
Università Cattolica del Sacro Cuore - Milano

# TECHNOPROBE

2026 CFA INSTITUTE RESEARCH CHALLENGE
25th February 2026

# TECHNOPROBE

*"Innovation Begins with us"*

Giuseppina Sepe

Giovanni Val

Carlotta Durbano

Leonardo Tamburrini

Aleksandra Damjanovic

# TECHNOPROBE

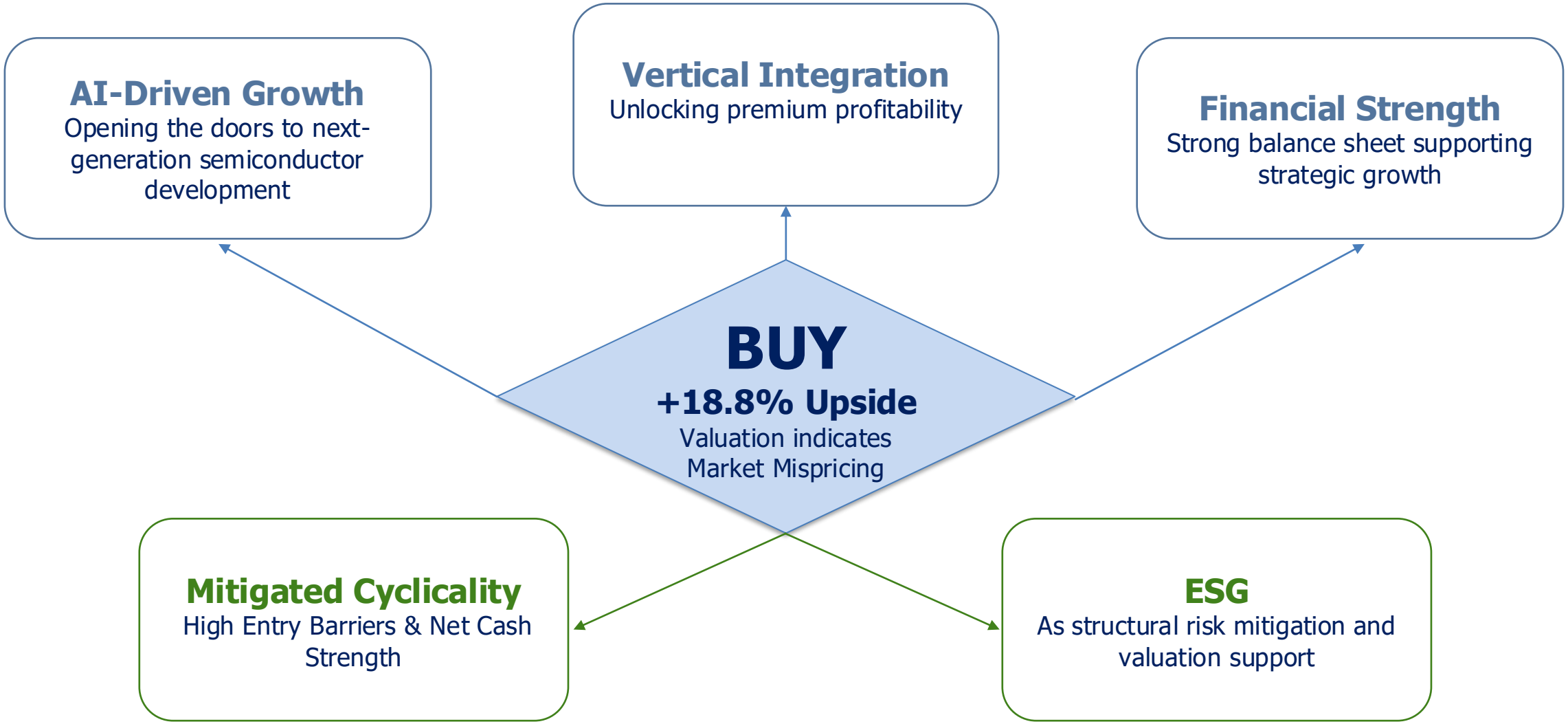
## Investment Recommendation:
## BUY

# Contents



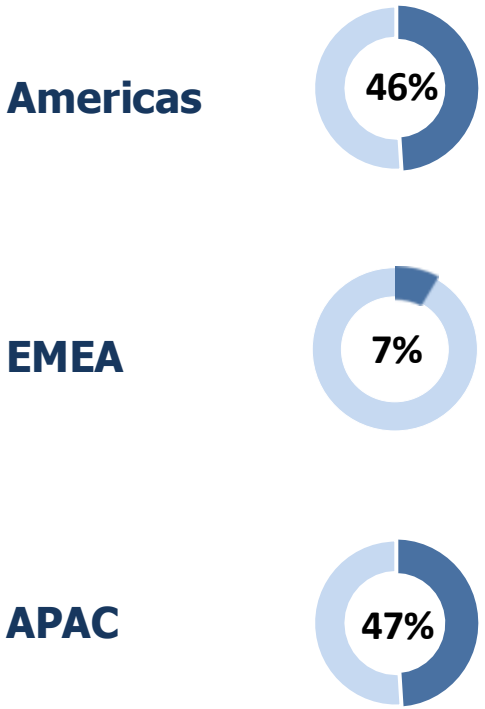
TECHNOPROBE

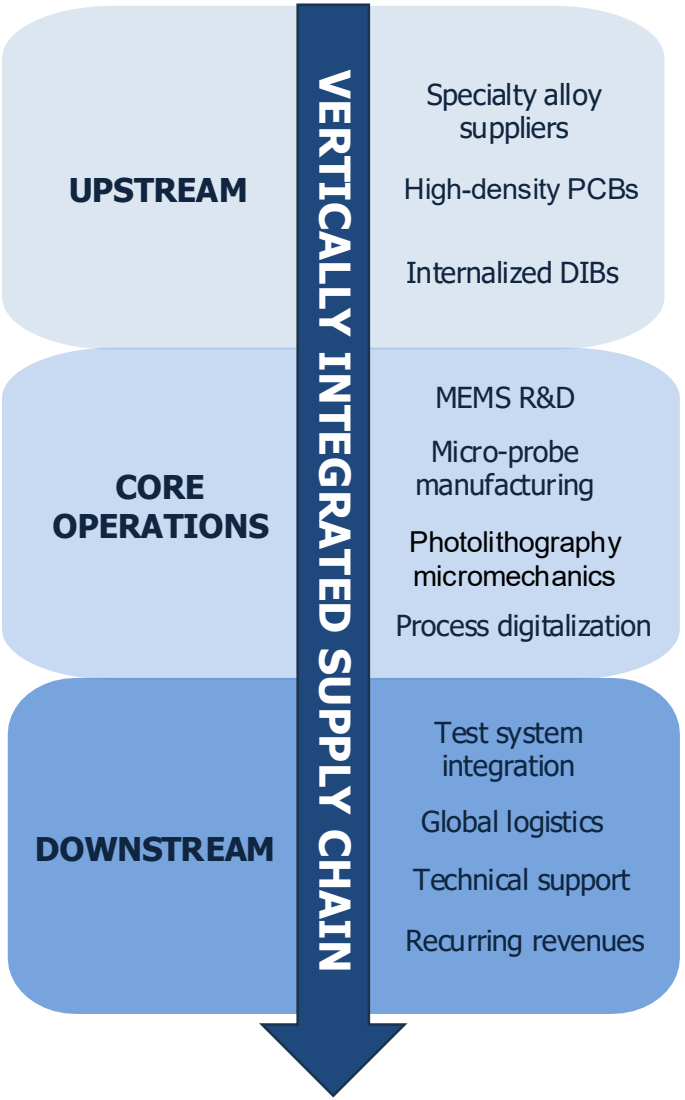
# Investment Summary



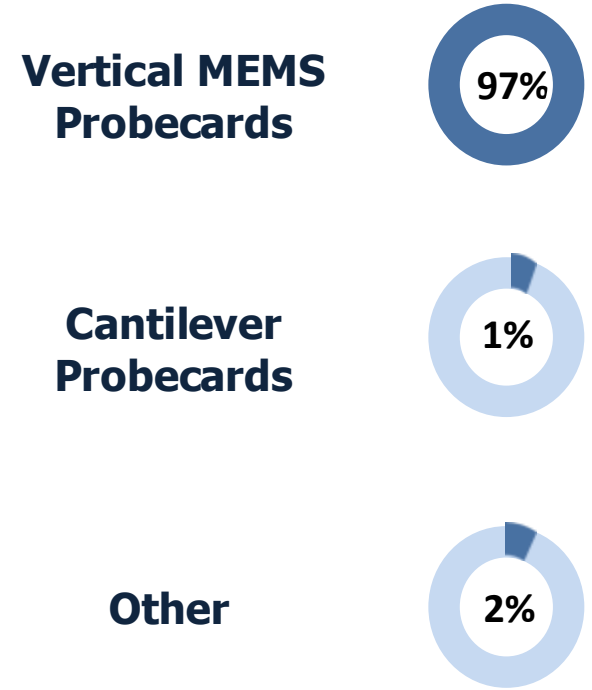
# Business description

## 2024 revenues by region



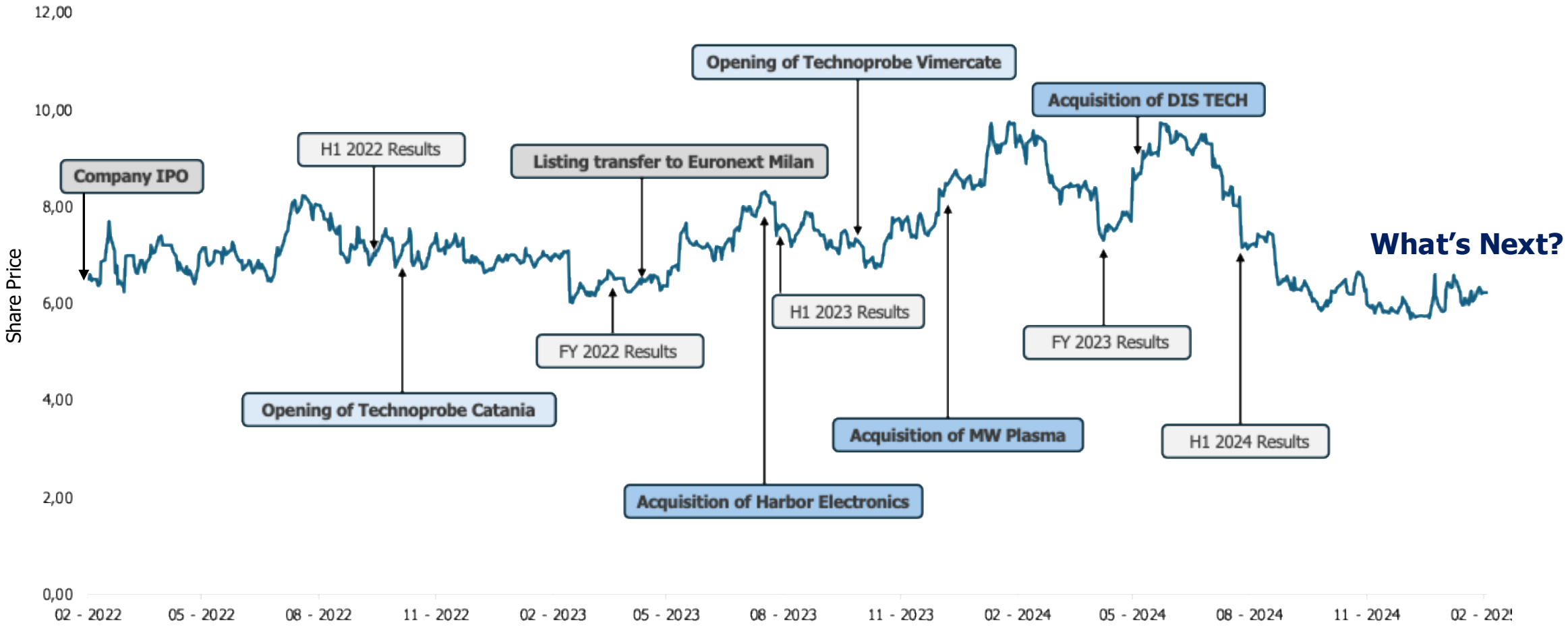




## 2024 revenues by segment



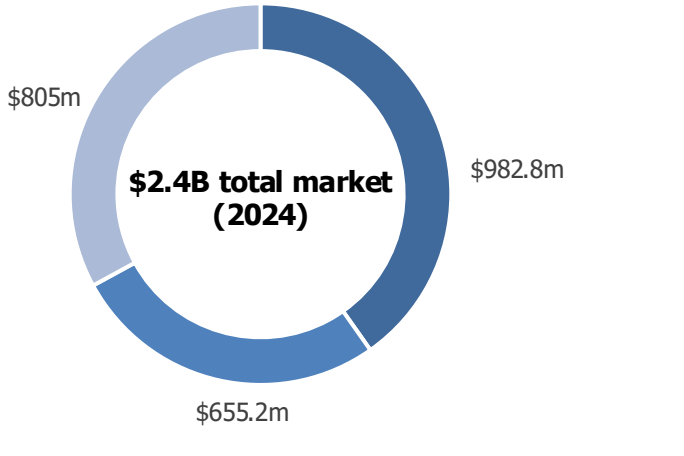

**Total Revenue** **€543mln**

# Strategic Milestones & Market Reaction

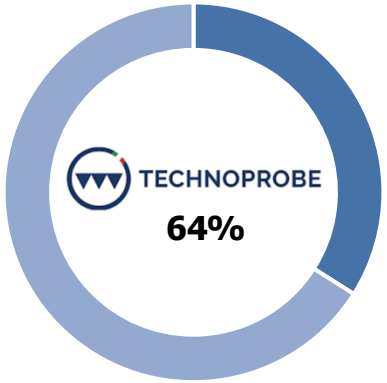


# Inside the Probe Card Market

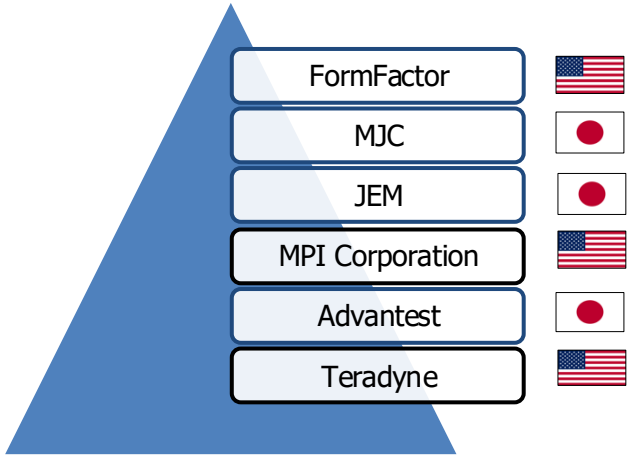
## SEMICONDUCTOR PROBE CARDS MARKET (2024)




## NON-MEMORY APPLICATIONS MARKET SHARE (2024)



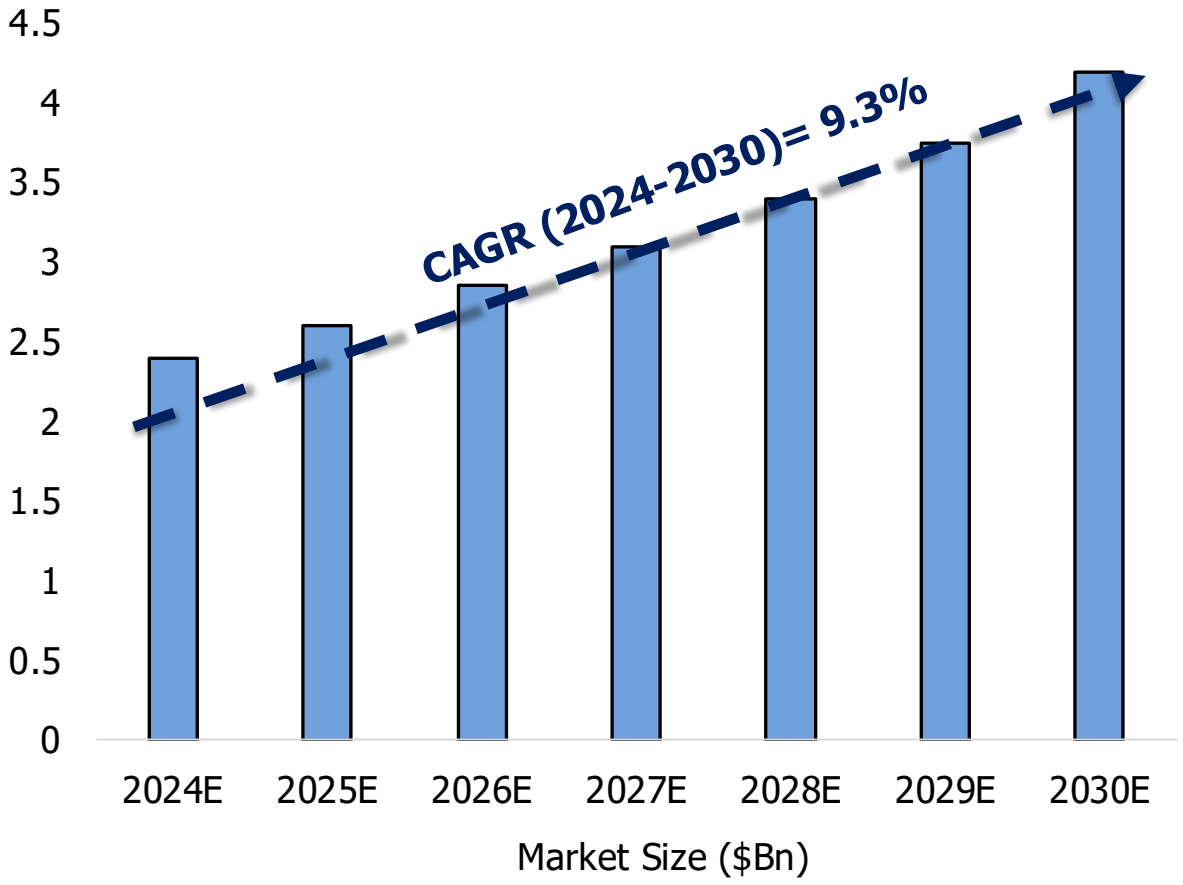

## KEY PLAYERS IN PROBE CARD MARKET




## TECHNOPROBE COMPETITIVE POSITIONING & STRENGHTS

- High-End Vertical MEMS Leader
- AI-Driven Growth Exposure
- End-to-End Testing Platform
- Strategic Partnerships
- Strong Barriers to Entry
- Deep Foundry Relationships

