



**Technoprobe S.p.A.  
Berenberg European Conference**

December 2024



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# Innovation begins with us

A leading company in the field of semiconductors and microelectronics



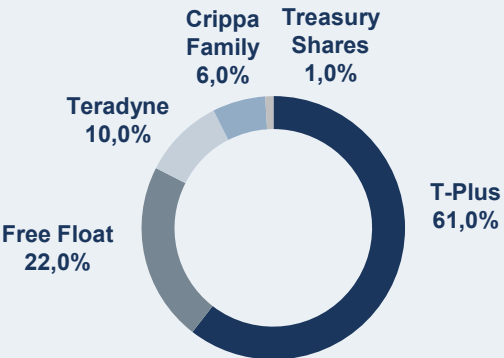


# Company Overview

## 2023 Key financial metrics

Revenue	Ebitda	Net Income	Net Financial Position	Mkt Cap
<b>€409m</b> <b>+19%</b> CAGR 19-23	<b>€123m</b> <b>30%</b> EBITDA margin	<b>€97m</b> <b>24%</b> on revenues	<b>€351m</b> as at 31/12/2023	<b>~€3,8bln</b> as at 26/11/2024

## Shareholding Structure\*



Leading player in designing and manufacturing of **probe cards**



Manufacturing process **full vertical integrated**



Strong focus on **innovation**

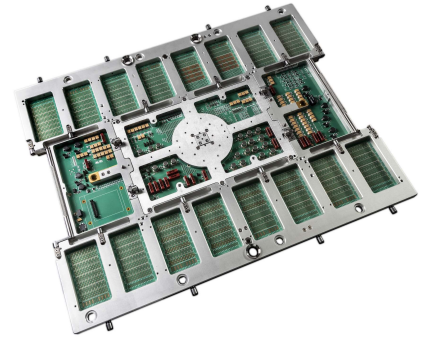


Extensive **global presence** and widespread **local footprint**

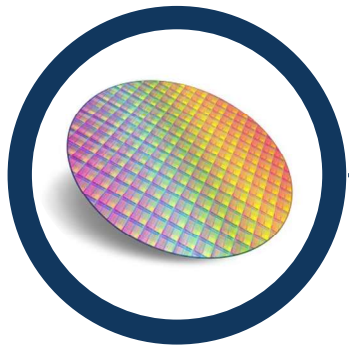
# What is a Probe Card (1/2)



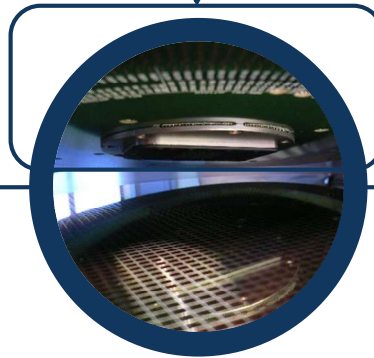
A **probe card** is an **electromechanical interface** that allows a chip to be tested when it is still on the wafer.



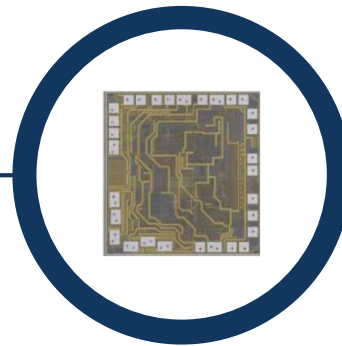
PROBE CARD



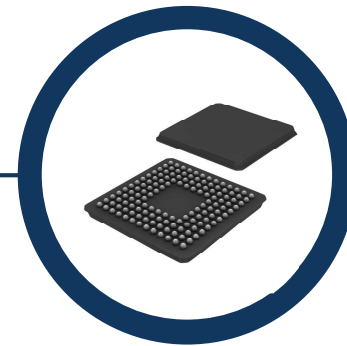
Wafer -  
Multi-chip



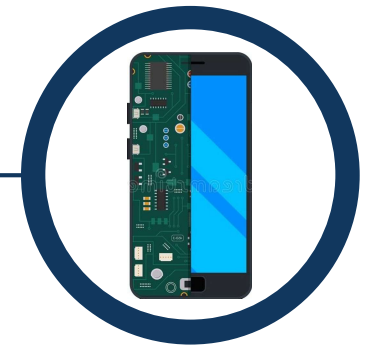
EWS (Electrical  
Wafer Sorting)



