

Foundry Business Introduction

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1. Business Update

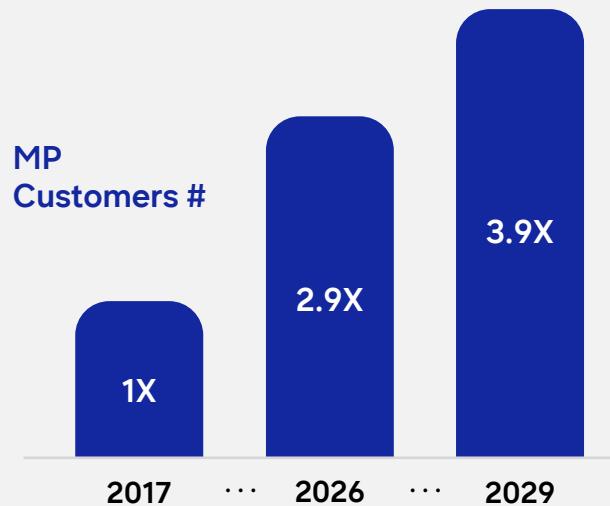
The background is a solid blue color. There are several white decorative lines: a horizontal line that starts from the left edge, curves upwards at the end, and then continues as a straight line to the right; another horizontal line that starts from the left edge, curves upwards at the end, and then continues as a straight line to the right; and a third horizontal line that starts from the left edge, curves upwards at the end, and then continues as a straight line to the right.

Financial highlight

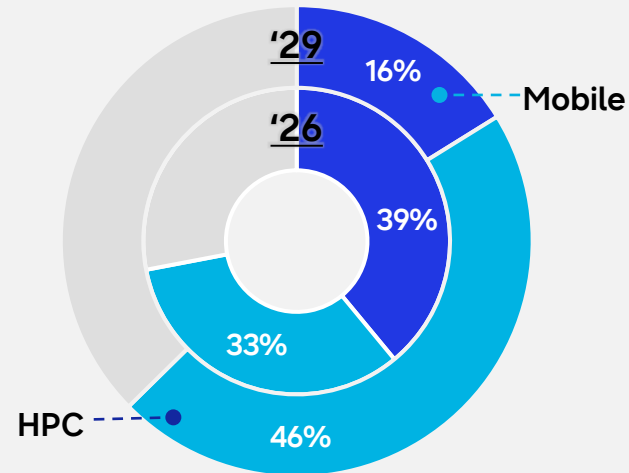
- Continued Growth through Customer Base Expansion and Application Diversification

Driving continued revenue growth through expanded customer collaboration and business diversification across applications such as AI/HPC.

