TCO / Poly-Si
Bottom Cell TOPCon - HJT

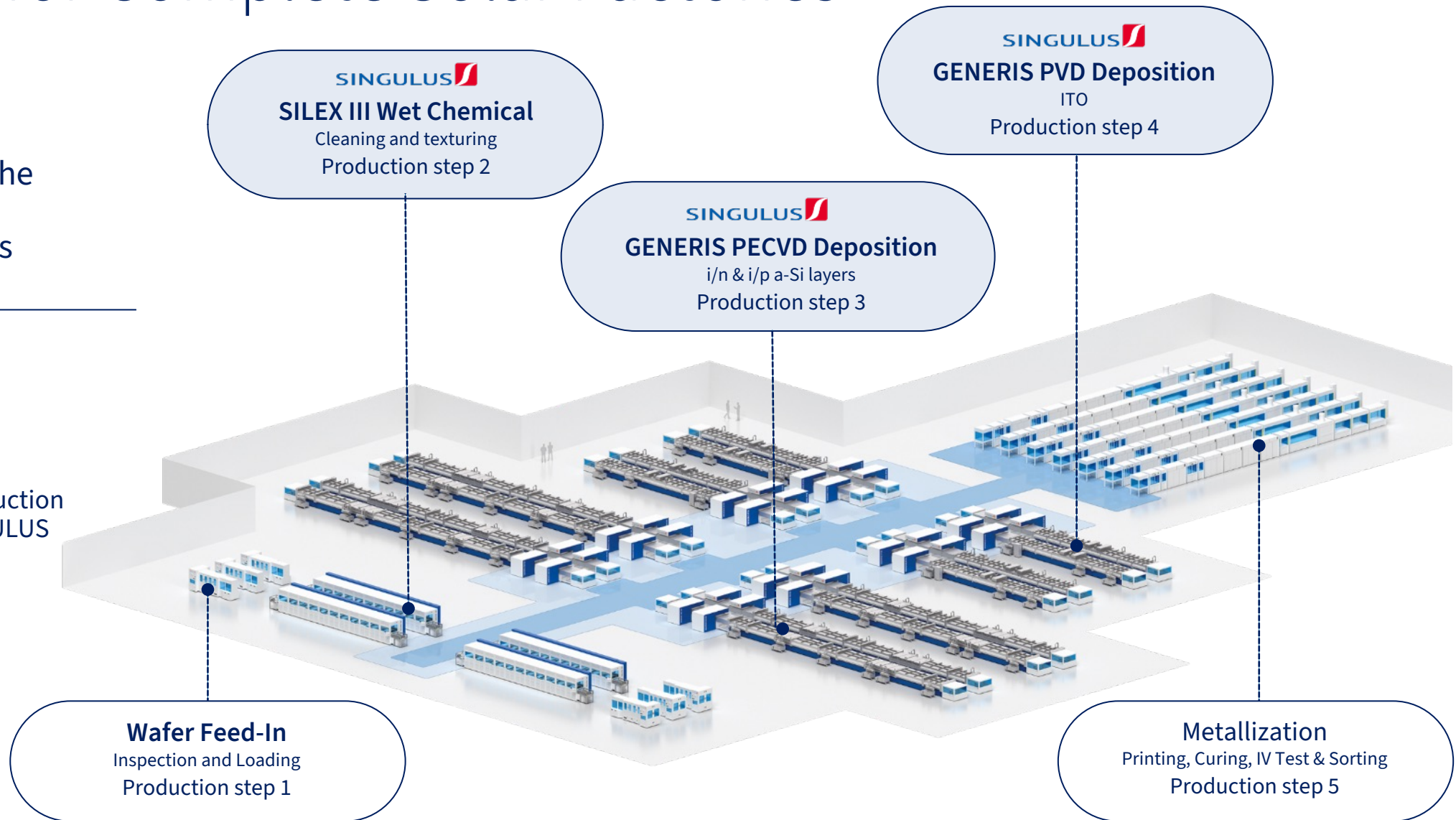


Solutions for Complete Solar Factories

Production line for the production of solar cells & modules

Schematic structure of a 2 GW HJT/SHJ solar cell production line

The most important production systems come from SINGULUS



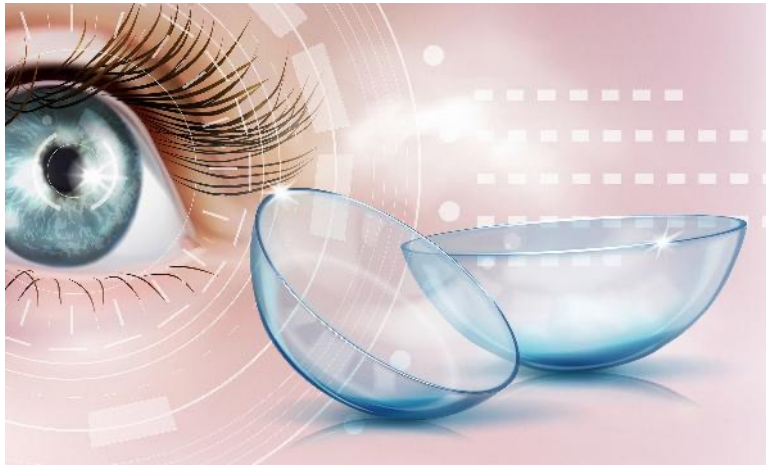
Medical Technology Applications

Further applications for vacuum coating and wet chemistry

- Washing and pre-cleaning
- Cleaning & etching
- Ultra or mega sonic cleaning
- Surface conditioning and -modification
- Vacuum coating and electrochemical etching



MEDLINE - Cleaning and Coating System for the Production of Contact Lenses



Production Systems for the Coating of 3D Components

Environmentally friendly, recyclable coatings

- Decorative coatings
- Semi-transparent coatings
- Hard coatings
- Barrier layers
- Antibacterial coatings
- Flexible coatings



