

NOVA[®] PROCESS
INSIGHT

INVESTOR DAY 2025



Cautionary Statements

Use of Non-GAAP Adjusted Financial Measures

This presentation provides financial measures that exclude amortization of acquired intangible assets, acquisition-related expenses, inventory step-up and contingent consideration revaluation, stock-based compensation expenses, revaluation of operating lease liabilities and remeasurement of intercompany loans, amortization of debt discount and issuance costs and tax effect of non-GAAP adjustment, as applicable, and are therefore not calculated in accordance with generally accepted accounting principles (GAAP). Management believes that these non-GAAP financial measures provide meaningful supplemental information regarding Nova's performance because they reflect our operational results and enhance management's and investors' ability to evaluate Nova's performance before charges or benefits considered by management to be outside Nova's ongoing operating results. The presentation of this non-GAAP financial information is not intended to be considered in isolation or as a substitute for the financial information prepared and presented in accordance with GAAP. Management believes that it is in the best interest of its investors to provide financial information that will facilitate comparison of both historical and future results and allow greater transparency to supplemental information used by management in its financial and operational decision making. A reconciliation of each GAAP to non-GAAP financial measure discussed in this presentation is contained in the accompanying financial tables.

Forward-Looking Statements

This presentation contains forward-looking statements within the meaning of safe harbor provisions of the Private Securities Litigation Reform Act of 1995 relating to future events or our future performance, such as statements regarding, but not limited to, anticipated growth opportunities and projections about our business and its future revenues, expenses and profitability. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied in those forward-looking statements.

Factors that may affect our results, performance, circumstances or achievements include, but are not limited to, the following: risks related to information technology security threats, sophisticated computer crime, and data privacy; foreign political and economic risks including supply-chain difficulties; regulations that could restrict our operations such as economic sanctions and export restrictions; changes in U.S. trade policies and taxation; indirect effects of the Russia – Ukraine conflict; market instability including inflation and recessionary pressures; risks related to doing business with China; catastrophic events; inability to protect our intellectual property; open source technology exposure, including risks related to artificial intelligence; risks related to the use of artificial intelligence technologies; challenges related to our new ERP system; failure to compete effectively or to respond to rapid technological changes; consolidation in our industry; difficulty in predicting the length and strength of any downturn or expansion period of the market we target; factors that adversely affect the pricing and demand for our product lines; dependency on a small number of large customers; dependency on a single manufacturing facility per product line; dependency on a limited number of suppliers; difficulty in integrating current or future acquisitions; lengthy sales cycle and customer delays in orders; risks related to conditions in Israel, including Israel's conflicts with Hamas and other parties in the region; risks related to our convertible notes; currency fluctuations; and quarterly fluctuations in our operating results. We cannot guarantee future results, levels of activity, performance or achievements. The matters discussed in this presentation also involve risks and uncertainties summarized under the heading "Risk Factors" in Nova's Annual Report on Form 20-F for the year ended December 31, 2024, filed with the Securities and Exchange Commission on February 20, 2025. These factors are updated from time to time through the filing of reports and registration statements with the Securities and Exchange Commission. Nova Ltd. does not assume any obligation to update the forward-looking information contained in this presentation.



Driving Secular Growth

Gaby Waisman, President & CEO

March 2025

Agenda



Gaby Waisman

President & CEO

Driving Secular Growth



Sharon Dayan

CHRO

Nova's ESG Strategy:
From the Inside Out



Zohar Gil

CMO

Growing TAM Matched
by Unique Portfolio



Dr. Shay Wolfling

CTO

Proven Solutions to
Chip Manufacturing
Challenges



Guy Kizner

CFO

Financial Strength
& Long-Term
Growth

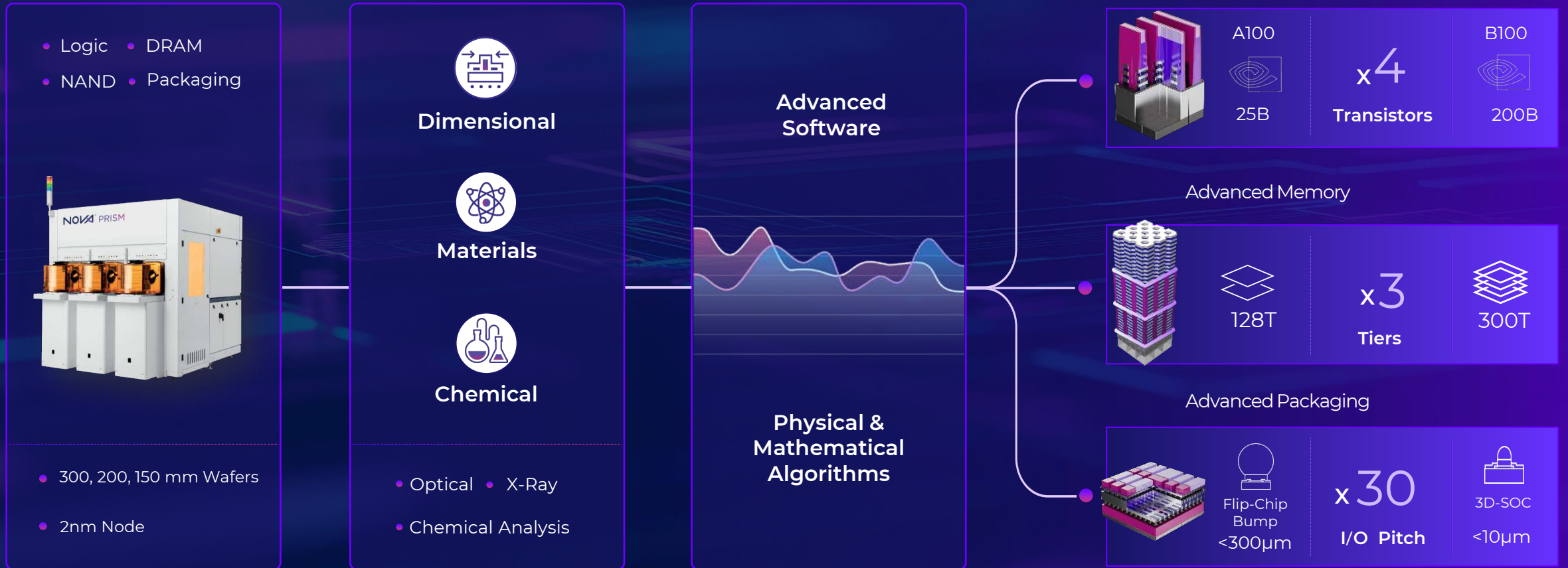




Nova is a leading innovator, and a key provider of **advanced metrology and process control solutions** used in semiconductor manufacturing

Revealing the Invisible

Actionable Insight, Critical Foresight



Leveraging Technology Differentiation

Dimensional Optical CD

Materials

Chemical

Integrated

VeloCD/
Stand-alone

Prism

SemDEX

VeraFlex®
(XPS+SRF)

Elipson®
(Inline Raman)

Metrion®
(Inline SIMS)

AncoScene®
Front-End

Ancolyzer®
Wafer level
packaging

DMR®
Direct Metal
Replenishment



Adv. Logic



Adv. Memory



Adv. Packaging



Specialty Devices



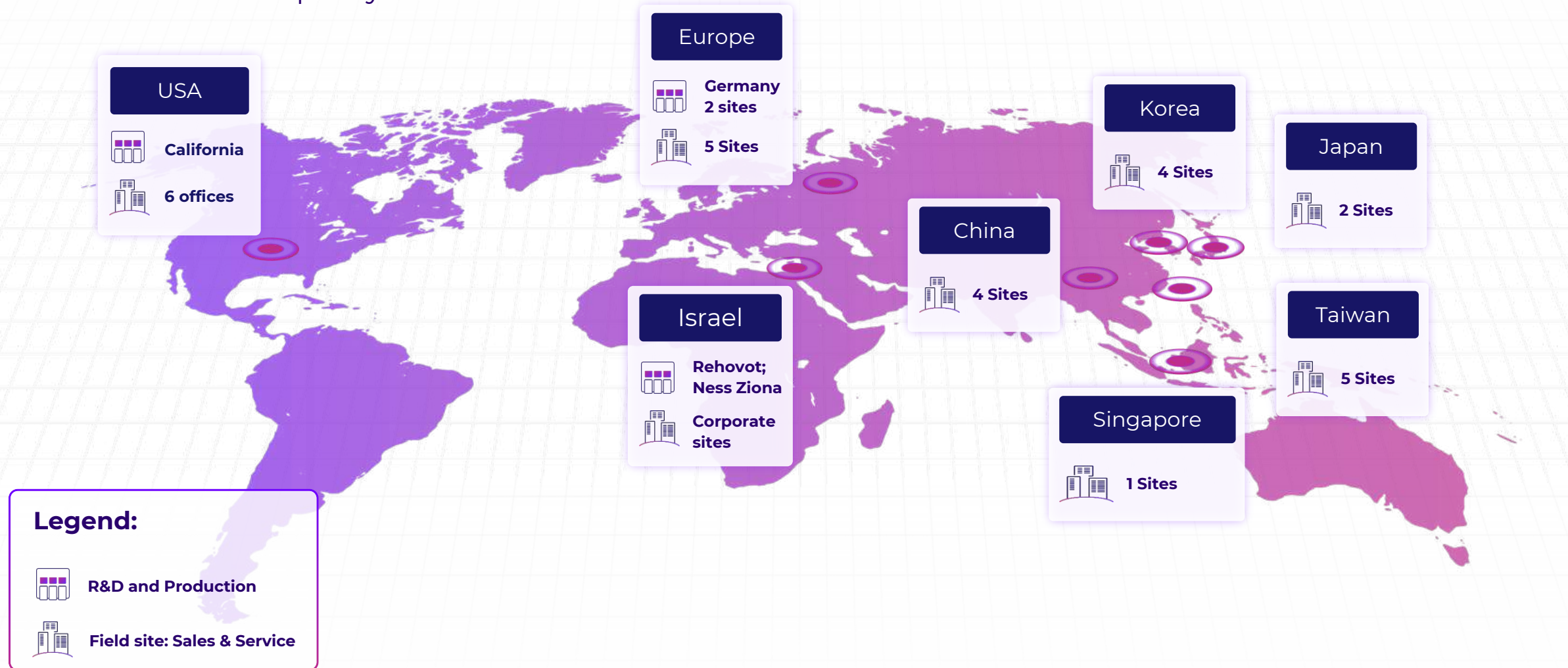
● Already measuring related applications in fabs