Single chip



Chip is packaged

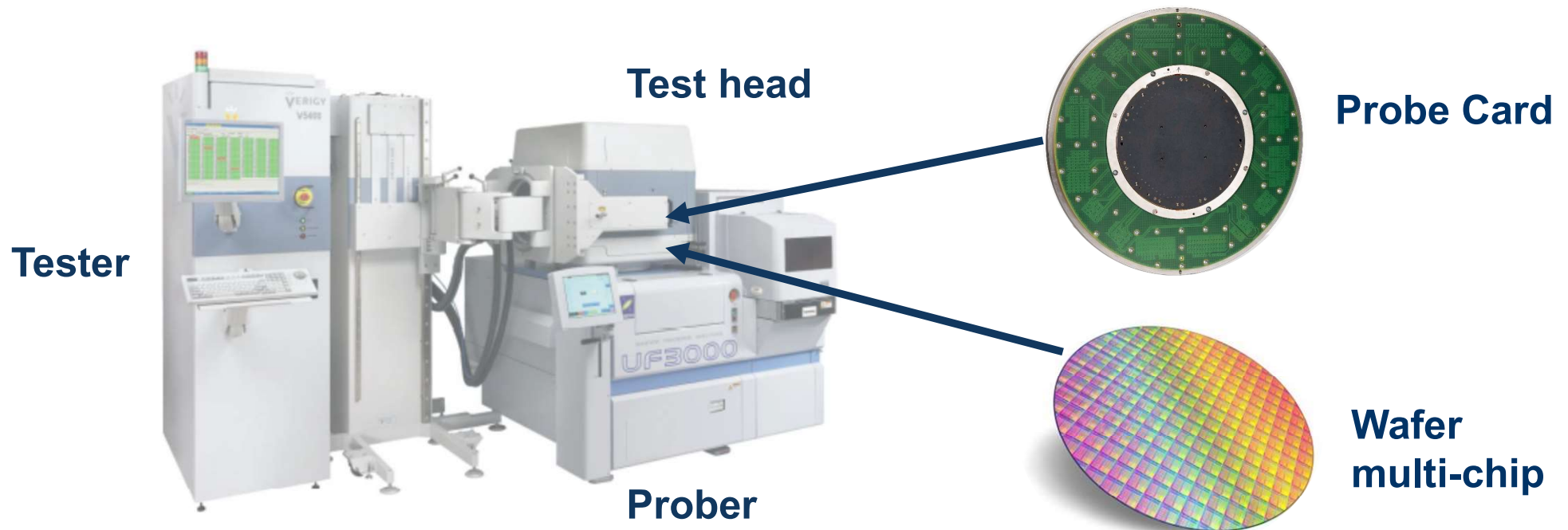


Application -  
integration on  
printed circuit



## What is a Probe Card (2/2)

The probe card has very thin needles (**probes**) that touch the terminals (pads) of chips, thus electrically connecting to a **tester**.



# Our growth path



Assembly



Manufacturing



Offices



R&D



**1996**  
Technoprobe  
Foundation

TP France  
2001



TP Singapore  
2002



TP America  
2008



TP Philippines  
2010



TP Italy  
Expansion  
2011



TP Korea  
2015



New fab  
in Italy  
2017



New fab and offices  
in Italy: Agrate, TPI5  
Cernusco, Osnago  
2021



TP China  
2019



TP Japan  
2019



TP Germany  
2019



TP Taiwan  
2019



TP acquires  
Microfabrica  
2019



Grand Opening  
of new HQ  
2017



Listed on the  
Euronext Growth  
Milan market  
2022

New Design  
Center in Catania  
2022



Transition to the  
Euronext Milan Market  
2023

TP acquires  
Harbor Electronics  
2023



New office  
in Vimercate  
2023



TP acquires  
MW Plasma  
2023



TP acquires  
DIS Tech  
2024





# Reference Market



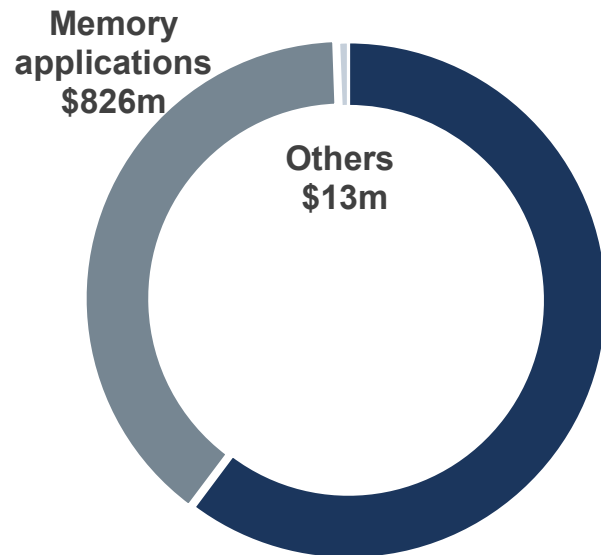




# Overview of the Semiconductor Probe Cards market

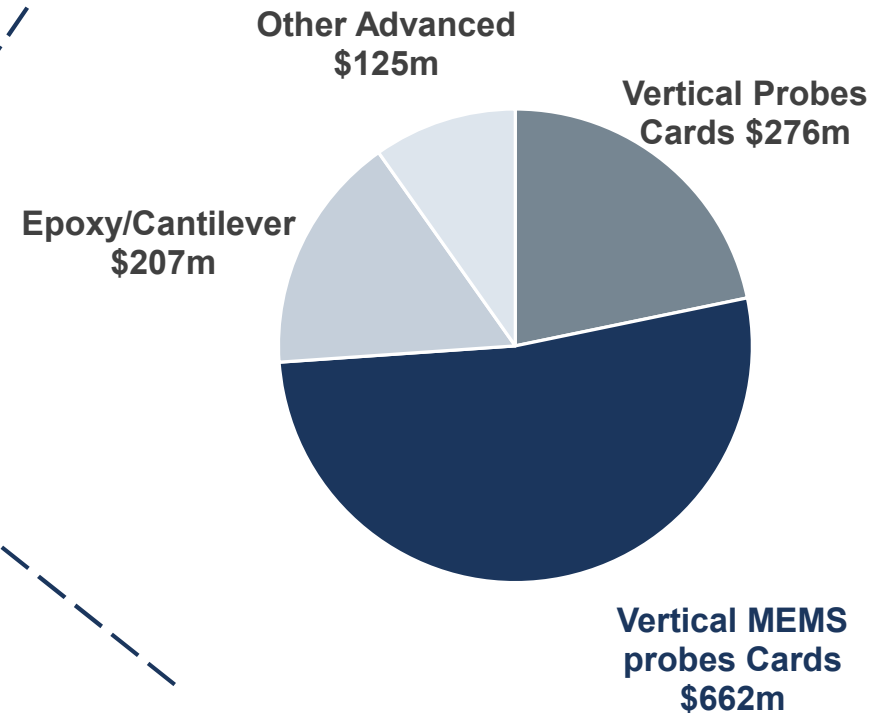
## 2023 Semiconductor Probe Cards Market\*

