

# **Company Presentation**

First Quarter 2023

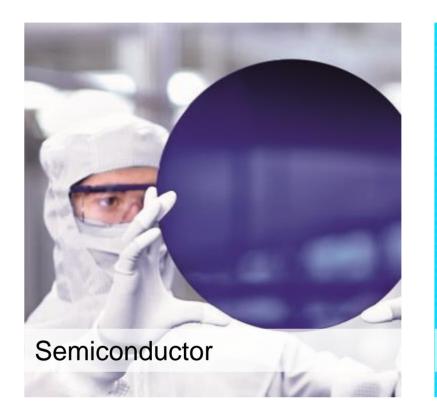


Thin-Film Coating and Surface Treatment

### State-of-the-Art Technology Provider Equipment Supplier for Thin-Film Coating and Surface Treatment









• Established: 1995 (Buyout at Merger Balzers/Leybold)

• IPO: 1997

• Employees: 297

Research & Development

Consulting

Engineering & Design

Project Management

Production

Installation

Commissioning

Service & Maintenance

Hotline 24/7

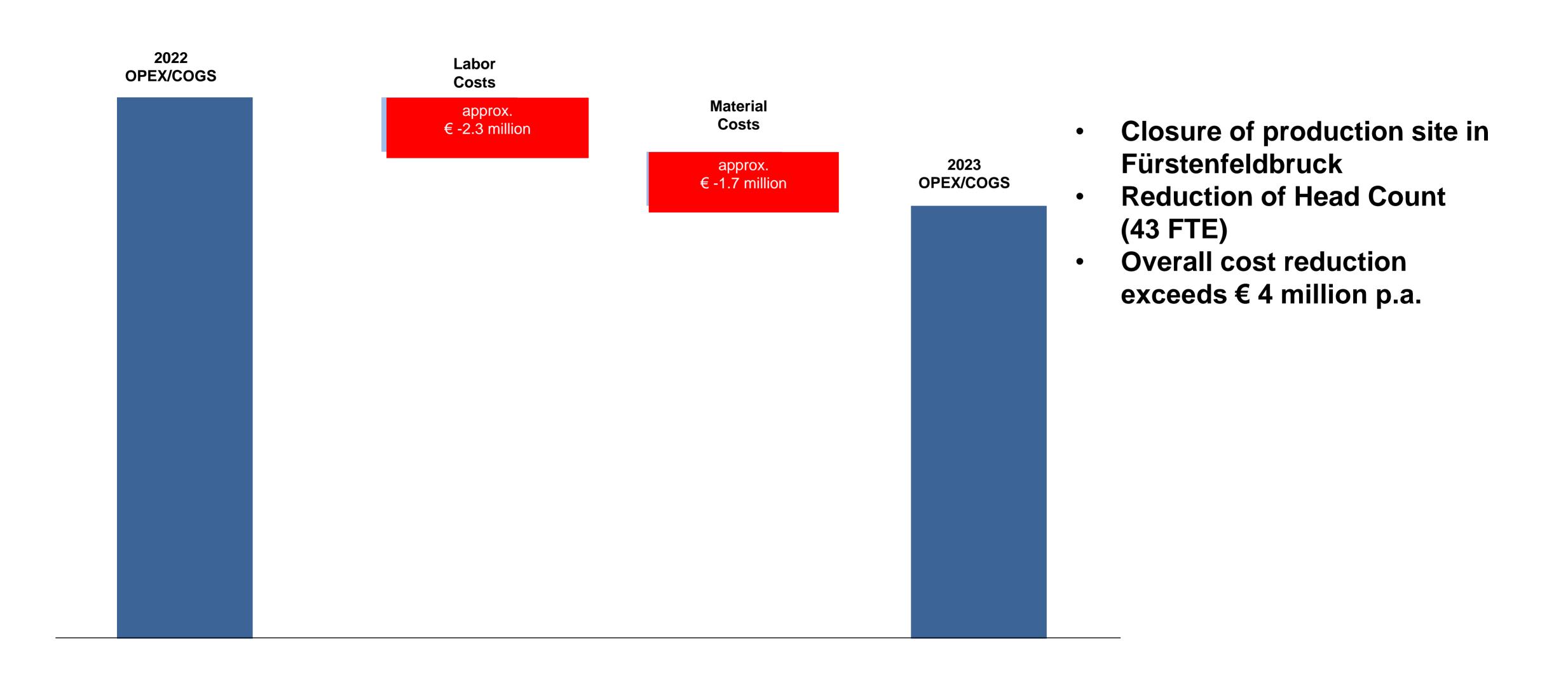
Training



in million €	Q1-2022
Revenues	21.4
EBIT	0.1
Order Intake	6.5
Order Backlog (31.03.)	107.2
Gross Margin	29.9
Headcount	342