● 150, 200, 300mm wafers

Global Strength, Ready for Secular Growth

3 R&D and Production Centers, 31 sites

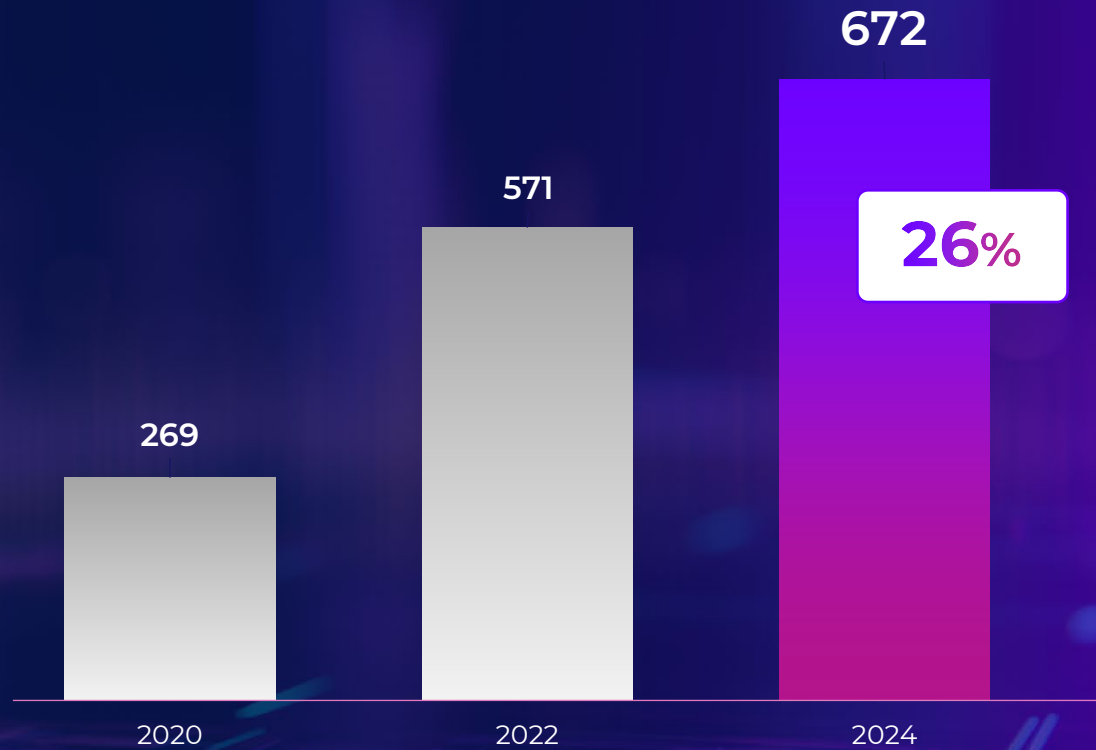
+80% Production Capacity



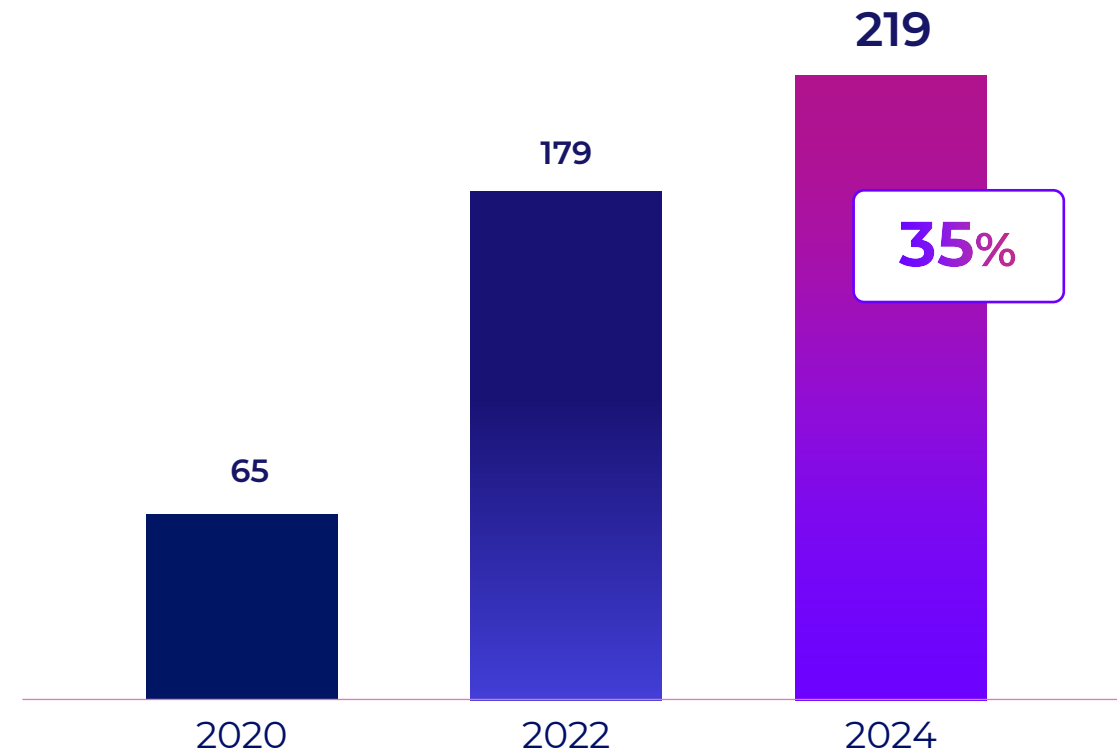
Strategic Execution

Doubling Revenue Every 5 Years

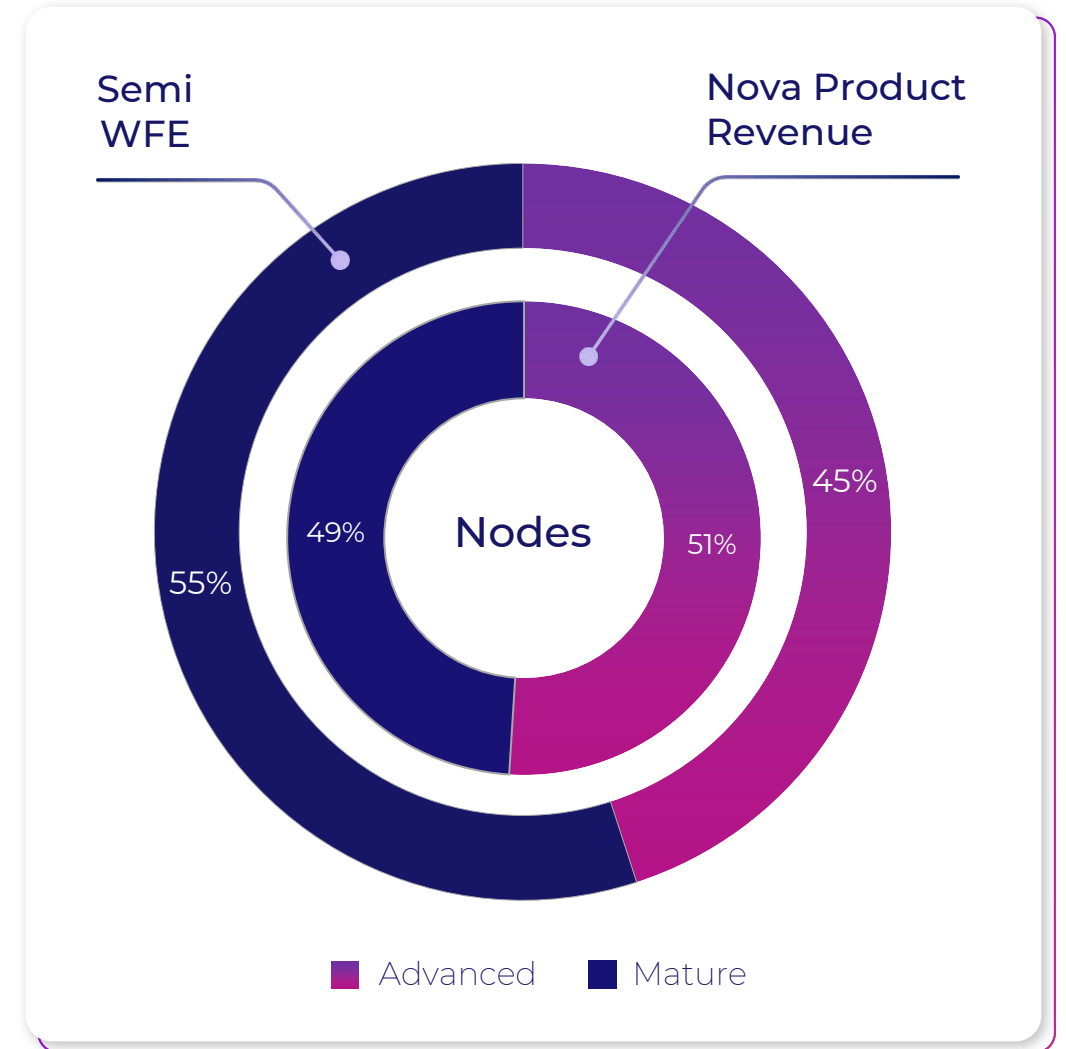
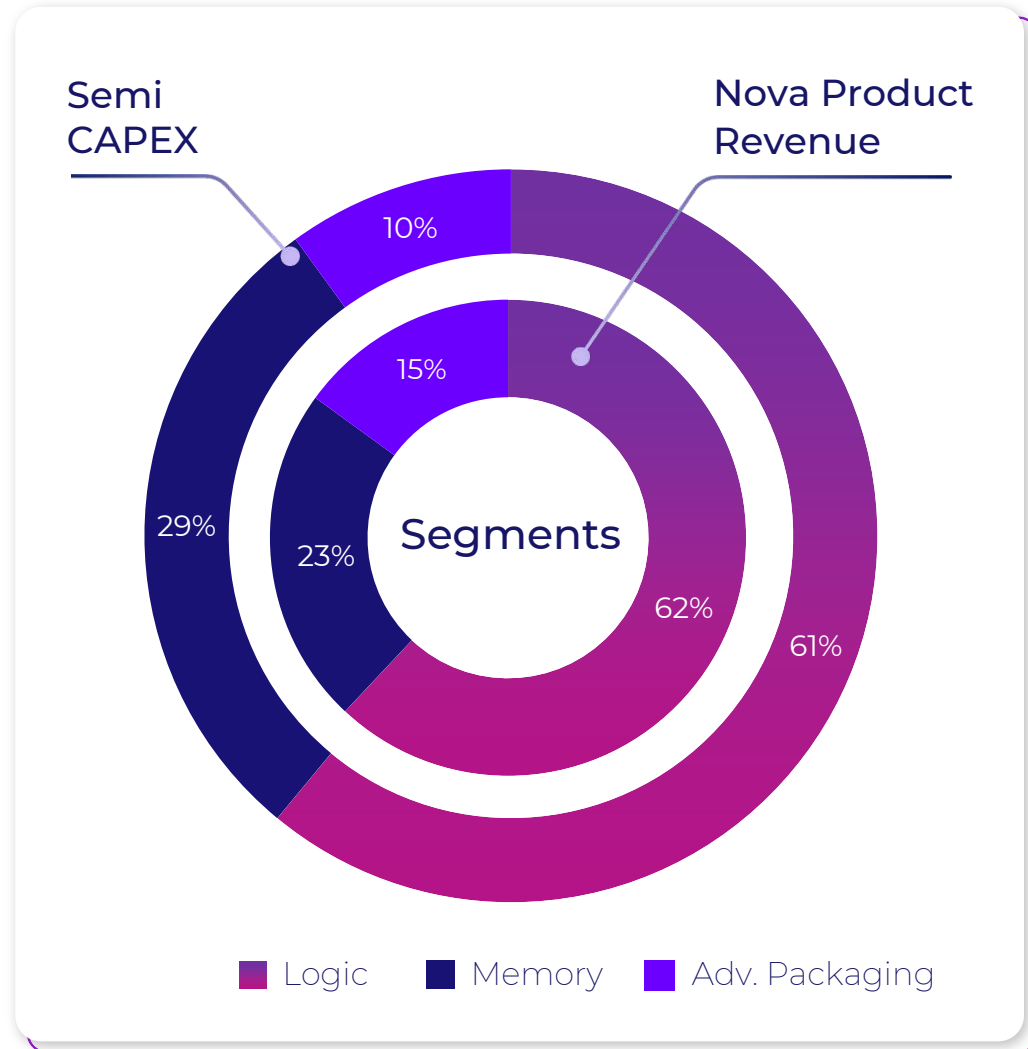
Revenue (\$M)



Operating Profit (\$M)



Broad Exposure to Industry Investments



An Industry Set for Secular Growth

Semiconductor Industry Revenues



- AI Semi - 30% CAGR
- Wafer Capacity +60% by 2030
- >75 new fabs, 50-100Kwspm per fab
- Growth coupled with inflection points creates opportunity for Nova

Adoption by Top-5 SEMI IC Manufacturers



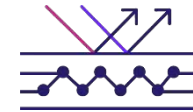
100%

**Chemical
Metrology**



80%

**Advanced Packaging
Integrated Metrology**



60%

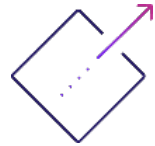
**Inline SIMS &
Raman Metrology**

How We Continue to Outperform



Leadership

Maintain and expand leadership position - organic



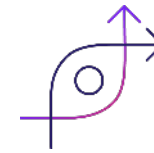
Expansion

Into adjacent markets



Disruptive products

Drive from penetration to adoption



M&A

To drive growth in strategic focus areas

Sentronics, A Nova Company

A New Range of Applications for Dimensional Metrology

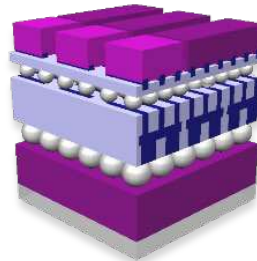
Expand dimensional metrology, complementing existing portfolio

New market segment, expanding TAM

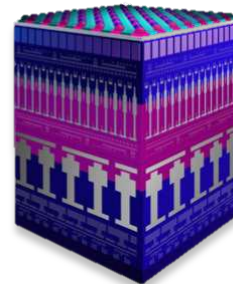
Expand offering to 150-300mm wafers

Potential synergy: Technology, Talent

Coming soon: next-gen platform
Nova WMC



Advanced Packaging,
WLP, PLP



Specialty Devices



Total Thickness Variation



Total Thickness



Bow & Warp



Topography



Roughness



TSV

Beyond Metrology: The Next Generation

Ushering a New Era of Integrated Metrology

- Integrated Metrology Market Leader
- Wafer Edge Metrology & Inspection

Macro
Chipping

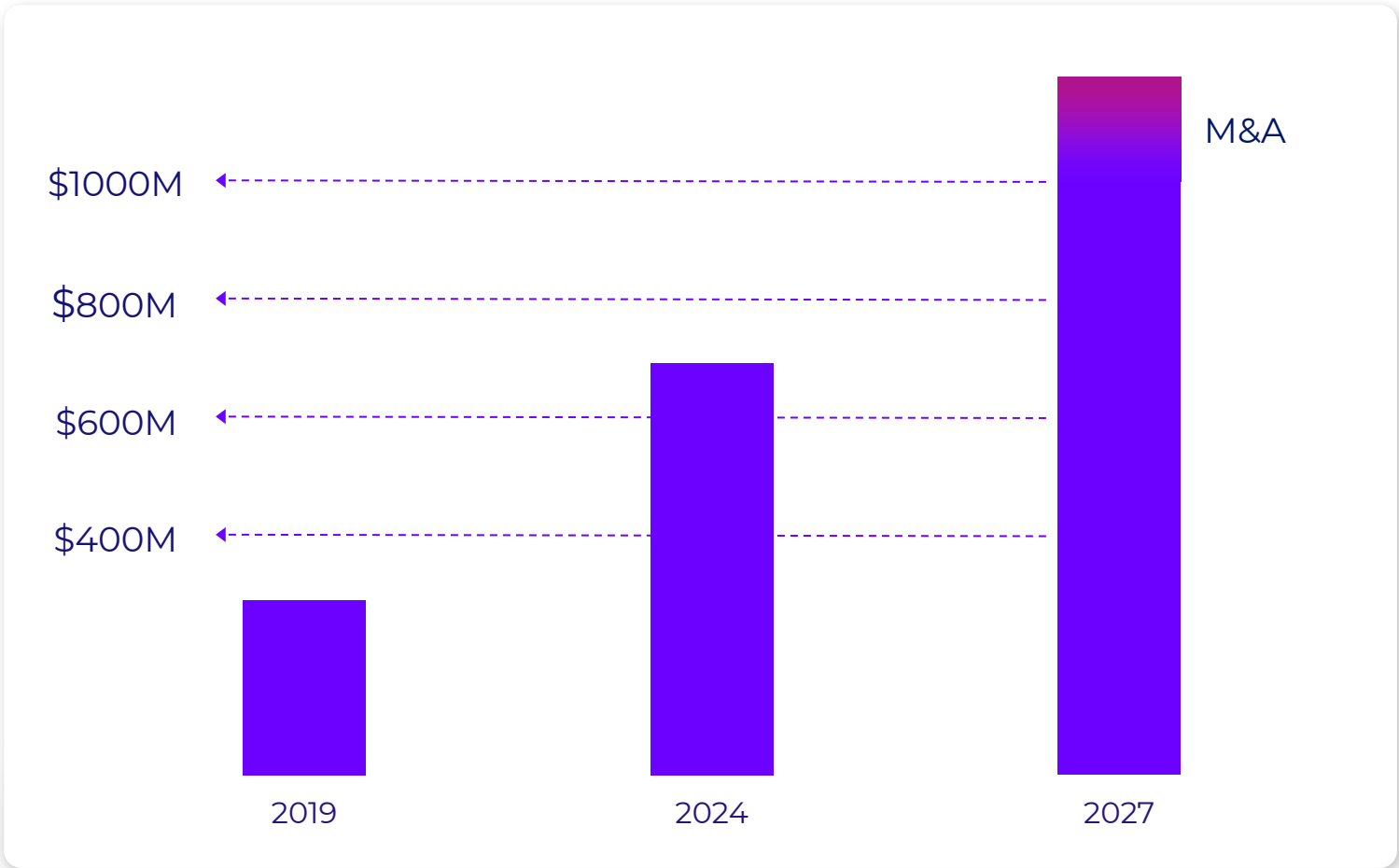
Edge Bead
Removal

Edge
Thickness
Profile



The Next Step: \$1B Organically

With Continued Focus on Acquisitions



What Makes Us Unique



Innovation



Culture



Talent



Sustainability

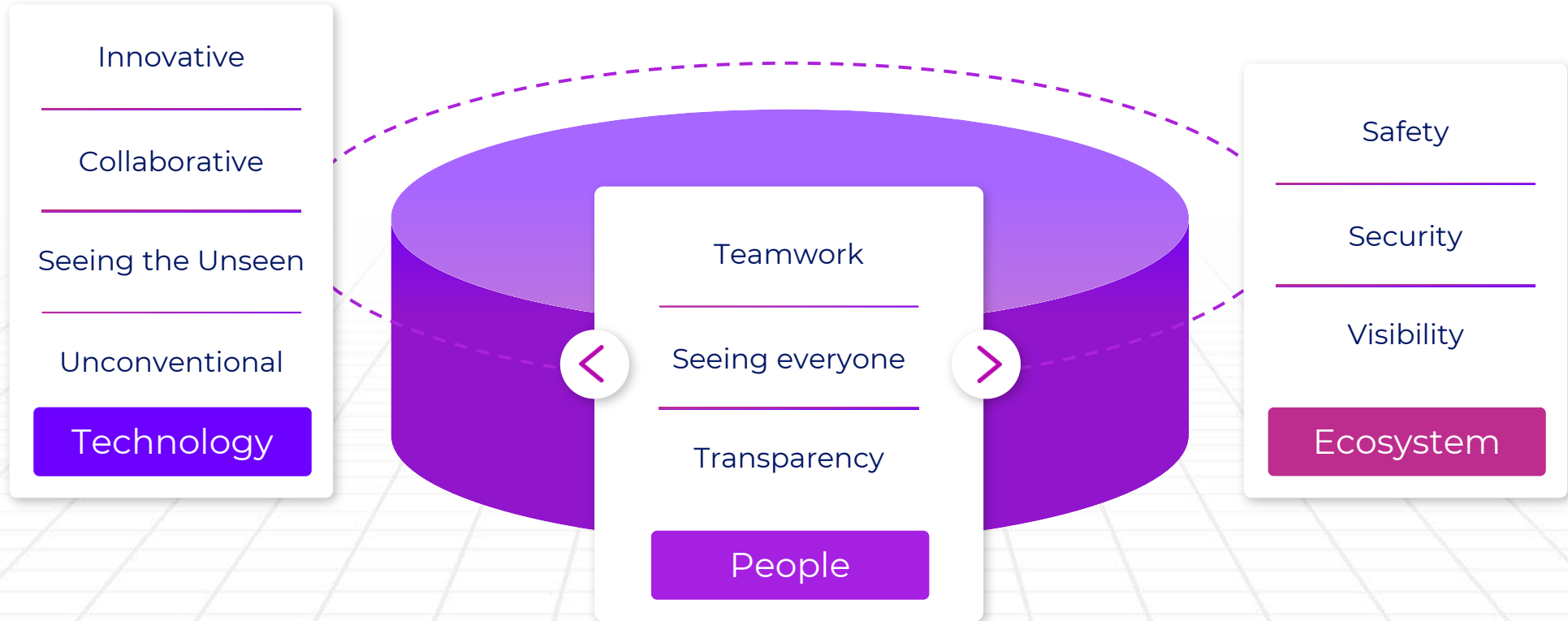


Nova's ESG Strategy: From the Inside Out

Sharon Dayan, CHRO

March 2025

A Cultural Evolution



A Multi Year Plan

2023 First ESG Review Publication

- Materiality Assessment
- Global Reporting Standards
- UN Sustainable Development Goals

April 2025: ESG Report

- Environmental data - scope 1+2
- Policies and programs Implementation
- Become an RBA member
- Goal: formal sustainability commitment by 80% of top suppliers

2027: Next Report

Three Pillars of Action



Integrity &
Transparency

Governance



People First Always

Social

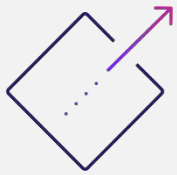


Scope 1+2 Foundation
Established

Environment

Governance

Transparency, Integrity, Trust



Leadership

- Independent board & committees
- Professional CEO
- CHRO – Executive Sponsor



Ethics & Integrity

- Code of Conduct
- Corruption & Anti-bribery
- Trading compliance
- Whistleblowing policy



Security

- Cybersecurity
- IP protection
- Data protection

Social

The individual as a whole

Internal	
Leadership Mobility	50%
Women	33%
Retention	95%



our community as our home

External	
Strategic Projects	+10
Partnership Commitment	2-5 years
Volunteering	+40%

Environment Facilities and Product Sustainability

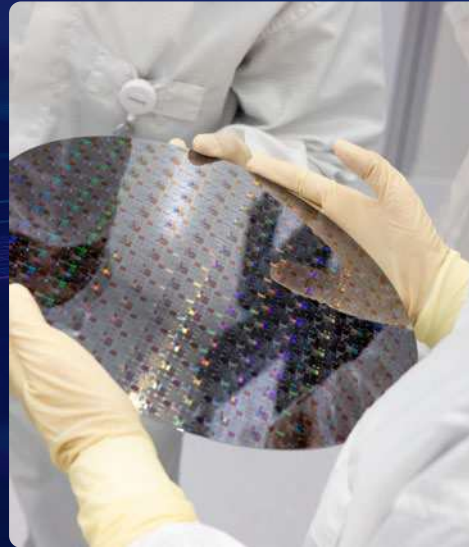
Built with sustainability
in mind



39% of properties
are already green

+313% Renewable
Energy

Product design process
elements



Materials, energy
efficiency, packaging
etc.

Unique offering for waste
management



Nova DMR

Reduced footprint



65% reduction in
GHG emissions

From Values to Impact





Growing TAM Matched by Unique Portfolio

Zohar Gil, CMO

March 2025



Executive Summary

Semiconductor Market

- Accelerated growth
- Multiple technology inflections

Capital Equipment Market

- Elevated Investment
- Increasing process control intensity

Nova

- Unique Portfolio
- Continued Growth and outperformance

AI-Driven Market Growth Toward \$1T by 2030



Impact of Key Semi Growth Drivers on IC Device Segments

Semi Growth Drivers

Gen AI & Cloud/DC



Mobile & PC



Automotive / EV



Industrial & IoT



Revenue CAGR 2023-2028

Advanced Logic
GAA

30%

10%

Mature Logic

17%

Advanced Memory

18%

Advanced Packaging
2.5D/3D

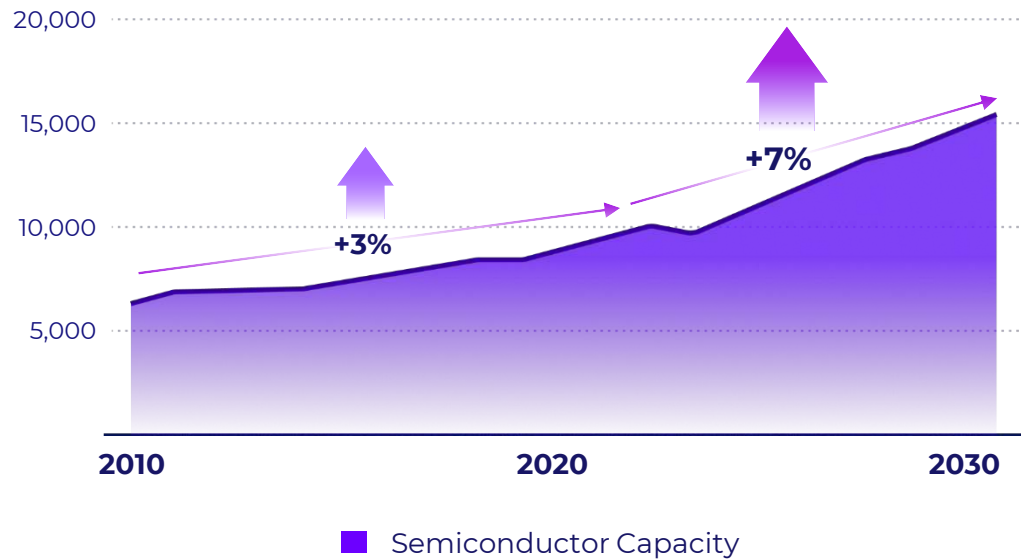
41%

HBM

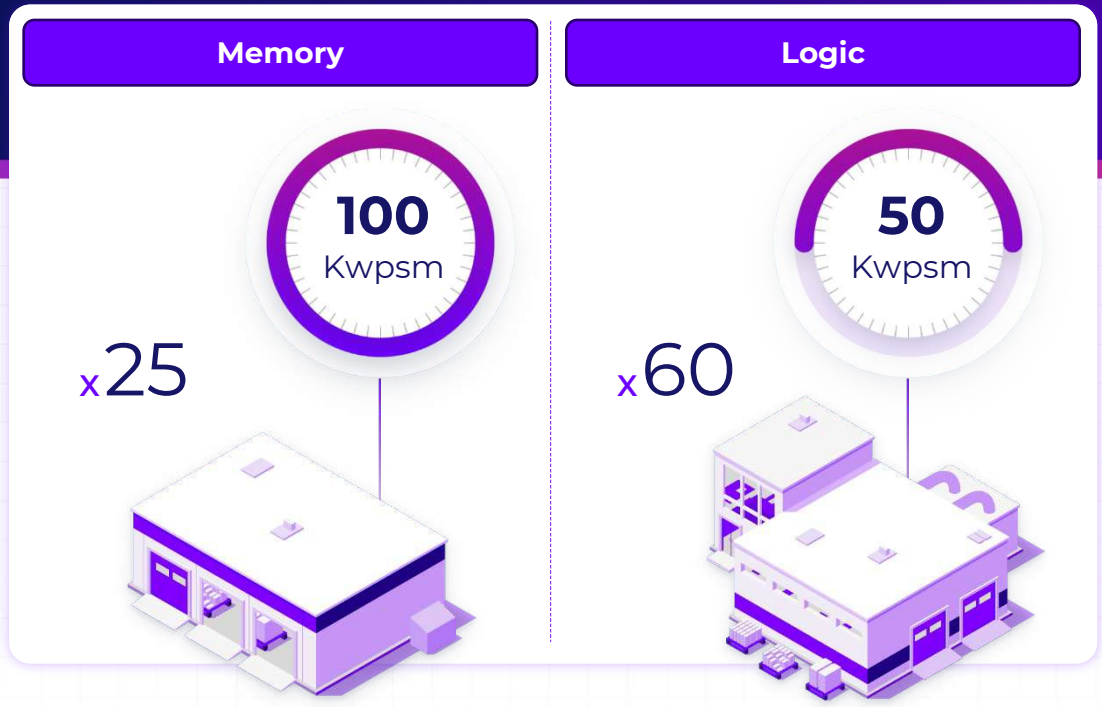
Semiconductor Wafer Capacity Up 60% 2023-2030