Overall market value: \$2.1bn



## 2023 Non-Memory applications by type\*

Non Memory applications  
\$1.270m

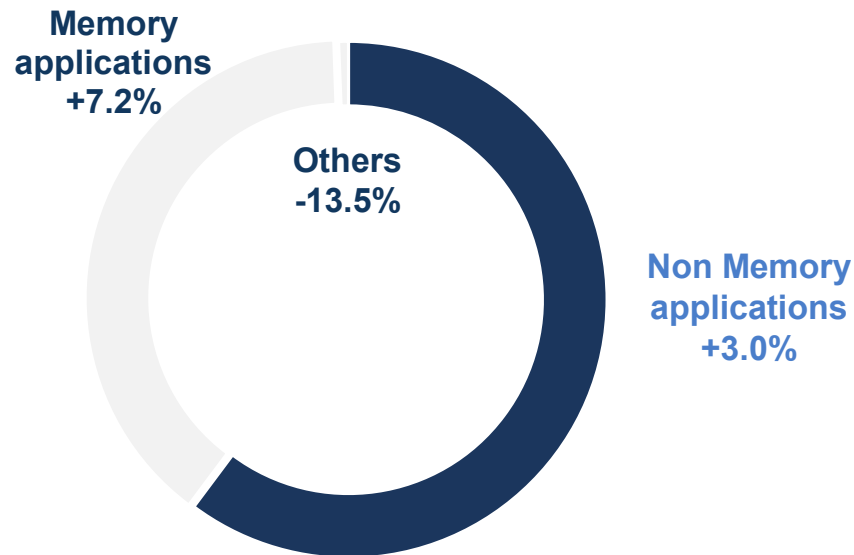




# Our serviceable available market

**Semiconductor Probe Cards Market  
2019-2023 CAGR\***

**Overall market growth: +4.6%**



**Non-memory applications  
market share**

**2022 Market Share**



**34%**

**2023 Market Share**

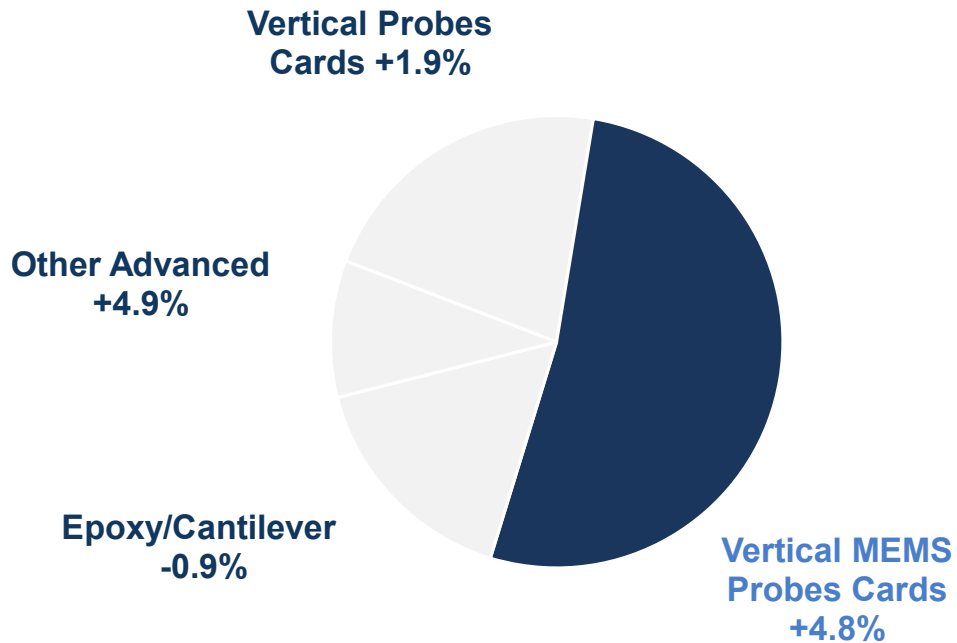


