

# **Company Presentation**



# Agenda

- 1. PVA TePla at a glance
- 2. Business units
  - Semiconductor Systems
  - Industrial Systems
- 3. Annual figures
- 4. Outlook





# 1. PVA TePla at a glance



### Technology Leadership:

Pooling Technologies, Capacities & Resources

### The 4 Pillars of our Growth Story

# 1. Crystal growing: capacity expansion

Make use of strong market development of silicon wafers and their manufacturers

Capitalize on strong position as a key supplier to the industry



## 2. Crystal growing: silicon carbide

Focused the major application: Electric driven vehicles and power electronics

SiC as breakthrough technology with exponential growth opportunities



# 3. Metrology: serve rising demand

Design rules drive the demand for additional metrology solutions

Metrology as an enabler to produce higher quality materials outside the semi space



# 4. Diffusion bonding & 3d printing:

Developing new markets for advanced materials

Leverage expertise of technologies to develop new markets and areas of application





### How We Have Evolved

A Consistent Path of Focus and Growth

2022 Organic and acquisition growth have turned PVA TePla into Foundation of PVA TePla Korea and, most recently, one of the world's leading system engineering companies. acquisition of MPA Industrie SA PVA TePla conducts high-tech solutions to enable innovative manufacturing processes in two divisions: 2007 Semiconductor Systems and Industrial Systems. **Expansion of Metrology** technology through new Ultrasonic microscopy business unit 2003-20 Market entries, e.g. in the USA and China, as well as the acquisition of 2002 specialized businesses with strategic fit Merger of PVA Vakuum 1999 Anlagenbau GmbH and TePla AG 1991 Expansion of production capacity, extension into Foundation after the MBO production of from a predecessor of monocrystalline silicon today's Pfeiffer Vacuum crystals Technology AG



PVA TePla is one of the world's leading system engineering companies

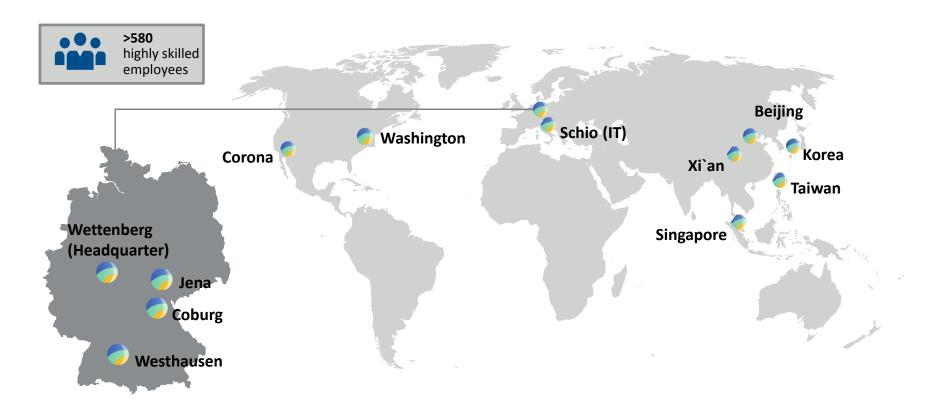
We provide high tech solutions to enable innovative materials and manufacturing processes

Our customers in the semiconductor, electrical & electronic, optical and hard metal industries profit from customized solutions from a single source

We support the megatrends Digitization, E-Mobility and Energy



### International network of locations fosters resilience







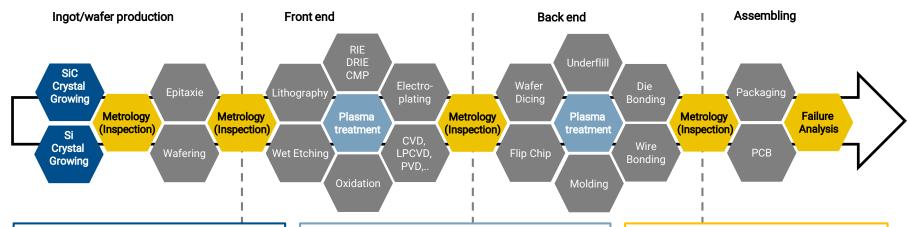
# 2. Semiconductor Systems

High growth potentials in a digitizing world



### Semiconductor Value Chain: Active at the Important Points

Leading Systems and Solutions in Crystal Growing, Plasma Treatment, Metrology



#### **Crystal Growing**

Production of crystals for wafer industry from materials like e.g. silicon, silicon carbide, Germanium, Gallium arsenide