\$2.3T investments in wafer fabrication in the next decade

Wafer Capacity



New Fabs



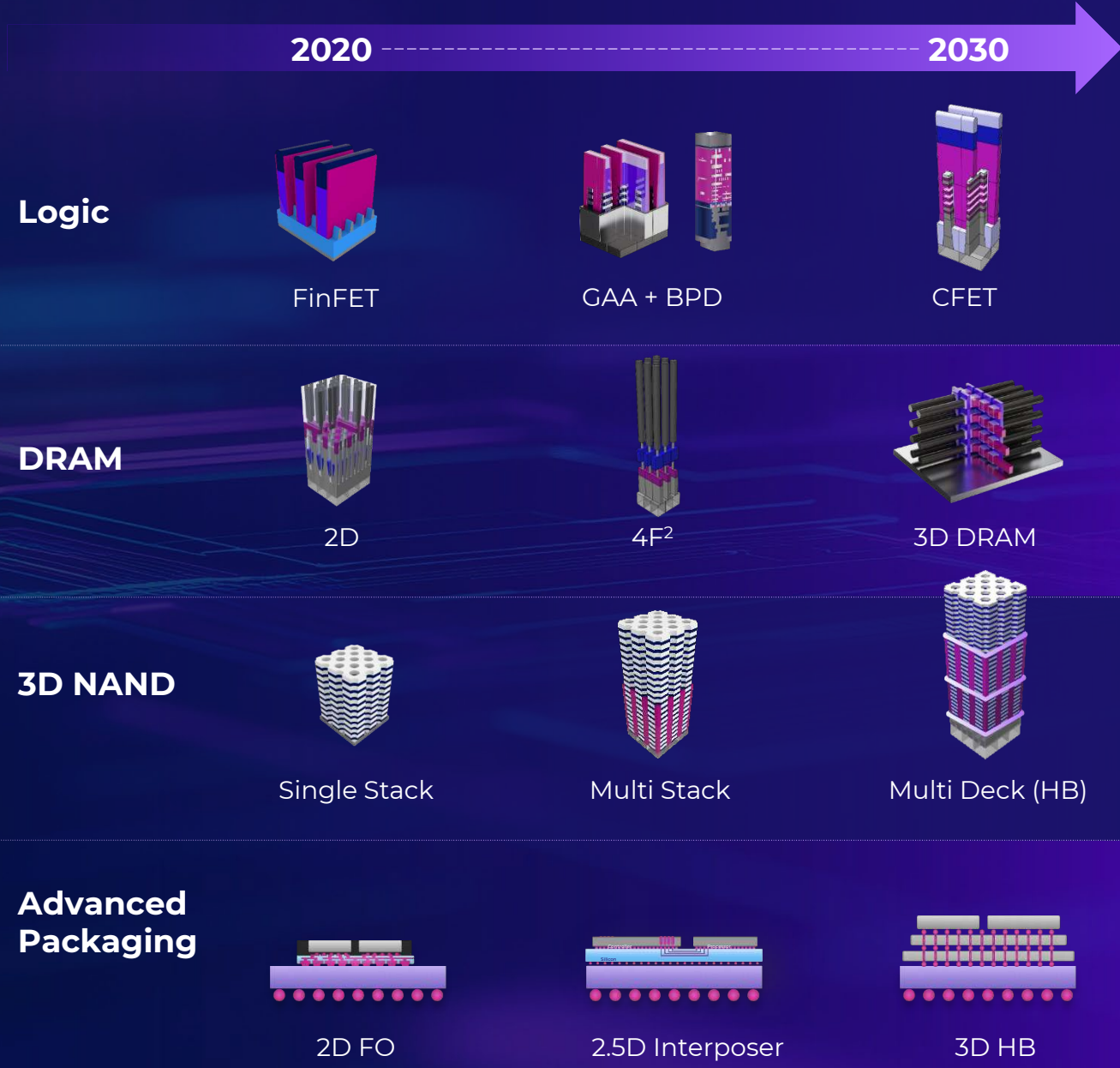
Keeping Moore's Law Alive



Multiple Device Inflections

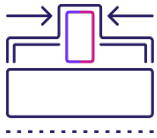
Increasing Complexity

Increase Process Control Intensity



Metrology Opportunities in Advanced Logic

Metrology Opportunities



Dimensional

- Nanosheets, Nano TSV's
- Wafer Edge Metrology



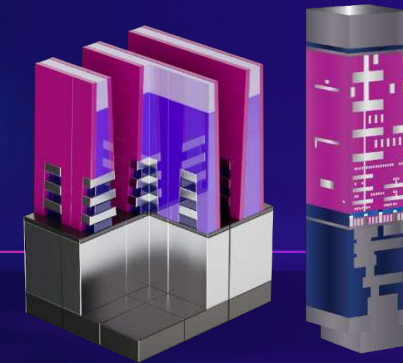
Materials

- Silicon Stress and Strain
- New Material Characterization

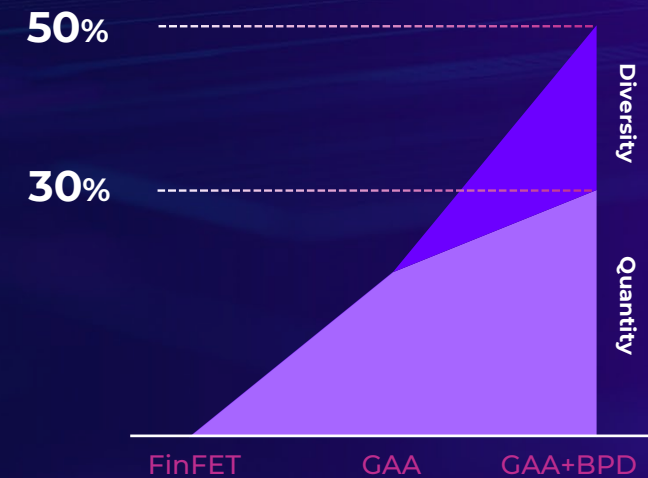


Chemical

- More plating steps
- Tighter Process Control

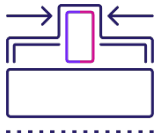


Metrology Intensity Increase



Metrology Opportunities in Advanced Memory

Metrology Opportunities



Dimensional

- HAR CD's
- HB Metrology



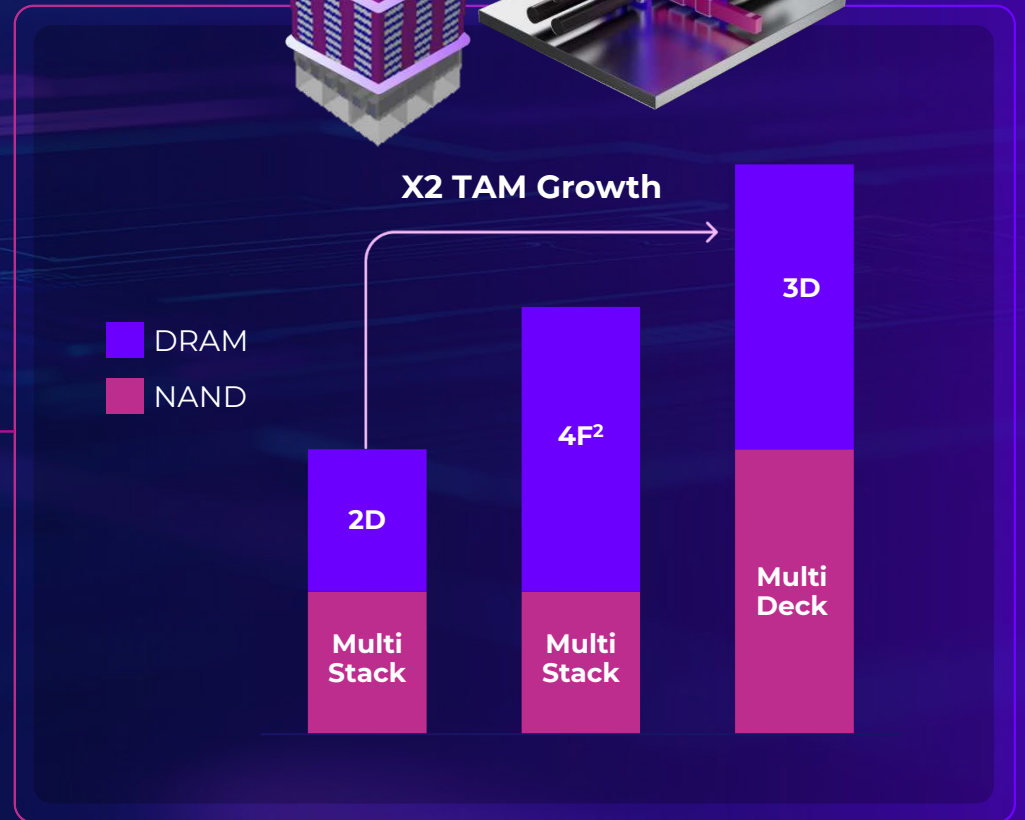
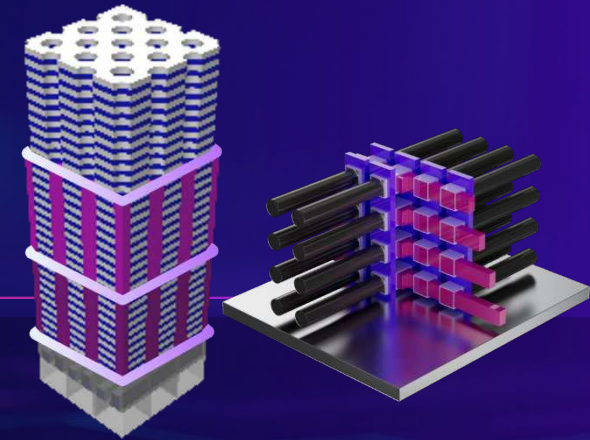
Materials

- Composition and Thickness
- Doping and Contamination



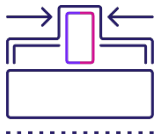
Chemical

- Tighter Process and Contamination Control



Metrology Opportunities in Advanced Packaging

Metrology Opportunities



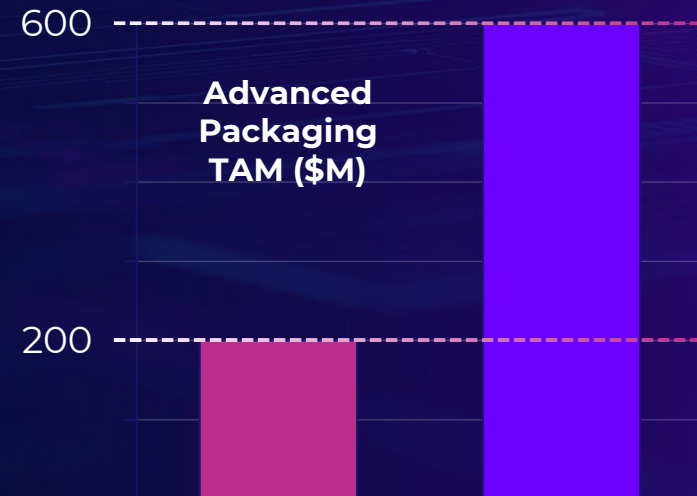
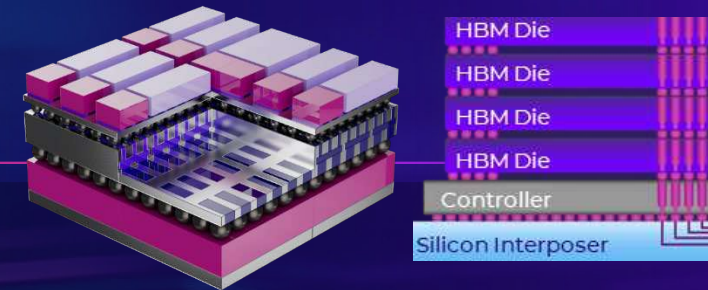
Dimensional

- TSV & RDL Metrology
- Pre- and Post- HB Metrology
- Panel-Level Metrology

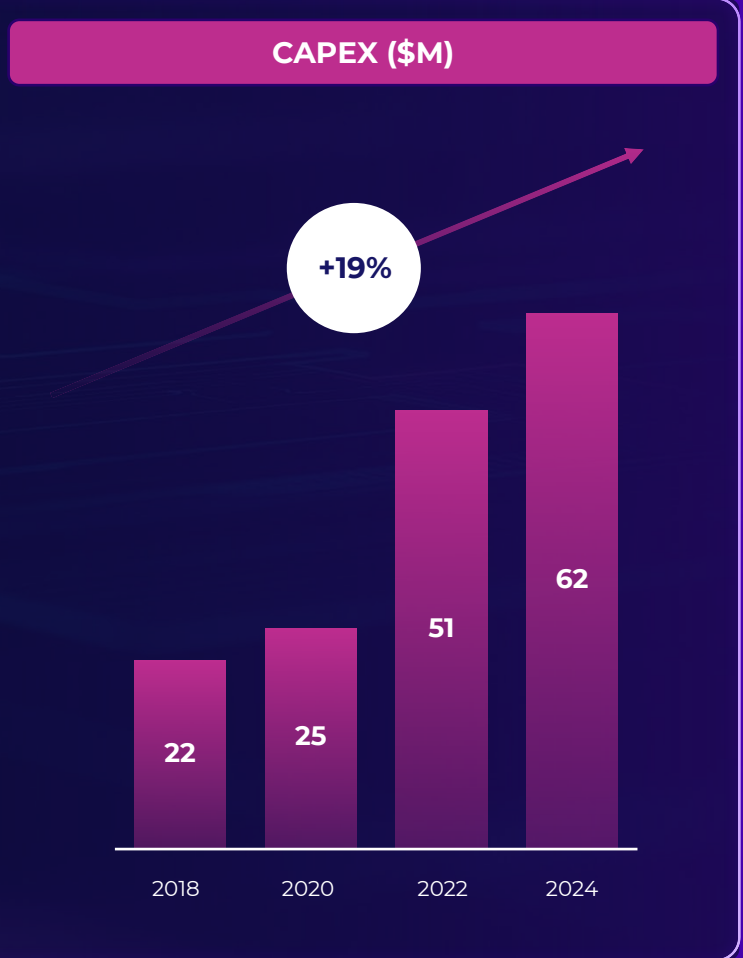


Chemical

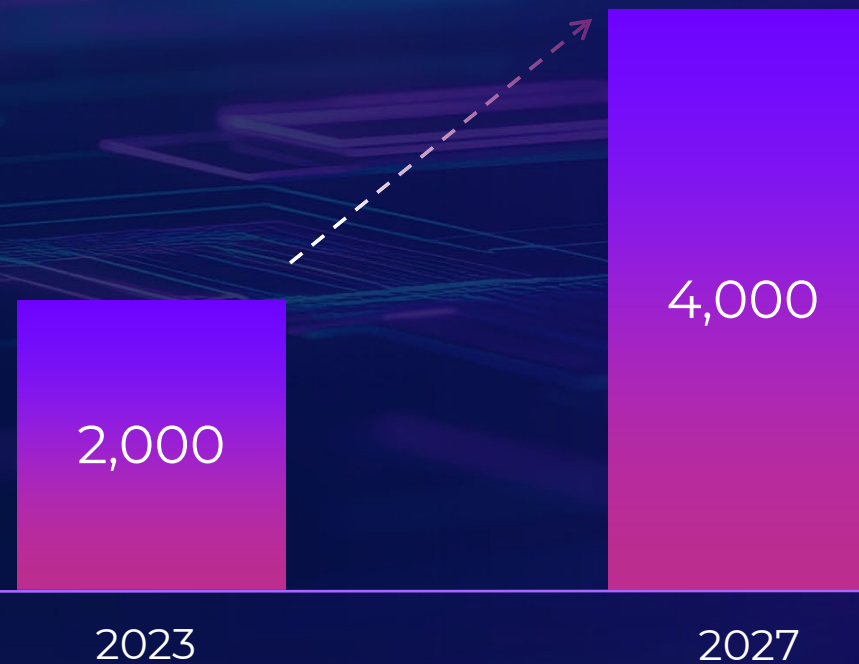
- Contaminants and Photoresist Leach Detection



Continued Investment in Mature Nodes



Nova's Addressable Market Will Double by 2027 (\$M)