**35%**



# Our serviceable available market

Non-Memory applications by type  
CAGR 2019-2023\*



Vertical MEMS Probe Cards  
market share

2022 Market Share



60%

2023 Market Share



67%

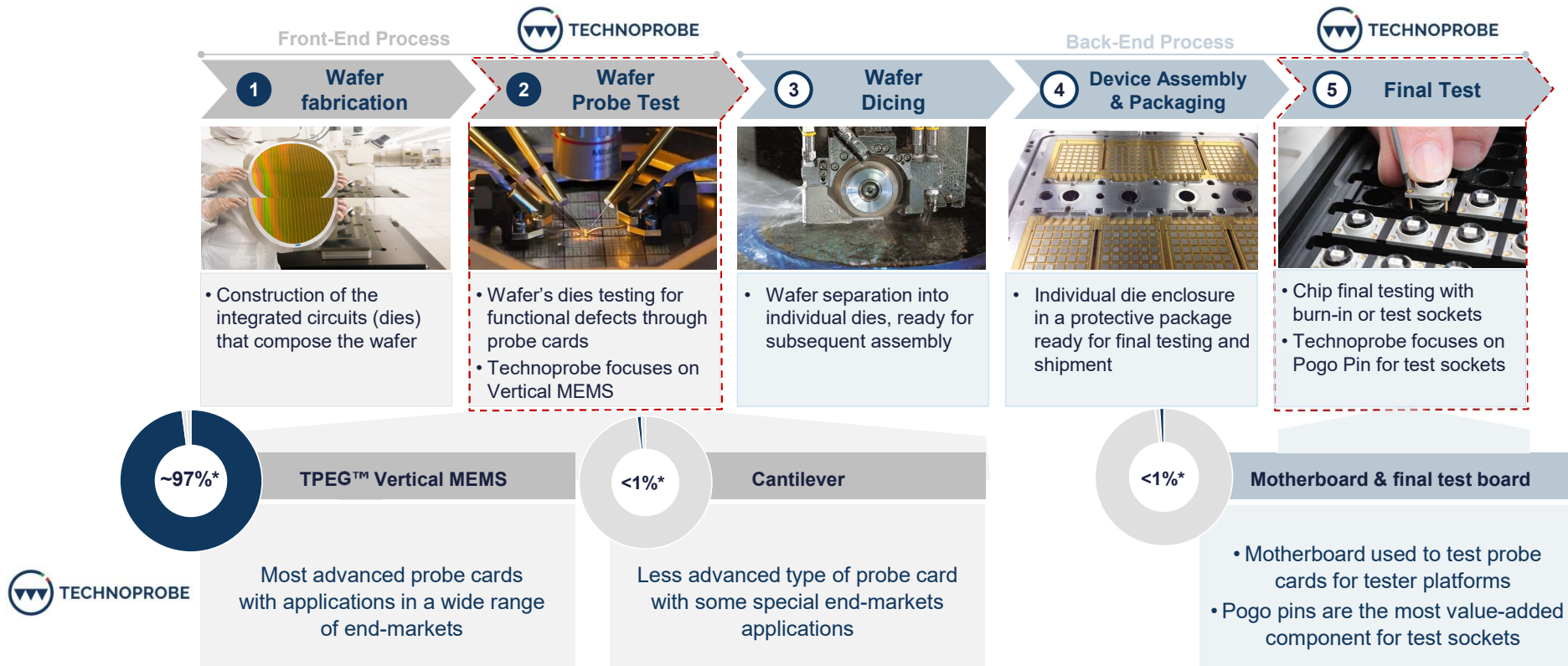


# Compelling market characterized by solid entry barriers





# Probe cards in the semiconductor