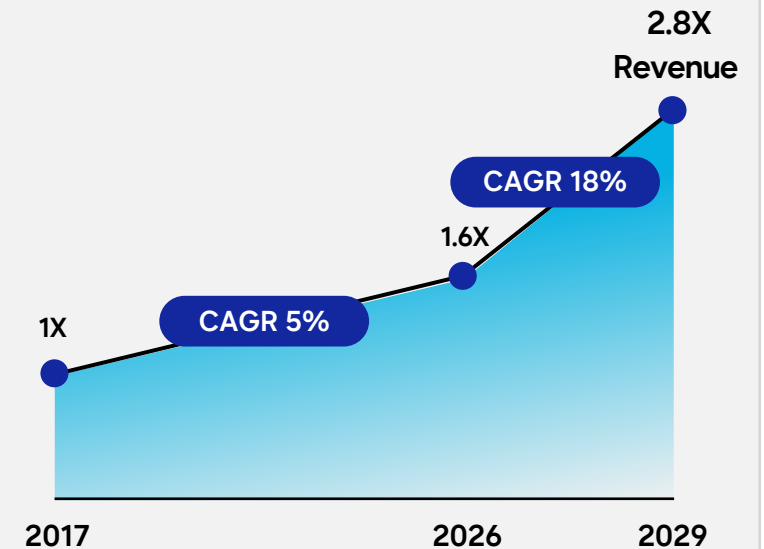
Customer Engagements



Balanced Applications Portfolio



Revenue Growths



Business Milestones

- Samsung Foundry's Technology Leadership Shaping a History of Innovation

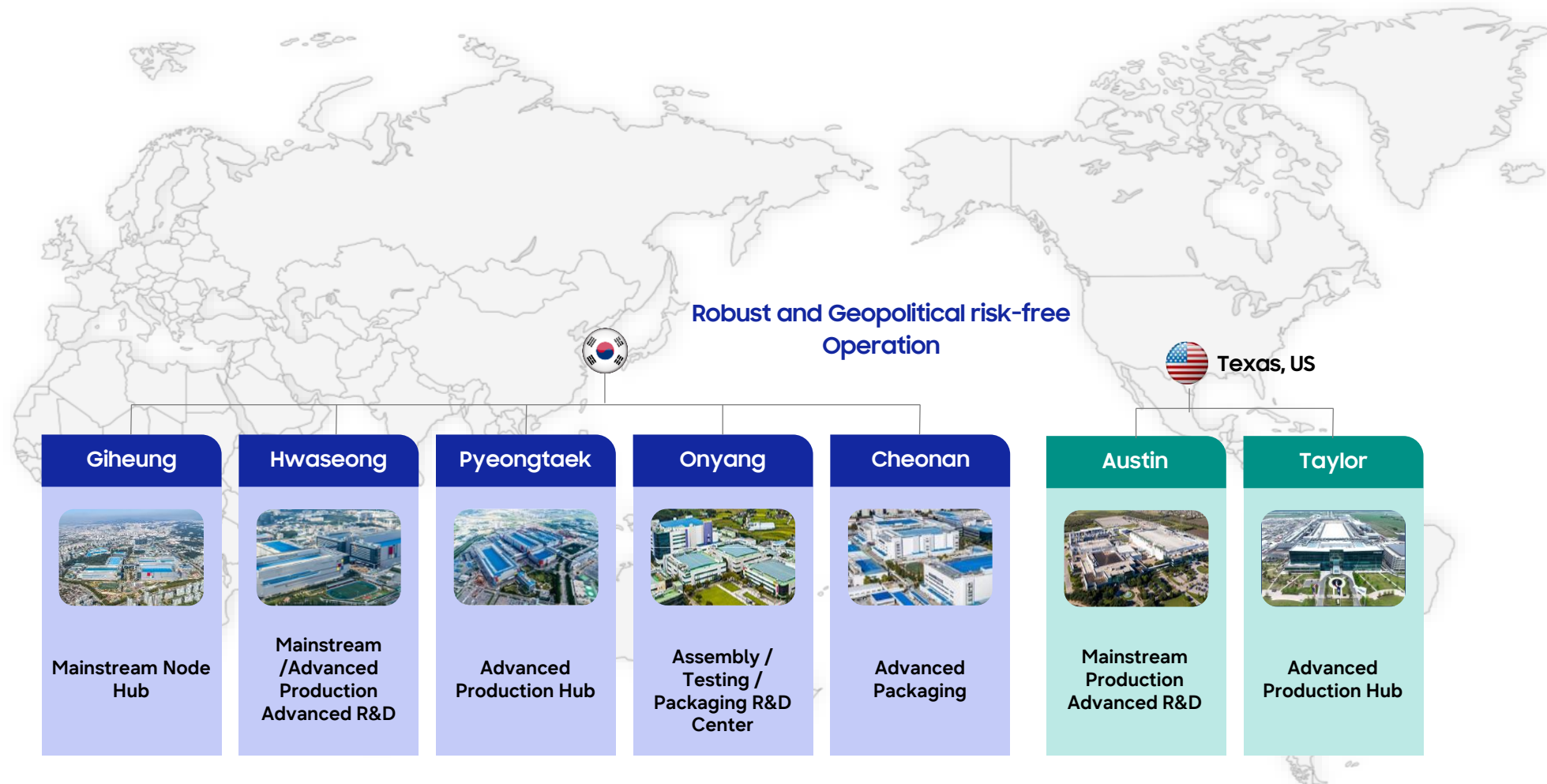
Advancing leading-edge process technologies and manufacturing capabilities through continuous technological innovation, strengthening foundry competitiveness.



Manufacturing Update

- Operating an integrated global manufacturing network spanning three sites in Korea and two sites in the U.S.

Front-end processes across the Giheung, Hwaseong, Pyeongtaek, Austin, and Taylor campuses, with back-end processes performed at the Onyang and Cheonan campuses.