DECOLINE II

Integrated Manufacturing System for 3D Components

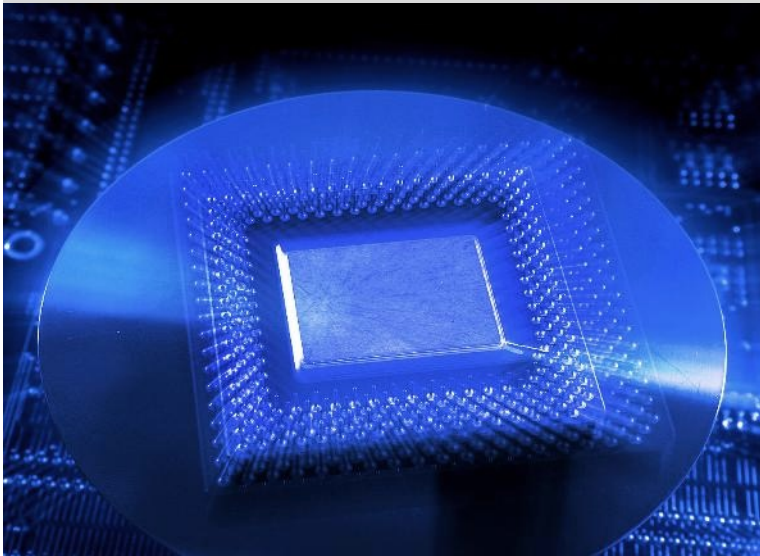


Vacuum Coating: from Ångström to Micrometer

Areas of application of
high-performance semiconductor
chips



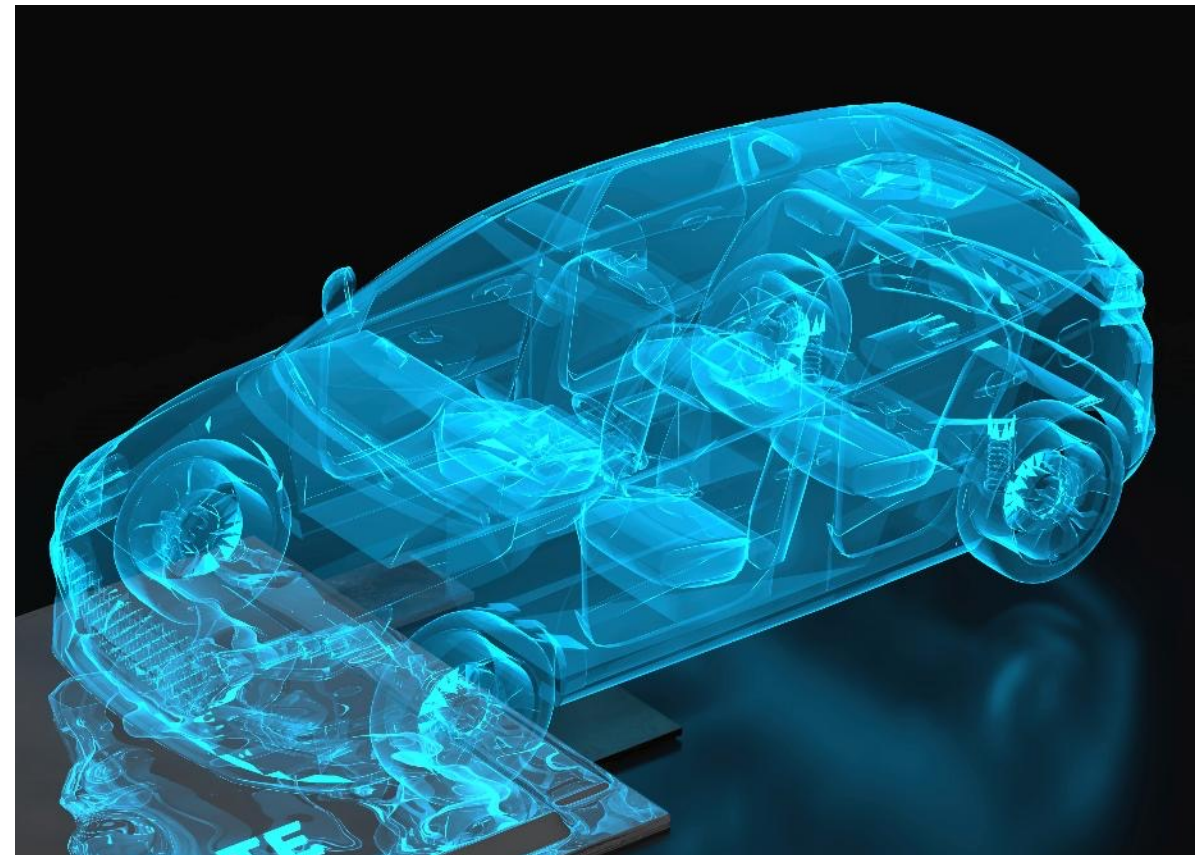
TIMARIS III - Ultra-High Vacuum Coating System for Semiconductor Technology