- Industries & Demand: Wafer industry (for renewable energy, e-mobility/railway, industry) benefitting from demand for E-mobility, digitization, renewable energy, energy savings
- USP: Unrivalled production know-how

#### Plasma Treatment

Production technologies for microsensors and ultrathin wafers; cleaning and activation of wafer surfaces

- Industries & Demand: Wafer and semiconductor, lifescience, industrial production benefitting from continued demand from semi-conductor production and process automisation
- USP: Process accuracy, offer with high grade of automation

#### Metrology

Market-wide highest range of inspection technologies of wafers, complex semiconductor modules and hightech materials

- Industries & Demand: Wafer and semiconductor industry benefitting from tighter design rules and automatization
- **USP:** Deep integration into client processes with high customer loyalty and pricing power





# **Crystal Growing**



PVA TePla offers the broadest know-how in this technology

### Materials Major End User Markets

Silicon Digitization

Silicon carbide Internet of Things

Germanium E-mobility

Calcium fluoride Autonomous driving

etc. Optoelectronics

Renewable energies





### Silicon carbide

deep knowledge of next generation material

### Multiple areas of high-tech application



E-mobility / railway



Renewable energies



Industrial

#### Benefits of the material

Reduced power losses & energy saving Less heat & higher heat resistance Smaller & higher efficiency



# Metrology

PVA TePla offers the broadest range of inspection technologies

### **Technologies**

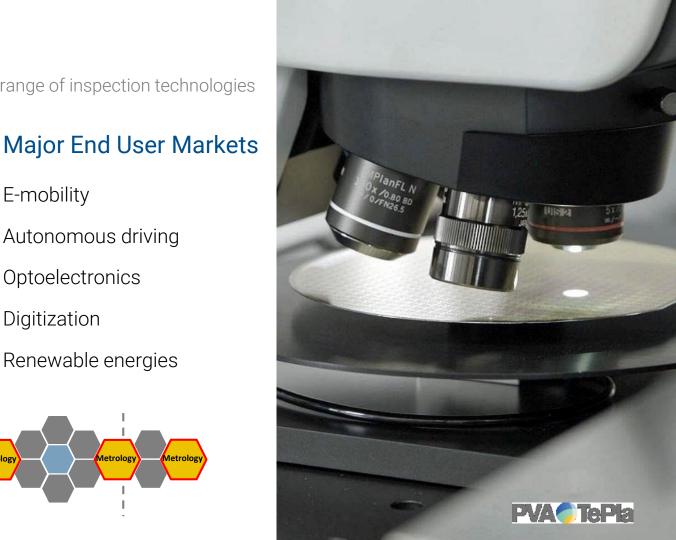
Ultrasound inspection E-mobility

Laser inspection Autonomous driving

Chemical inspection Optoelectronics

Optical inspection Digitization

Renewable energies



### Ultrasound

strong market position in leading metrology technology

### **Technology**

Highest resolution among competitors for quality inspection (non-destructive) through different layers of nearly every material

Multiple areas of applications in semi and industrial materials (such as wafers, chips, MEMS, showerheads, and bonded industrial materials)

First 8 fold auto wafer transducer installed at leading semi producer

### Opportunities/Trends

Sensors for autonomous driving

Smaller design rules in semiconductor industry drive demand Further development towards algorythm based learning, AI, deep learning Further demand initiated by new materials (SiC) EV manufacturing requires 100% testing of chip components





# 2. Industrial Systems

System & Application know-how upon customer request



# Sintering

PVA TePla is a global leader for pressure sintering systems

### **Applications**

Pressure sintering

Brazing

High temperature systems

### Major End User Markets

**Tooling Industry** 

Aviation, Electrical Industry

Graphite Industry









# Brazing

producer of world-class brazing systems

### **Applications**

X-ray tubes

Vacuum interrupters

Heat exchangers

Diamond cutting tools

Turbine blades

### **Major Markets**

Medical Industry

Electrical Industry

Measurement and sensor technology

Semiconductor Industry

Tooling Industry



# Diffusion bonding

unique expertise of an innovative technology

### Breaking into new applications

This technology also enables chemical/toxic-free, complex 3D-structures, adding excellent mechanical strength properties, for example:

- Semiconductor equipment components
- Conformal cooling molds
- PCHE heat exchangers
- Aerospace components
- Hydrogen/Gas liquifaction





### Market potential

Europe's largest hot presses at PVA TePla's service center are fully booked

By fare the most expensive system in PVA TePla's portfolio A couple of systems already sold into semi and hydrogen industry