Product Portfolio and Strategy

NOVA[®] PROCESS
INSIGHT



Rich & Future-Proof Metrology Portfolio

Dimensional Metrology

Critical Dimensions



Nova i570®
Integrated



Nova VeloCD
Standalone



Nova Prism
Standalone



Nova WMC
Standalone

Materials Metrology

Material Properties



Nova VeraFlex®
XPS, XRF



Nova Elipson®
Raman Spectroscopy



Nova Metrion®
SIMS

Chemical Metrology

Chemical Analytics



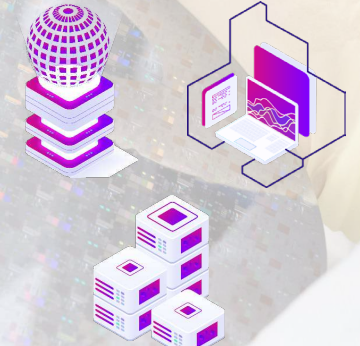
Nova AncoScene®
Front End



Nova Ancolyzer®
Wafer Level Packaging



Nova DMR®
Direct Metal
Replenishment



Software

Physical & Mathematical Modeling

Big Data Analytics

Fleet Management

Introducing Nova i580

Next Generation of Integrated Metrology Leadership

CMP Metrology Leadership :

Fastest, most advanced platform in the market

Expanding Measurement Domain:

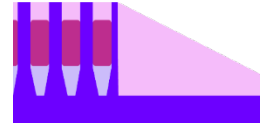
Wafer edge defect metrology and inspection



Beyond Metrology

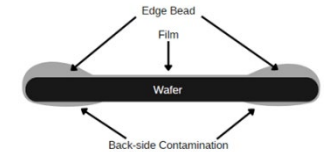
Edge Thickness Profile

Monitor the edge thickness profile



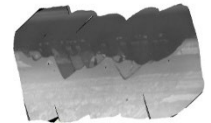
Edge Bead Removal

Identify peeling and other anomalies



Macro Chipping

Detect and analyze chipping for CMP layers



Introducing Sentronics

Wafer and Panel Level Packaging
Dimensional Metrology Leadership



Nova Semdex

Modular, Multi-Sensor
Metrology Platform



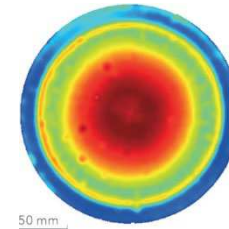
Nova WMC

Modular, optical metrology
for Back-End 3D processes

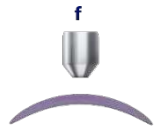
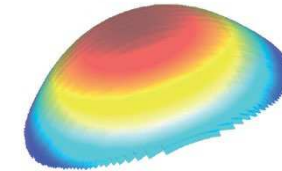
Expanding Critical Dimensions Application Space

Optical Metrology for Advanced Packaging

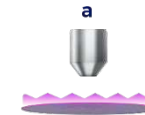
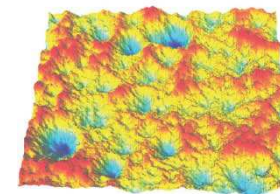
Total Thickness
Variation



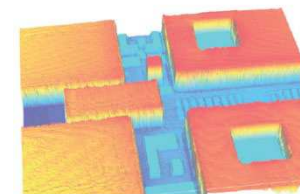
Wafer/Die Shape



3D nm-scale
Topography



3D μm-scale
Topography



Unique Technology

Inline Materials Metrology

Nova VeraFlex®

Inline XPS & XRF



Industry standard for thickness & composition
Market leader

Nova Metrion®

Inline SIMS



Unique inline Nova technologies
Each adopted by 3 top-5 IC manufacturers
Each in evaluation with leading IC manufacturers

Nova Elipson®

Inline Raman Spectroscopy



Sustainability Global Commitment



Recycling rate \geq 95% ;
Waste sent to landfills \leq 1%



Zero total waste to landfill
by 2030



Highest Zero Waste to
Landfill certification by 2025

Source: TSMC Corp. Green Manufacturing; Intel Corp. Sustainable Manufacturing Solutions/Technologies; Samsung Electronics Corp. Sustainability in Operations

Unique Solutions Chemical Metrology

Nova Ancolyzer[®]



Nova DMR[®]



Non-Reagent Techniques
Reducing chemical usage



Holistic Measurement
Extending bath lifetime



Smart Replenishment
Reducing Waste

Elements of Product Strategy

Organic

&

Inorganic

15%

of Annual Revenue
invested in R&D



Maintain Tech Leadership

New Growth Engines

Path Finding and Incubation



Materials
Leadership



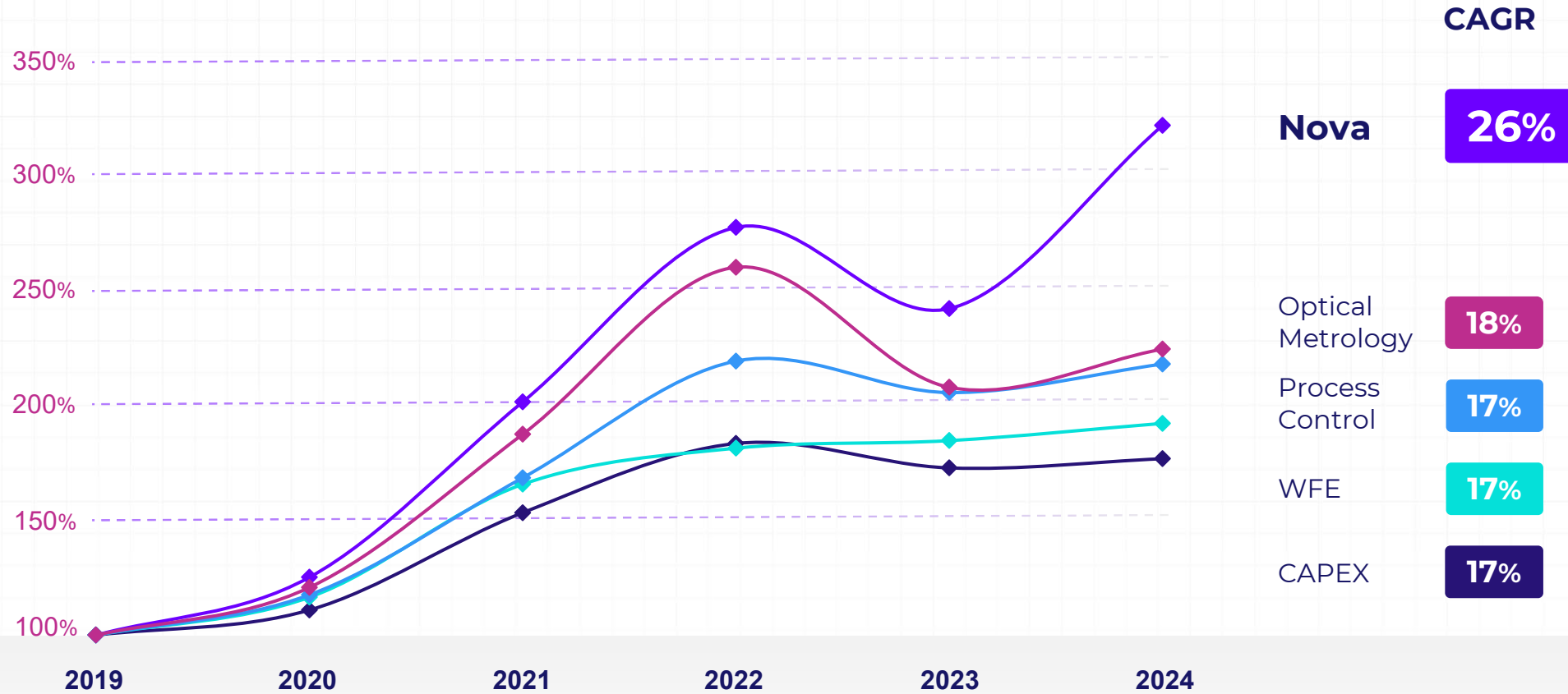
Early Access
Lab to Fab Technology



Adjacent
Process Control Markets

A Story of Outperformance

Industry Growth Performance Indicators (2019 – 2024)





Proven Solutions to Chip Manufacturing Challenges

Dr. Shay Wolfling, CTO

March 2025

Executive Summary

IC Ecosystem
Enabling
Industry
Growth

Exponential
Growth Creates
Manufacturing
Challenges

Unique
Metrology
solutions

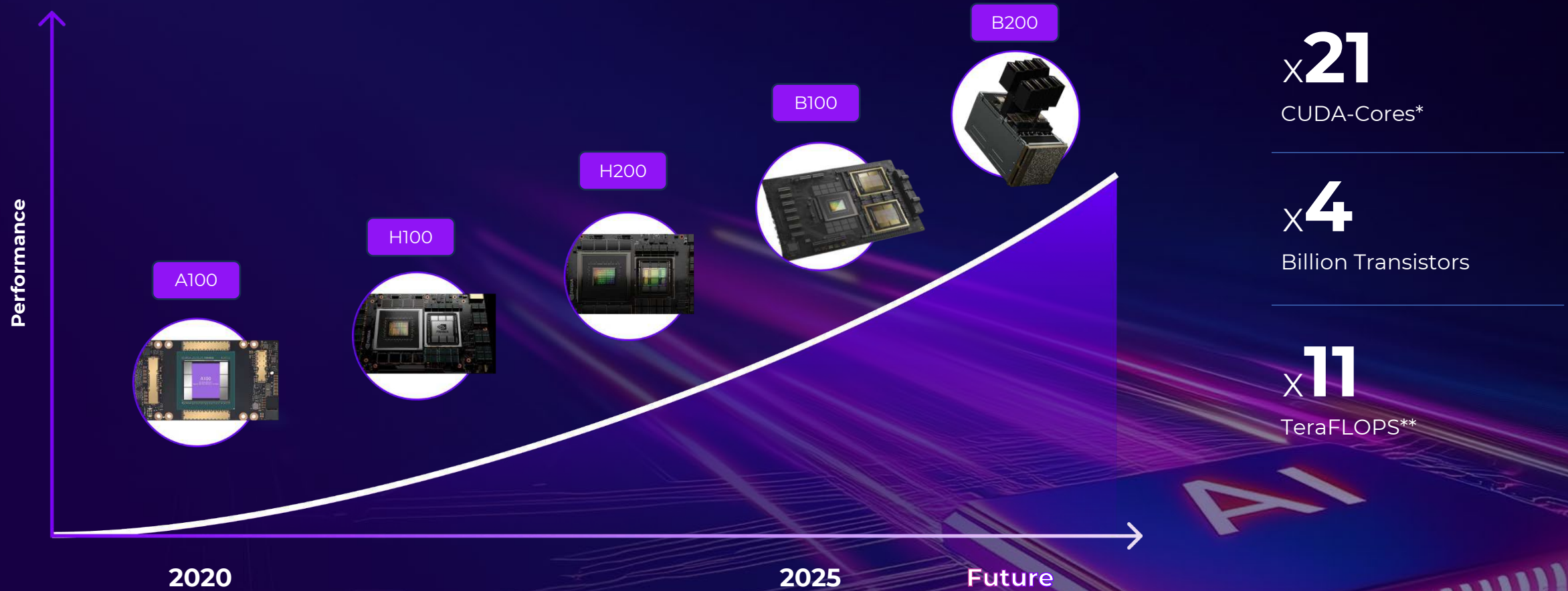
The Impact of Artificial Intelligence is Everywhere

End user and business applications

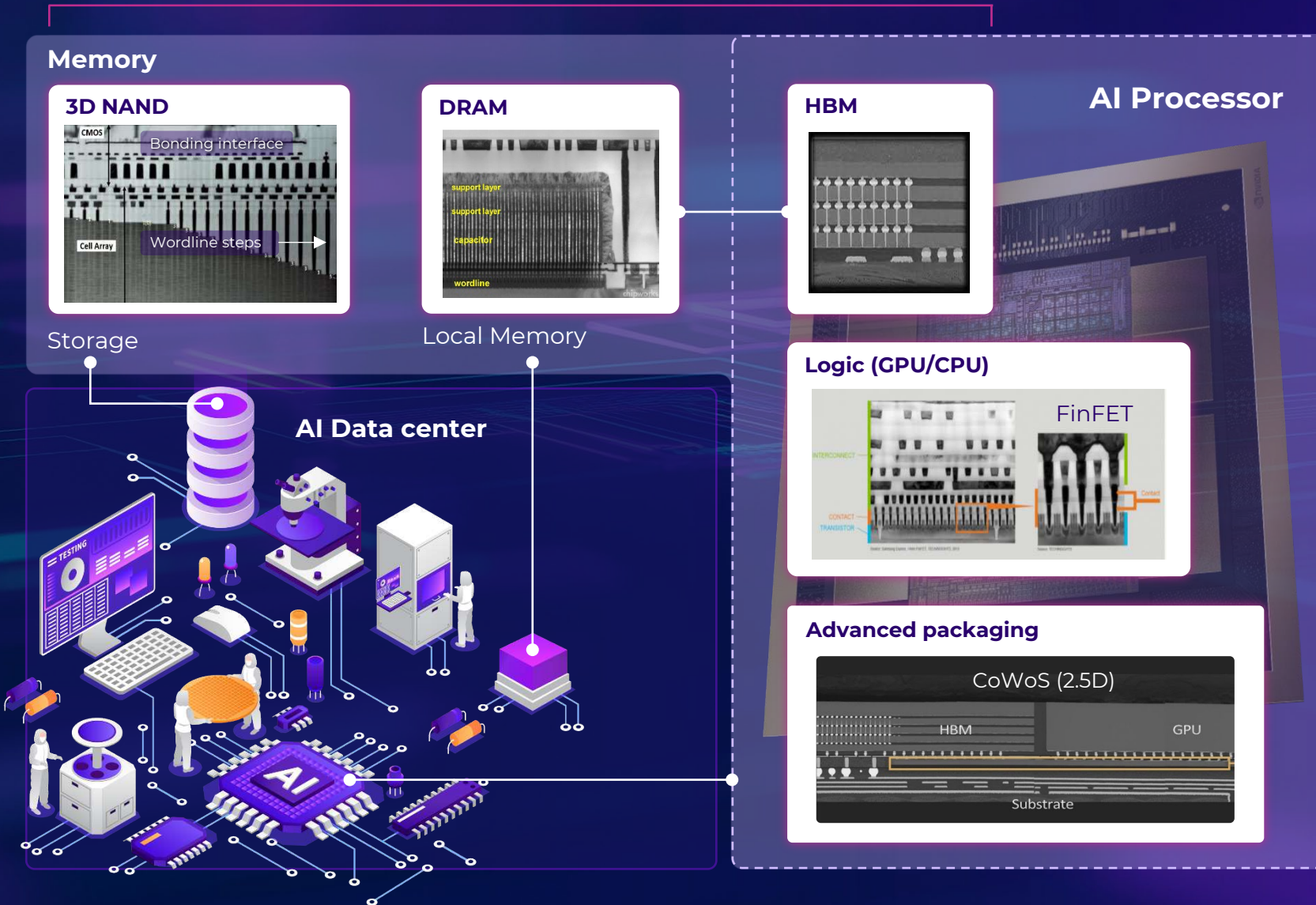


The Impact of Artificial Intelligence is Everywhere

The use of AI is driving more Integrated Circuit



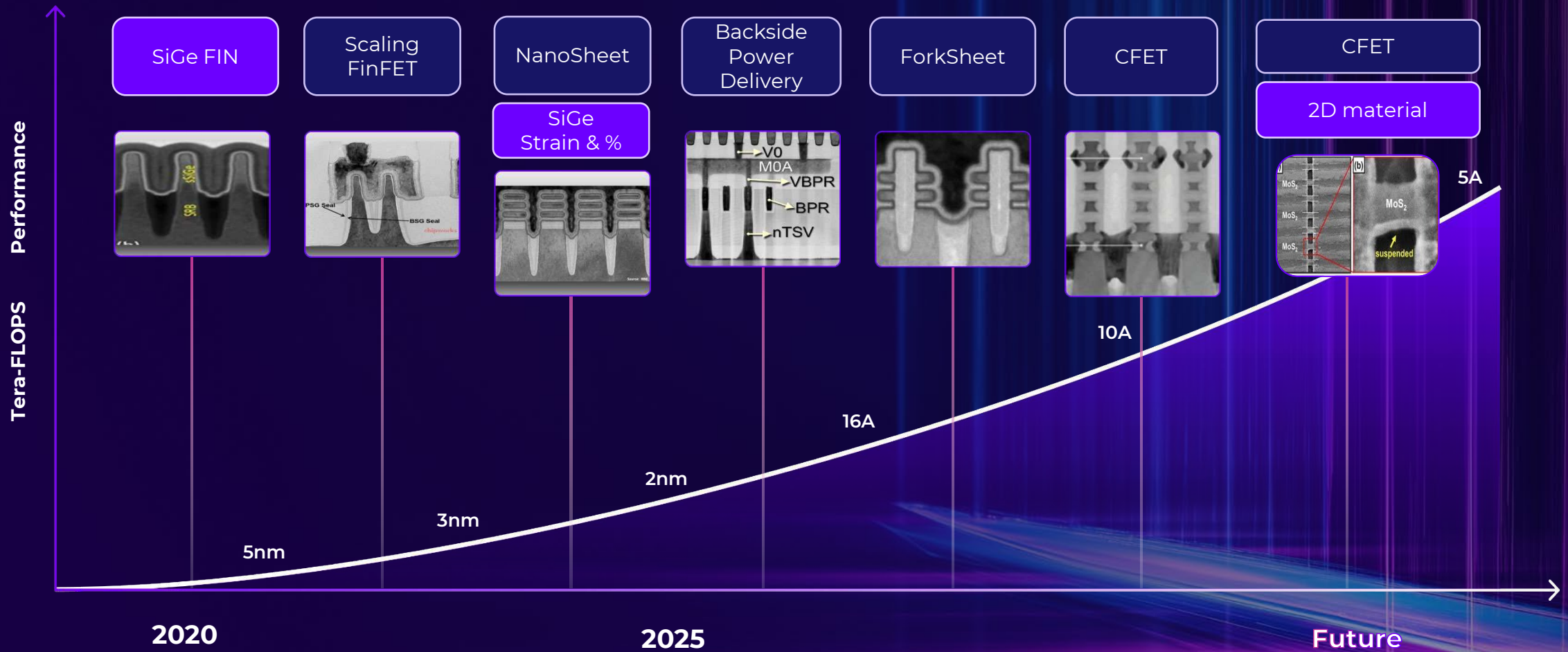
The IC Ecosystem is Enabling the AI Revolution



- More process steps
- Tighter process windows
- Complex 3D structures
- New materials
- Wafer edge criticality
- Packaging complexity