SINGULUS TECHNOLOGIES Process Technology

Process applications for next generation batteries

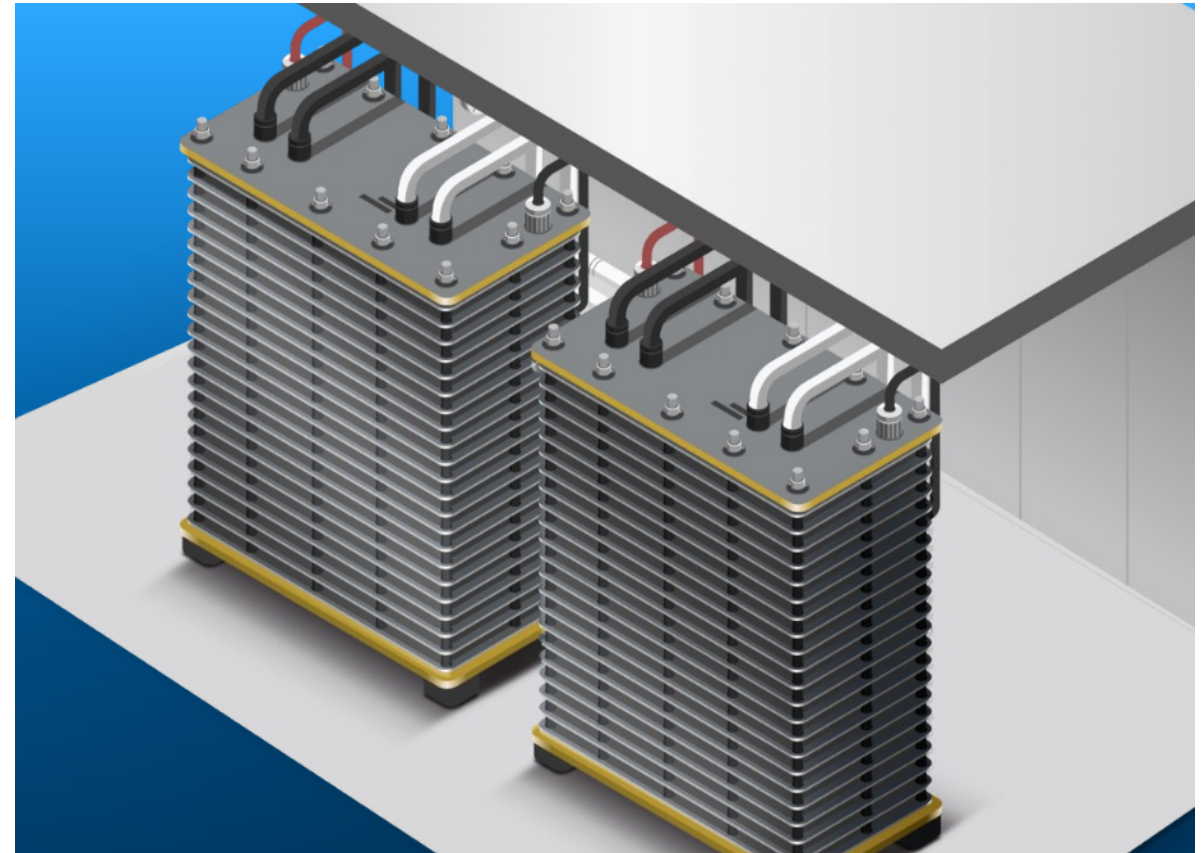
SINGULUS TECHNOLOGIES uses its expertise in surface technology to industrialize the production of innovative batteries