2. Market Opportunities

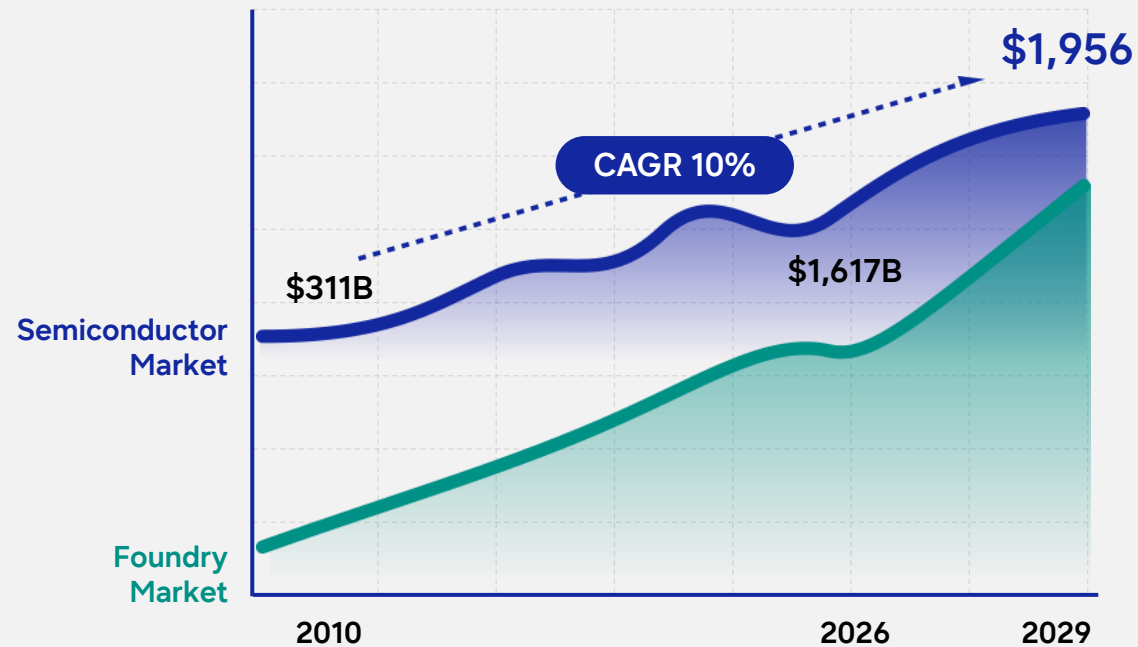
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Industry Transformation

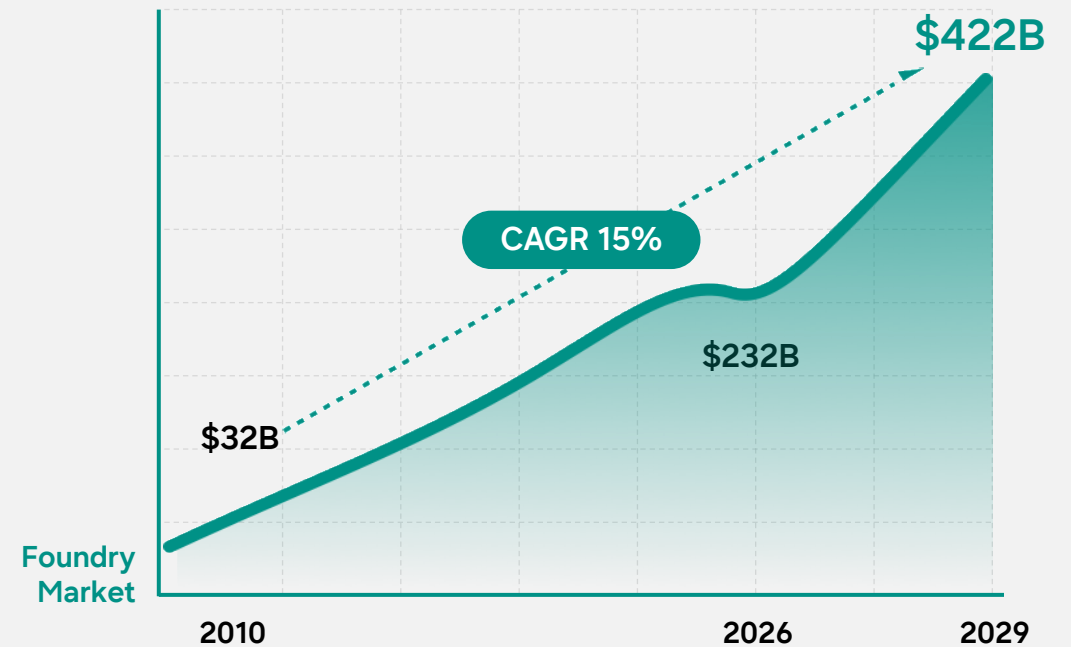
- Accelerating Growth of the Foundry Market Alongside the Expansion of the Semiconductor Industry

Continued semiconductor industry growth driven by the expansion of advanced applications such as AI, HPC, and Automotive, with the foundry market expected to outpace the overall semiconductor market amid growing demand for leading-edge process technologies.