# Surging Chip Complexity & AI Adoption Drive "Test Intensity"

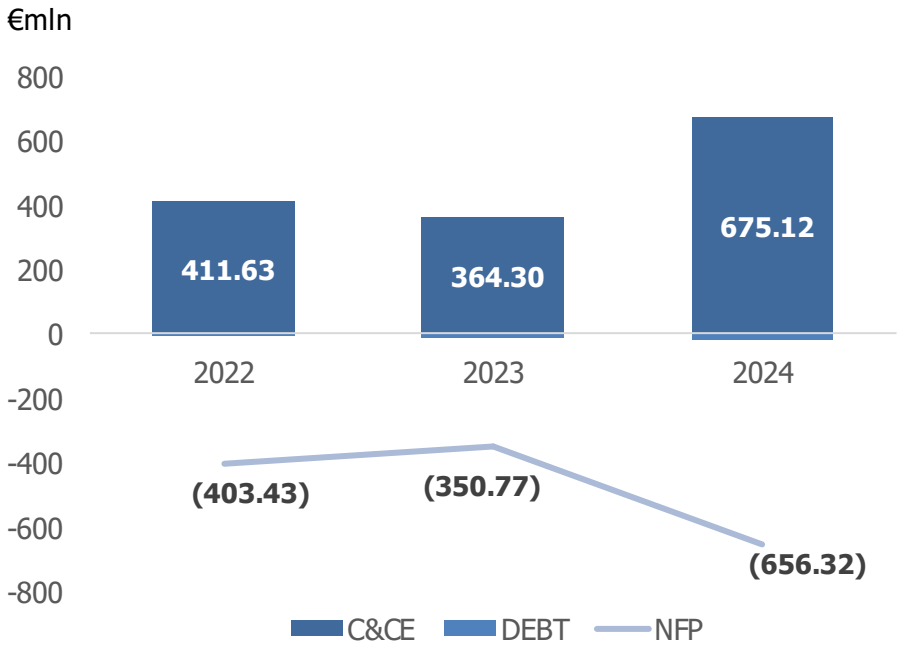



**9.3% CAGR (2024-30)**
Driven by Chip Complexity, not Volume

**AI Supercycle**
Demands "Known Good Die" (Zero Defect)

**Winning Tech**
Vertical MEMS (10.6% Growth) replaces Legacy

# Strong Balance Sheet & Cash Generation




| | 2022 | 2023 | 2024 |
|---|---|---|---|
| Current Ratio | 5,97 | 7,92 | 8,06 |
| Cash Ratio | 3,98 | 4,71 | 5,48 |
| Net Debt / Equity | (54,74%) | (42,92%) | (53,05%) |
| Gearing Ratio | (120,95%) | (75,19%) | (112,99%) |

## NET FINANCIAL POSITION

### Strong Cash Position

- Net cash **€656M**
- Gross debt negligible

### Robust Liquidity

- Covers short-term liabilities easily
- **Cash > debt**; highly solvent

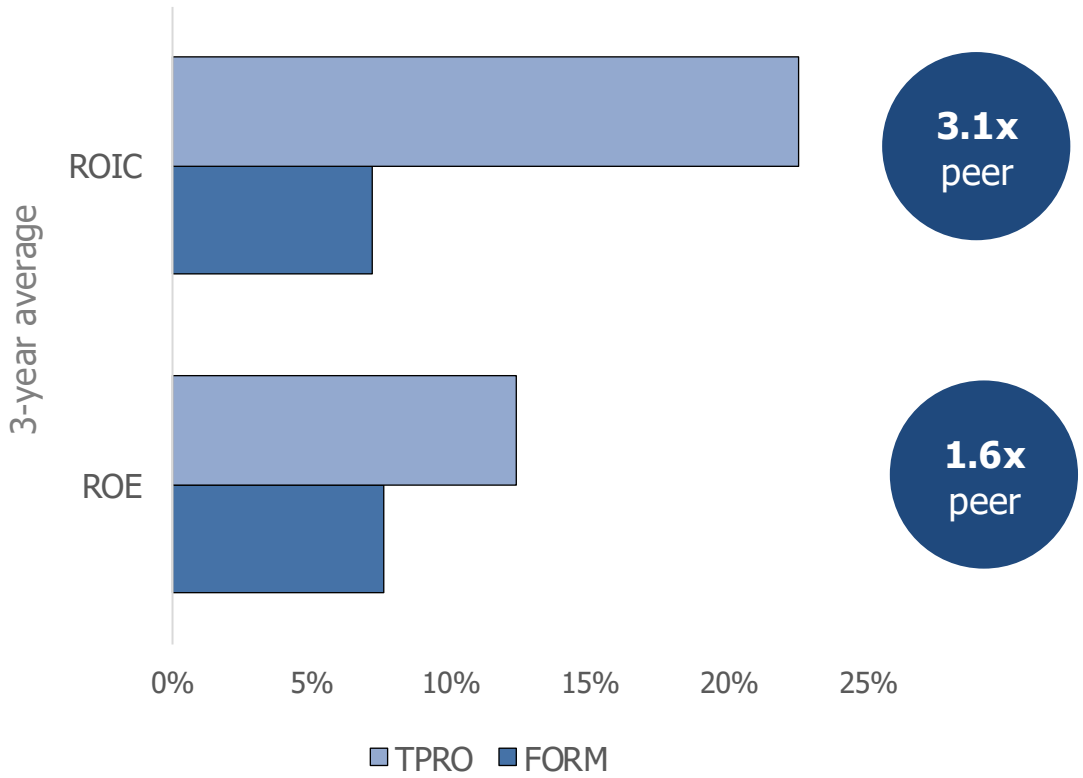
### Financial Flexibility

- Self-funds growth, M&A, R&D

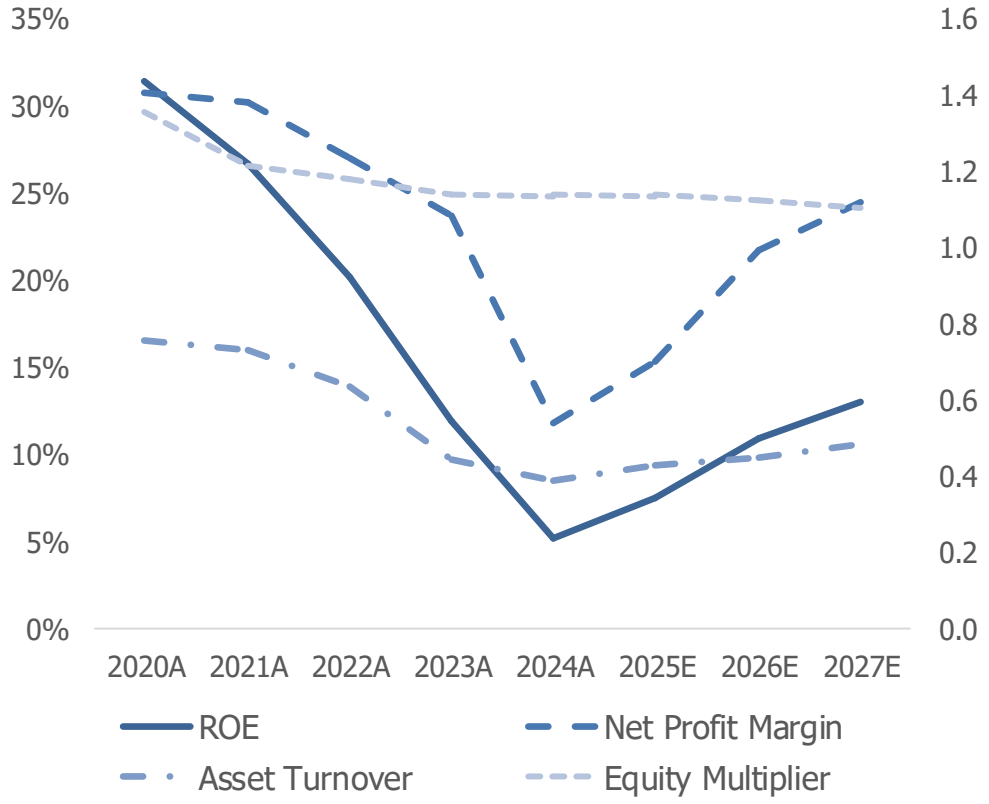
*Source: Company Data, Team Analysis*

# ROE Recovery Driven by Operating Strength

## Structural Outperformance vs. Peer FormFactor




## DuPont Breakdown of ROE



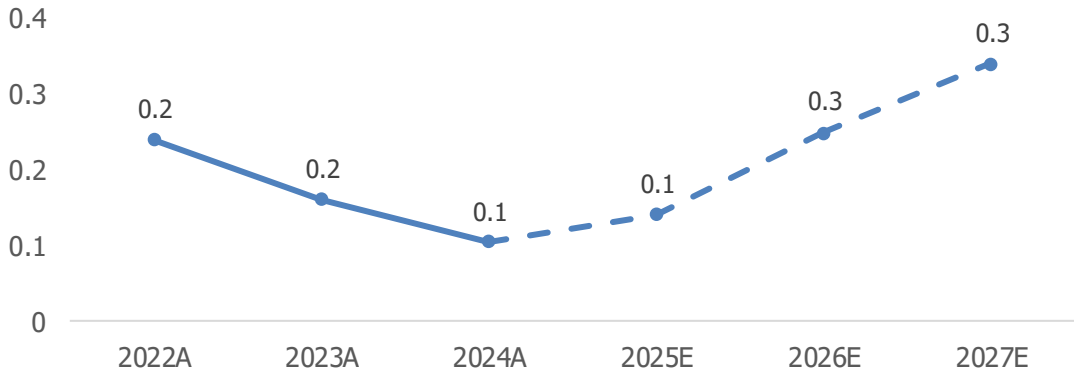
# EPS Growth built on 'AAA' Foundations

**EPS Rebound: 35% CAGR** (2024-27E) to reach **€0.34**

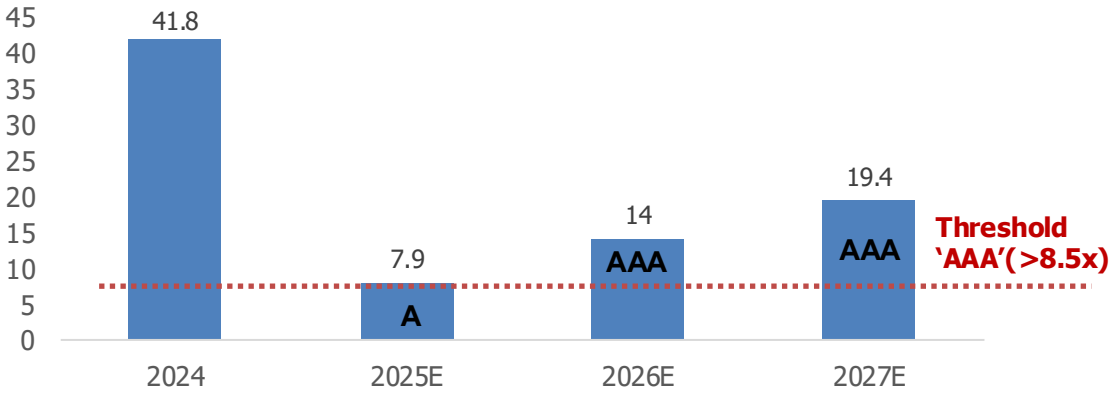
**Credit Profile: 'AAA' Rating** secured by strong ICR (>14x)

**Risk Free: 34.4 Altman Z-Score** (vs. 3.0 safe threshold)

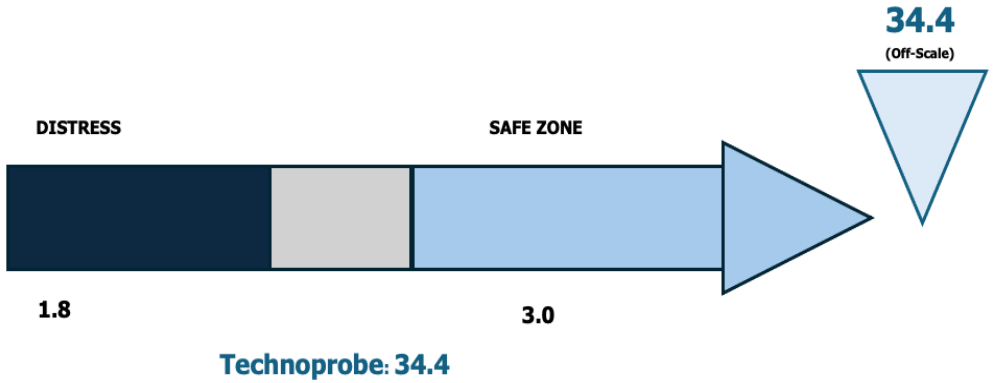
## EPS Actual & Forecast



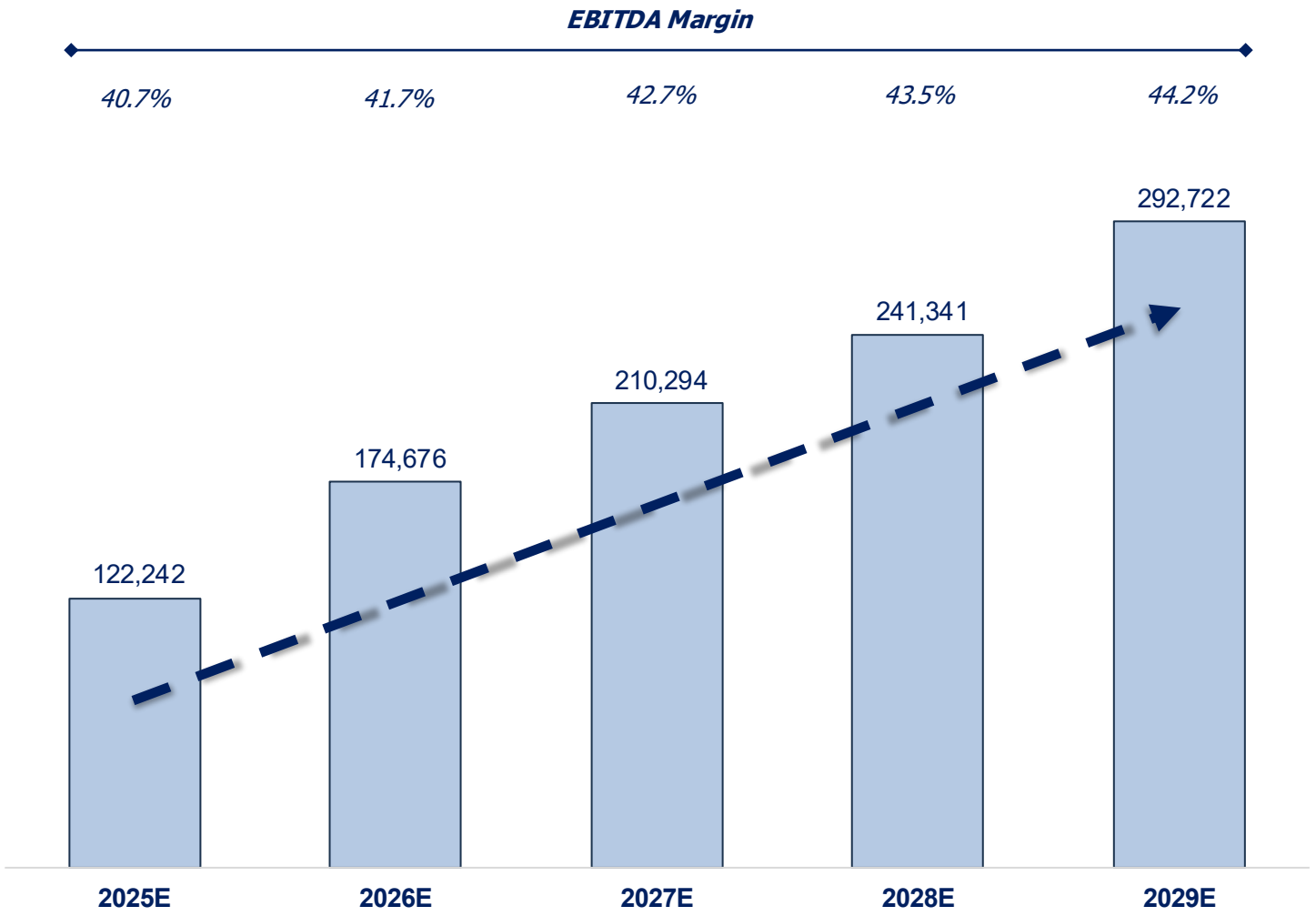

## Synthetic Credit Rating Outlook




## Altman Z-Score Positioning



# Free Cash Flows Expansions and Operating Drivers




1. **14.7%**
   *Revenue CAGR (2024-2029)*
2. **22%**
   *EBITDA Margin (2024A)*
3. **Reinvestment Discipline**
   *Capital Intensity Normalization*