manufacturing process





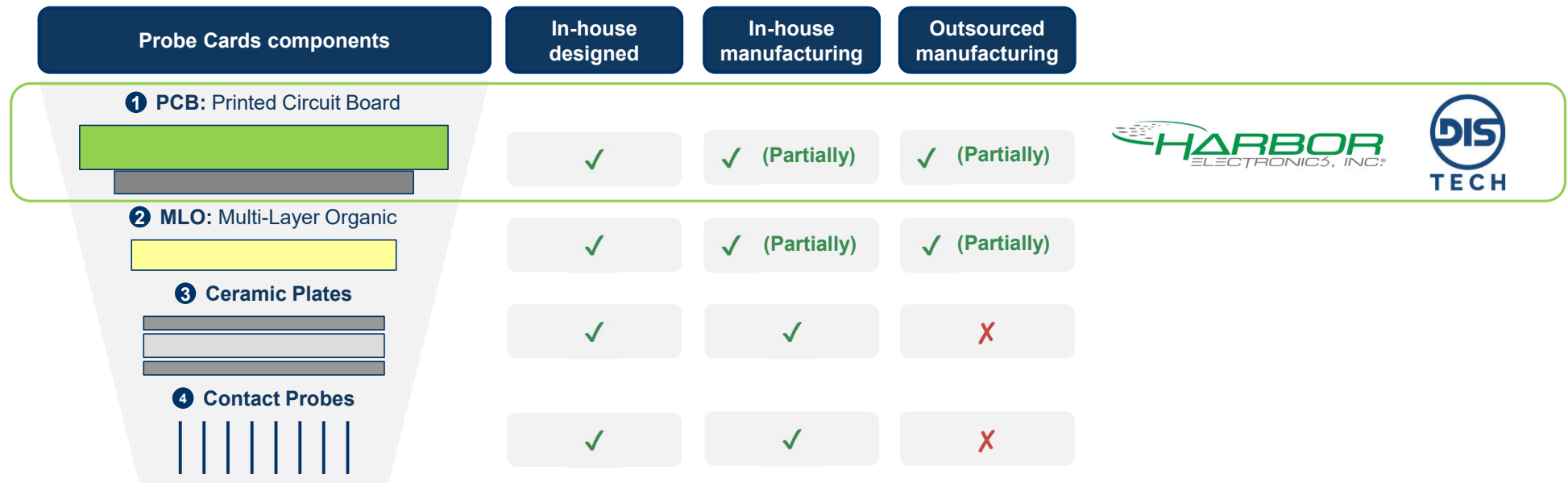
# Business Model





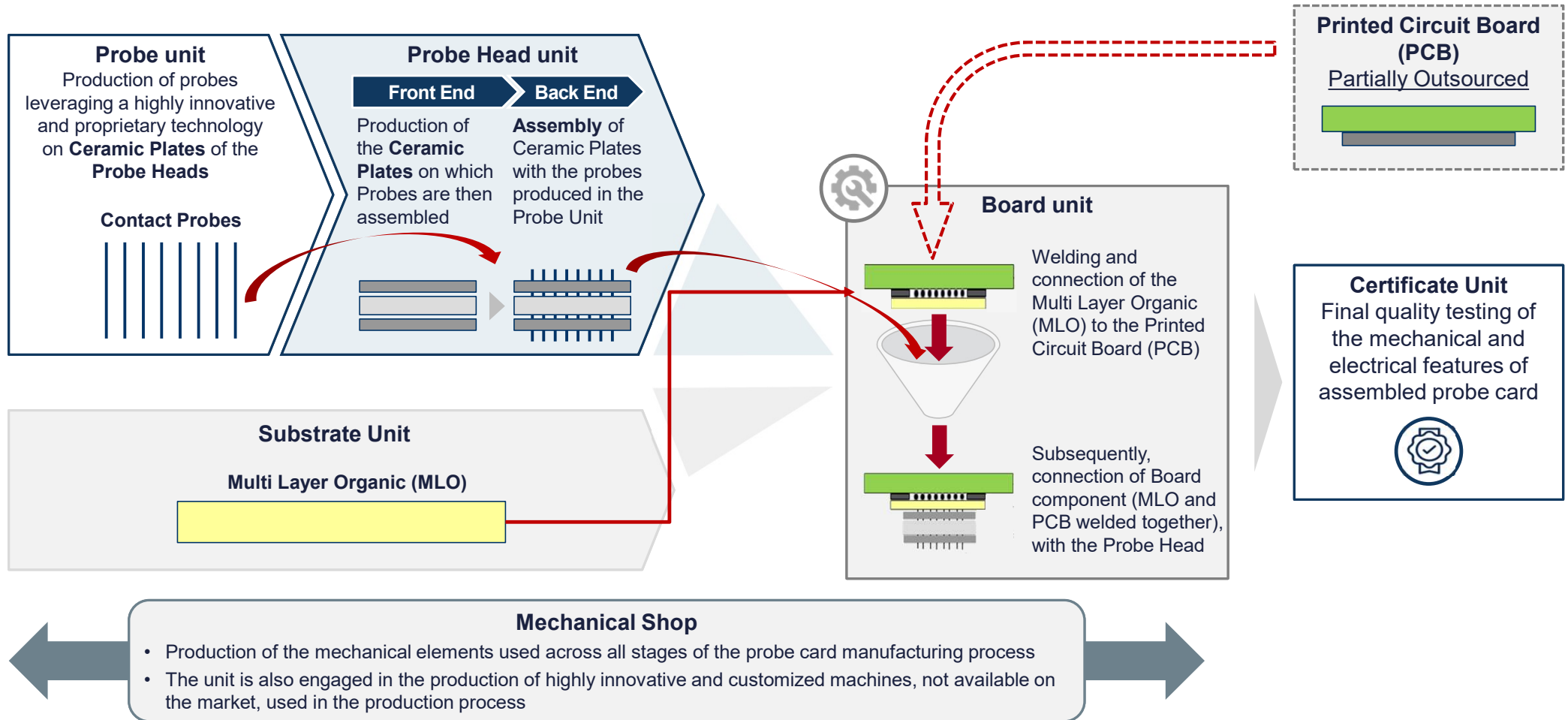
# A successful and vertically integrated business model

A winning business model has allowed Technoprobe to become the point of reference in the **MEMS non-memory-use market** thanks to the superior quality and performance of its products.