Components for Fuel Cells and Electrolyzers

For applications in hydrogen technology

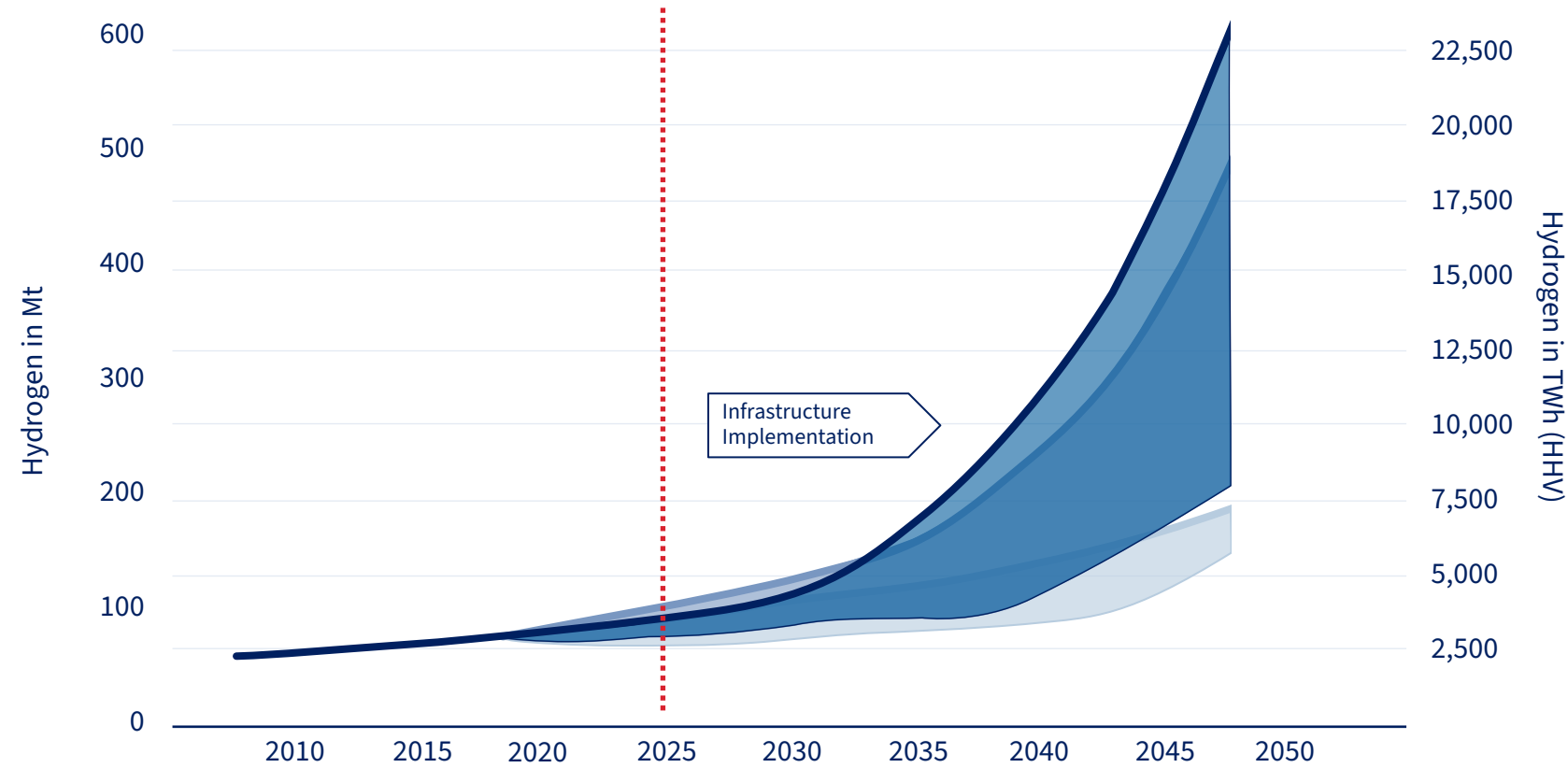
Large-volume systems for PVD coating and chemical batch treatment