# DCF Valuation with Market-Based Terminal Value

1

**8.69%**

*WACC*

2

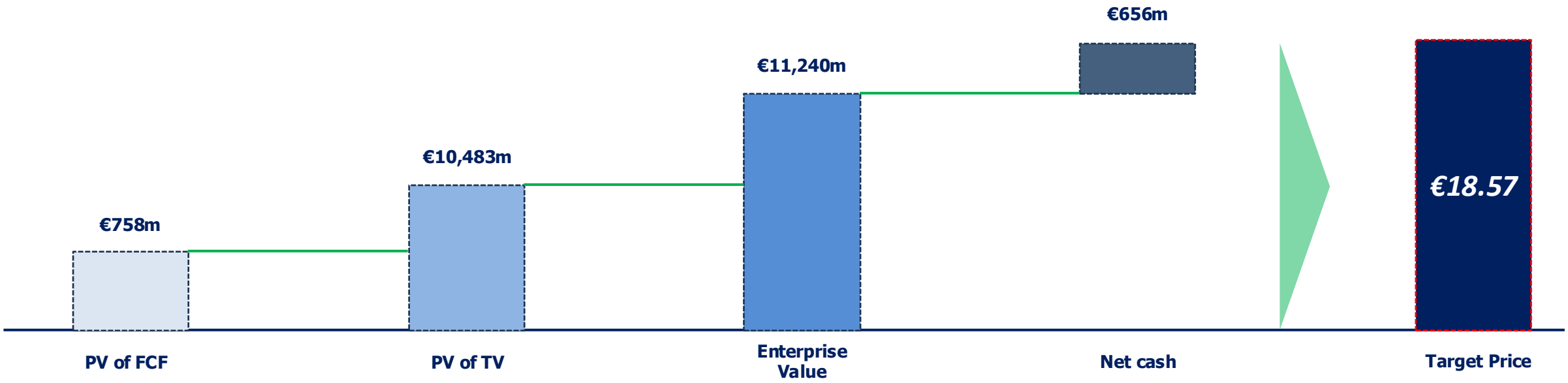
**Exit Multiple -> 33.2x**

*Terminal Approach*

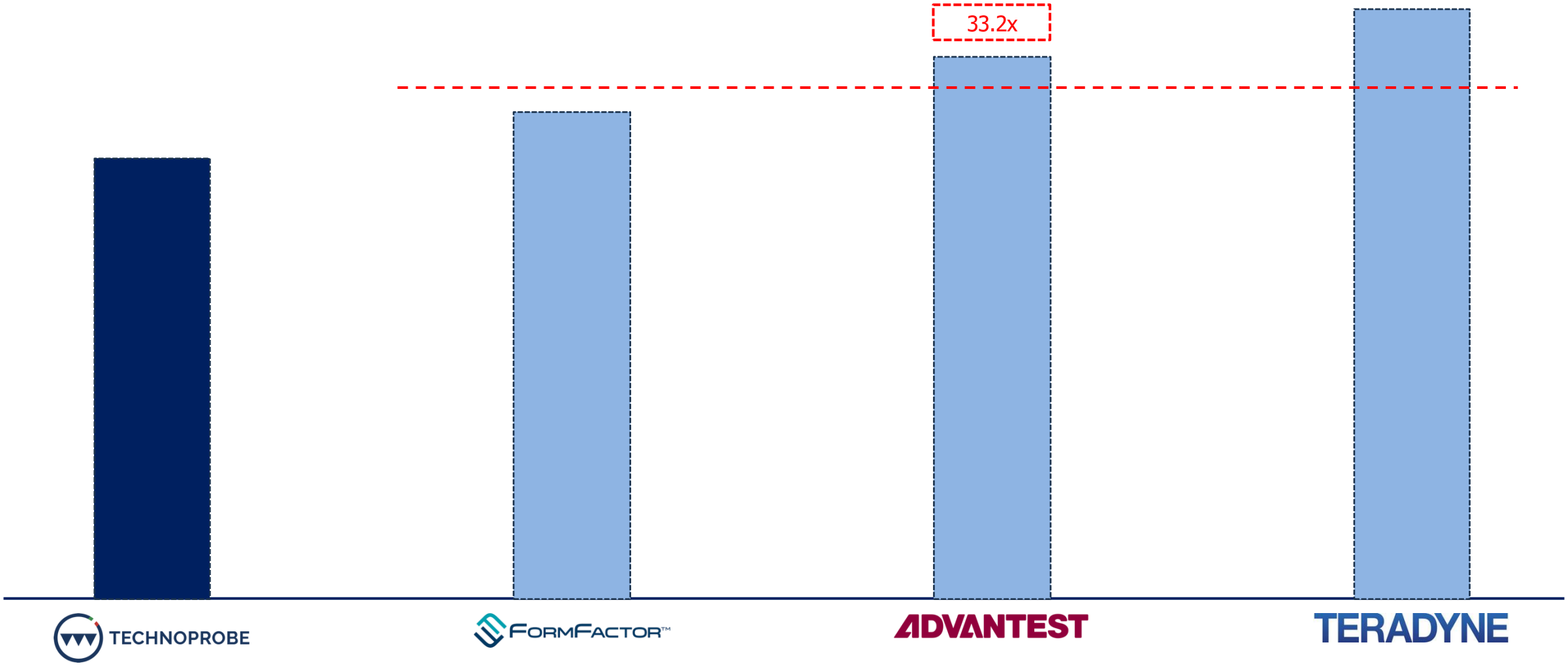
3

**2025 - 2029**

*Forecast Horizon*



# Exit Multiple (EV/EBITDA)



# Monte Carlo Simulation: Downside Protection Confirmed

## Results

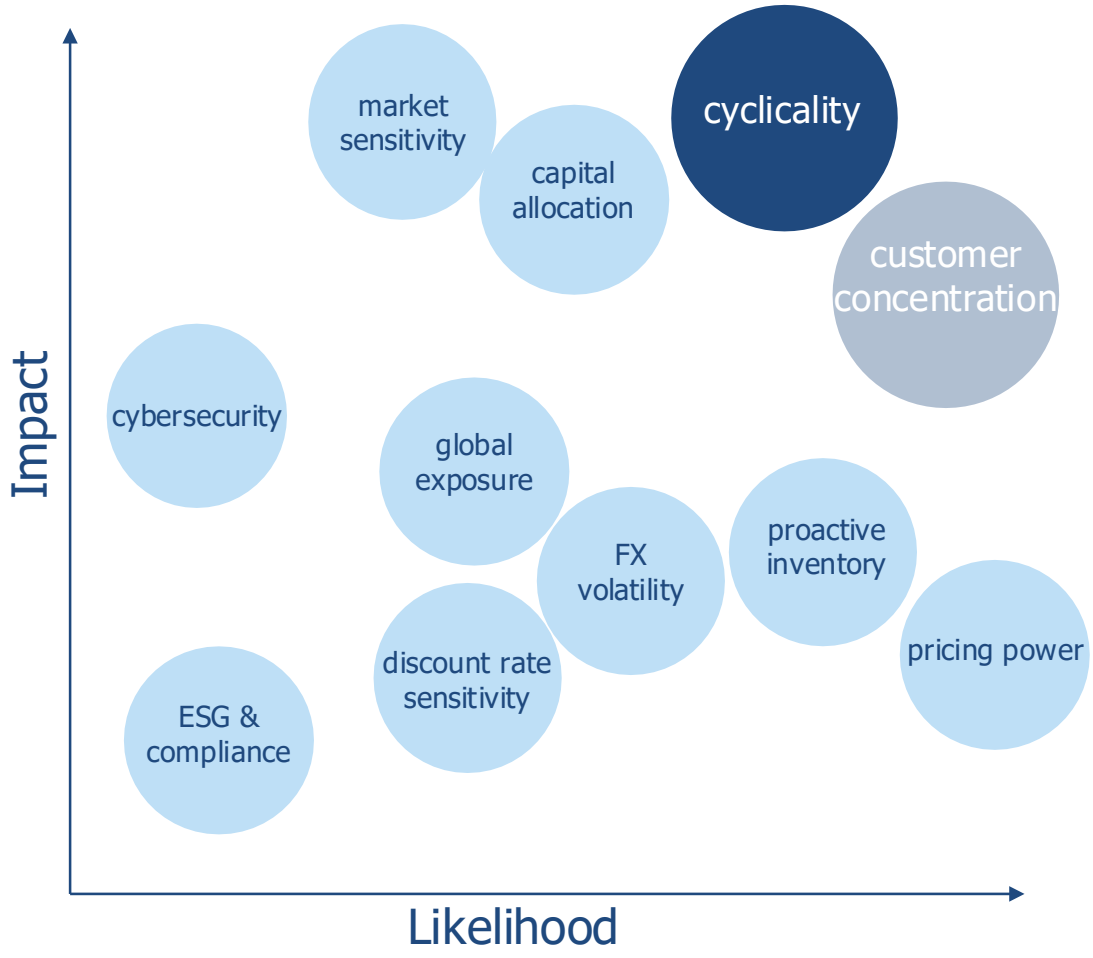

**Distribution concentrated around base case**

10,000 simulations

## Parameters Stressed

- **WACC** (7.69% - 9.69%)
- **Terminal Growth Rate** (2.5% - 3.5%)
- **EBITDA Margin** (38% - 44%)
- **Exit Multiple** (28x – 36x)

# Investment Risks




## Semiconductor Cycle & End-Market Demand

**Mitigating Factors**

integration customer development cycles
long qualification processes = high switching costs
invest through downturns from net cash (€640M+)

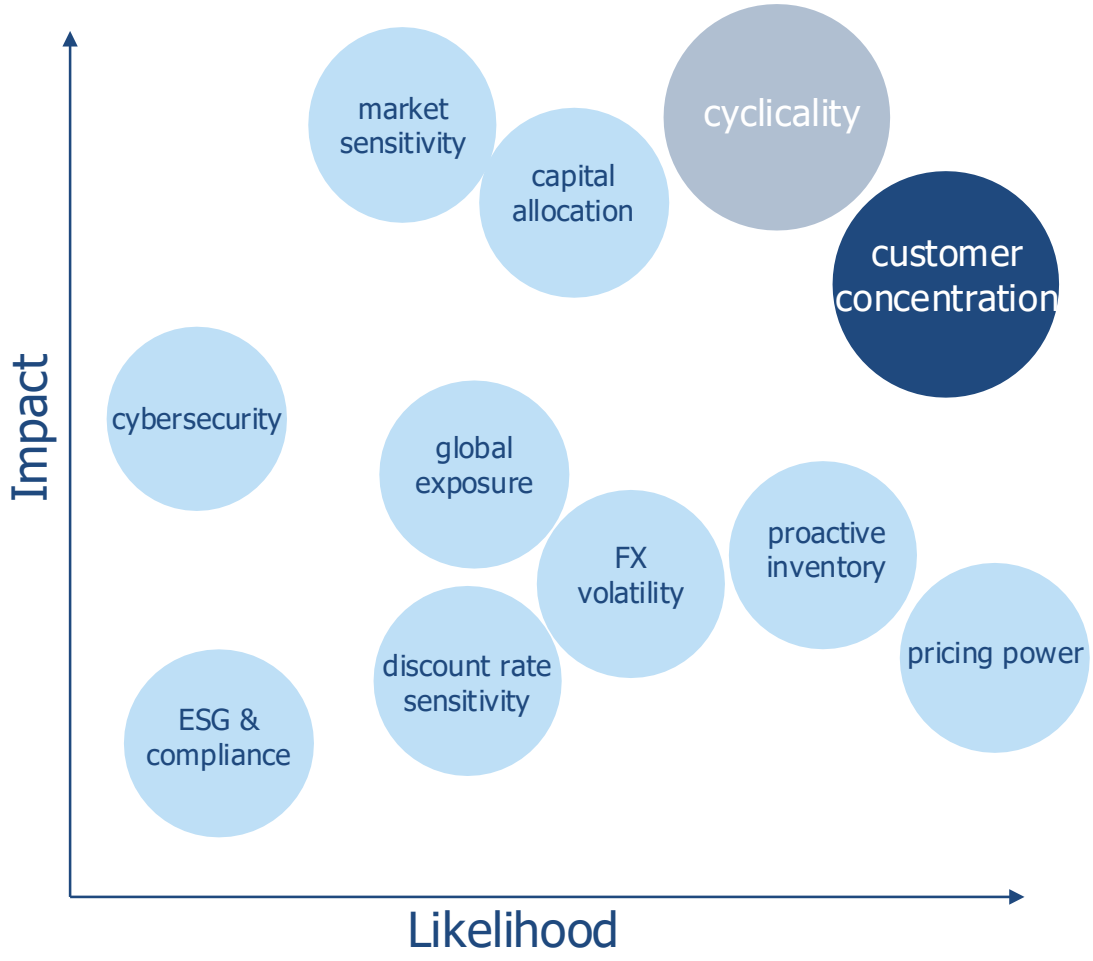
**Valuation Impact**

12-month delay in 2nm/3nm node transition
→ EBIT margins remain below **20%** through 2026E

IMPACT: **-11.6%** to fair value (**€2.15** per share)

*Source: Team Analysis*

# Investment Risks




## Customer Concentration & Program Risk

**Mitigating Factors**

- qualification barriers & high switching costs
- the trend in top-customer revenue shares
- customer roadmap changes that affect volumes or product mix

**Valuation Impact**

Tier-1 customer delays major HPC program ramp
→ Inventory buildup, Cash Conversion Cycle (173)

IMPACT: **-4.6%** to fair value (**€0.85** per share)

# Scenario Analysis: Testing Our Assumptions


Semiconductor market stagnation
WACC increase
Tier-1 customer delays

**€18.57**
**(+18.8%)**

Explosive AI intensity
Accretive M&A transaction
Margins >42%

# ESG Profile

## Environmental

**Strenghts:**

- Strong ESRS-aligned disclosure
- Low water stress exposure
- Controlled hazardous material

**Limitations:**

- No clear decarbonized roadmap
- Limited renewable energy adoption

Moderate Transition Risk

## Social

**Strenghts:**

- Strong workforce stability
- Low Injury rate

Operational Stability

## Governance

**Strenghts:**

- 56% independent board
- Strong compliance structure

**Limitations:**

- No explicit ESG-linked executive compensation

Risk-mitigating governance

# ESG as Risk Mitigation

| | KPIs | Score | Weight | TECHNOPROBE VS PEERS |
|---|---|---|---|---|
| **ENVIRONMENTAL** | GHG Intensity ($tCO_2e/€m$)<br>Renewable Energy Share<br>CDP Rating (Climate) | **5.6 (Grade B)** | **34%** | **Outperform**<br>**Underperform**<br>**In-Line** |
| **SOCIAL** | Injury Rate<br>Women in Management | **6.0 (Grade BB)** | **38%** | **Outperform**<br>**Underperform** |
| **GOVERNANCE** | Board Independence<br>Board Gender Diversity | **5.5 (Grade B)** | **28%** | **In-Line**<br>**Underperform** |

# ESG Impact on Valuation Framework

**Is ESG just a commitment statement?**

| What ESG does NOT do | What ESG DOES do |
|---|---|
| ✕ No direct adjustment to WACC | ✓ Reduces perceived Operational Risk |
| ✕ No impact on terminal growth | ✓ Supports institutional investor base |
| ✕ No structural capex burden | ✓ Limits reputational downside |
| ✕ No regulatory overhang | ✓ Improves earnings visibility |

**ESG acts as a risk stabilizer rather than a return enhancer**

**ESG enhances cash flow predictability rather than return generation.**

# TECHNOPROBE: Probing for Alpha

### TECHNOLOGY MOAT

- 60% share in Vertical **MEMS**
- **Vertical** integration
- Proprietary **TPEG™** technology

### AI GROWTH ENGINE

- Direct beneficiary of AI **revolution**
- **Test** intensity growing
- **HBM**, advanced packaging exposure