Logic - Technology Enablers

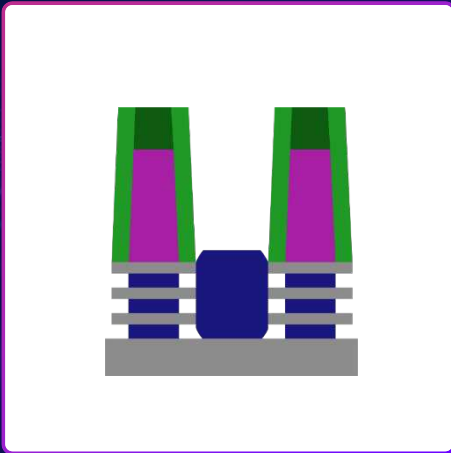
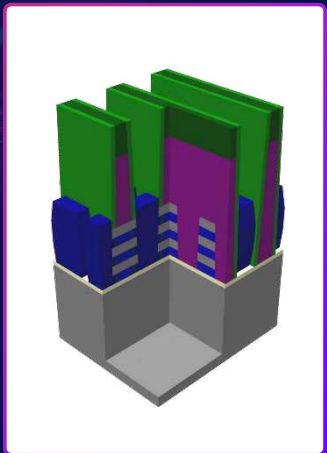
- Dimensions
- Materials & Chemical



GAA - Source/Drain Epi

The Challenge

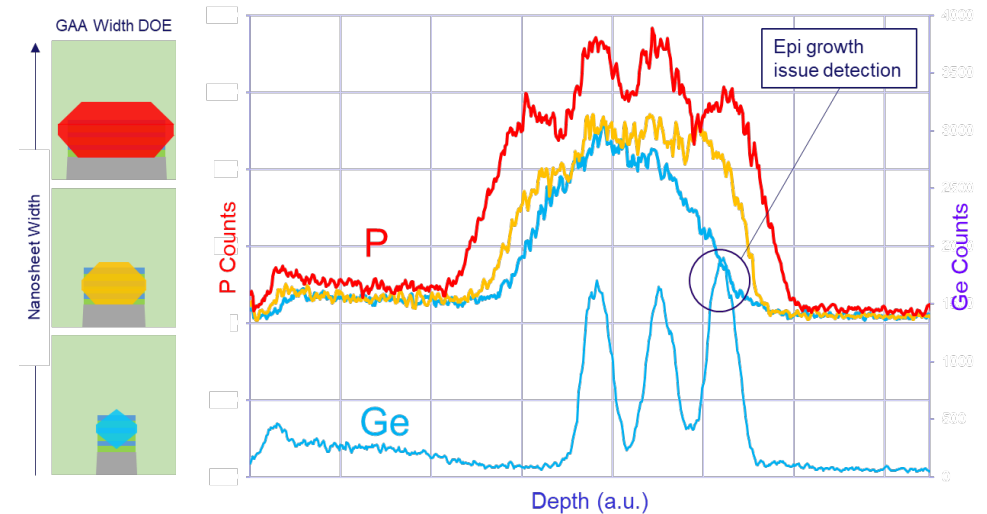
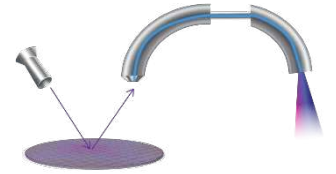
Monitor Source/Drain dopant concentration on structure to guarantee optimized device performance



NOVA Solution

SIMS measures the P concentration profile and detects potential Epi growth issues. Quantitative results can be enabled by hybrid OCD-SIMS metrology

Metrion
In-line SIMS



Proc. SPIE, Vol. 12955, 2024

Logic

Memory

Packaging

Dimensions

Materials

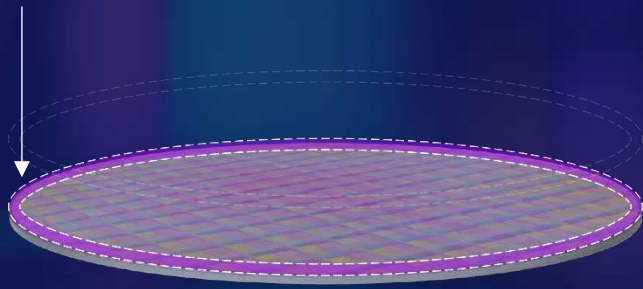
Chemical

Wafer Edge Imaging

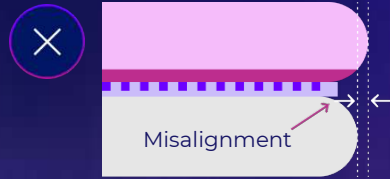
The Challenge

Monitor the thickness profile and defectivity on the wafer edge that is critical for all wafer bonding processes

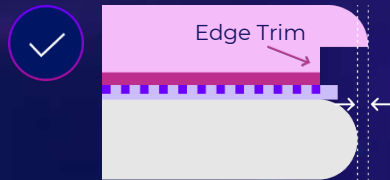
EBR measurement value



A. Post Bonding



B. Post Device Wafer Thinning



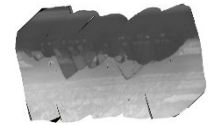
Secure Straight Edge



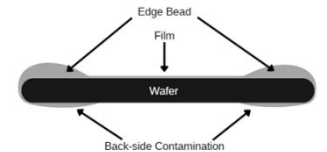
NOVA Solution

Integrated Metrology i580
Wafer-Edge Imaging

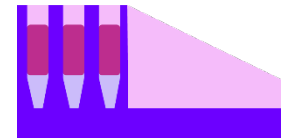
Macro Chipping



Edge Bead Removal



Edge Thickness



Logic

Memory

Packaging

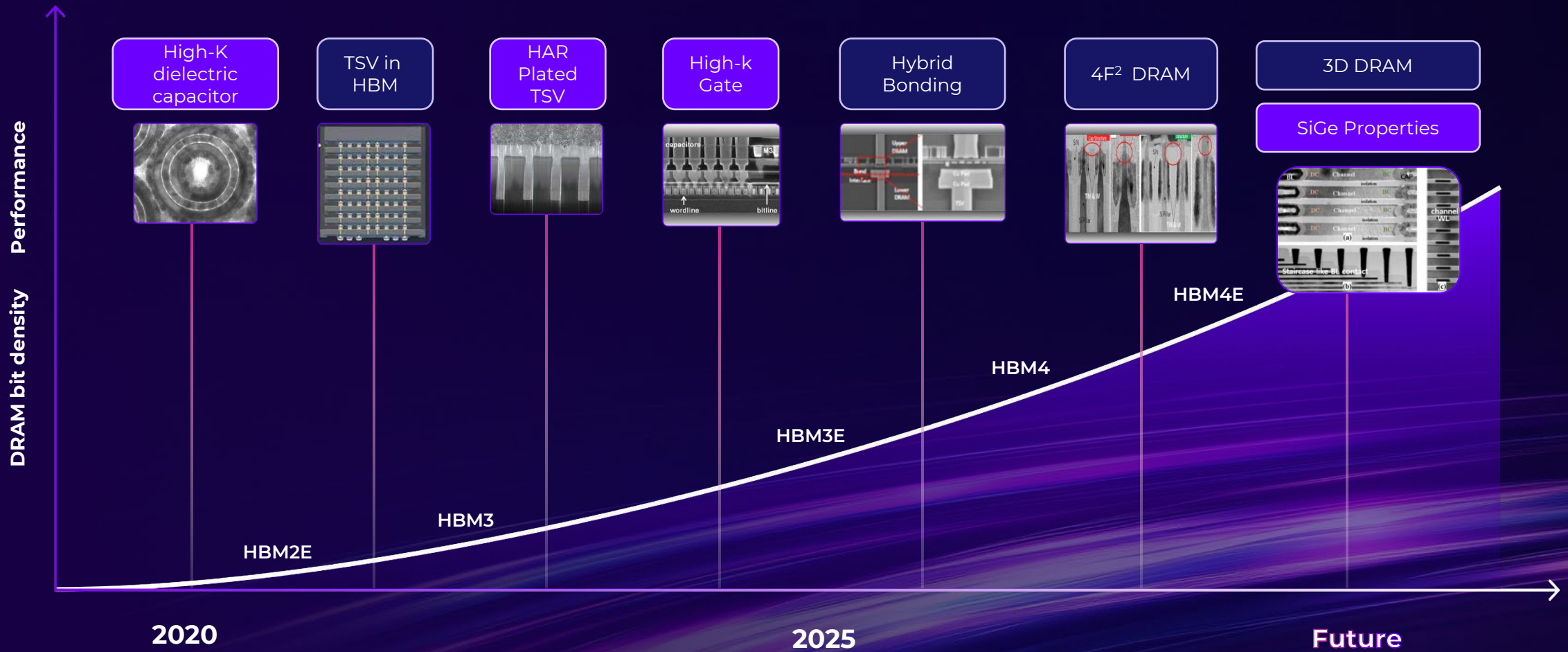
Dimensions

Materials

Chemical

Memory - Technology Enablers

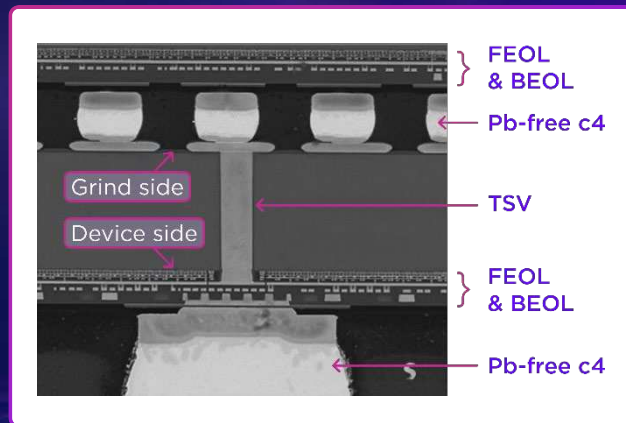
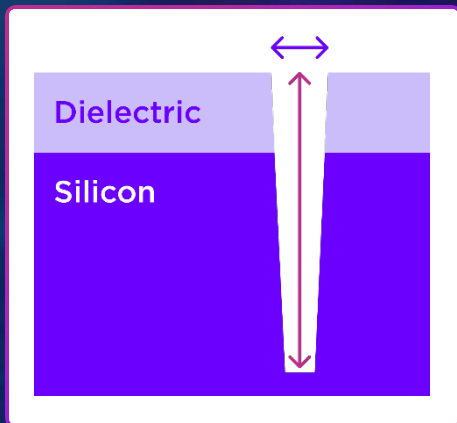
- Dimensions
- Materials & Chemical



TSV Etch

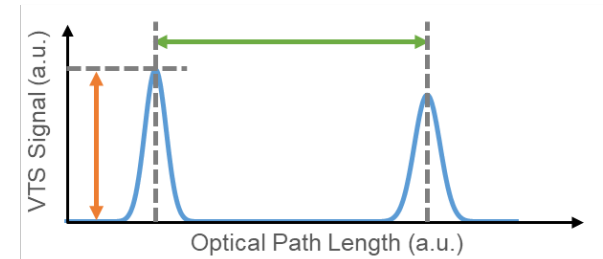
The Challenge

Monitor profile of deep, isolated TSVs, scaling down to smaller CDs and larger AR, in the vicinity of complex patterns



NOVA Solution

Prism Spectral Interferometry allows direct measurements of single TSV depth, CD, and bottom asymmetry

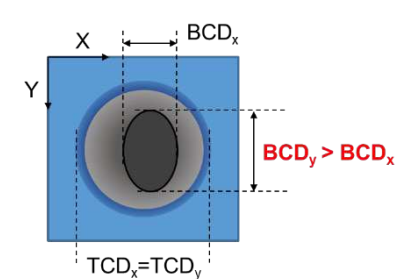


VTS spectral features directly correspond to geometrical parameters

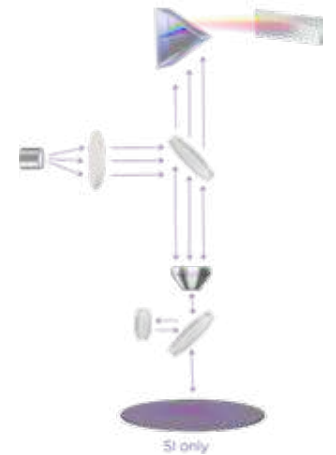
Side-View



Top-View

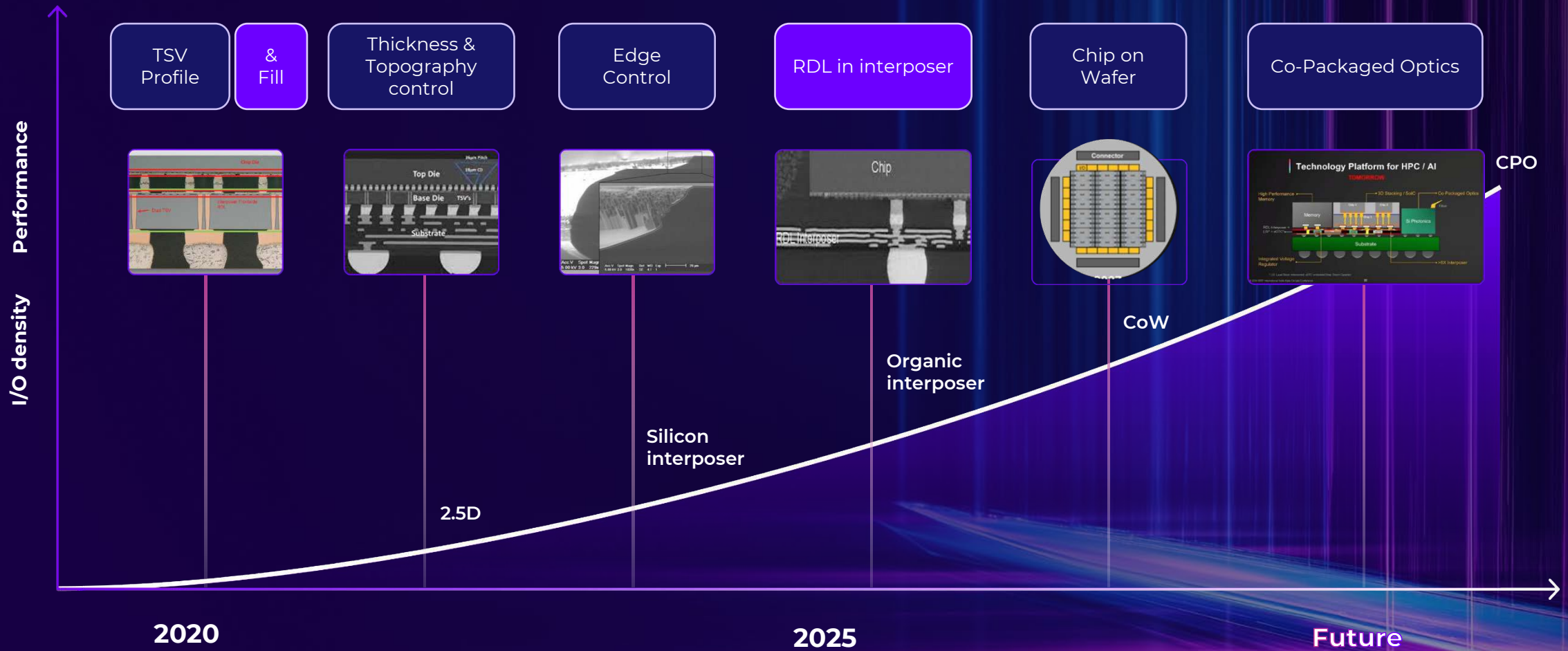


Prism
SI solutions
with VTS



Packaging - Technology Enablers

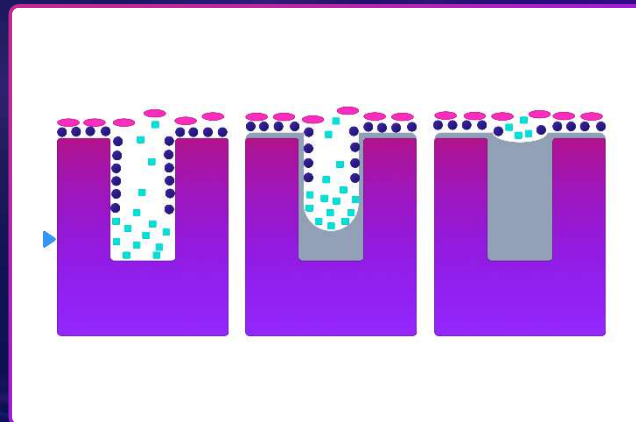
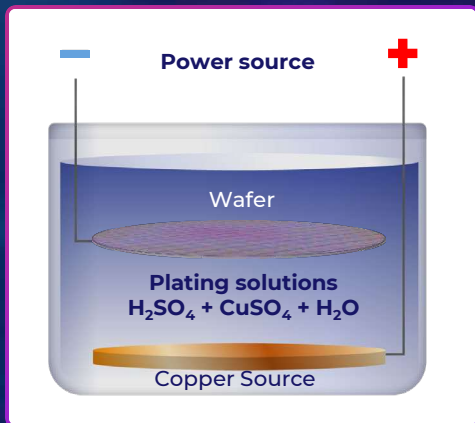
- Dimensions
- Materials & Chemical



Metal Plating

The Challenge

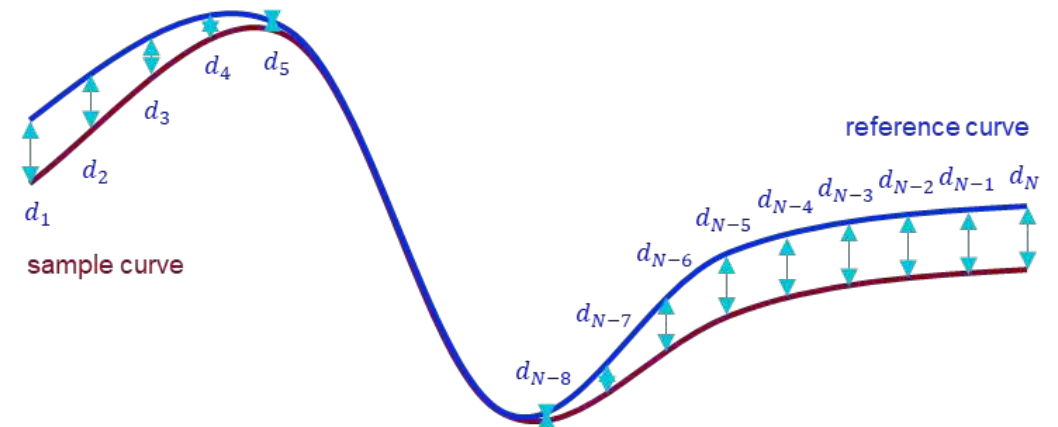
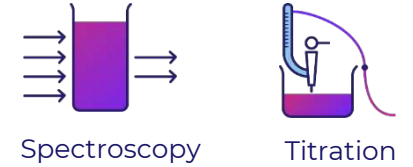
Online analysis of the plating bath's main components and monitoring of electroplating behavior