# 3. Annual Figures





### HIGHLIGHTS 2022

#### LOOKING BACK ON A SUCCESFUL YEAR

- Significant increase in revenue and earnings despite one-off development costs in semiconductor
- Exceeded own guidance thanks to dynamic second half performance
- Order book increased to EUR 324.3 m from EUR 283.3m
- Full acquisition of MPA Industrie to strengthen our position in the aerospace and renewable energy market
- Focus on sustainability and commitment to using long-established technologies in support of ecological transformation
- Positive outlook for 2023 with expected sales of EUR 240 to 260 m and EBITDA of EUR 36 to 40 m



### **ACQUISITION OF MPA INDUSTRIE**

#### IMPORTANT STRATEGIC COMPLEMENT

- Further expansion of process technology know-how of highperformance coatings
- The fast-growing markets include structural components for applications in the semiconductor industry, fibre-reinforced ceramics in the aerospace industry, and coatings for components used in renewable energies

**ECONOMIC RATIONALE:** PROFIT CONTRIBUTION SINCE DAY 1: EUR 6 MILLION SALES WITH VERY HIGH PROFITABILITY

### INNOVATION DRIVES FUTURE GROWTH

# NEXT GENERATION SILICON PULLER FOR FUTURE BUSINESS OPPORTUNITIES

- In 2022, the next generation prototype was completed within the framework of a publicly funded development project - 3 units have already been sold to a strategic customer
- The next generation Silicon Puller has a significantly higher degree of automation --> "humanless fab"
- At the same time, flexibility of applications has increased



### **KEY FIGURES**

#### **GROWTH MOMENTUM INTACT**

Order Intake

EUR 235.0 m

P 8.0%\*

Sales

EUR 205.2 m

P 32.0%

Order Backlog
EUR 324.3 m

**₹ 14.5%** 

EUR 30.0 m

*7* 7.0%

**EBITDA** 

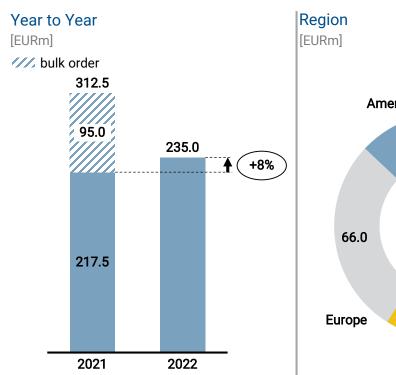
- Strong order intake book-to-bill ratio at 1.15x
- Adj. for the EUR 95 m bulk order in Q3 2021, order intake rose 8%
- Momentum further improved in Q4 2022: Sales +83.5% y/y, EBITDA +98.7% y/y

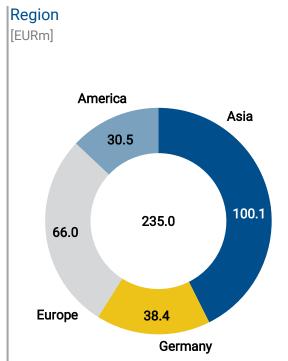


<sup>\*</sup> Adjusted for bulk order

### ORDER INTAKE

#### UNDERLYING GROWTH CONTINUED IN 2022



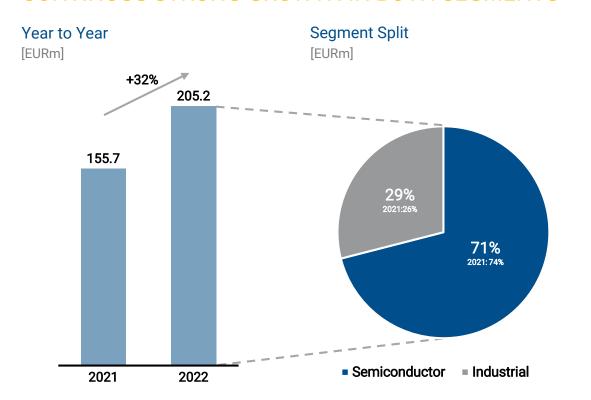


- Adjusting for the large-ticket effect of 2021, orders have increased by 8% y/y
- Well diversified order book: Asia 43%, Germany 16%, Europe (ex-Germany) 28%, America 13%
- Semiconductor contributes 65% of orders, Industrial 35%



### **GROUP SALES**

#### CONTINOUS STRONG GROWTH IN BOTH SEGMENTS



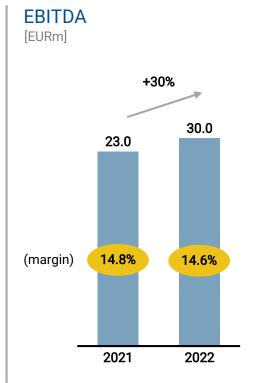
- On the back of a very strong Q4, sales exceeded guidance and increased by 32% y/y
- Both divisions benefit from megatrends, e.g. digitization, emobility, renewable energies
- Industrial benefits from high demand for infrastructure (hydrogen/LNG) projects