### FINANCIAL FORTRESS

- €640M+ net **cash**
- **Self-funding** growth
- Firepower for **M&A**

Recommendation
**BUY**

Target Price
**€18.57**

Upside
**18.8%**

***Technoprobe - where Structural quality meets temporary Mispricing***

TECHNOPROBE

## A. Business Description



## B. Industry Overview



## C. Financial Analysis



## D. Valuation



## E. Investment Risk



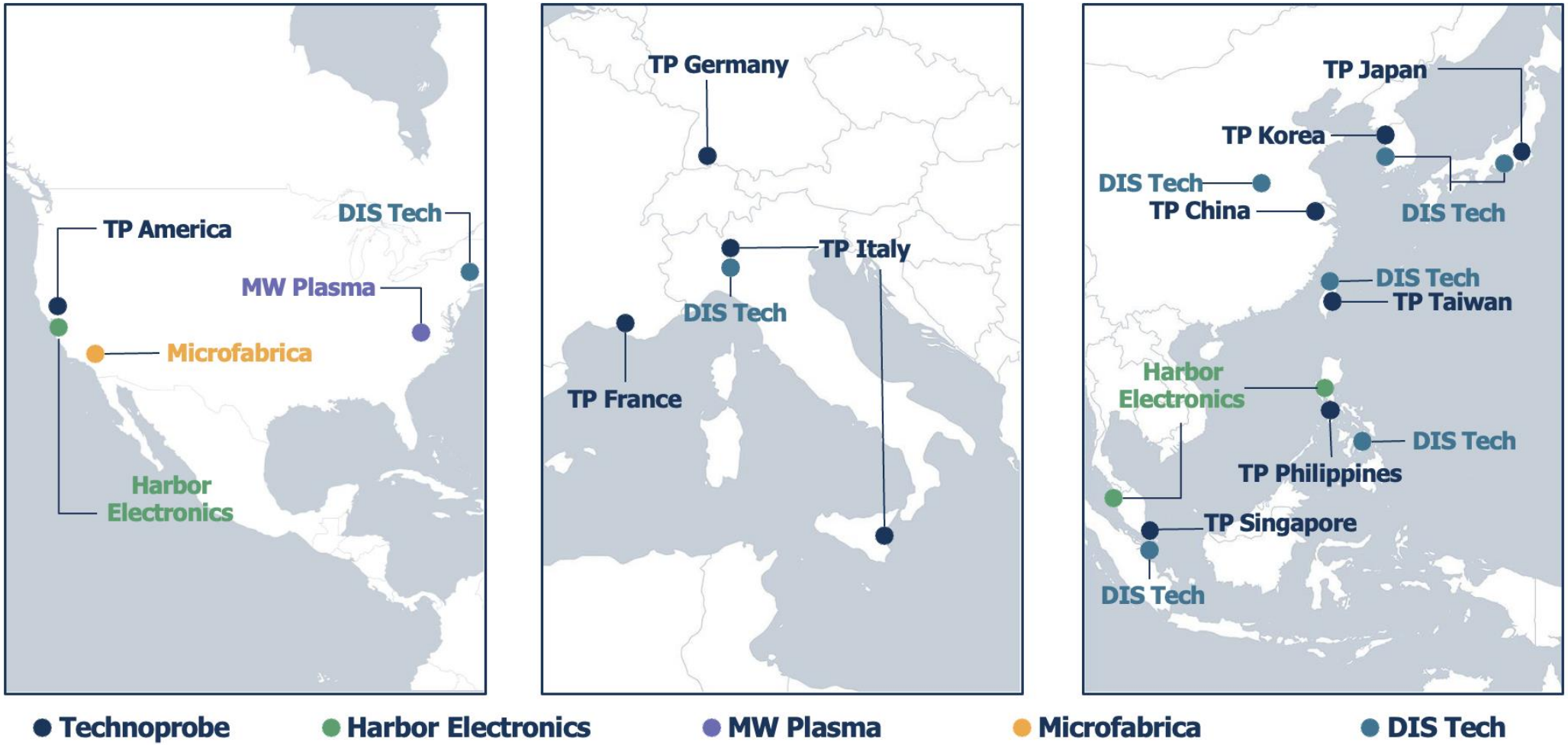
## F. ESG



## Presentation

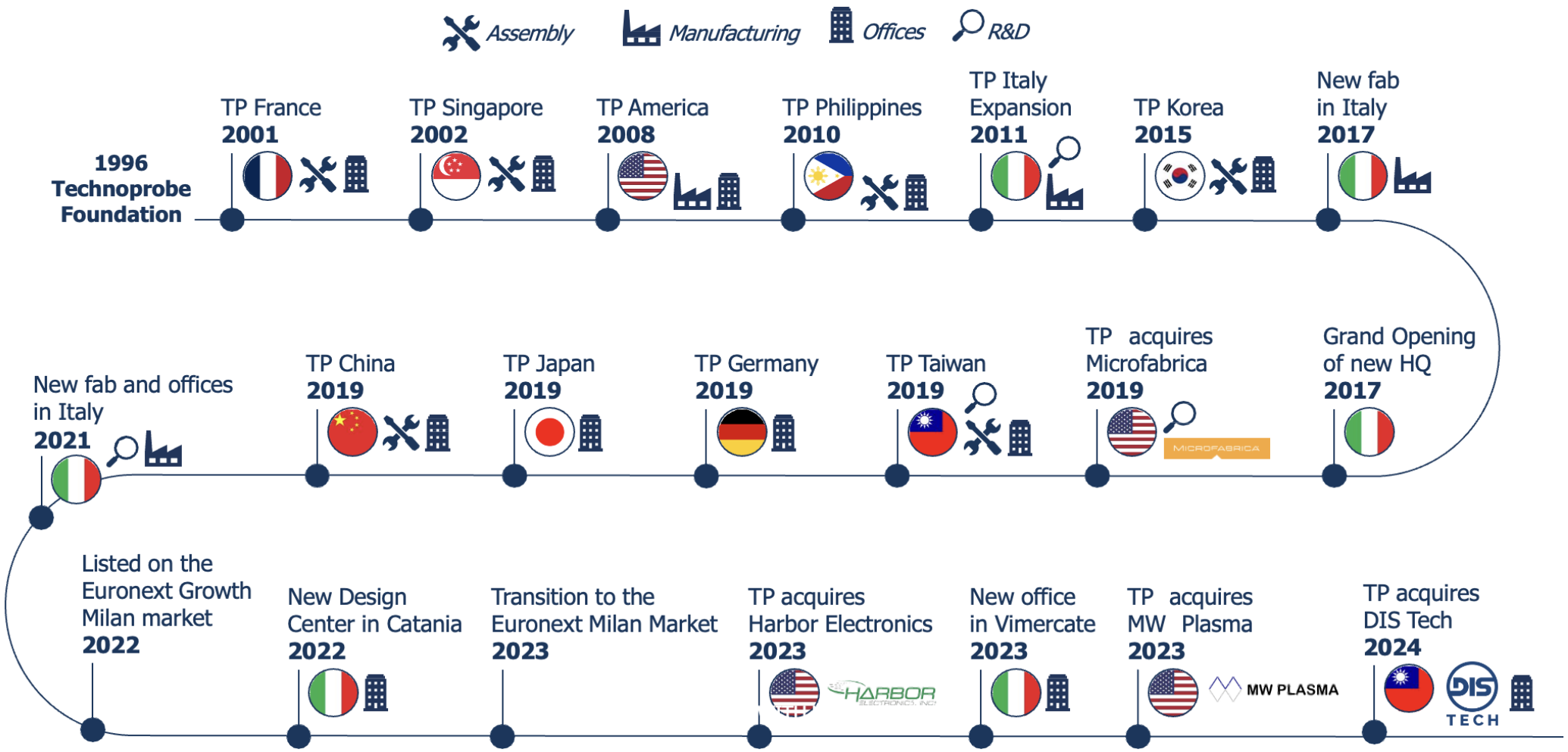
# Organization & Location





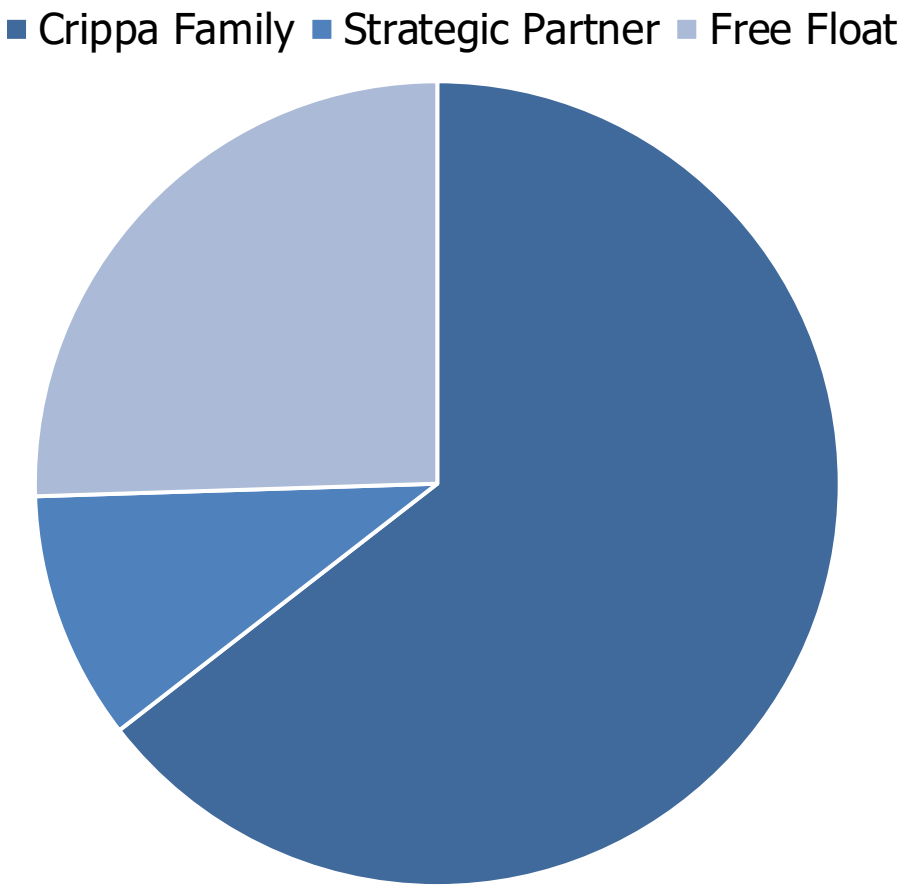
# Strategic Evolution & Global Reach





# Shareholding Structure






## Family Control

- **Crippa family (via T-PLUS + direct holdings): 64.5%**
- Stable governance supported by dual-class voting
- Enables long-term R&D and innovation focus

## Strategic Industrial Partnership

- **Teradyne: 10% stake**
- Positions Technoprobe as a systemic partner
- Access to technology roadmaps and higher entry barriers

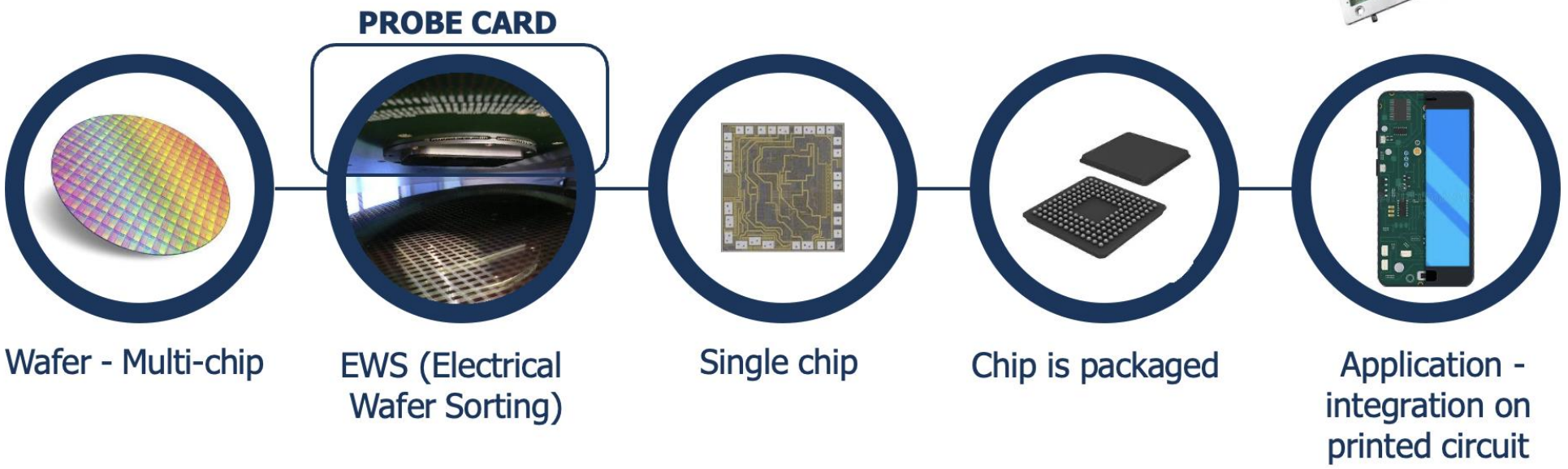
## Market & Free Float

- **Free float: 25.5%**
- Mainly long-only institutional tech investors
- Supports premium valuation multiples vs peers

# Manufacturing and Product Insights

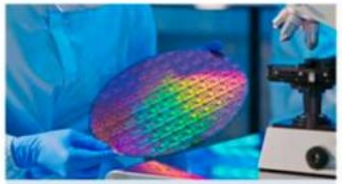
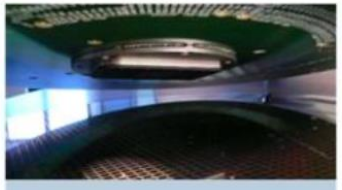
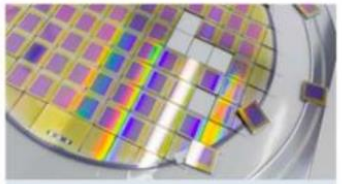
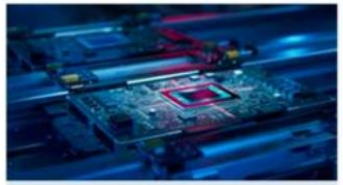


A **probe card** is an **electromechanical interface** that allows a chip to be tested when it is still on the wafer.



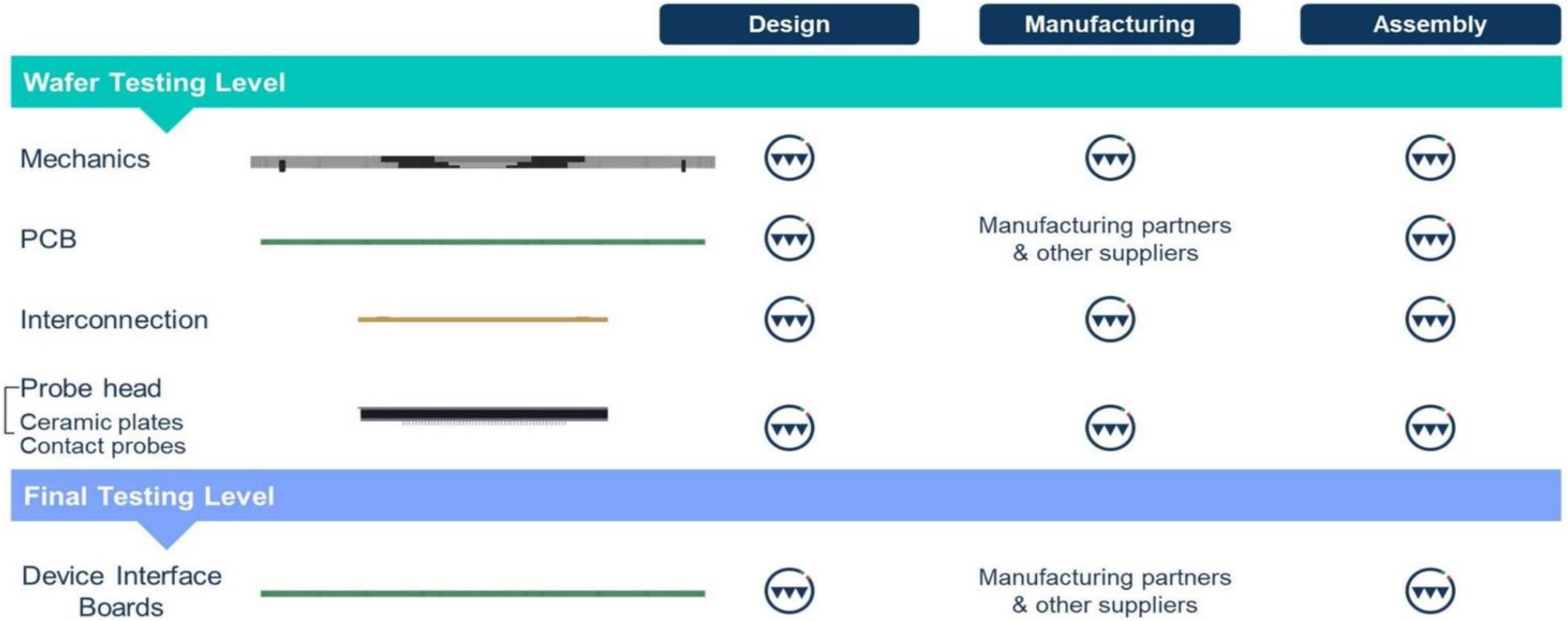
# Manufacturing and Product Insights



| Wafer (multi-chip) | Electrical Wafer Sorting (EWS) — Probe Card | Chip is singulated | Chip is packaged | Final Testing — Device Interface Board | Integration into electronic devices |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| The silicon wafer contains hundreds of **unsingulated microchips** | The **probe card** electrically tests each chip on the wafer to **check functionality** and **identify any defects** | The wafer is sliced into individual chips, known as **"dies"** | Each chip is **encapsulated** in a package that enables electrical connections and protects it from damage | Packaged chips undergo **final tests** to ensure proper functionality | The packaged chip is **integrated into electronic devices** via printed circuit boards |

# Manufacturing and Product Insights



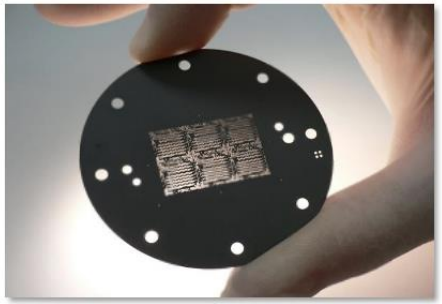


# A Broad Portfolio of Innovative Technologies



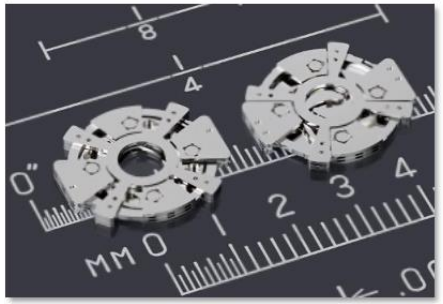
## Advanced Micromachining

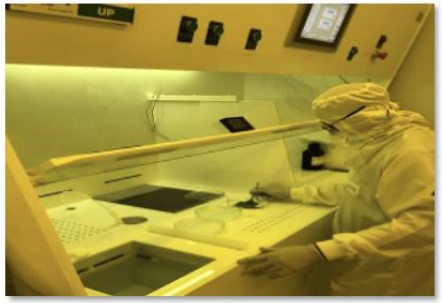
Advanced laser cutting: High accuracy and fast lead time



## 3D MEMS

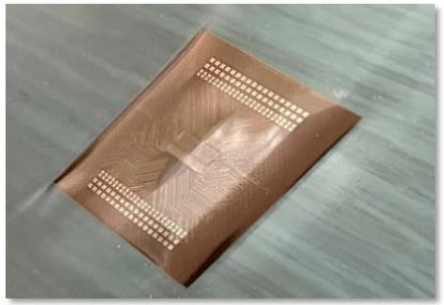
Acquisition of MICROFABRICA in 2019; the sole company in the world specialized in 3D metallic MEMS manufacturing





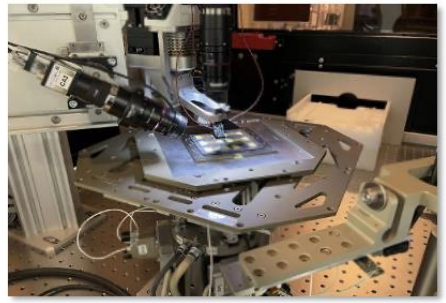
## Thin film

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



## Advanced manufacturing

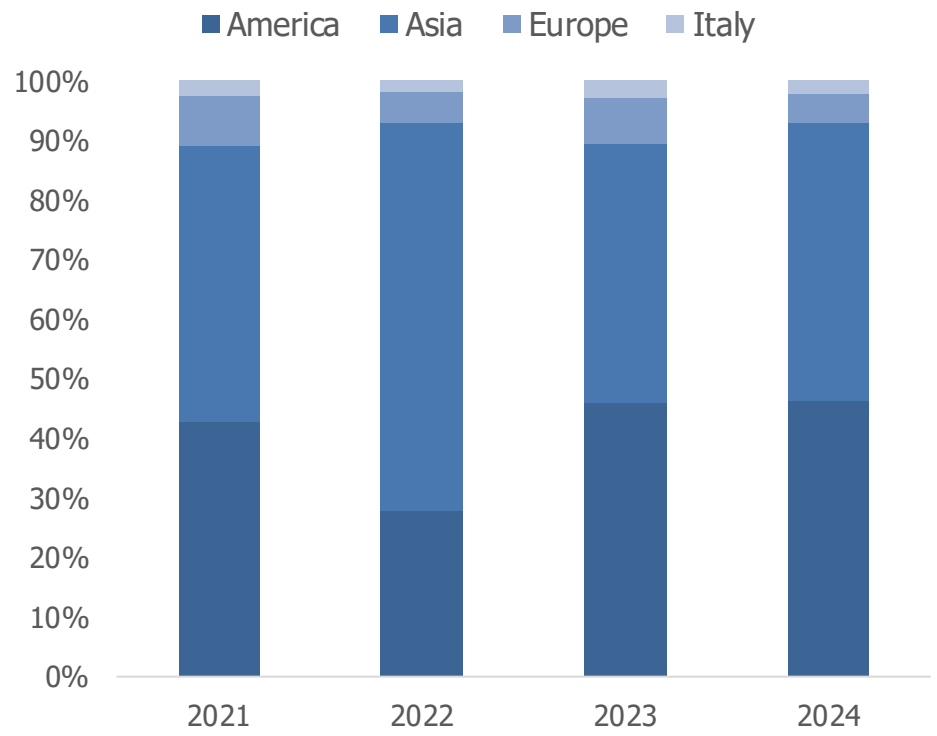
Advanced manufacturing for high volume and best quality assembly of micro components