NOVA Solution

- Multiple metrologies measure organic and inorganic components
- Accurate and reliable dosing options for liquid concentrates
- Combined analysis results predict bath health

Ancolyzer Chemical metrology



Logic

Memory

Packaging

Dimensions

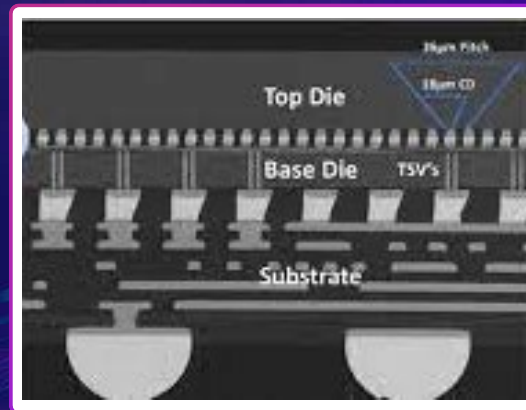
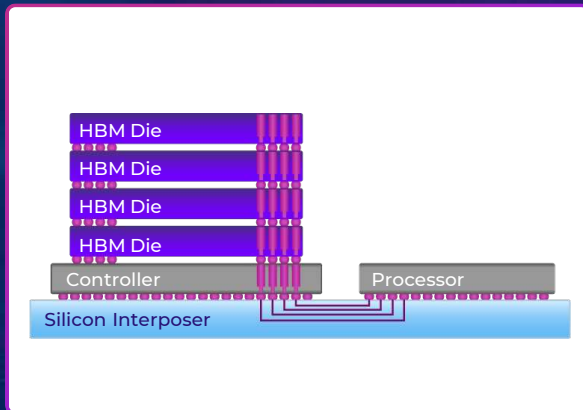
Materials

Chemical

Multilayer Total Thickness Variation

The Challenge

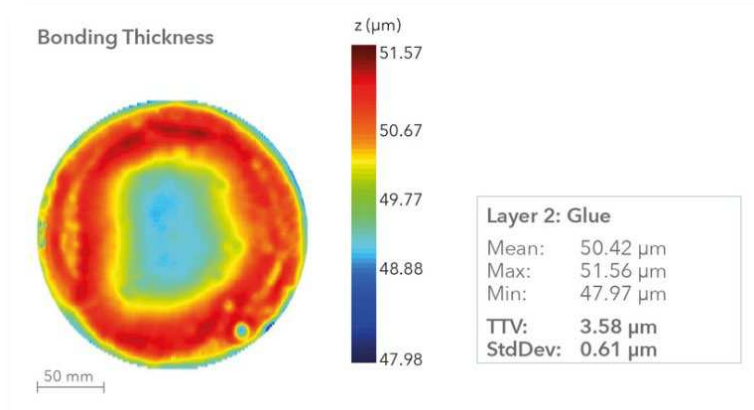
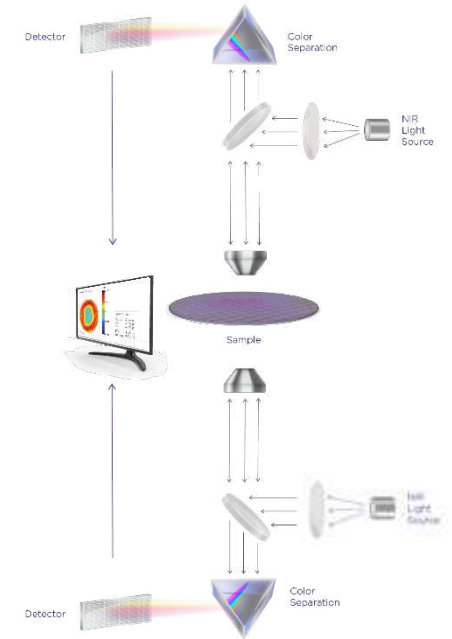
Process control of Total Thickness Variation of all layers in complex multilayer stacks on bonded/molded wafers



Nova WMC
Scanning Coherent
Interferometry

NOVA Solution

Generate full wafer map of each layer thickness, to display both Total Thickness Variation and process fingerprint after bonding and grinding



Logic

Memory

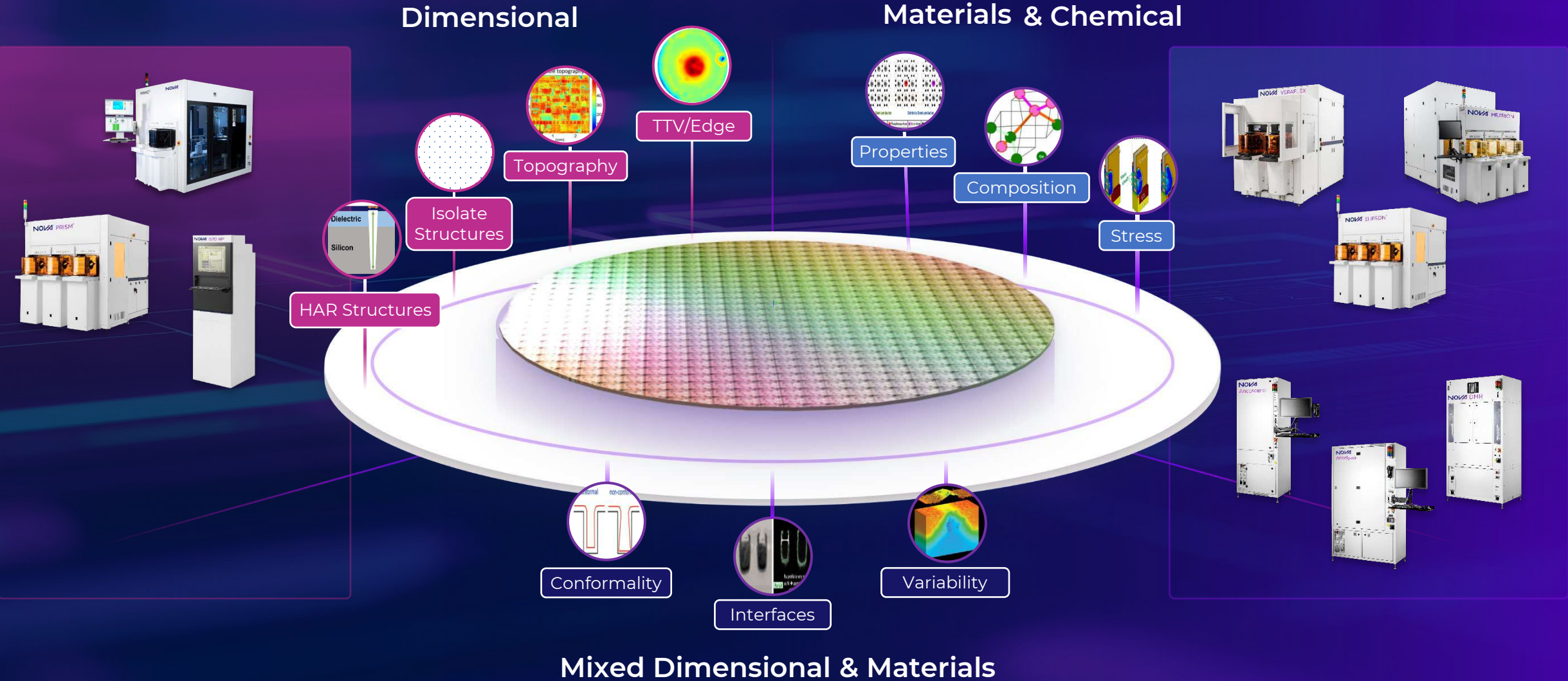
Packaging

Dimensions

Materials

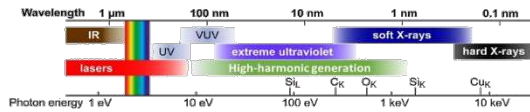
Chemical

Unique Solutions for Complex Challenges



Future Directions

Sources & Detectors



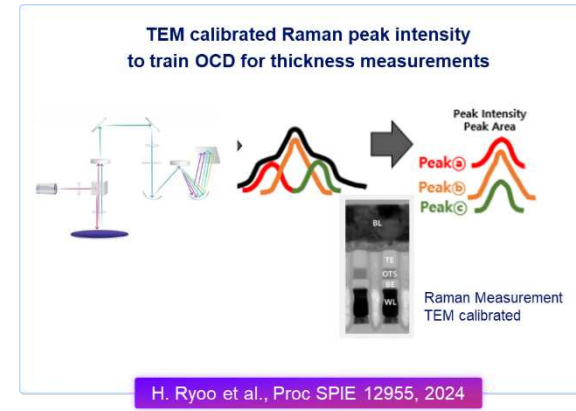
Different energy sources, improved detectors & extended energy ranges

Material Metrology Proliferation



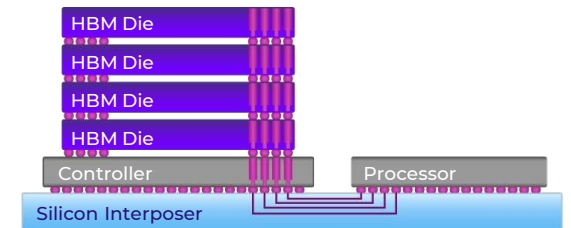
Continue and enhance materials metrology productivity & performance to increase HVM proliferation and improve sustainability

Hybrid Metrology



Leverage AI to solve closely connected material & dimensional challenges

Advanced Packaging



Expanding advanced packaging application footprint with PRISM, WMC and future technologies

Summary

Trends

New applications enabled by IC ecosystem

Performance demand drive new 3D architectures and materials

Logic:

Nanosheets, BSPD, CFET

Memory:

HBM, Hybrid Bonding, 4F², 3D DRAM

Packaging:

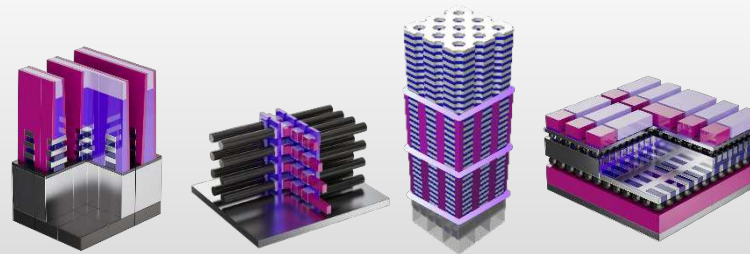
2.5D, 3D & CPO

Challenges

AI in the cloud and edge driving IC performance requirements

Dimensional & material innovation create multitude of challenges

Across all device segments



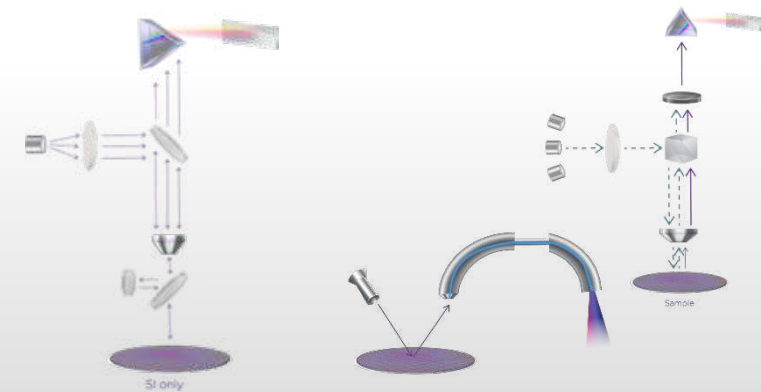
Solutions

Unique technology solutions

Enhanced modeling

Multiple use cases proven in HVM

Future directions to match growing challenges





Financial Strength & Long-Term Growth

Guy Kizner, CFO

March 2025



Agenda

- Historical value creation

- What will drive our future success

- What's Next: updated financial model

Outperforming at Every Step

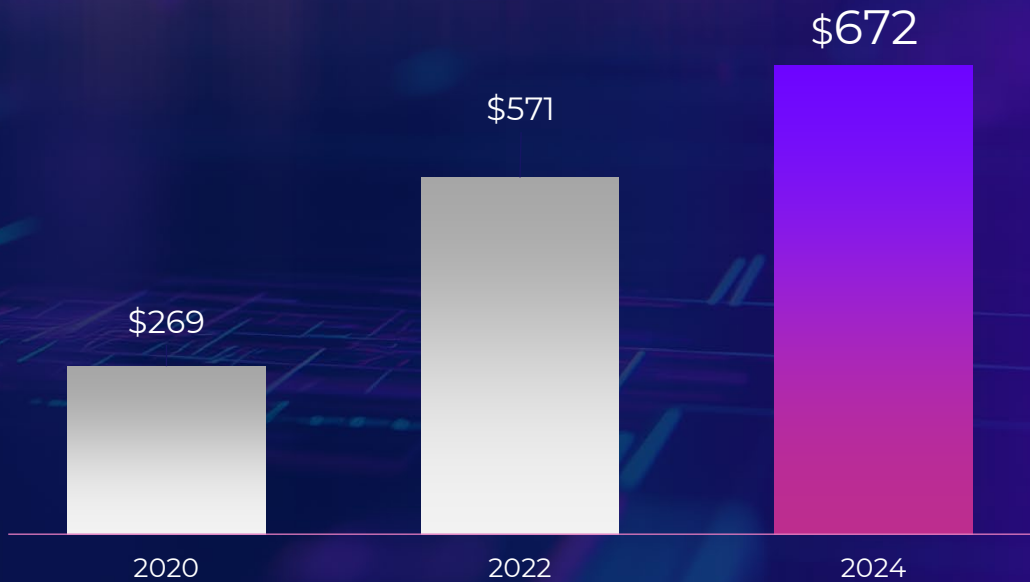
NOVA[®]  **PROCESS INSIGHT**



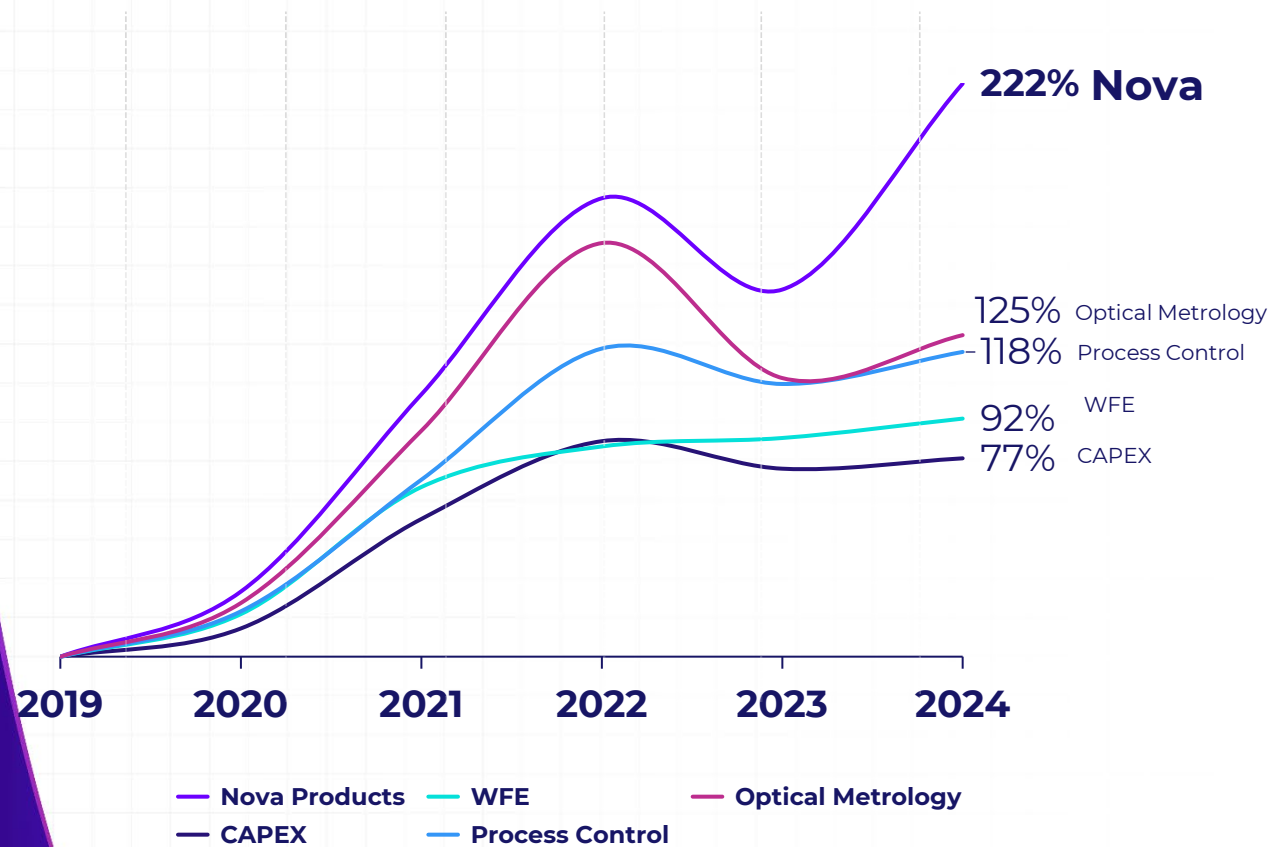
Business Excellence

Doubling revenue every 4-5 years

Revenue (\$M)