Q1-2023
16.3
-0.9
14.1
82.6
29.4
297







#### SINGULUS TECHNOLOGIES is Active in Both Areas: Crystalline & Thin-Film

# Silicon Wafer Material – PERC, HJT, IBC, HBC, TOPCon and Tandem Solar Cells

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







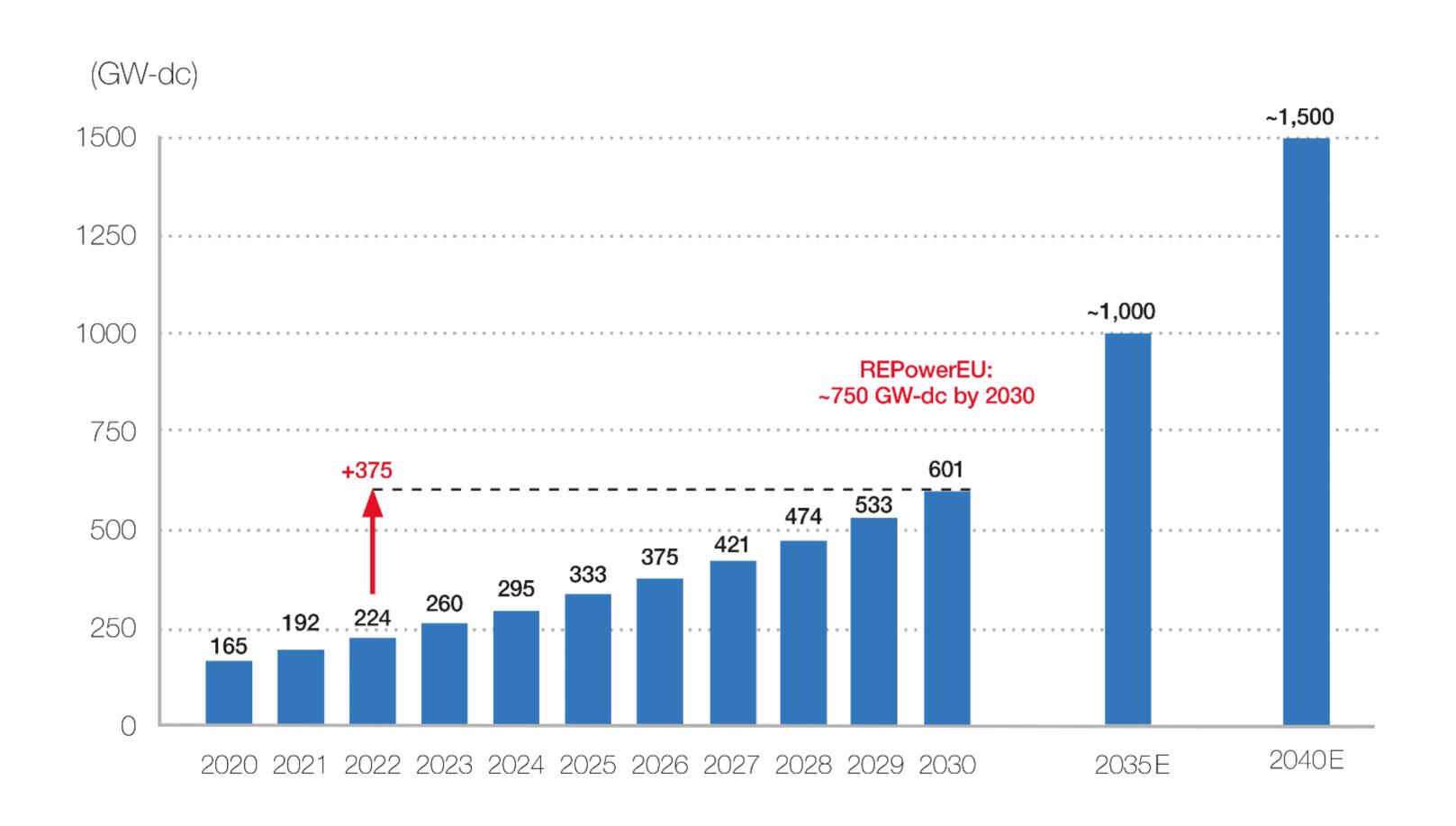


- Excellent stability
- Good low light (including shade) performance
- Reduced sensitivity to overheating
- Full values chain in production
- Lower energy consumption in production (per Wp) versus c-Si