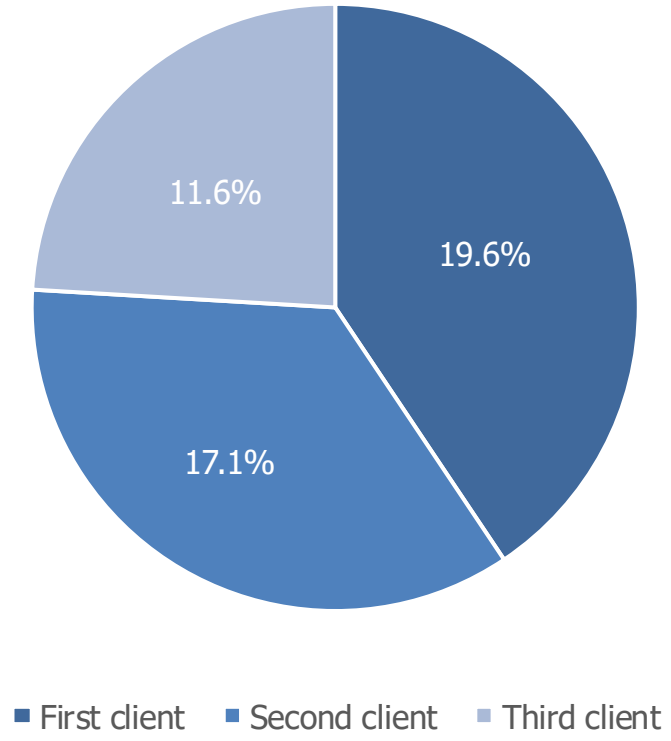
# Revenue Distribution Overview



## Revenue Distribution by Geographic Region

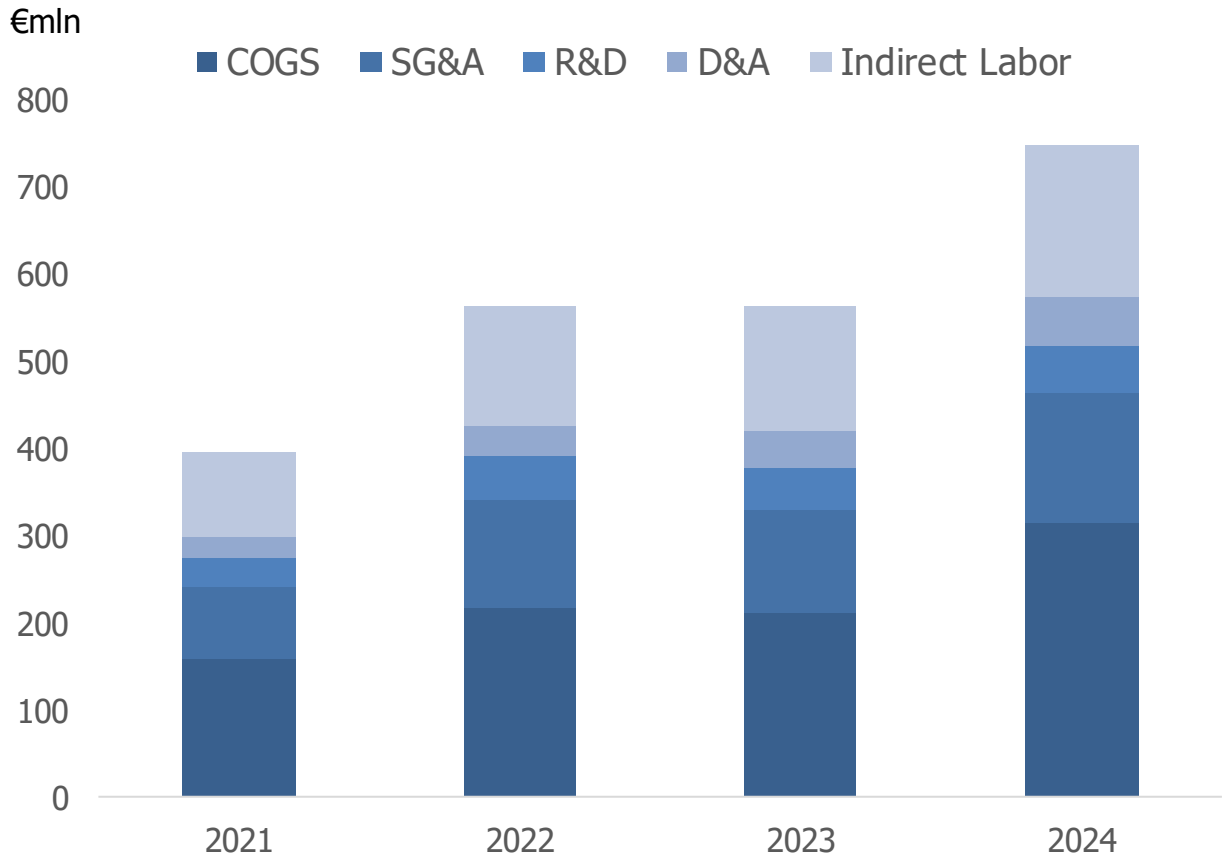



## Revenue Breakdown by Key Costumers (2024)



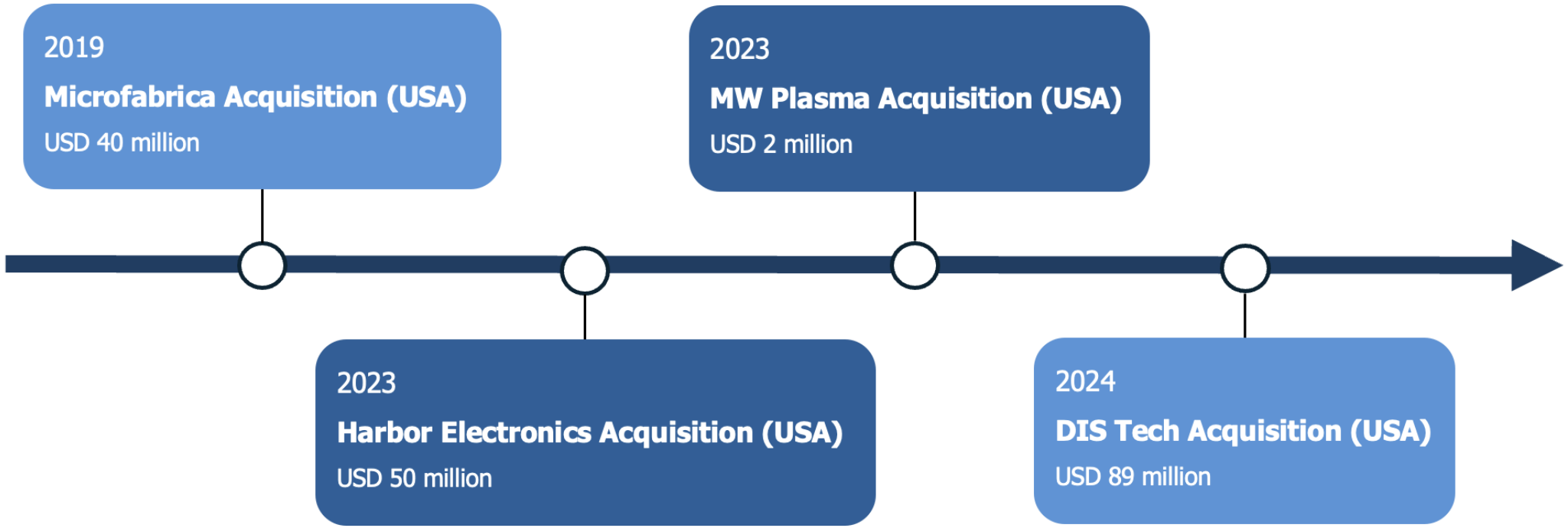
# Cost Impact on Revenue





# M&A Past Recordings





# Value Chain



## UPSTREAM

- Procurement and management of raw materials, components, finished products and services
- Key inputs: PCBs, metal alloys, silicon, chemical solutions, gases, pastes, resins, solder wires
- Outsourced subcontracting: material prep, chemical/surface treatments, assembly, repairs
- Inbound logistics with third-party couriers
- Global supplier base

## OWN OPERATIONS

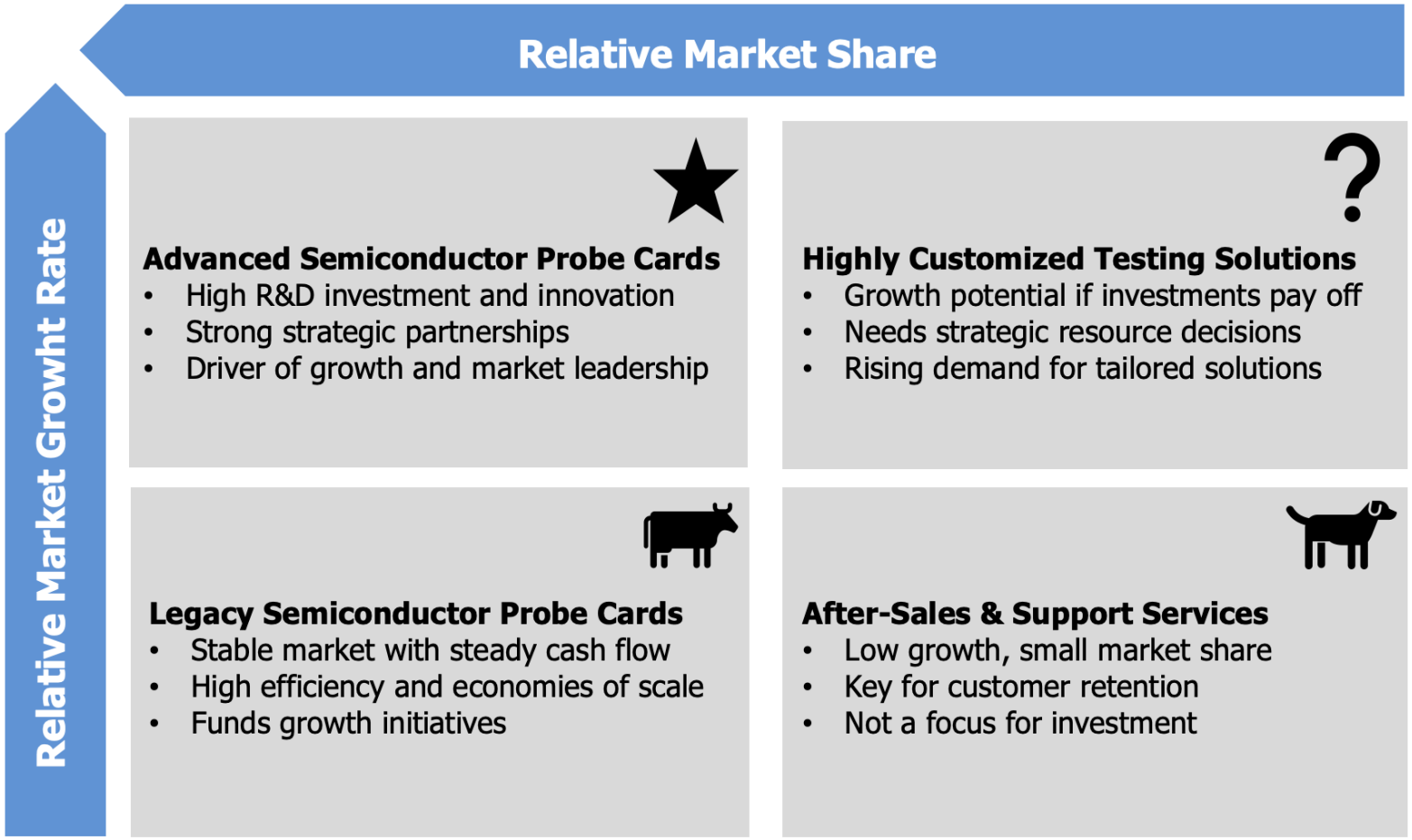
- R&D for new products and production processes
- Product design based on customer specs
- Manufacturing: PCBs, probe heads, probes
- Logistics and warehouse management
- Commercial and after-sales services
- Corporate functions: HR, finance, marketing, sustainability, legal, etc.
- Locations: Italy, France, USA, Taiwan, Korea, Philippines, Singapore
- Commercial presence also in Germany, China, Japan

## DOWNSTREAM

- Outbound logistics mainly managed by customers with third-party couriers
- Wafer-level testing by chip manufacturers
- End-of-life probe card management handled by customers
- Customers distributed globally

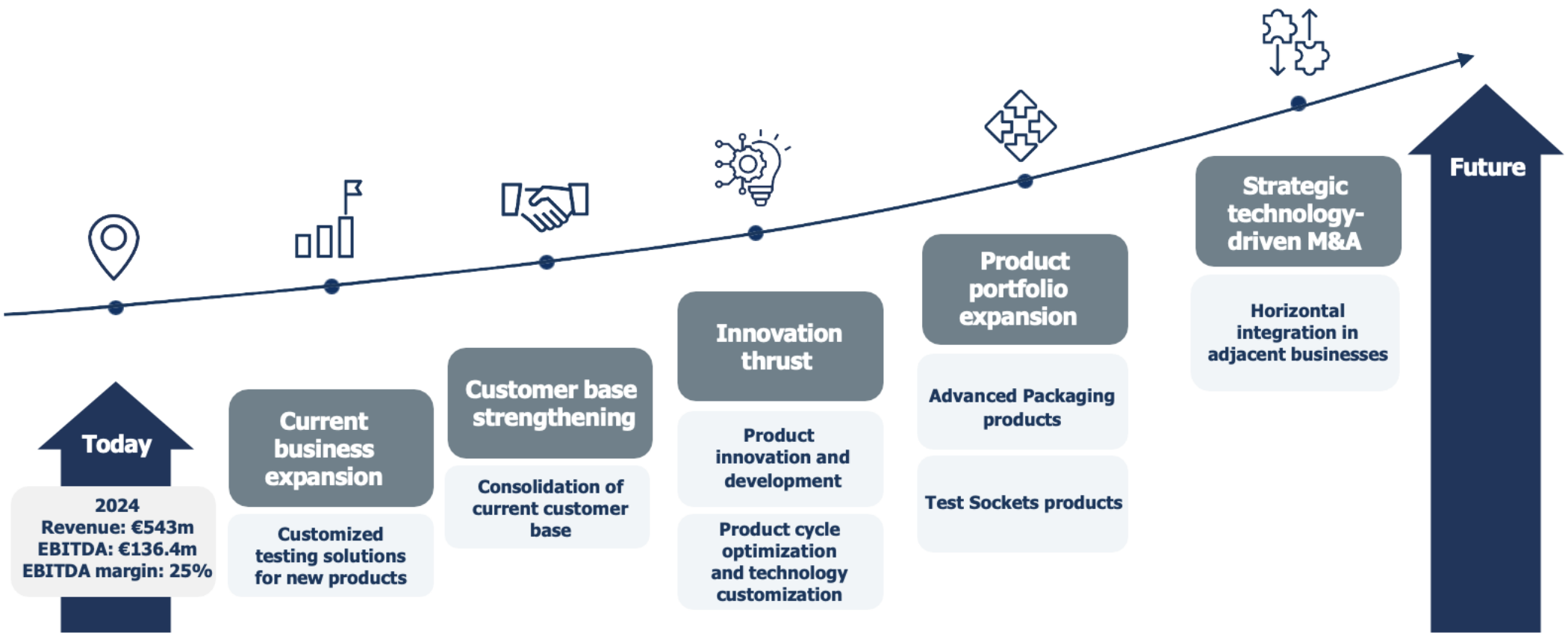
# BCG Matrix




Relative Market Share
Relative Market Growht Rate
Advanced Semiconductor Probe Cards
• High R&D investment and innovation
• Strong strategic partnerships
• Driver of growth and market leadership
Highly Customized Testing Solutions
• Growth potential if investments pay off
• Needs strategic resource decisions
• Rising demand for tailored solutions
Legacy Semiconductor Probe Cards
• Stable market with steady cash flow
• High efficiency and economies of scale
• Funds growth initiatives
After-Sales & Support Services
• Low growth, small market share
• Key for customer retention
• Not a focus for investment

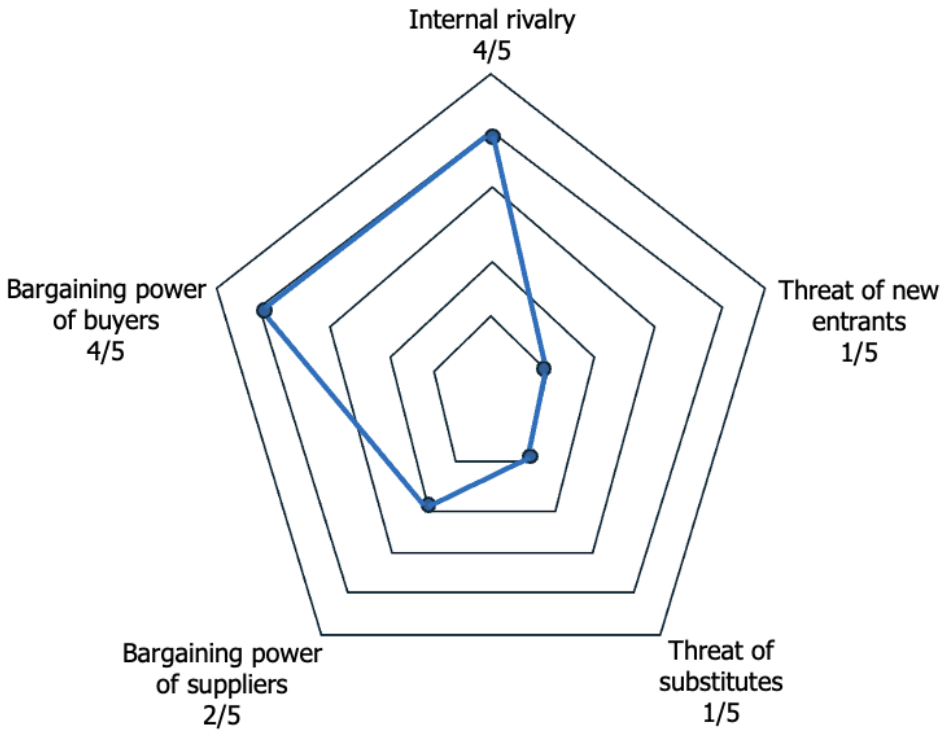
# Key Strategic Initiatives Overview





# PORTER's Forces






| Competitive Force | Score (1-5) | Threat Level | Technical Rationale & Strategic Drivers |
|---|---|---|---|
| **Rivalry Among Existing Competitors** | 4 | High | Concentrated duopoly (FormFactor) Intense R&D race driven by the transition to **Advanced Packaging** and **AI-specific** High-Performance Computing (HPC) chips |
| **Bargaining Power of Buyers** | 4 | High | High revenue concentration among **Tier-1 Foundries and IDMs** (e.g., TSMC, Intel, Nvidia) Buyers exercise significant pricing pressure and demand rigorous lead times |
| **Bargaining Power of Suppliers** | 2 | Low | **Strategic Vertical Integration**: Internalization of critical components (MEMS needles, PCBs, and DIBs via DIS Tech acquisition) mitigates supply chain volatility and protects margins |
| **Threat of New Entrants** | 1 | Minimal | Formidable barriers to entry due to a massive **IP Portfolio** (600+ patents) and extreme capital intensity required for high-precision micro-mechanical manufacturing |
| **Threat of Substitute Products** | 1 | Minimal | Physical wafer-level testing remains a non-discretionary step in the semiconductor value chain No viable alternative to probe card technology exists for high-end logic chips |

# Pestel Analysis



| | |
|---|---|
| **P**OLITICAL | **Geopolitical Risk Mitigation & Subsidy Access**<br>• Major beneficiary of EU and US Chips Acts<br>• Strategic alignment with Western onshoring initiatives provides long-term CAPEX visibility<br>• Export restrictions on China remain a monitorable risk |
| **E**CONOMICAL | **Monetary Policy Impact & Foreign Exchange Risk**<br>• Strong correlation with global semiconductor cycle volatility<br>• Structural FX risk due to EUR-based production costs vs. USD-denominated revenues<br>• Exposure primarily to EUR/USD currency fluctuations |
| **S**OCIAL | **Proliferation of AI & Digital Transformation**<br>• Widespread adoption of Generative AI and High-Performance Computing (HPC)<br>• Structural increase in wafer test volumes driving probe card demand |
| **T**ECHNOLOGICAL | **Advanced Packaging & Node Miniaturization**<br>• Leadership in MEMS technology critical for 2nm and 3nm process nodes<br>• Collaboration with ATE leaders Teradyne and Advantest accelerates R&D cycles<br>• Reinforces Technoprobe's technological moat |
| **E**NVIRONMENTAL | **ESG Compliance & CSRD Regulatory Requirements**<br>• Growing institutional demand for decarbonized supply chains<br>• Focus on Scope 1-3 emissions reduction essential for ESG fund inclusion |
| **L**EGAL | **Intellectual Property Protection**<br>• High sector-specific litigation risk<br>• Portfolio of 600+ patents serves as key barrier against low-cost Asian competitors |