2019-2024 Growth

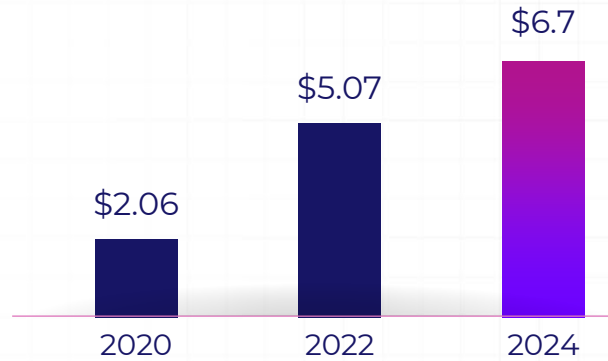


Driving Profitability

EPS

+34%

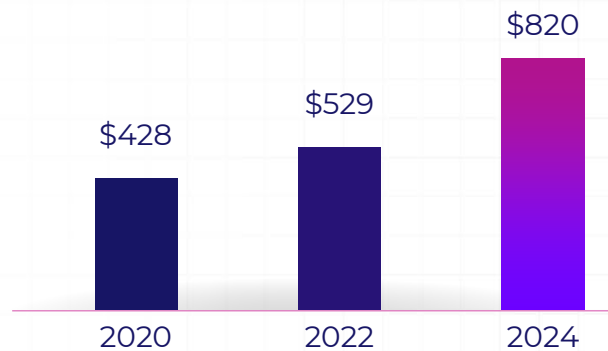
CAGR



Cash Reserves

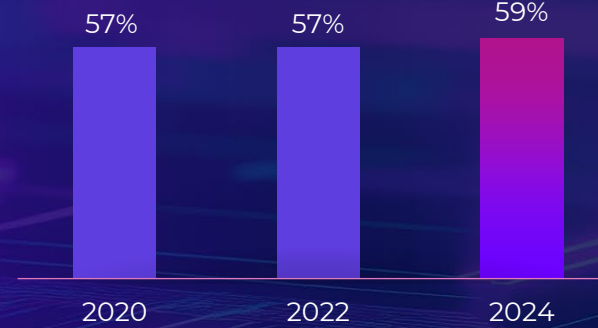
+18%

CAGR



Maximizing Shareholder Value

Gross Margin

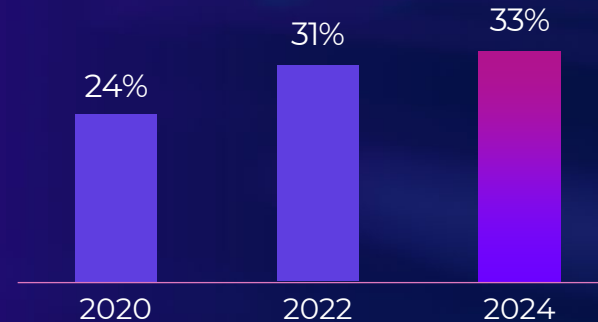


GM

+2

Points

Operating Margin



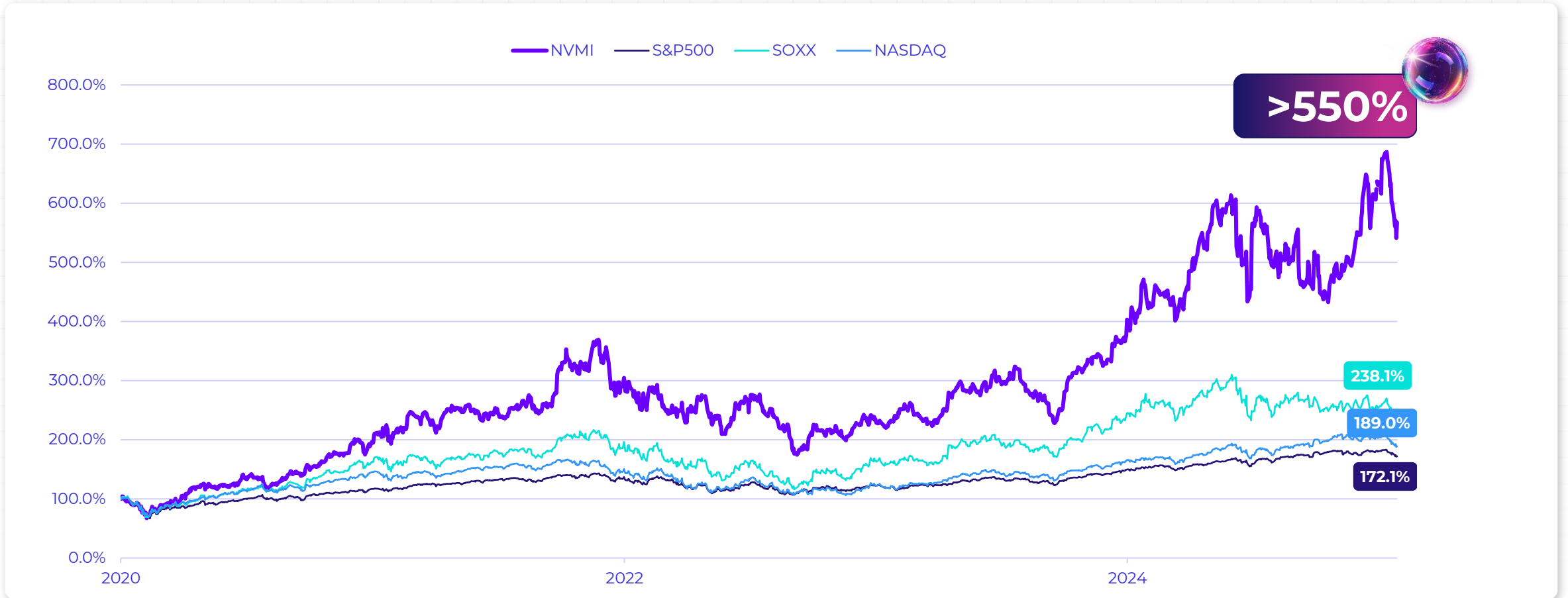
OM

+8

Points

Driving Shareholder Return

Nova stock performance vs. S&P500, SOXX, NASDAQ



As of March 9th 2025

Foundation for Next Leap

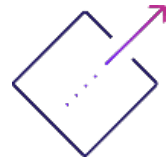
NOVA®
PROCESS
INSIGHT



Building Blocks Towards the Next Leap



Innovation



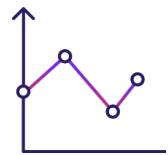
Unique
Position



Installed-Base



Capital
Allocation

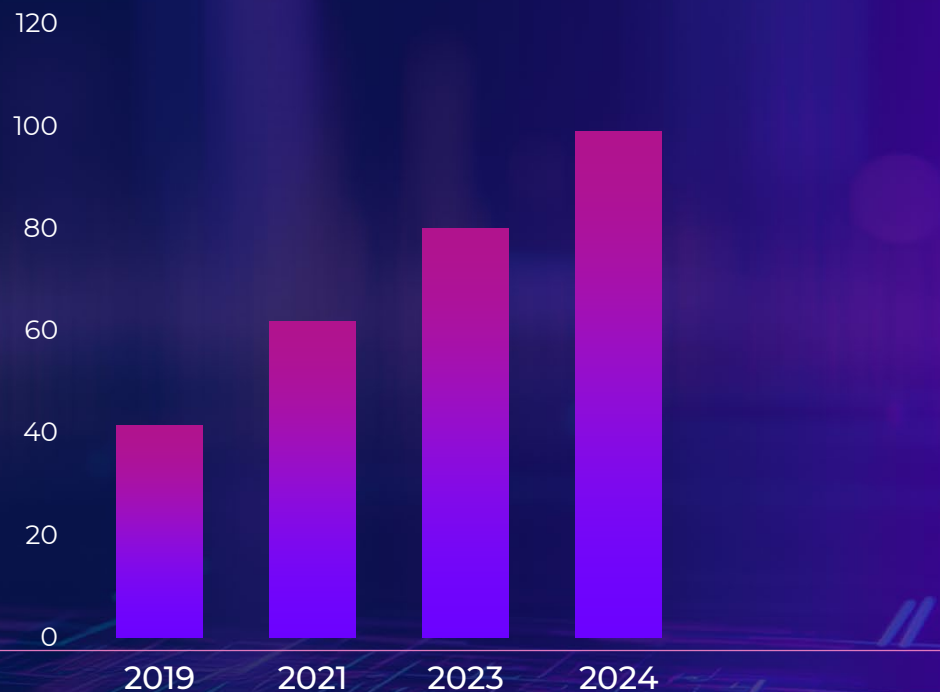


Operational
Excellence

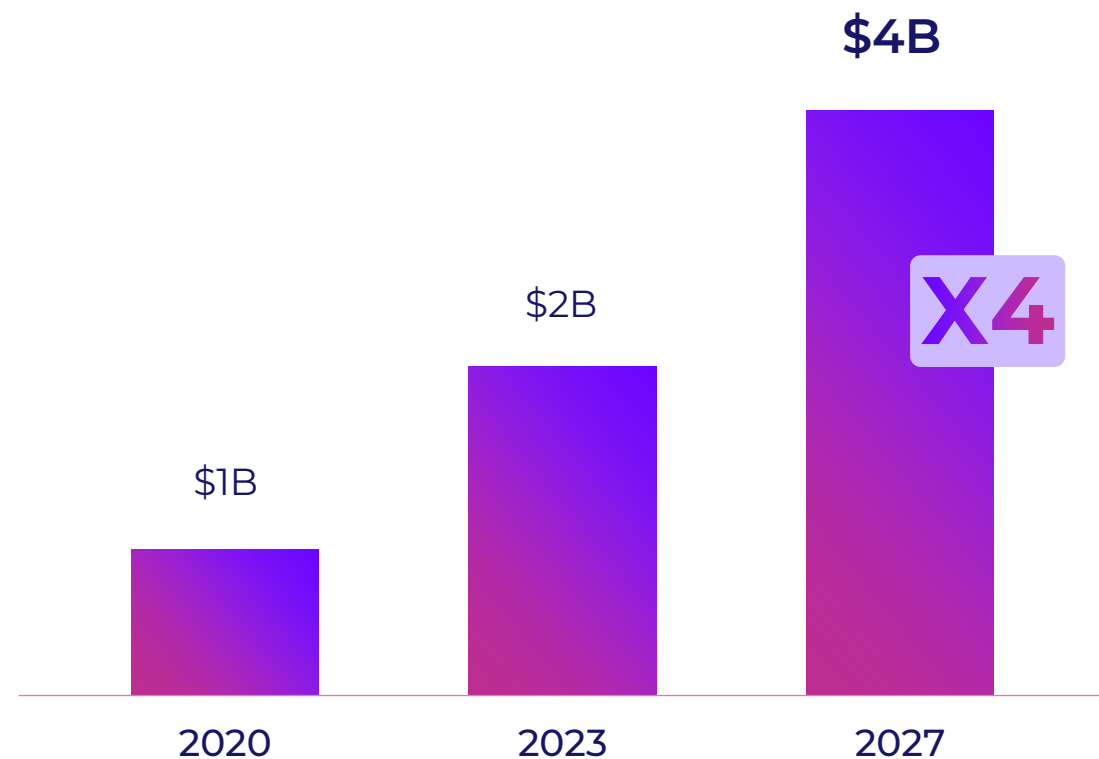
Innovation Fueling

R&D Investment

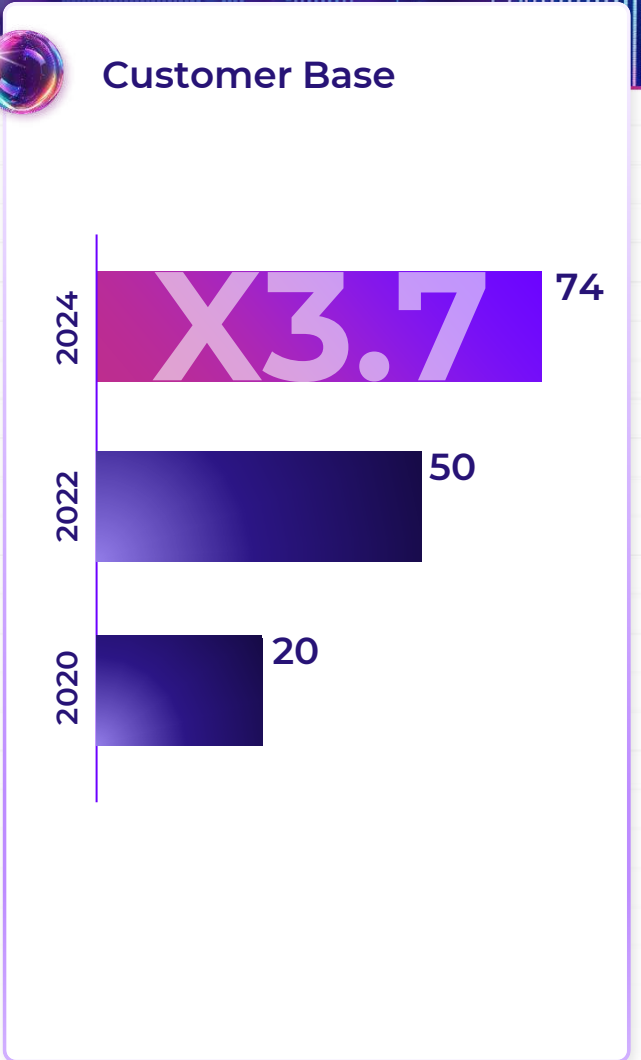
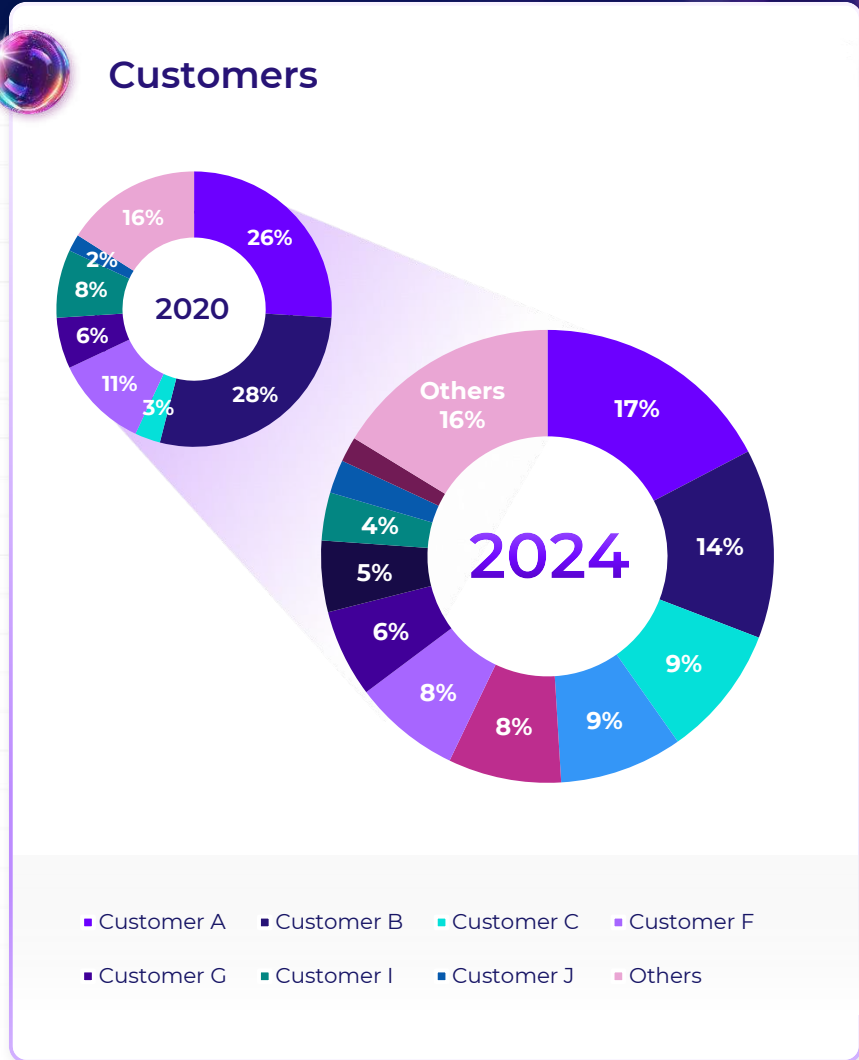
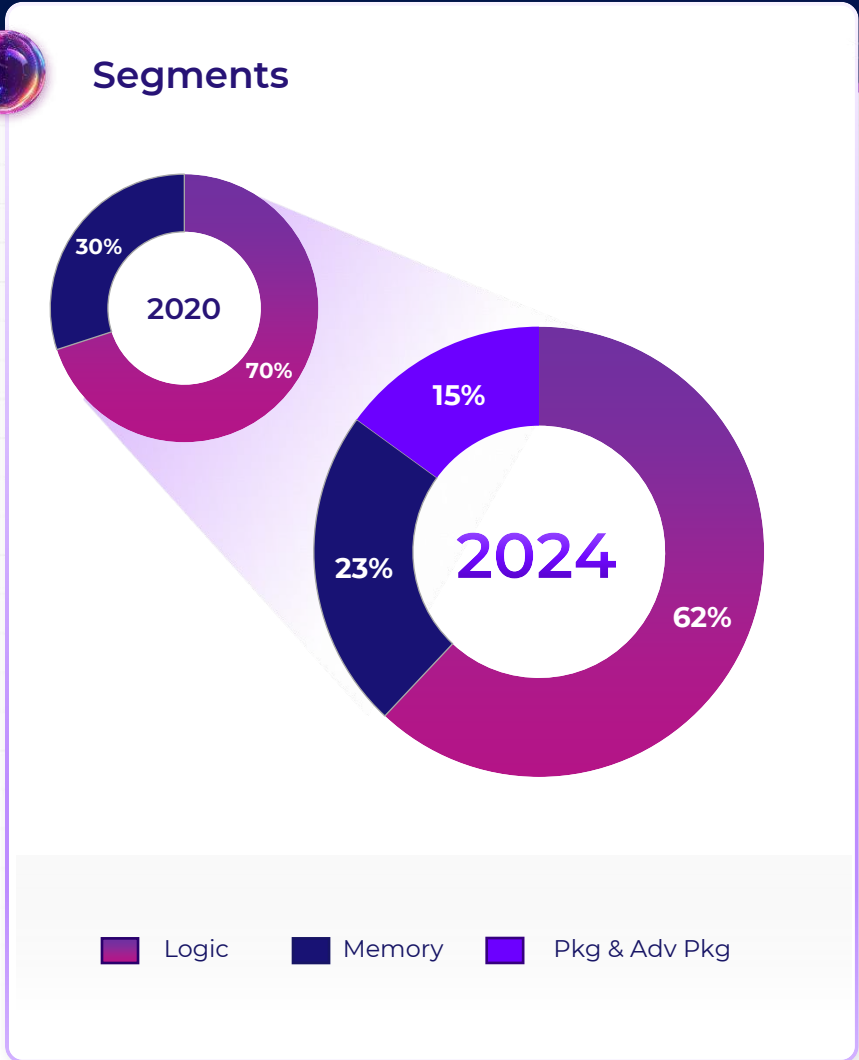
(Net, \$M)