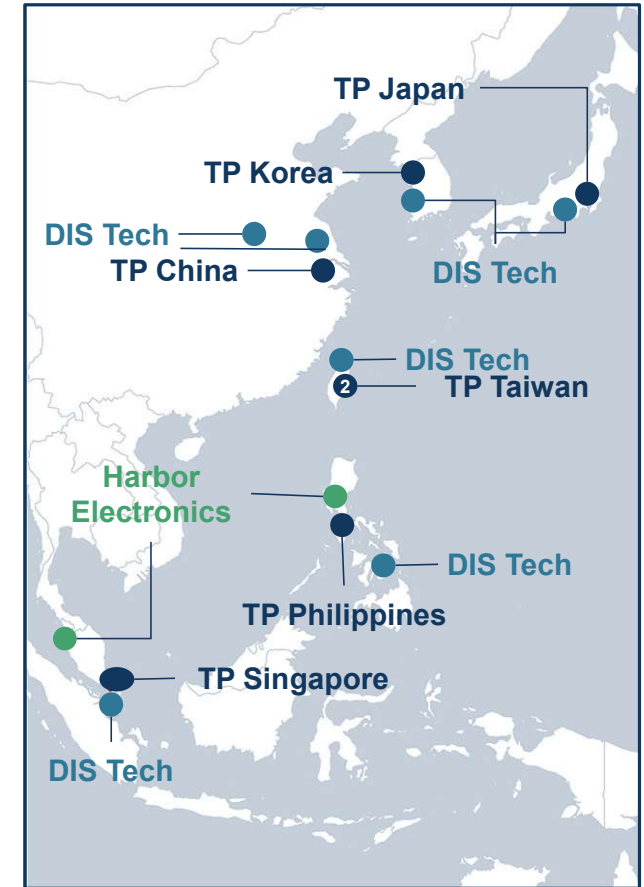
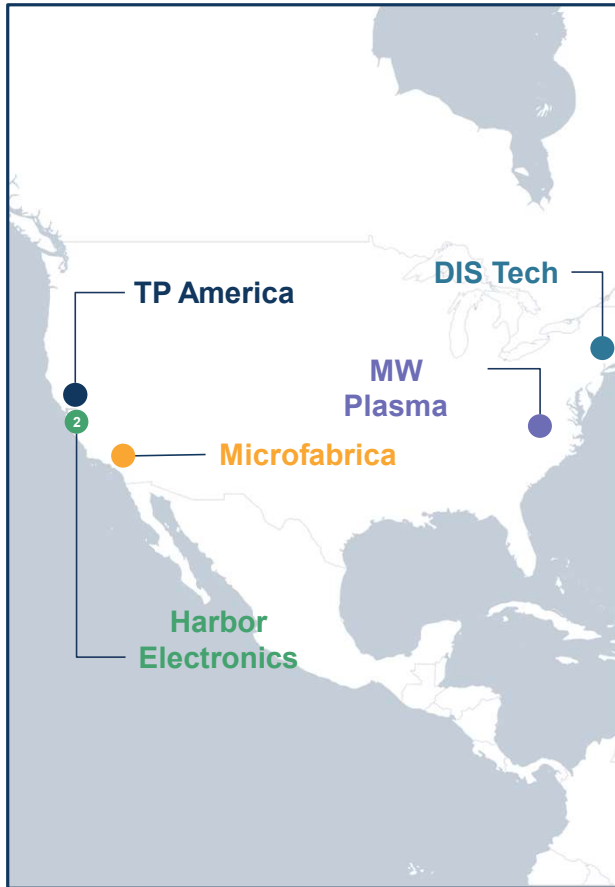
# Overview of the Probe Cards manufacturing process







# Extensive global presence



● Technoprobe

● Harbor Electronics

● MW Plasma

● Microfabrica

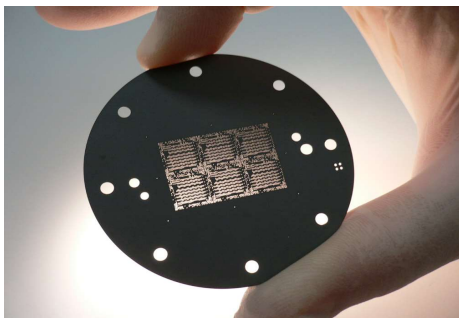
● DIS Tech



# A wide range of highly innovative technologies

## Advanced Micromachining

Advanced laser cutting: High accuracy and fast lead time



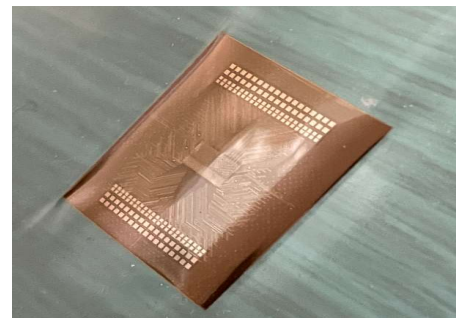
## 3D MEMS

Acquisition of MICROFABRICA in 2019; the sole company in the world specialized in 3D metallic MEMS manufacturing



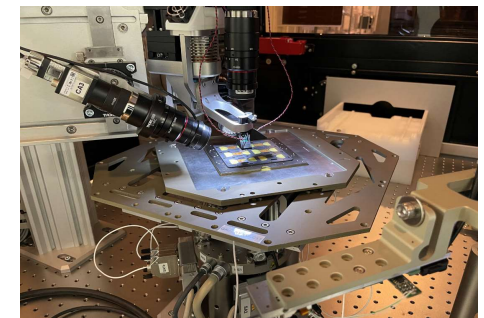
## Thin film

Strong investment in advanced thin film technology to reduce lead time and improve quality and complexity