# SWOT Analysis



## STRENGHTS

- Market leadership in non-memory probe cards
- End-to-end vertical integration drives margins & speed
- Robust financial position with strong liquidity
- Strategic partnerships with Teradyne, TSMC & Intel

## WEAKNESSES

- Customer concentration risk
- Acquisition-related margin pressure
- Foreign exchange exposure (USD/EUR fluctuations)
- Potential short-term revenue/EBITDA volatility

## OPPORTUNITIES

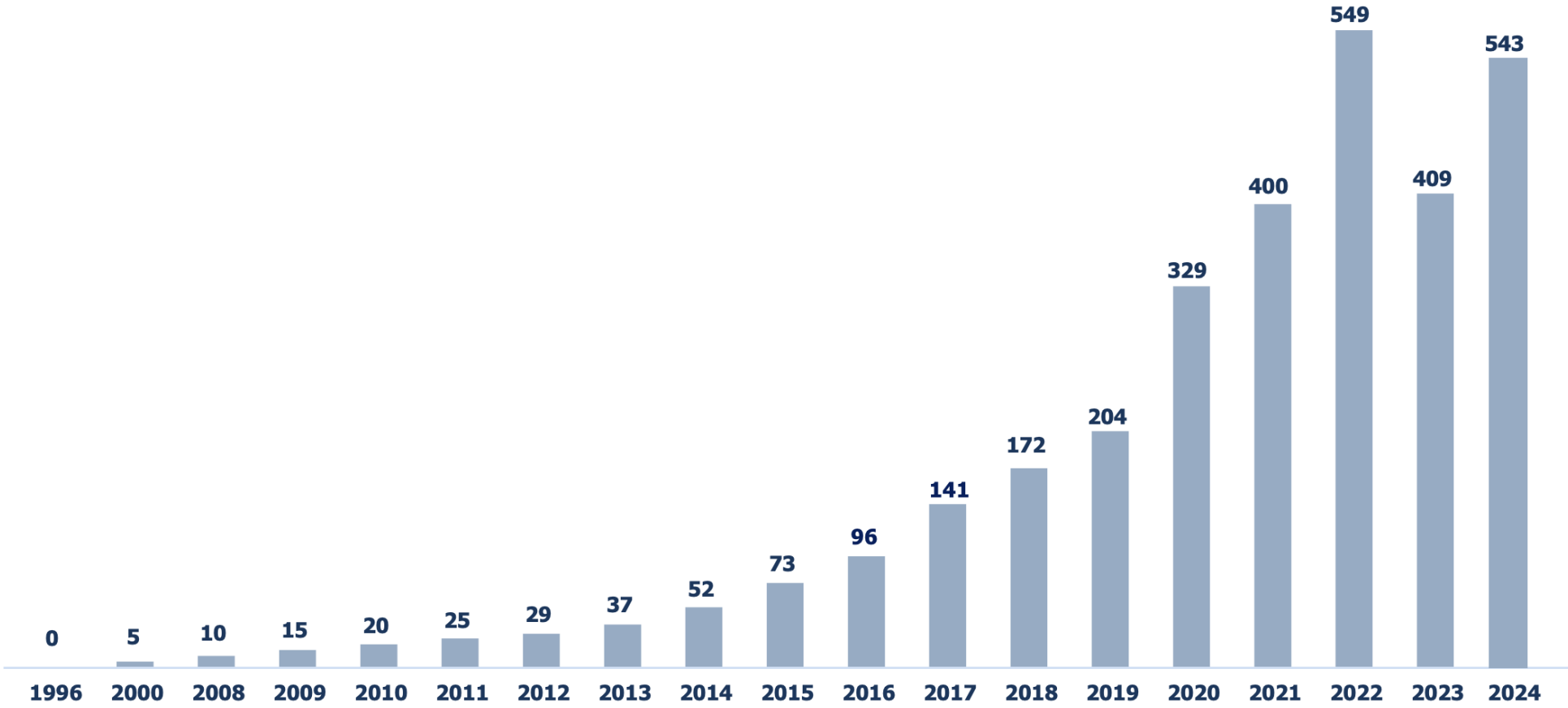
- AI & HPC drive probe card demand
- Taiwan expansion strengthens APAC presence
- DIS Tech broadens tech portfolio
- Diversifies product offering

## THREATS

- Semiconductor cyclicality may offset AI growth
- Geopolitical & trade risks in APAC
- Rising competition from Korean & Chinese players
- Potential pricing pressure medium–long term

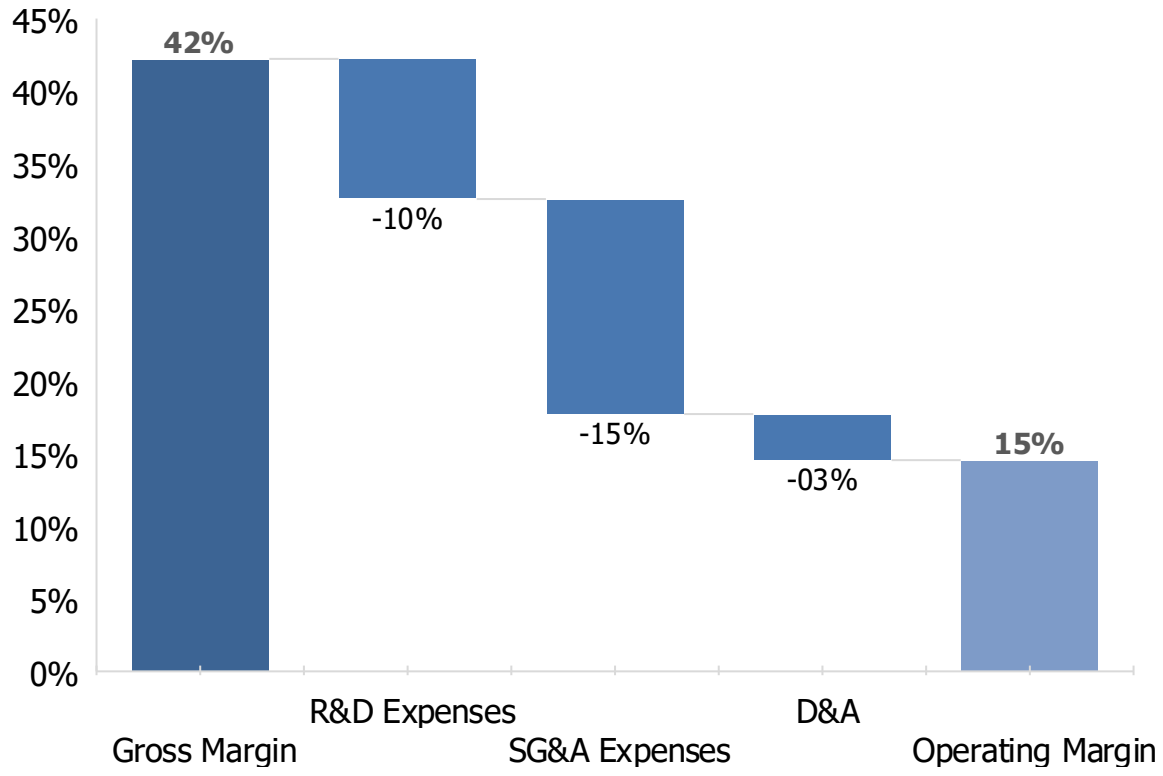
# Revenue Evolution 1996-2024 (€mln)





# Bridge Analysis (2024)






**Operating margin decline**
14.6% (FY24) vs 38% (FY22)

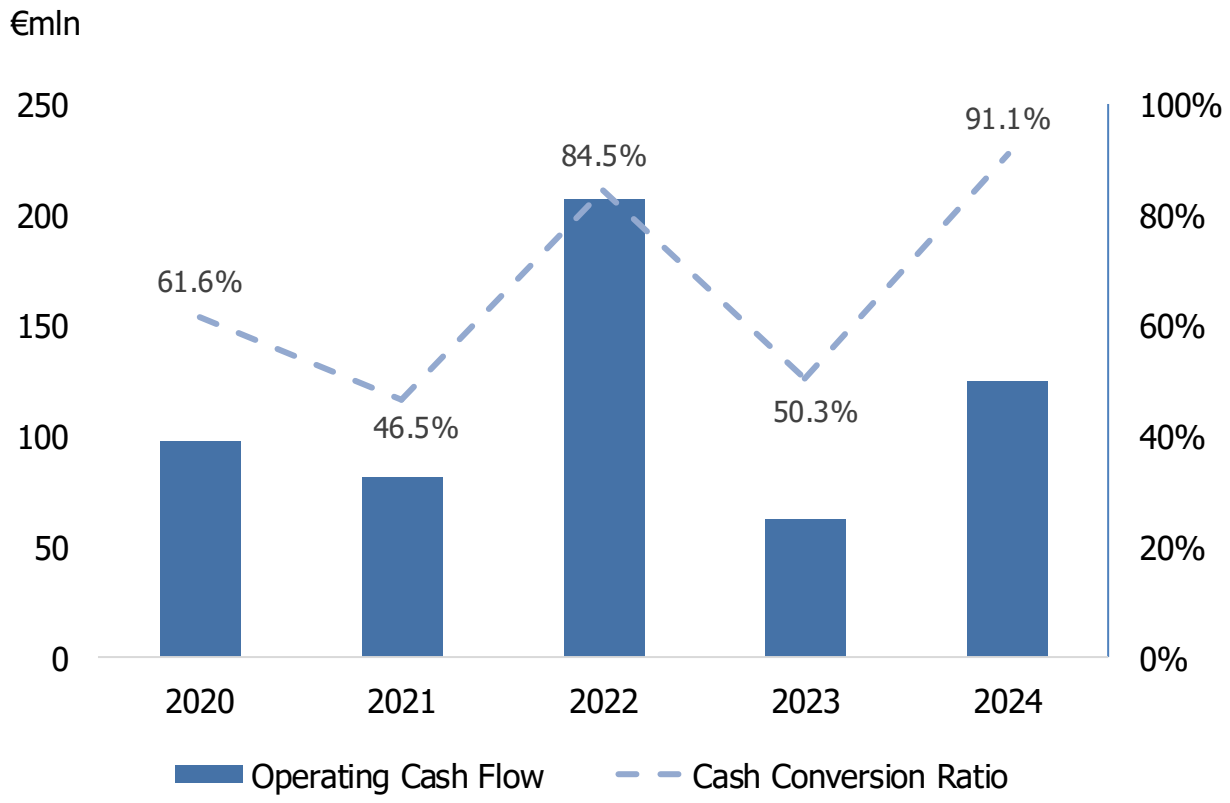
**Gross margin compression**
60.6% → 42.2% (DIS Tech integration)

**STRONGER EFFICIENCY VS PEER FORM**

- **Higher operating margin vs FORM**
  14.6% vs 5.8%
- **Higher gross margin**
  42.2% vs 40.3%
- **Lower operating expenses ratio**
  27.6% vs 34.5%

# Record Cash Conversion & Quality Earnings

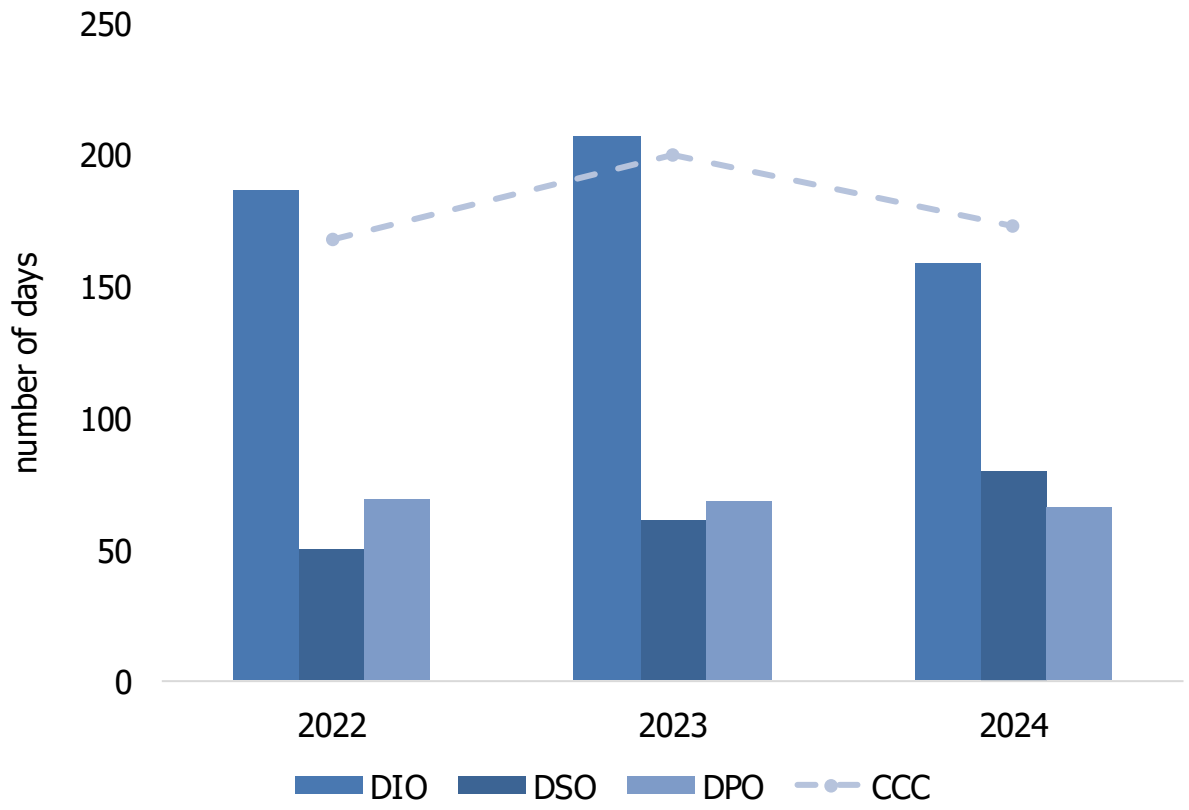





- Record cash conversion & strong cash flow
- High earnings quality
- Normalized working capital
- Supports CAPEX with minimal external financing

# Cash Conversion Cycle






High working capital constrains cash (CCC: 173 days)

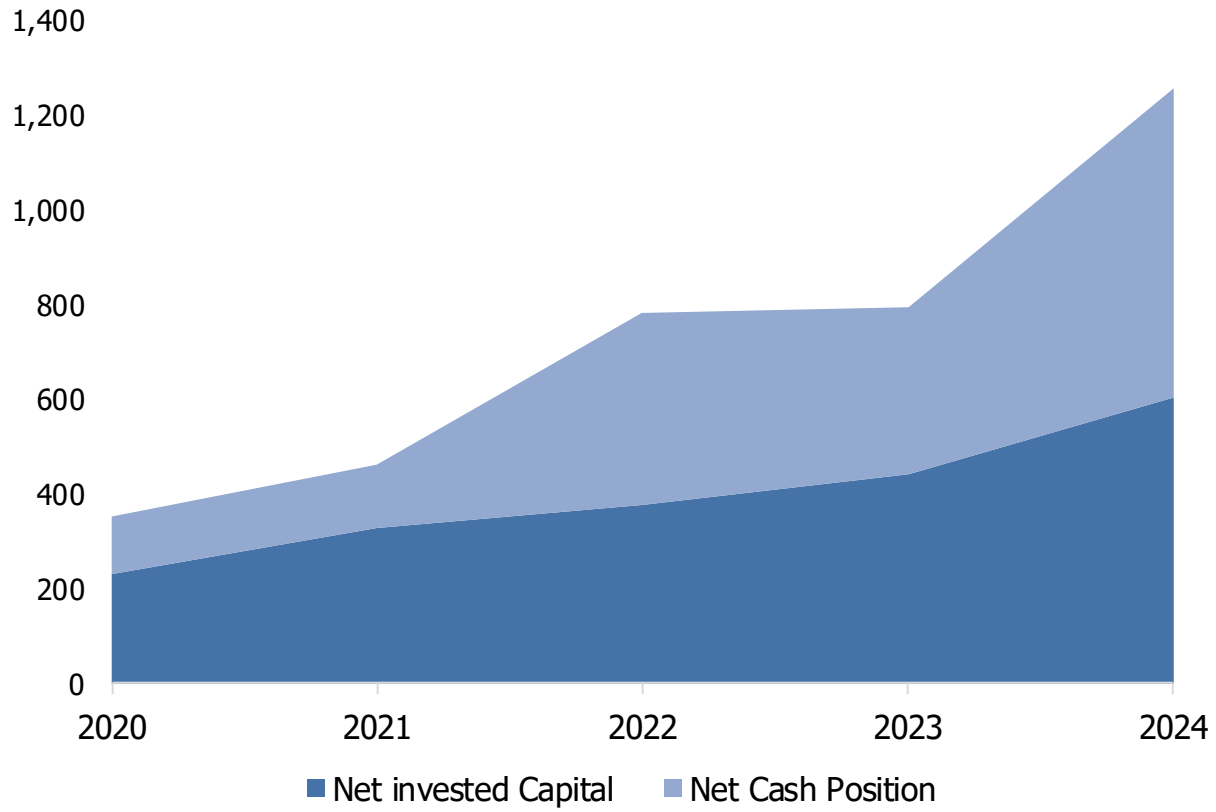
Inventory & receivables elevated (DIO 159d, DSO 80d)

Liquidity under pressure

Peer FORM more efficient (CCC 106d)

# Asset Composition






- Net Invested Capital expanding (FY20–FY24)
- Record Net Cash position exceeds reinvestment needs
- Heavy CAPEX for 3nm & AI-chip testing
- Supports tech leadership & M&A firepower

# Cash Flow Conversion



*Data from LSEG Refinitiv*

| (€ mln) | 2023A | 2024A | 2025E | 2026E | 2027E |
|---|---|---|---|---|---|
| **EBITDA** | **122,79** | **136,45** | **202,00** | **264,00** | **346,05** |
| (-) Cash Taxes | (44,62) | (7,81) | (32,15) | (53,25) | (73,43) |
| (+/-) Δ in Working Capital | (23,09) | (12,65) | (31,35) | (36,46) | (44,39) |
| (-) Other adjustments | (6,67) | (8,42) | - | - | - |
| **CFO** | **61,75** | **124,41** | **138,50** | **174,29** | **228,23** |
| (-) CapEx | (63,93) | (94,45) | (87,77) | (87,50) | (88,78) |
| **FCF** | **(2,18)** | **29,96** | **50,73** | **86,79** | **139,45** |
| | | | | | |
| **FCF / EBITDA** | (1,78%) | 21,96% | 25,11% | 32,87% | 40,30% |
| **FCF / Net Income** | (2,25%) | 46,94% | 53,01% | 54,93% | 64,25% |
| **CapEx as % of Revenue** | 15,62% | 17,39% | 14,00% | 12,00% | 10,00% |

| Assumptions | 2025E | 2026E | 2027E |
|---|---|---|---|
| **Effective Tax Rate** | 25% | 25% | 25% |
| **NWC as % of Sales** | 5% | 5% | 5% |
| **CapEx as % of Sales** | 14% | 12% | 10% |