# Society by 2050

#### Cumulative Installed Base in Europe



Europe has Committed to being a Climate-neutral

#### Source:

"EU solar energy strategy", Bloomberg; "REPower EU with solar: The 1 TW EU solar pathway", SolarPower Europe, March 8, 2022; McKinsey analysis



## Current Situation of the European PV Manufacturing Landscape 60-80 GW Capacity by 2030

World leading in research and technology development

Strong support for R&D&I **20 GW of Manufacturing** An increasing interest Capacity by 2025 to buy EU made products 60-80 GW by 2030

> No support for capital and operational costs

#

Critical mass of capacities

not yet established

value chain

Strong and expanding home market

> Recognition of importance for the strategic autonomy of EU, but not yet a sufficient regulation to create a level playing field

Missing parts or bottlenecks in the PV manufacturing

"We need to bring manufacturing back to Europe, and the Commission is willing to do whatever it takes to make it happen."

Kadri Simon Commissioner for Energy



## SINGULUS TECHNOLOGIES Equipment Summary for PV Cell Production

#### Thin Film Solar (CdTe, CIGS & Perovskite)



**VISTARIS PVD Vertical Large Area** Inline PVD Sputter System



HISTARIS PVD **Horizontal Large Area** Inline PVD Sputter System



**CSS Horizontal Large Area** Inline System



**CISARIS RTP Horizontal Large Area** Inline RTP System

#### Crystalline Solar (HJT, Topcon, Tandem, IBC, PERC)



**GENERIS PVD Multi Substrate** Inline PVD Sputter System



**GENERIS PECVD Multi Substrate** Inline PECVD System

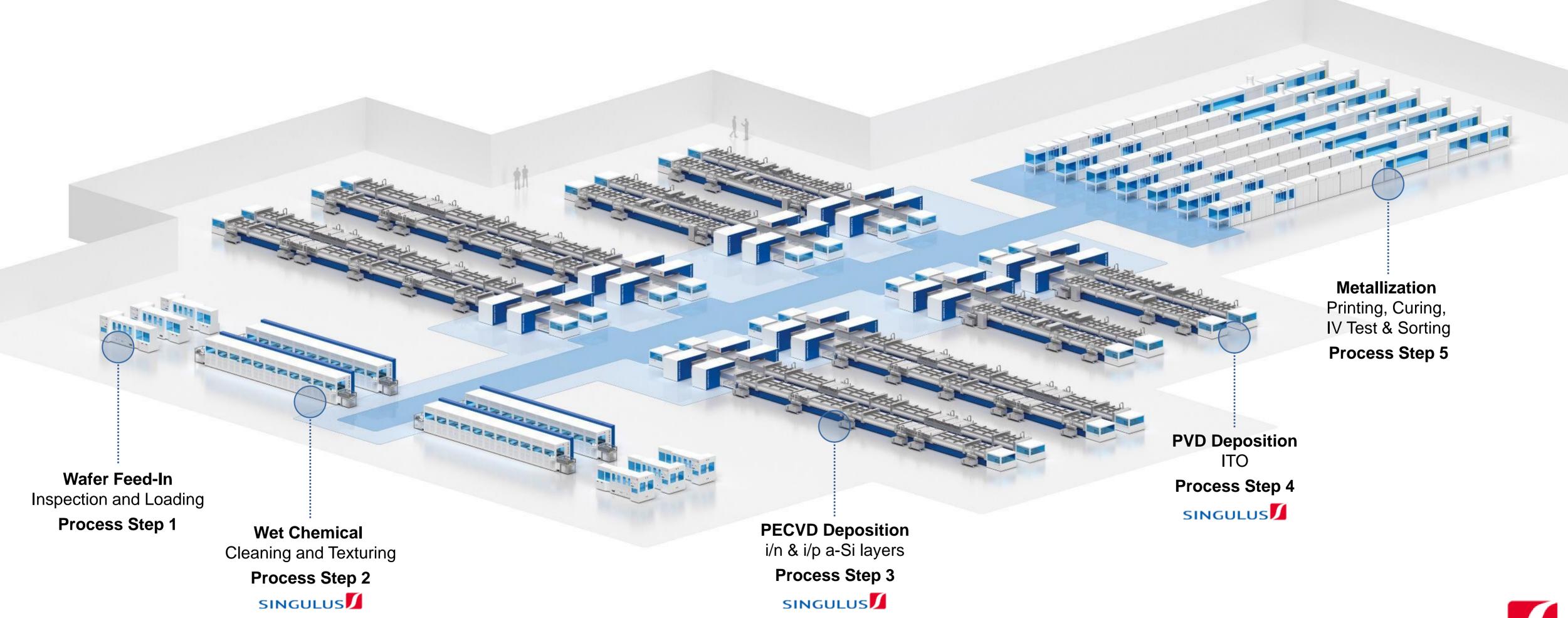


SILEX III **Wet Processing System** 



## Turn-Key Solutions for Solar Cell- & Module Production Lines

Schematic Layout of HJT Solar Cell Production Line with Key Production Equipment

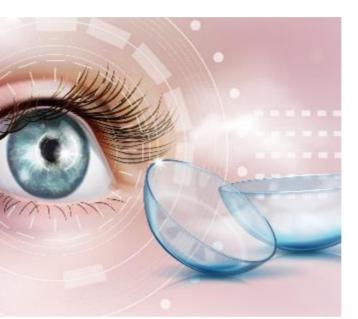




## Production Systems for Medical Technology Following GMP















# With Cleaning, Lacquering & Sputtering SINGULUS TECHNOLOGIES Offers all in Solution for Production





# Cluster Tool Family for Semiconductor & Magnetic Industry



**TIMARIS** 



#### SINGULUS TECHNOLOGIES

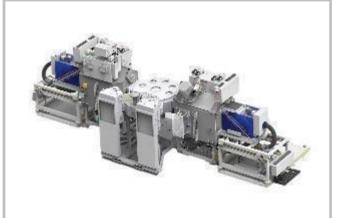
is a renowned Manufacturer of Advanced Thin-film Deposition Equipment for Magnetic Sensors (TMR, GMR, AMR), Integrated Inductors, MRAM, µLED, Advanced Packaging (RDL/UBM), Interconnects, and other Semiconductor Applications.















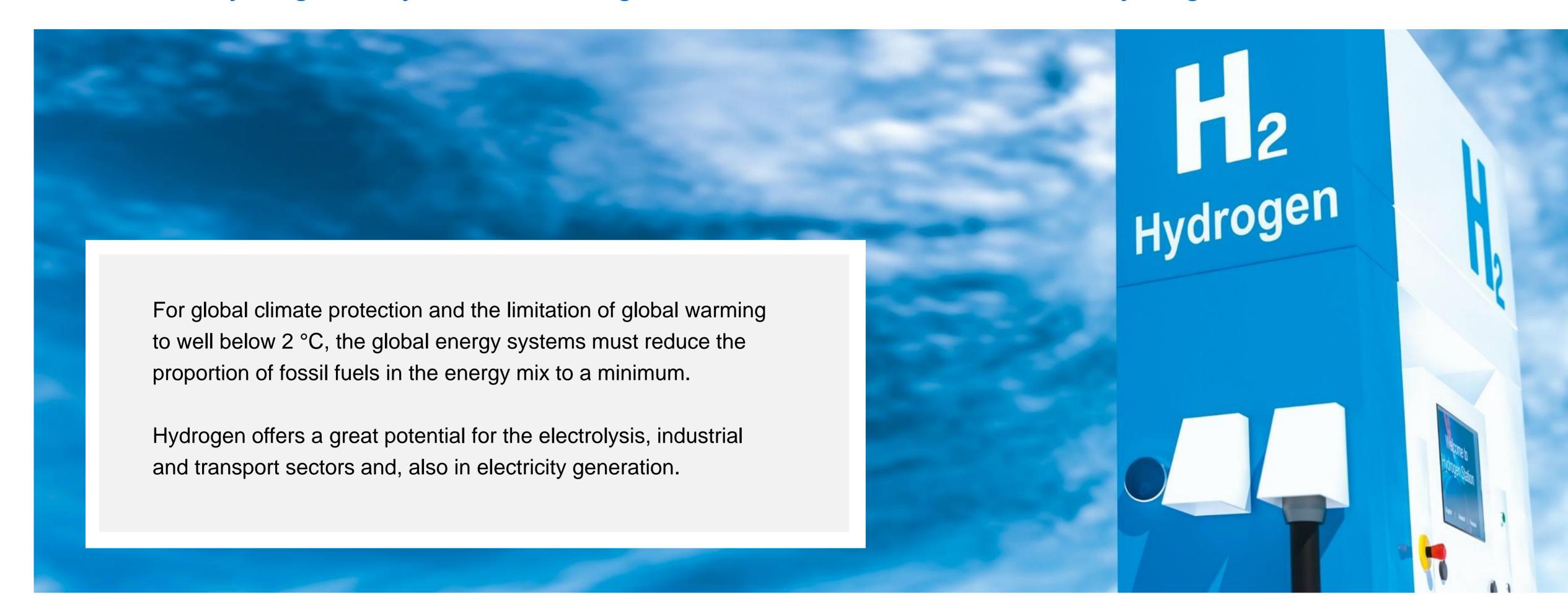
#### SINGULUS TECHNOLOGIES – Innovations for New Technologies