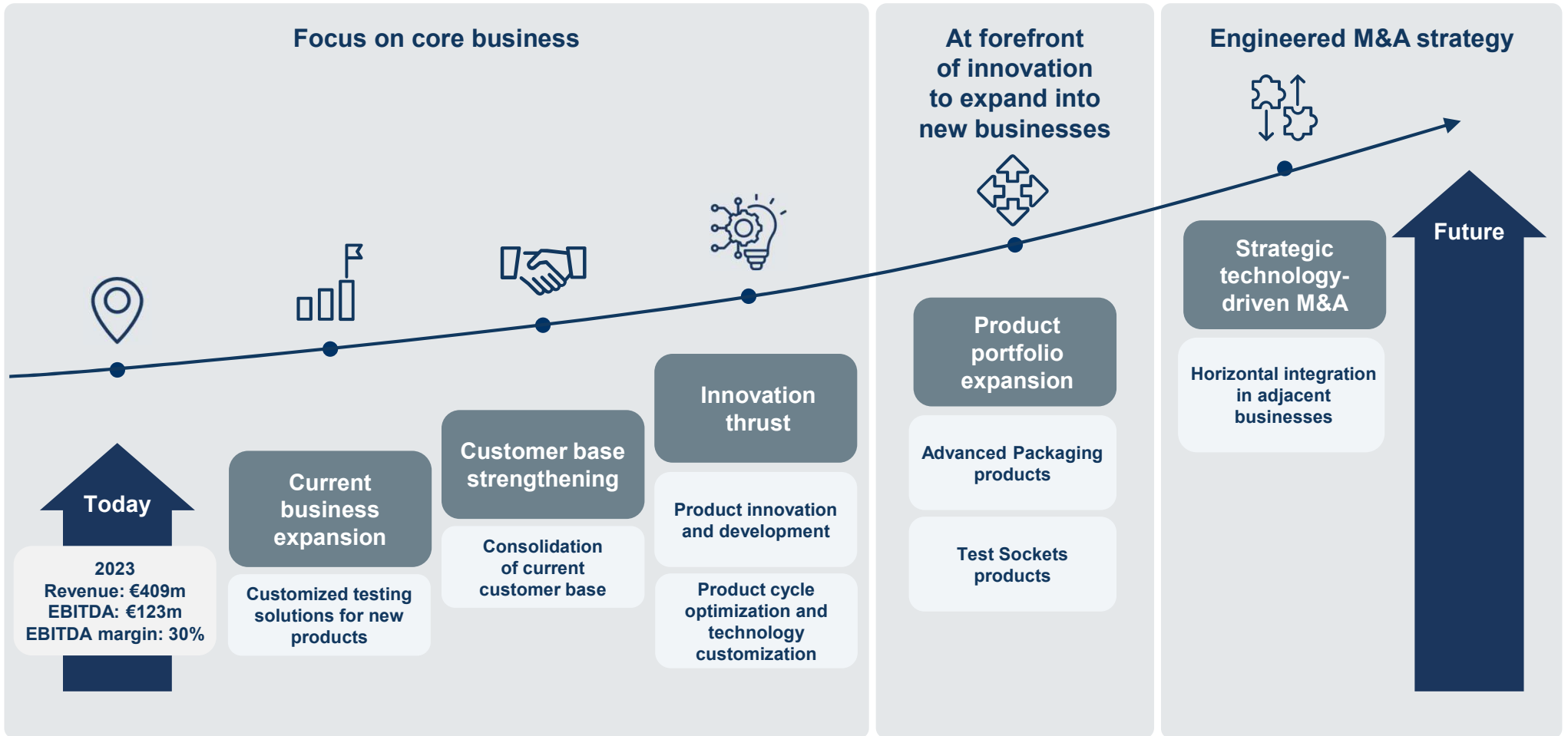
## Advanced manufacturing

Advanced manufacturing for high volume and best quality assembly of micro components