# Financial Comparison vs. FormFactor



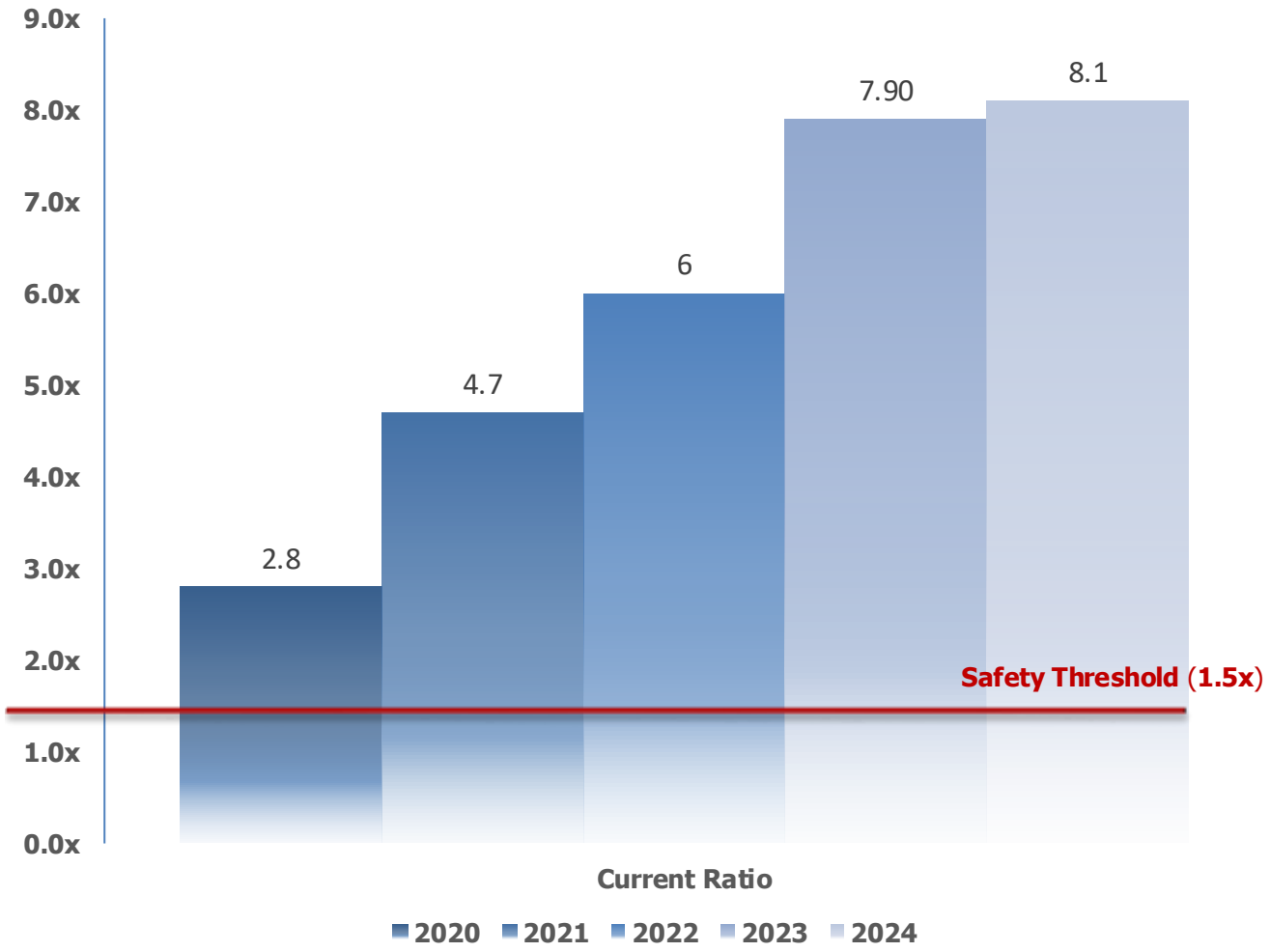
*Data from LSEG Refinitiv*

| (€ mln) | Company | 2023A | 2024A | 2025E | 2026E | 2027E |
|---|---|---|---|---|---|---|
| **Revenue** | TPRO | 409,27 | 543,15 | 626,96 | 729,20 | 887,84 |
| | FORM | 613,10 | 705,39 | 659,43 | 731,44 | 784,28 |
| **Gross Profit** | TPRO | 199,33 | 223,44 | 281,00 | 373,90 | 455,80 |
| | FORM | 249,76 | 294,24 | 265,35 | 318,07 | 349,23 |
| **EBIT** | TPRO | 79,84 | 67,11 | 134,40 | 196,00 | 271,00 |
| | FORM | 56,20 | 83,82 | 83,38 | 123,88 | 149,20 |
| **EBITDA** | TPRO | 122,79 | 136,45 | 202,00 | 264,00 | 346,05 |
| | FORM | 90,83 | 114,22 | 115,00 | 148,74 | 181,68 |
| **Net Income** | TPRO | 97,00 | 63,83 | 95,70 | 158,00 | 217,05 |
| | FORM | 52,51 | 83,34 | 77,67 | 107,56 | 131,91 |
| **Gross Margin %** | TPRO | 48,7% | 41,1% | 45,0% | 49,0% | 51,8% |
| | FORM | 44,5% | 45,6% | 40,2% | 43,8% | 45,0% |
| **EBIT Margin %** | TPRO | 19,5% | 12,4% | 21,4% | 25,1% | 30,1% |
| | FORM | 9,2% | 11,9% | 12,6% | 16,9% | 19,0% |
| **EBITDA Margin %** | TPRO | 30,0% | 25,1% | 32,2% | 36,6% | 39,2% |
| | FORM | 14,8% | 16,2% | 17,4% | 20,3% | 23,2% |
| **Net Margin %** | TPRO | 23,7% | 11,6% | 15,2% | 21,6% | 24,5% |
| | FORM | 8,6% | 11,8% | 11,8% | 14,7% | 16,8% |

| USD/EUR | Avg. FX Rate |
|---|---|
| 2021 | 0,84484 |
| 2022 | 0,95005 |
| 2023 | 0,92504 |
| 2024 | 0,92422 |

# Current Ratio Evolution






- Current Ratio surging to 8.1x in FY24
- Deliberate "Strategic Liquidity Buffer"
- Shields high R&D during market downturns
- Unrivalled "dry powder" for M&A

# Solvency Profile & Synthetic Credit Rating Outlook



| | (€ millions) | 2023A | 2024A | 2025E | 2026E | 2027E |
|---|---|---|---|---|---|---|
| **Input Data** | EBIT | 79,84 | 67,11 | 134,40 | 196,00 | 271,00 |
| | EBITDA | 122,79 | 136,45 | 202,00 | 264,00 | 346,05 |
| | Interest Expense | 0,29 | 1,61 | 17,00 | 14,00 | 14,00 |
| | Short-term Debt | | | | | |
| | Long-term Debt & Leases | | | | | |
| | **Total Gross Debt** | **11,00** | **10,06** | **- 9,11** | **24,65** | **12,40** |
| | Cash & Cash Equivalents | 361,80 | 666,38 | 685,75 | 801,15 | 925,50 |
| **Net position** | | | | | | |
| | **Net Debt / (Net Cash)** | **- 350,80** | **- 656,32** | **- 694,86** | **- 776,50** | **- 913,10** |
| **Leverage Ratios** | | | | | | |
| | Total Debt / Equity | 0,01 | 0,01 | -0,01 | 0,02 | 0,01 |
| | Total Debt / EBITDA | 0,09 | 0,07 | -0,05 | 0,09 | 0,04 |
| | Net Debt / EBITDA | -2,86 | -4,81 | -3,44 | -2,94 | -2,64 |
| **Coverage Ratios** | | | | | | |
| | **Interest Coverage Ratio (ICR)** | **277,22** | **41,79** | **7,91** | **14,00** | **19,36** |
| | EBITDA / Interest Expense | 426,34 | 84,96 | 11,88 | 18,86 | 24,72 |
| **Credit Rating** | | | | | | |
| | **Implied Credit Rating** | **AAA** | **AAA** | **A** | **AAA** | **AAA** |

# Sensitivity Analysis and DCF

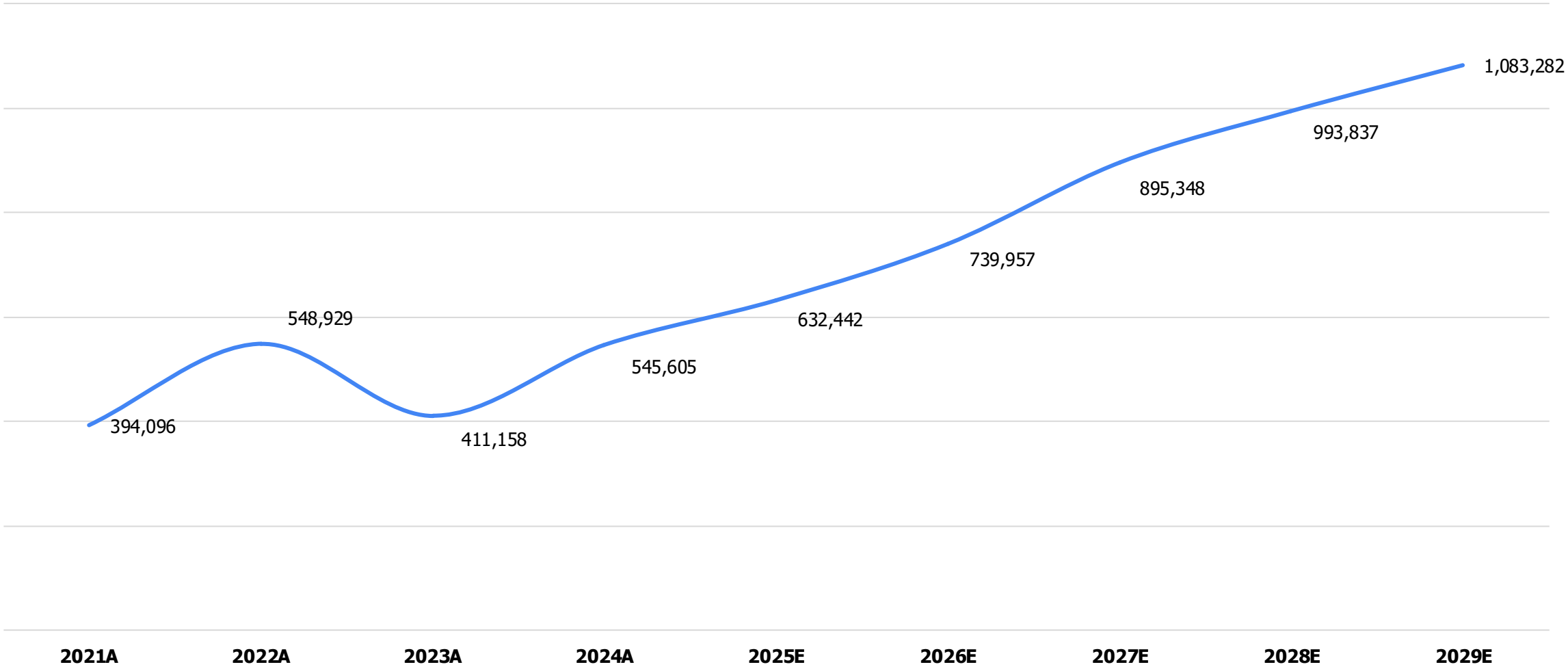


| | | Exit EV / EBITDA Multiple | | | | |
|---|---|---|---|---|---|---|
| | | 30 | 31 | 33,2 | 34 | 35 |
| **WACC** | 7,69% | 17,6890 | 18,2057 | 19,3424 | 19,7557 | 20,2724 |
| | 8,19% | 17,3341 | 17,8390 | 18,9496 | 19,3535 | 19,8584 |
| | 8,69% | 16,9890 | 17,4823 | **18,5676** | 18,9623 | 19,4557 |
| | 9,19% | 16,6532 | 17,1353 | 18,1961 | 18,5818 | 19,0639 |
| | 9,69% | 16,3265 | 16,7978 | 17,8345 | 18,2115 | 18,6828 |

| | | | |
|---|---|---|---|
| **10.12%** | **3.91%** | **3.00%** | **8.69%** |
| ***Ke*** | ***Kd*** | ***g*** | ***WACC*** |

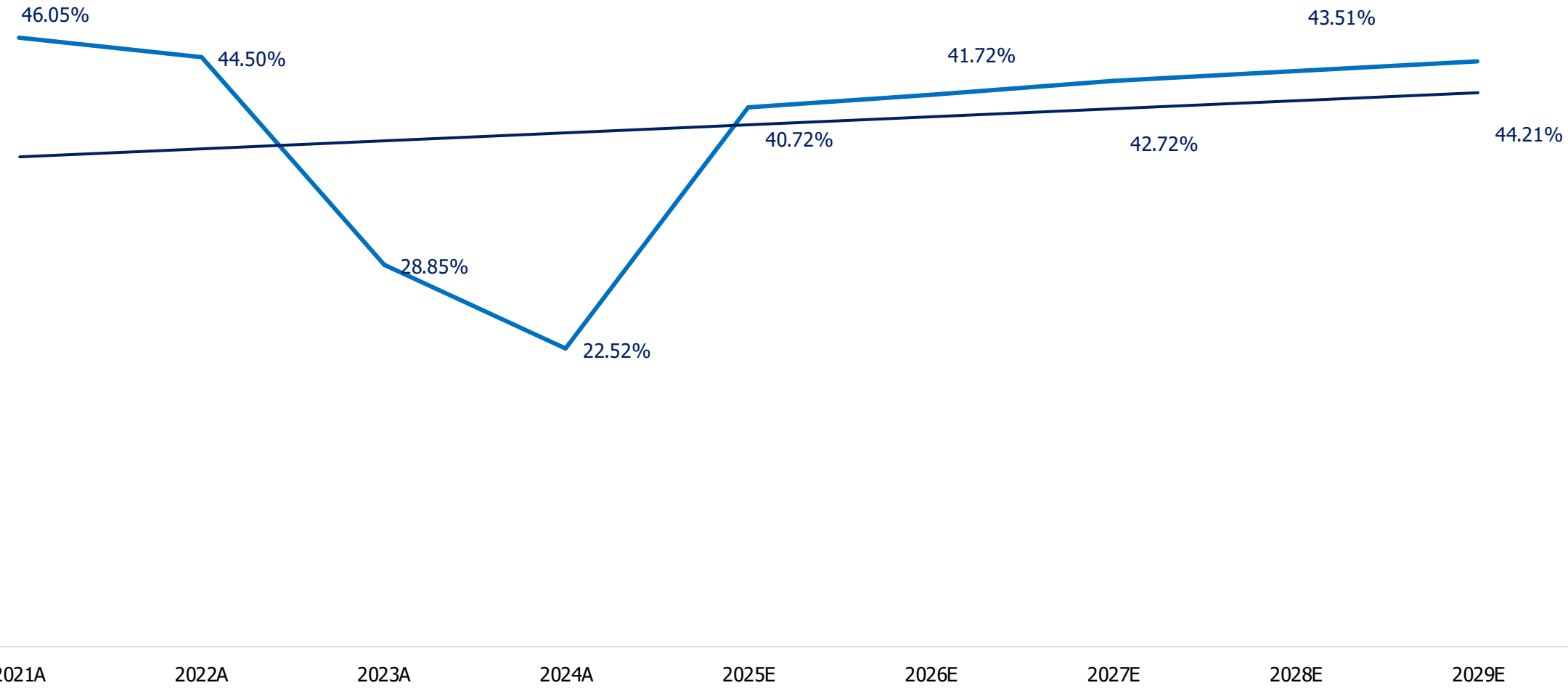
# Revenue Growth





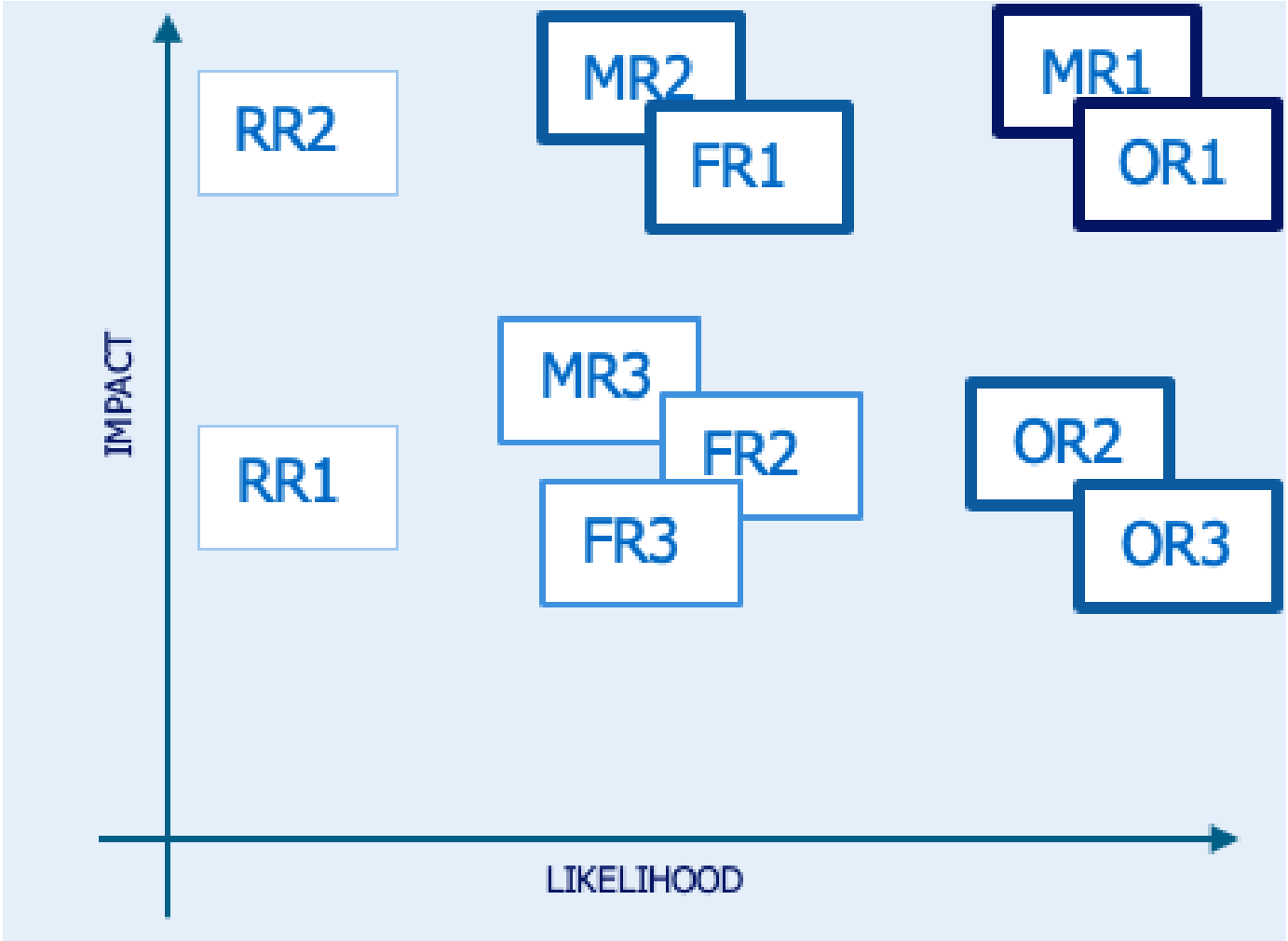
# EBITDA Margin Growth





# RISK MATRIX





# Market Risks (cyclical but mitigated)



| Risk | Description | Mitigation |
|---|---|---|
| **MR1 Semiconductor Cyclicality** | Demand tied to macro, customer capex, tech cycles | Long qualification cycles (2-3 years), €640M+ cash to invest through downturns |
| **MR2 Market Sensitivity, Beta** | Share price volatility, program risk in *duopoly* | High entry barriers, proprietary IP, vertical integration |
| **MR3 Geopolitical & Trade** | Export controls, trade restrictions | Diversified global footprint (Asia 47%, America 46%), agnostic ecosystem partner |