TAM Growth



Diverse Customer Base & Revenue Streams



Operational Excellence

OUR APPROACH

Implementing a disciplined cost structure to drive profitability

Lean manufacturing principles to reduce waste and increase throughput

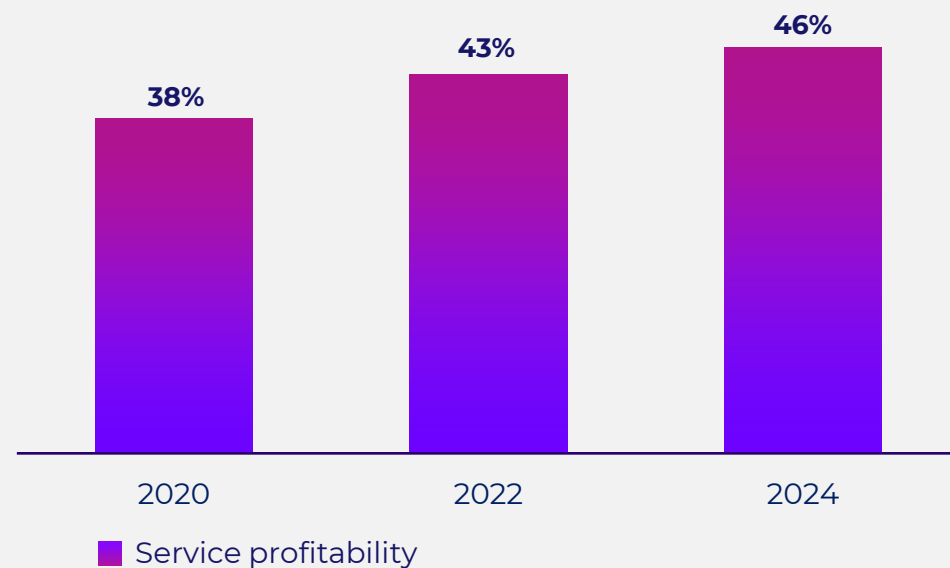
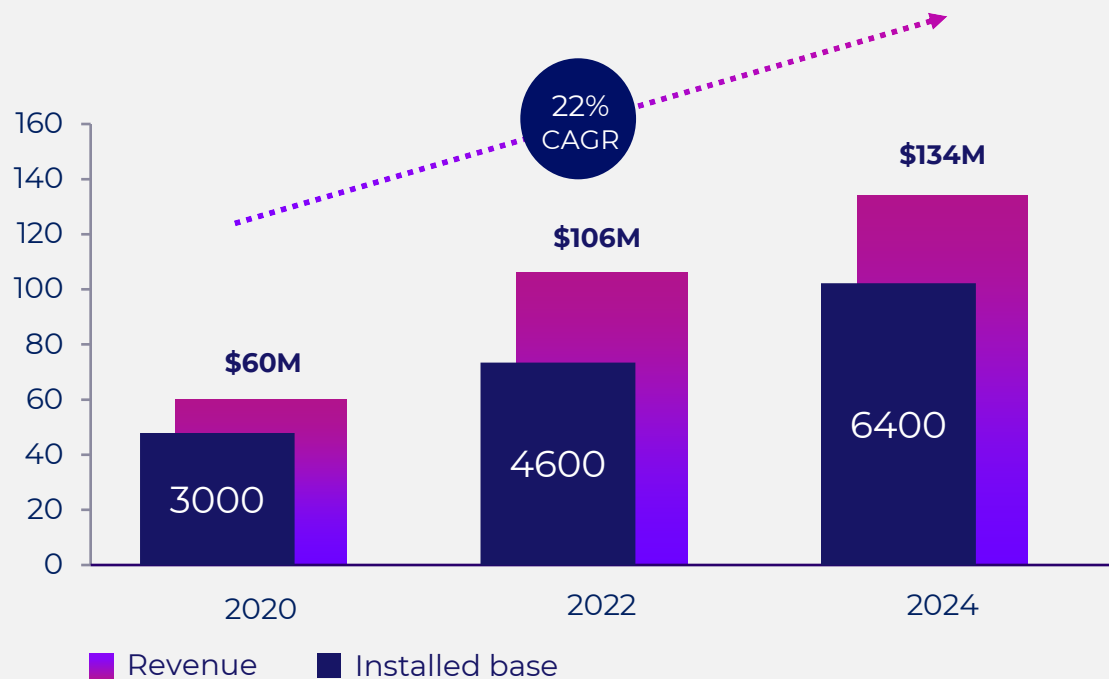
Rightsizing the organization for agility and efficiency

Building standardized processes and systems for global efficiency and consistency

Fostering a culture of continuous improvement

A Growing Installed Base

Targeting Double-Digit Annual Growth

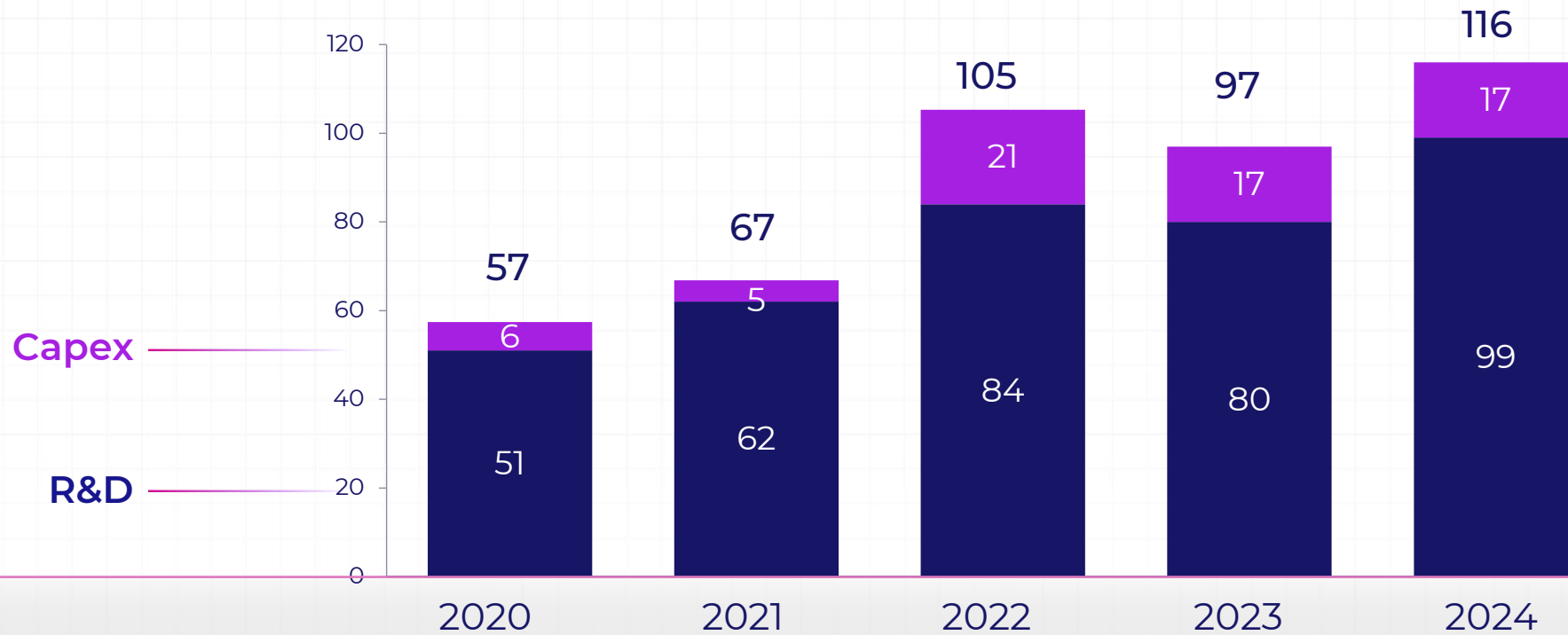


Service revenue growth accelerates profitability, enhancing margin resilience and long-term value.

Strategic Capital Allocation

Continued Shareholder Value Creation

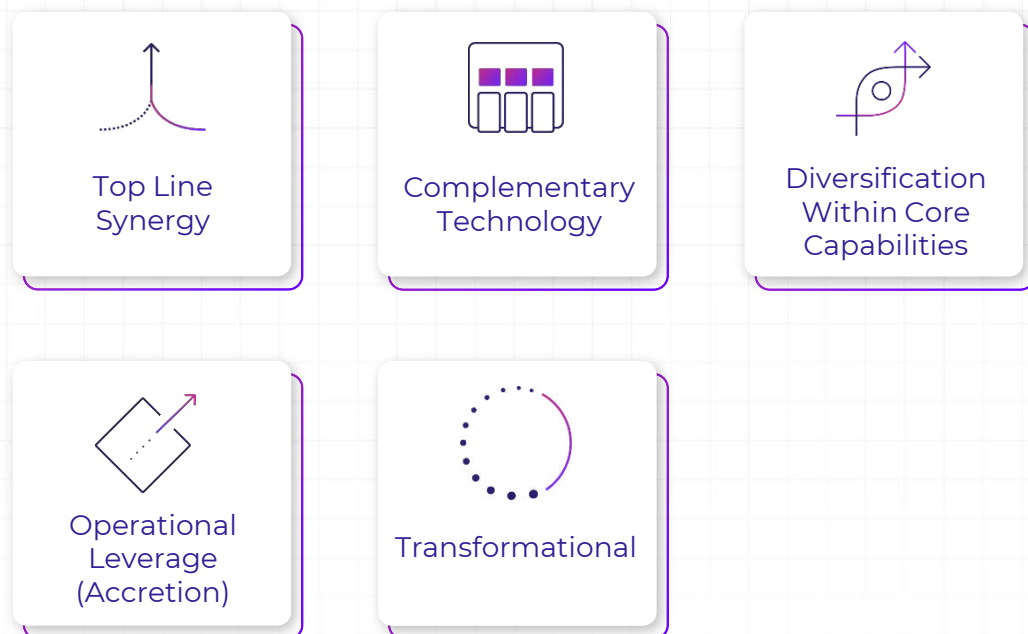
Investment in Our Business Through R&D & Capex



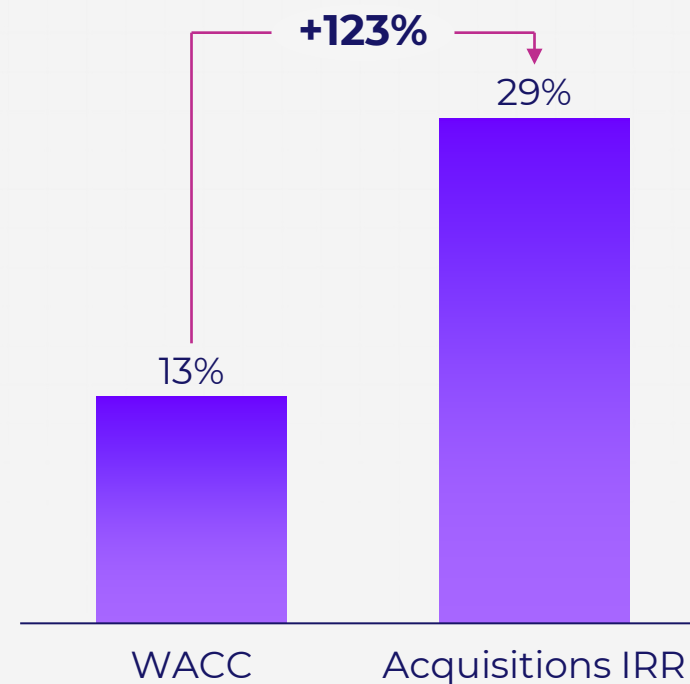
Strategic Capital Allocation

Continued shareholder Value Creation

Screening Elements



Return on Acquisition Investment (ROAI) A successful Track Record



Strategic Management in a Changing Landscape

Addressing Multiple Factors



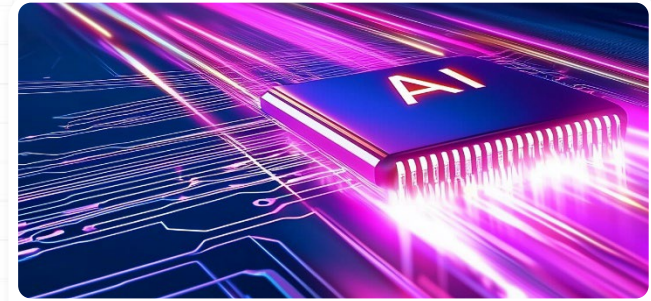
Geopolitical

- Compliance & regulatory adaptation
- Enhance exposure to advanced nodes
- Business continuity plan
- Diversified supply chain
- Multiple production sites



Exchange Rates

- Natural hedging through global operations
- Financial hedging strategies



Market Volatility

- Diversified position in the market
- Agile business model

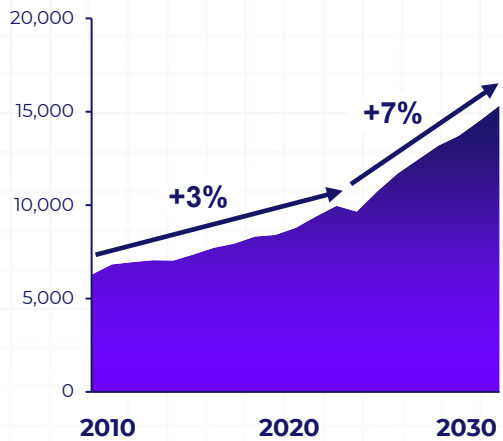


What's Next?

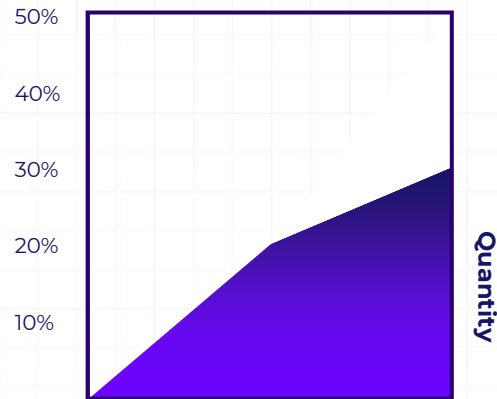


The Way We Model

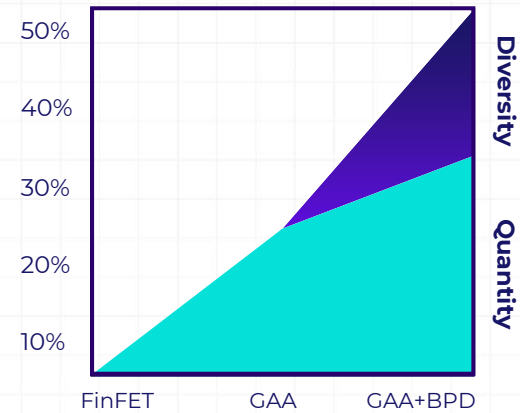
End Markets and CAPEX Spending



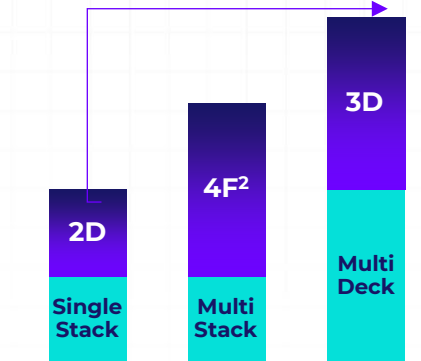
Implication on Process Control



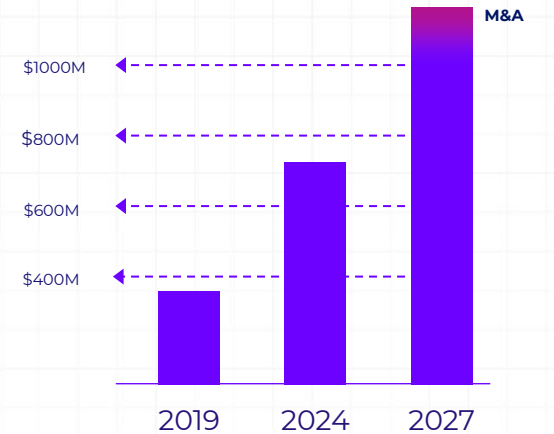
Bottom-Up Process on Product Line Level



X2 TAM Growth



Nova's Business Plan



Model Scenarios

Industry Catalysts

Industry Driver	Growth Accelerators	Market Dynamics to Watch
WFE Spending	8% YoY Strong foundry & logic investments driving demand for advanced metrology	<3% YoY Softening CAPEX cycles could delay new tool adoption
Advanced Packaging Growth	15%-20% YoY Strong HBM & chiplet demand	<5% YoY Cost & supply constraints slowing adoption
Wafer Capacity	7% YoY New fabs ramping faster	3% YoY Slower utilization rate
Inflection Points	Hybrid Bonding, 4F2 3DRAM, Multistack Backside Power Delivery, GAA/CFET	Delays in industry roadmap

Update Financial Target Model

▲ Operating Margin
28%-33% (27%-31%)

▲ Earnings
~10\$ (>7\$)

Revenue
\$1B

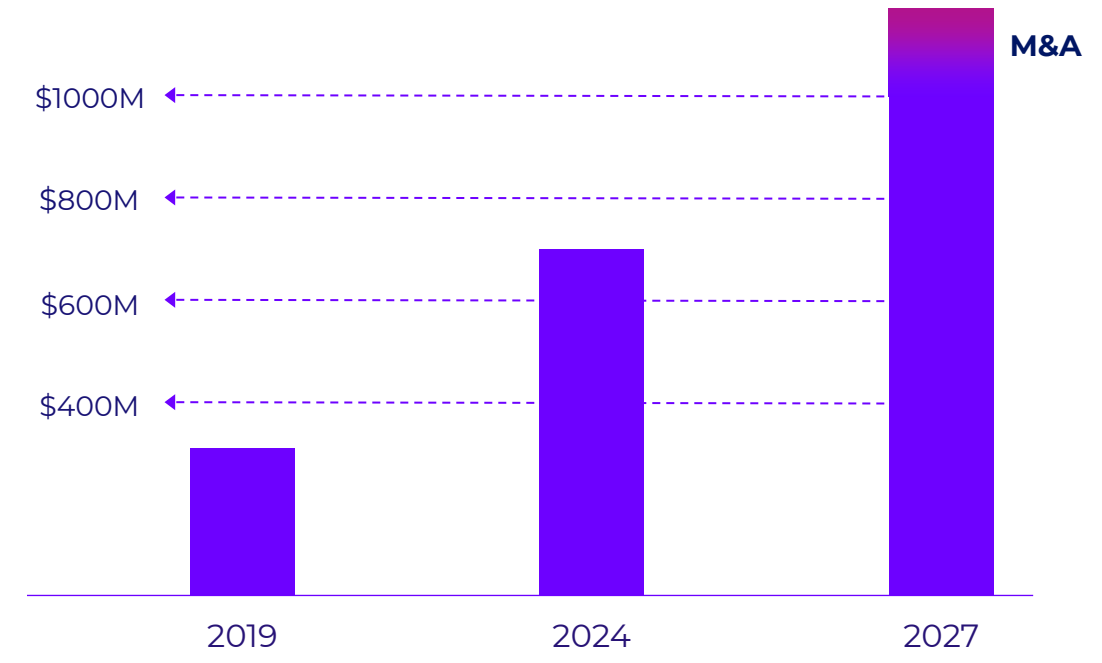
R&D Investment
15%-17%
 (15%-18%)

Tax
15%
 (14%)

Gross Margin
57%-60%
 (57%-59%)

SG&A
12%-14%
 (13%-15%)

Share Count
32M



Strategic Capital Allocation

\$1.7^B



Working Capital

\$100M (30% of revenues)



Capital Expenditures

\$100M



Share Repurchases

\$100M



R&D Expenditures

\$400M



M&A Opportunities

\$1^B

Thank You

NOVA[®] PROCESS
INSIGHT