# Overview of main strategic initiatives





# 9M Results





# 9M 2024 market drivers

**Revenues at 386.9€m**

*up 4.7% QoQ  
up 25.9% YoY*



**Consistent growth in Artificial Intelligence**



**Stabilization of volumes in Consumer market**



**Correction in inventories**



**Weakness in Automotive and Industrial**



# Financial Highlights

Q3 2024

Revenues were **145.8€m**

*up 31.2% YoY, up 4.7% QoQ*

Gross Profit was **59.3€m**

*up 8.0% YoY, with a margin of 40.7%*

Ebitda was **34.6€m**

*down 3.4% YoY, with a margin of 23.7%*

9M 2024

Revenues were **386.9€m**

*up 25.9% YoY*

Gross Profit was **160.1€m**

*up 2.2% YoY, with a margin of 41.4%*

Ebitda was **95.3€m**

*down 5.2% YoY, with a margin of 24.6%*



# 9M 2024 results

	9M 2024	9M 2023	YoY Variance	Comments
€m				
<b>Revenues</b>	<b>386.9</b>	<b>307.3</b>	<b>+25.9%</b>	<ul style="list-style-type: none"> <li>• <b>Revenues</b>, driven by               <ul style="list-style-type: none"> <li>○ Organic growth due to solid upward trend in AI</li> <li>○ change in the consolidation perimeter (Harbor Electronics and DIS Tech)</li> <li>○ partially offset by the weakness in automotive and industrial</li> </ul> </li> </ul>
<b>Gross profit</b> <i>% margin</i>	<b>160.1</b> 41.4%	<b>156.7</b> 51.0%	<b>+2.2%</b>	<ul style="list-style-type: none"> <li>• <b>Gross profit margin</b> impacted by:               <ul style="list-style-type: none"> <li>○ expected dilutive effect from acquisitions</li> <li>○ manufacturing inefficiencies from product mix</li> <li>○ relevant increase of depreciation</li> </ul> </li> </ul>
<b>EBITDA</b> <i>% margin</i>	<b>95.3</b> 24.6%	<b>100.5</b> 32.7%	<b>-5.2%</b>	<ul style="list-style-type: none"> <li>• <b>Ebitda margin</b> consistently affected by the acquisitions and the product complexity together with a high level of investments in R&amp;D (45€m)</li> </ul>
<b>Net Financial Position</b>	<b>30.09.2024</b> <b>630.3</b>	<b>31.12.2023</b> <b>350.8</b>		<ul style="list-style-type: none"> <li>• <b>Net financial position:</b> cash flow from operating activities (+64€m) and capital increase (+385€) partially offset by capex (-55€m), DIS acquisition (-80€) and buy-back plan (-23€m)</li> </ul>



# Dis Acquisition





TP acquires  
DIS Tech  
on **May 27,**  
**2024**



## DIS Tech



With over 20 years of experience, DIS Tech is a business branch of Technoprobe S.p.A. aimed at strengthening company's competences in the PCBs and high-performance interfaces market consolidating the full vertical integration of its business model.

9

Offices  
Worldwide

464

Employees  
Worldwide


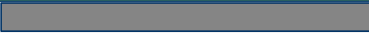


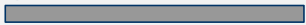
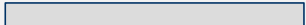




Asset

## Expected Synergies (1/2)



**Consolidating** the full vertical integration of our business model also leveraging on Harbor Electronics competencies

Probe Cards components	In-house designed	In-house manufacturing	Outsourced manufacturing	
<b>1 PCB: Printed Circuit Board</b>  	✓	✓ (Partially)	✓ (Partially)	 <b>DIS</b>
<b>2 MLO: Multi-Layer Organic</b> 	✓	✓ (Partially)	✓ (Partially)	
<b>3 Ceramic Plates</b>   	✓	✓	✗	
<b>4 Contact Probes</b> 	✓	✓	✗	



Position Technoprobe as leading player in the design and manufacturing of high end PCBs



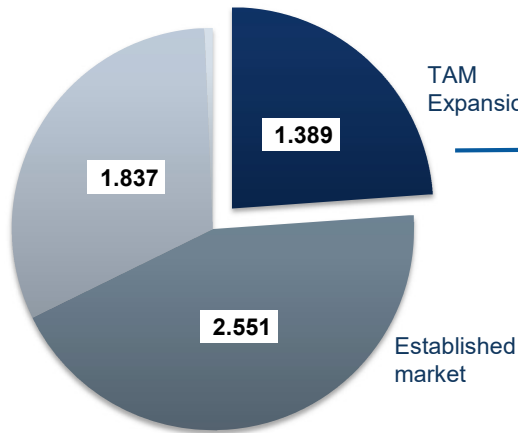
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# Expected Synergies (2/2)



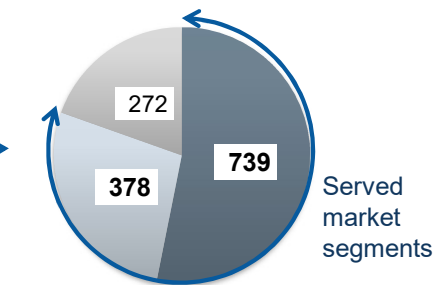
Acceleration in the process to enter the final test and probe card interface markets

Test Consumables Market\*



TAM Expansion

Test Interface Market\*



Served market segments

- Final Test Device Interface Boards
- Probe Card Interface Boards
- Burn-in Boards

- TAM expansion into the \$1.1B\* final test and probe card interface market
- Teradyne DIS and Harbor combined are the #1 supplier to the two served test interface segments
- The synergy of core competencies in design and manufacturing create opportunities to gain market share



Combine DIS and Harbor Electronics knowledge to enter a new market and gain market share

\*Source: Market data provided by Yole Group (2022- USDm)

# Glossary



## WAFER LEVEL TESTING

### Probe Cards & Tester Components

① **PIB:** Probe Card Interface Board(\*)

① **PCB:** Printed Circuit Board

② **MLO:** Multi-Layer Organic

③ **Ceramic Plates**

④ **Contact Probes**

## FINAL TESTING

### Final Test Components

① **DIB:** Device Interface Board

③ **Socket**

④ **Pogo Pins**

*\*If requested*



# Glossary

**Device Interface Board (DIB):** a Board used in the Final Testing of packaged devices. A DIB is typically composed of a large, high layer count PCB and assembled with thousands of components.

**Probe Interface Board (PIB):** a Board used as interface between tester and Probe Card Interface Board. These products are used only on certain tester configurations.

**Probe Card Interface Board (PCB):** a term used to identify the sub-assembly of a Probe Card PCB and substrate (when needed) before Probe Head mounting

**Test Interface Board (TIB):** a general term used to refer to a Device Interface Board or Probe Card Interface Board