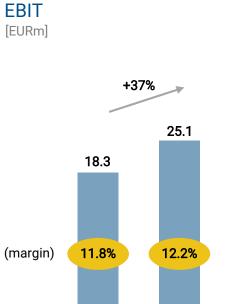


### **GROUP PROFIT**

#### SOARED ON ALL LEVELS

# **Gross Profit** [EURm] +26% 59.1 46.8 (margin) 30.0% 28.8% 2021 2022





2021

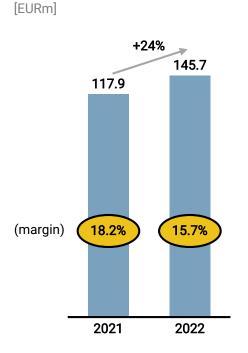


2022

### **SEMICONDUCTOR**

#### STRONG ORDER BACKLOG DRIVES SALES

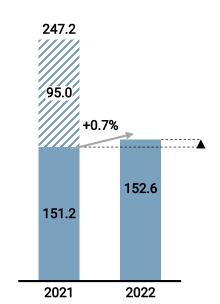
### Sales and EBIT margin



#### Order intake

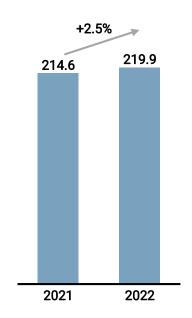
/// bulk order

[EURm]



#### Order backlog

[EURm]



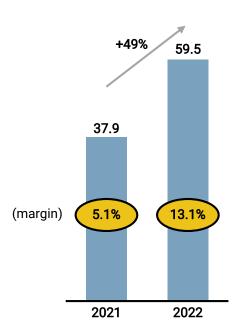


### **INDUSTRIAL**

### HIGH DEMAND FROM INFRASTRUCTURE (H/LNG)

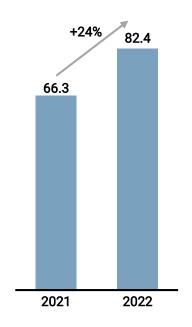
### Sales and EBIT margin

[EURm]



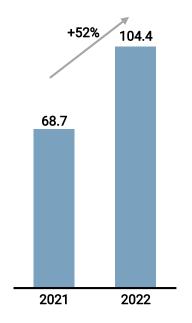
#### Order intake

[EURm]



#### Order backlog

[EURm]



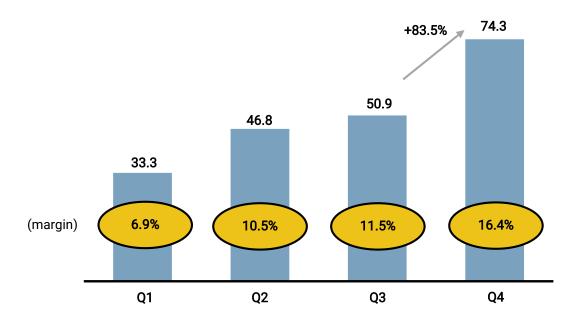


### QUARTERLY SALES AND EBIT-MARGIN DEVELOPMENT

#### **EXTRAORDINARY STRONG Q4**

#### Sales and EBIT margin

[EURm]



- Impressive Q4 2022 for PVA TePla
   Group with high order activity
- Exceeded initial expectations
- EBIT margin climbing up quarter on quarter 2022 supported by economies of scale





# 4. Outlook



# COMMITED TO SUSTAINABILITY



Net carbon neutral by 2024 (Scope 1+2)



- Reduce greenhouse gas emissions and pollutants
- •- Focus on reducing, reusing, and recycling waste, supporting a circular economy



- Focus on markets and products for energy efficiency and better environmental performance
- •- Develop innovative solutions for future challenges



- Focus on employee satisfaction and positive work environment
- •- Promote workforce diversity



- •- Promote sustainability throughout value chain
- Suppliers to meet environmental and social standards



# FINANCIAL GUIDANCE FOR FULL YEAR 2023

#### **DOUBLE-DIGIT GROWTH**

Consolidated sales expected between EUR 240 and 260 million

#### **CONTINUED PROFITABILITY**

Operating result before taxes and depreciation and amortisation (EBITDA) between EUR 36 and 40 million





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