# Operational Risks (structural protections)



| Risk | Description | Mitigation |
|---|---|---|
| **OR1 Customer Concentration** | Top 4 clients ~50% of revenue | High switching costs, long-term partnerships, mission-critical product |
| **OR2 Capacity Planning** | Must invest ahead of demand | Vertical integration improves control, monitor DIO/DSO, capex cadence |
| **OR3 Pricing, Margin Pressure** | Testing perceived as "cost" not "value" | Differentiated MEMS technology, impact on yield and time-to-market |

# Financial Risks (fully mitigated by balance sheet)



| Risk | Description | Mitigation |
|---|---|---|
| **FR1 Capital Allocation** | €640M+ cash could be deployed poorly | Disciplined M&A track record (Microfabrica, DIS Tech, Harbor) |
| **FR2 FX Volatility** | EUR cost base vs. USD revenues | Natural hedging, treasury monitoring, FX line disclosed |
| **FR3 WACC Sensitivity** | Rising rates impact valuation | Stress-tested in sensitivity analysis |

# ESG & Regulatory Risks (proactive monitoring)



| Risk | Description | Mitigation |
|---|---|---|
| **RR1 ESG Transition** | 98.5% energy from fossil fuels, no decarbonization roadmap | Full Scope 1,2,3 disclosure, CDP rating C, improving transparency |
| **RR2 Cybersecurity / IP** | IP leakage or cyber incidents | ISO 27001, security frameworks, strict governance |

# Secondary Risks: Monitoring Dashboard



| RISK | MONITOR |
|---|---|
| **AR1 Acquisition Integration** | Margin trends, synergies, one-off costs |
| **AR2 Operational Disruption** | Quality incidents, customer complaints |
| **AR3 Input Inflation** | Raw material prices, lead times |
| **AR4 AI Sentiment** | Sector indicators, management communication |
| **AR5 Tech Adoption Pace** | Customer roadmaps (TSMC, Intel) |
| **AR6 Talent Retention** | Employee turnover, R&D execution pace |
| **AR7 Commercial Pressure** | Payment terms, customer behaviour in downturns |
| **AR8 Global Scaling Complexity** | Cost discipline, process standardization |

# ESG Metrics



The ESG scoring system integrates qualitative metrics (policies, compliance, and certifications) with quantitative indicators (intensity ratios, gender diversity, safety records, etc.) to derive a relative score ranging from **0 to 10** based on industry benchmarks. The framework is structured as follows:

**1. Structure and Weighting**

•**Pillars and Buckets:** The Environmental (E), Social (S), and Governance (G) pillars are subdivided into thematic buckets (e.g., *Resource Use* and *Emissions* for the Environmental pillar).

•**Materiality Weights:** Each bucket is assigned a percentage weight reflecting its overall materiality within the semiconductor industry. These weights determine the impact of each bucket on the final aggregate score.

**2. Scoring Qualitative Metrics (Policies)**

To assess policy adoption, TRUE/FALSE indicators are converted into numerical scores based on peer prevalence ($p$), mirroring best-in-class industry models:

- **If TRUE:** *Score* = 10-(4 x $p$)
- **If FALSE:** *Score* = 4 x (1-$p$)
- (*Logic:* This formula penalizes the absence of common industry practices (where $p$ is high) while rewarding the adoption of differentiating standards.)

**3. Scoring Quantitative Metrics**

Numerical values are normalized against industry-specific benchmarks using two primary logics:

- **"Higher is Better"** (e.g., % of women on board, emission reduction targets):
- *Score*= 10 x (Value / Max Peer Value)
- **"Lower is Better"** (e.g., energy intensity, tCO2e/Revenue, injury rates): A reverse scale is applied, typically:
- *Score* = ROUND [8 x (Max – Value) / (Max – Min)
- **Health & Safety (H&S):** Specific metrics like injury rates use a specialized formula- min(9, 9 x (Peer Average / Value))- to highlight strong performance when significantly below the peer mean.

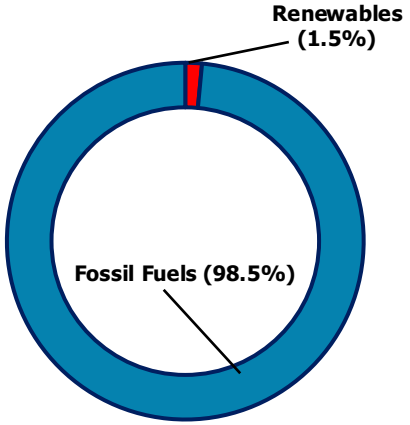
**4. Aggregation and Interpretation**

- **Bucket Score:** Calculated as the arithmetic mean of the individual metric scores within each bucket.
- **Final Pillar Score:** Derived from the weighted average of the bucket scores according to peer-based materiality.
- **Rating Legend:** Final scores are mapped onto a scale from **AAA to D** based on the 0–10 range to ensure comparability with global rating standards.

# ESG: Environmental



**Energy Mix & Transition Risk (2024)**




INVESTMENT INSIGHT:
High fossil fuel resilience exposes company to transaction risk and future Capex for decarbonization

| | | | | | |
|---|---|---|---|---|---|
| RESOURCE USE (7.6%) | Resource Reduction Policy | FALSE | 100% T | 0.0/10 | 2.7 |
| | Policy Water Efficiency | FALSE | 100% T | 0.0/10 | |
| | Policy Energy Efficiency | FALSE (not disclosed) | 92% T – 8% F | 0.3/10 | |
| | Policy Sustainable Packaging | FALSE (not disclosed) | 17% T – 83% F | 3.3/10 | |
| | Policy Environmental Supply Chain | TRUE (Supplier Code of Conduct includes environment protection) | 100% T | 6.0/10 | |
| | Resource Reduction Targets | FALSE | 75% T – 25% F | 1.0/10 | |
| | Targets Water Efficiency | FALSE | 58% T – 42% F | 1.7/10 | |
| | Targets Energy Efficiency | FALSE (not disclosed) | 50% T – 50% F | 2.0/10 | |
| | Total Energy Use / Million in Revenue $ | 92.7 | 598.26 (2,435.18 – 173.35) | 8.0/10 | |
| | Renewable Energy Use Ratio | 1.5 | 11.83% (18.66% – 0.13%) | 0.8/10 | |
| | Total Water Use / Million in Revenue $ | 41.8 | 21,427.49 (220,562 – 40.34) | 8.0/10 | |
| | Policy Resource Efficiency | FALSE | 58% T – 42% F | 1.7/10 | |
| EMISSIONS (8.5%) | Policy Emissions | FALSE (not disclosed) | 92% T – 8% F | 0.3/10 | 2.3 |
| | Targets Emissions | FALSE (not disclosed) | 83% T – 17% F | 0.7/10 | |
| | Emissions Reduction Target Percentage | 0.0 | 37.40% (100% – 3%) | 0.0/10 | |
| | Total CO2 Emissions / Million in Revenue $ | 210.11 | 77.23 (407.6 – 16.74) | 5.2/10 | |
| | Total Waste / Million in Revenue $ | 5.29 | 25.80 (149.03 – 2.96) | 8.0/10 | |
| | Waste Recycled to Total Waste | 16.3 | 64.17% (99.80% – 18.51%) | 1.6/10 | |
| | ISO 14000 or EMS | no (ISO 14000/EMS not disclosed as certified) | 84% ISO – 8% no – 8% both | 0.0/10 | |
| ENV. INNOVATION (18.0%) | Renewable/Clean Energy Products | FALSE (not applicable / no) | 58% T – 42% F | 1.7/10 | 1.8 |
| | Water Technologies | FALSE (not applicable / no) | 50% T – 50% F | 2.0/10 | |
| | Life Cycle Analysis | FALSE (no LCA disclosed) | 58% T – 42% F | 1.7/10 | |

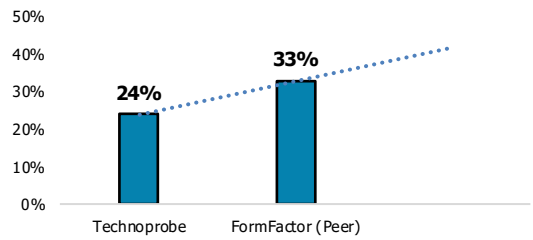
The low score in Environmental Innovation (1.8/10) reflectsa lack of disclosed LCA (Life Cycle Analysis) and dedicated water technologies, representing a potential long-term transition risk as semiconductor regulations tighten

✓ Overall, Technoprobe exhibits a moderate environmental impact profile, supported by strong disclosure quality and low water stress exposure, but characterized by weak strategic alignment on decarbonization, renewable energy adoption and circular economy integration.

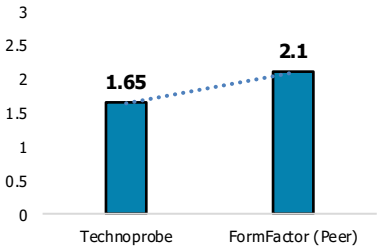
# ESG: Social



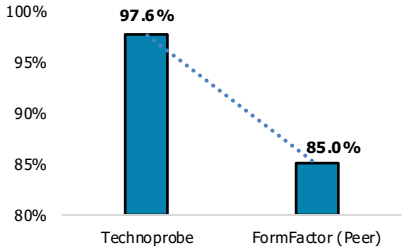
### Women in Management (%)




### Occupational Injury Rate (%)




### Contract Stability (%)



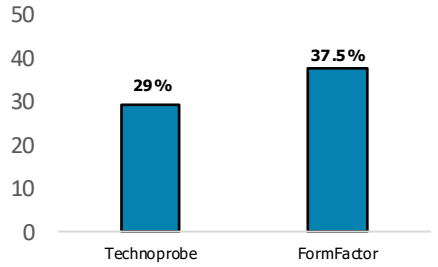

| | | | | | |
|---|---|---|---|---|---|
| WORKFORCE (7.8%) | Health & Safety Policy | TRUE | 100% T | 6.0/10 | 6.2 |
| | Policy Employee Health & Safety | TRUE | 100% T | 6.0/10 | |
| | Policy Supply Chain Health & Safety | TRUE | 100% T | 6.0/10 | |
| | Policy Career Development | TRUE | 92% T – 8% F | 6.3/10 | |
| | Women Employees | 35.98 | 24.22% (31% – 15%) | 10.0/10 | |
| | Women Managers | Not disclosed; assumption = 24.39% (peer avg) | 24.39% (31% – 5.40%) | 7.9/10 | |
| | Total Injury Rate Employees | 1.65 | 6.94 (14.08 – 0.71) | 9.0/10 | |
| | Accidents Total | 9 | 107.25 (411 – 11) | 9.0/10 | |
| | Average Training Hours | Not disclosed (ESRS S1-13 phase-in); conservative = 0 | 30.43 (45.72 – 16.71) | 0.0/10 | |
| | Supplier ESG training | FALSE (no disclosed) | 58% T – 42% F | 1.7 | |
| HUMAN RIGHTS (11.4%) | Human Rights Policy | TRUE | 100% T | 6.0/10 | 6.0 |
| | Policy Human Rights | TRUE | 92% T – 8% F | 6.3/10 | |
| | Equal Pay for Equal Work | FALSE (no disclosed) | 67% T – 33% F | 1.3/10 | |
| | Policy Minimum Wage | TRUE | 58% T – 42% F | 7.7/10 | |
| | Policy Working Hours | TRUE | 33% T – 67% F | 8.7/10 | |
| COMMUNITY (9.5%) | Donations / Million in Revenue | Not disclosed; conservative = 0 | 318.37 (851.32 – 32.96) | 0.0/10 | 5.1 |
| | Crisis Management Systems | TRUE | 75% T – 25% F | 7.0/10 | |
| | Corruption Due Diligence | TRUE | 42% T – 58% F | 8.3/10 | |
| PRODUCT RESP. (9.5%) | Policy Customer Health & Safety | TRUE | 50% T – 50% F | 8.0/10 | 6.7 |
| | Policy Data Privacy | TRUE | 100% T | 6.0/10 | |
| | Policy Cyber Security | TRUE | 92% T – 8% F | 6.3/10 | |
| | ISO 9000 | TRUE (UNI ISO 9001:2015 certified QMS) | 92% T – 8% F | 6.3/10 | |

✓ Overall, Technoprobe's alignment with ESRS S1–S4 reflects a coherent and increasingly mature social sustainability framework that supports earnings visibility, reduces risk exposure, and strengthens the Group's long-term growth profile.

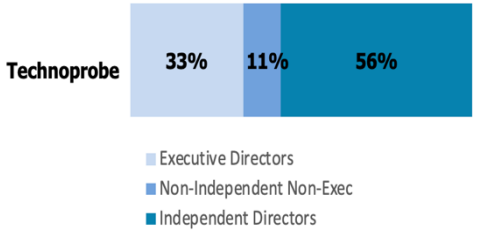
# ESG: Governance



**Board Gender Diversity**




**Board Composition**




| | | | | | |
|---|---|---|---|---|---|
| MANAGEMENT (19.0%) | Compensation Board Committee | TRUE | 100% T | 6.0/10 | 5.2 |
| | Policy Board Diversity | TRUE | 100% T | 6.0/10 | |
| | Policy Executive Compensation ESG Perform | FALSE (not evidenced) | 92% T – 8% F | 0.3/10 | |
| | Audit Committee Independence | 100.0 | 87.32% (100% – 50%) | 10.0/10 | |
| | Number of Board Meetings | 12 | 9.5 (15 – 5) | 8.0/10 | |
| | Board Size | 9 | 10 (16 – 6) | 5.6/10 | |
| | Board Gender Diversity, Percent | 29.0 | 33.36% (50% – 12.5%) | 5.8/10 | |
| | Average Board Tenure | Est. 0.7 yrs (BoD appointed Apr 2024) | 6.36 yrs (10.35 – 2.72) | 0.7/10 | |
| | Independent Board Members | 55.56 | 69.75% (max not visible; max inferred ≈91.5%) | 6.1/10 | |
| | Sustainability Compensation Incentives | FALSE (not disclosed) | 92% T – 8% F | 0.3/10 | |
| | Board Member Compensation, $ | €2.627m (directors+statutory auditors; currency mismatch) | 1,695,757 (max not visible; max inferred ≈3,192,557) | 8.2/10 | |
| SHAREHOLDERS (5.7%) | Shareholder Rights Policy | TRUE | 100% T | 6.0/10 | 7.7 |
| | Different Voting Right Share | TRUE | 17% T – 83% F | 9.3/10 | |
| CSR STRATEGY (3.8%) | CSR Sustainability Reporting | TRUE | 100% T | 6.0/10 | 3.7 |
| | GRI Report Guidelines | FALSE | 100% T | 0.0/10 | |
| | Number of SDG | 0 | 8.92 (max not visible; max inferred ≈15.87) | 0.0/10 | |
| | Policy Tax Transparency | TRUE | 33% T – 67% F | 8.7/10 | |

✓ Overall, the governance structure is solid and mitigates material reputational risks. However, the lack of explicit links between ESG KPIs and executive compensation—a common gap among Italian mid-caps—remains a minor transparency weakness that could limit long-term strategic accountability.

# Board of Directors



| Name | Current Role | Background |
|---|---|---|
| Cristiano Alessandro Crippa | Chairman | Since 1992, he has been with the company and is currently Chairman. From 2018 to 2022, he was CEO of DA-TOR S.p.A., specializing in hydraulic components |
| Roberto Alessandro Crippa | Vice chairman | Chemical Engineering graduate from Politecnico di Milano, with the company since 2002. Director since 1999 and Vice Chairman currently. From 2018 to 2022, CEO of DA-TOR S.p.A. Named in Forbes' "Top 100 Italian Managers" in 2019 |
| Stefano Felici | CEO | Engineering graduate with a PhD from Politecnico di Milano and extensive semiconductor experience. Former R&D and product development director. Ex-General Manager of Technoprobe America, now CEO of the company and director of its Asian subsidiaries |
| Giulio Sirtori | Independent Director | Classical high school graduate with extensive leadership experience in trade and industry organizations. Currently General Director of Confindustria Lecco and Sondrio, CEO of Union Service S.r.l., and independent non-executive director of the company |
| Carlos Ortega Arias-Paz | Independent Director | Harvard Economics graduate and MBA. Co-CEO of Corporación Financiera Alba. Board member and Chairman of Acerinox. Over 23 years in investment banking and consulting |
| Susanna Pedretti | Independent Director | Law graduate and Bar member since 2005. Founding Partner of Auditability, specializing in governance and compliance. Independent director with key committee roles at multiple listed companies. Member and chair of Supervisory Bodies under Italian law |
| Elisabetta Cugnasca | Independent Director | Economics graduate from Bocconi with INSEAD director training. Experienced in auditing and investor relations across major groups. Holds several board roles in finance and tech. Former President of Italian Investor Relator Association. University lecturer and independent non-executive director |
| Antonio Sanna | Independent Director | Law and Political Science graduate with senior legal and compliance roles in major listed groups. Former Head of Risk & Compliance and Legal Affairs at ACEA. Independent non-executive director of the company |
| Gregory Stephen Smith | Non - Independent Director | Electronic Engineering graduate with advanced technical training. Former engineer and manager at Raytheon and LTX. Now President and CEO of Teradyne Inc. Non-independent, non-executive director |
| Chih Kuang Yang | Non - Independent Director | Senior semiconductor executive with 20+ years' experience in wafer fabrication, IC packaging, and advanced materials. Founder and GM of Technoprobe's R&D subsidiary, Yee Wei Inc. Holds a Ph.D. in Chemical Engineering. |