# Markets





## The Use of Hydrogen only makes Ecological Sense if it is about "Green" Hydrogen





### SINGULUS TECHNOLOGIES is Partnering with Large Players in the Market

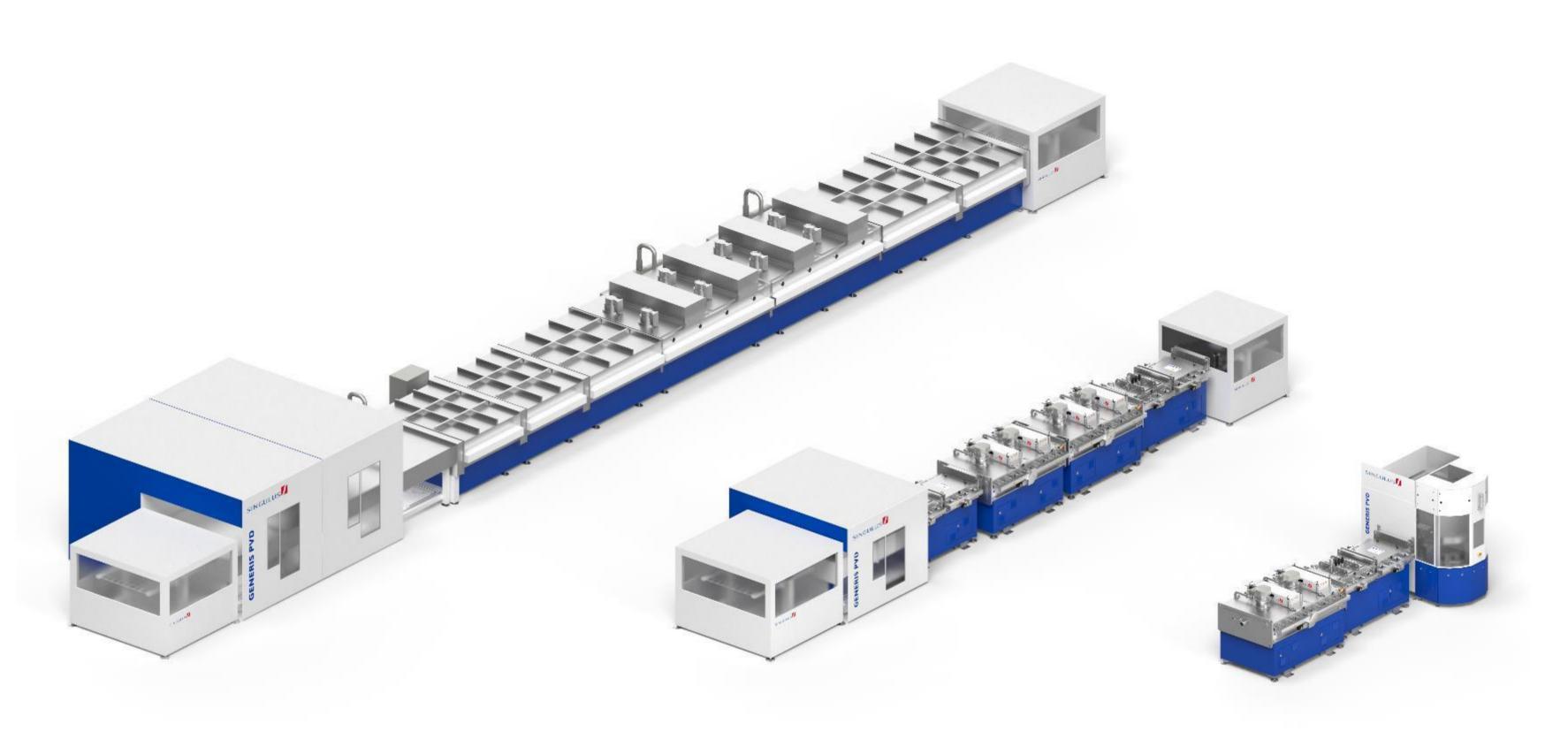




Industry: Chemistry, Steel, etc.



Mobility, Cars, Busses, Transport







#### FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements based on current expectations, assumptions and forecasts of the executive board and on currently available information. Various known and unknown risks, unpredictable developments, changes in the economic and political environment and other presently not yet identifiable effects could result in the fact that the actual future results, financial situation or the outlook for the company differ from the estimates given here. SINGULUS TECHNOLOGIES are not obligated to update the forward-looking statements made in this presentation unless there is a legal obligation.

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