Estimation of Hydrogen Demand until 2025

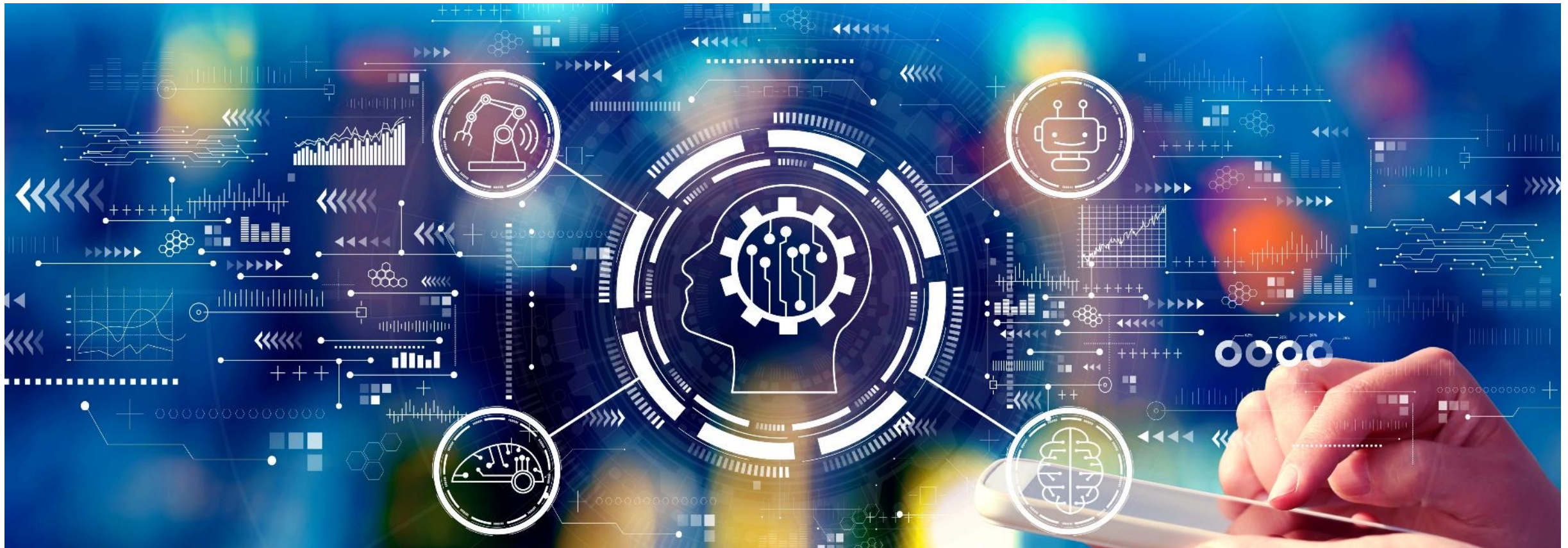
- < 1.8 °C
- 1.8 – 2.3 °C
- > 2.3 °C

Source: PwC



Thin-Film Technology and Surface Treatment

Diversification into new business areas



Outlook and Strategic Direction

Outlook 2025 & 2026

2025

- Sales between € 105 and € 115 million
- Positive EBIT in the mid single-digit million range

2026

- Further growth in sales expected
- Positive EBIT in the mid double-digit million range

Innovation & diversification:

- Expansion into future markets with existing technology
- Reducing CO₂ emissions and increasing resource efficiency

Strategic orientation

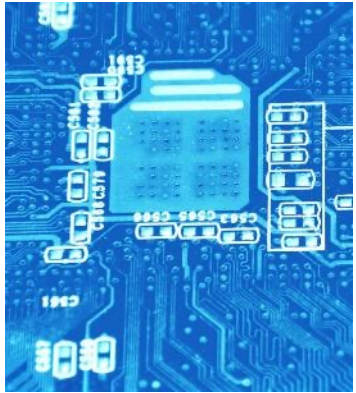
Strengthening the market position of SINGULUS TECHNOLOGIES with both wet-chemical and vacuum technology systems in one company, utilizing the competitive advantage of an integrated system

- Semiconductor:
 - 1: Deposition of magnetic materials for sensors and next-generation magnetic materials
 - 2: Non-magnetic applications utilizing SINGULUS' market-leading Ångström thickness deposition technology
- Surface treatment for medical applications
- Perovskite technologies are innovative materials that improve the efficiency of crystalline and thin-film solar cells
- Battery & hydrogen: Technology for the production of new types of batteries, hydrogen applications and gas processing

Thin-Film Technology and Surface Treatment

Technological advantages and innovations
in all business areas

New Business



Semiconductors



Life Science



Solar



Hydrogen



Battery



New applications

SINGULUS TECHNOLOGIES

Thin-film technology and surface treatment



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