Semiconductor Market



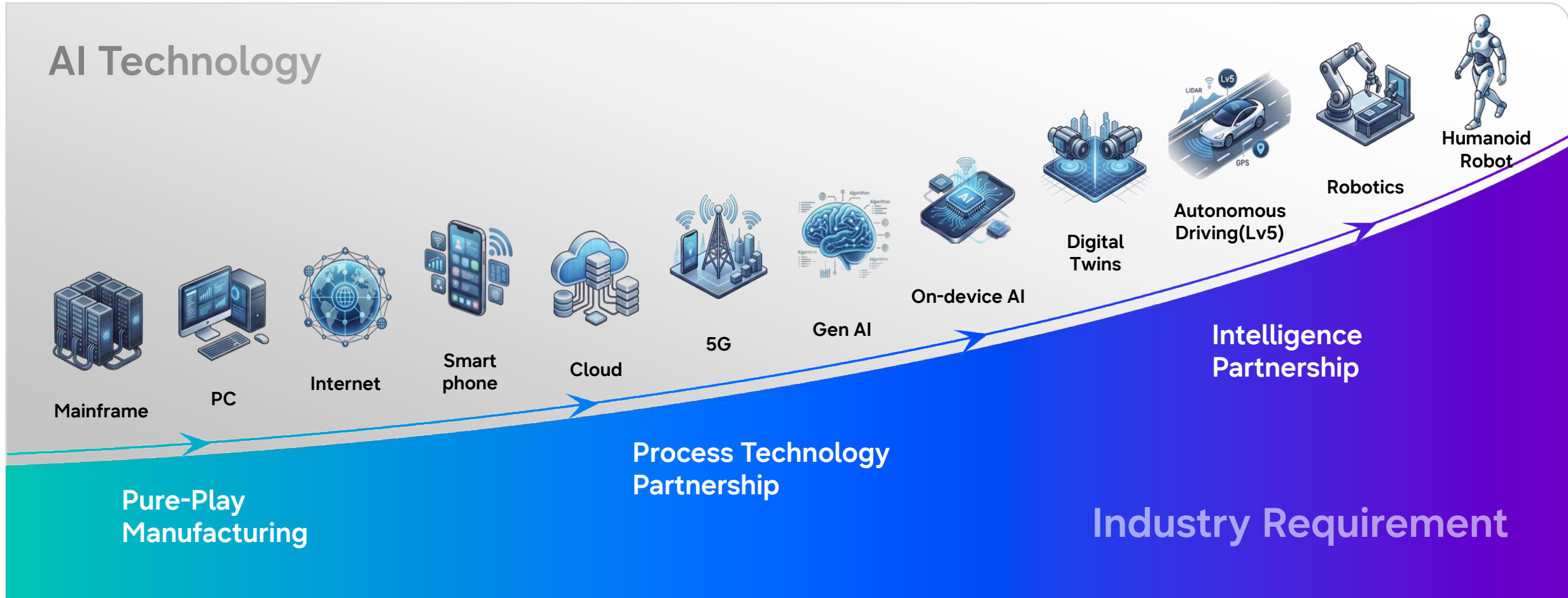
Foundry Market



AI Technology Trends & Requirements

- AI Expanding Beyond the Digital World into the Physical World

Evolving customer needs beyond manufacturing toward integrated solutions and partnerships that enable AI innovation, driven by advances in AI technology and expanding application areas.



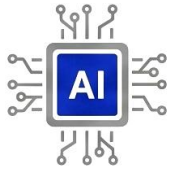
Semicon Paradigm Shifts & Solutions

- Foundry Solutions for the Evolving Semiconductor Paradigm

Rapid shifts in the semiconductor market paradigm driven by AI, creating demand for differentiated foundry solutions addressing diverse applications and evolving customer needs.

Semiconductor Paradigm Shift

The AI Paradigm Shift Is Driving a Transformation in the Semiconductor Industry



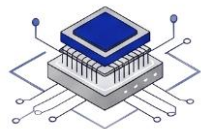
From General-Purpose to Specialized

Diversification of AI applications and increasing differentiation in industry-specific and customer-specific requirements.



From Performance to Efficiency

Increasing importance of data center power consumption and operating costs beyond semiconductor cost.



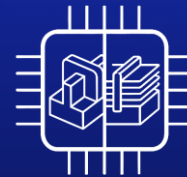
From Chips to Platforms

Growing demand for system-level solutions integrating heterogeneous silicon beyond single-chip solutions.

Foundry Solutions to Lead the Paradigm Shift

Distinctive Positioning

A Unique Portfolio
Combining Leading-Edge
GAA Technology with a
Strong Mature-Node
Business Based on FinFET
and Planar Technologies



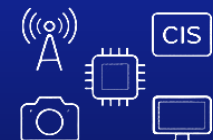
AI/HPC Focus

Accelerating
Engagement with
Global AI/HPC and
CSP Customers

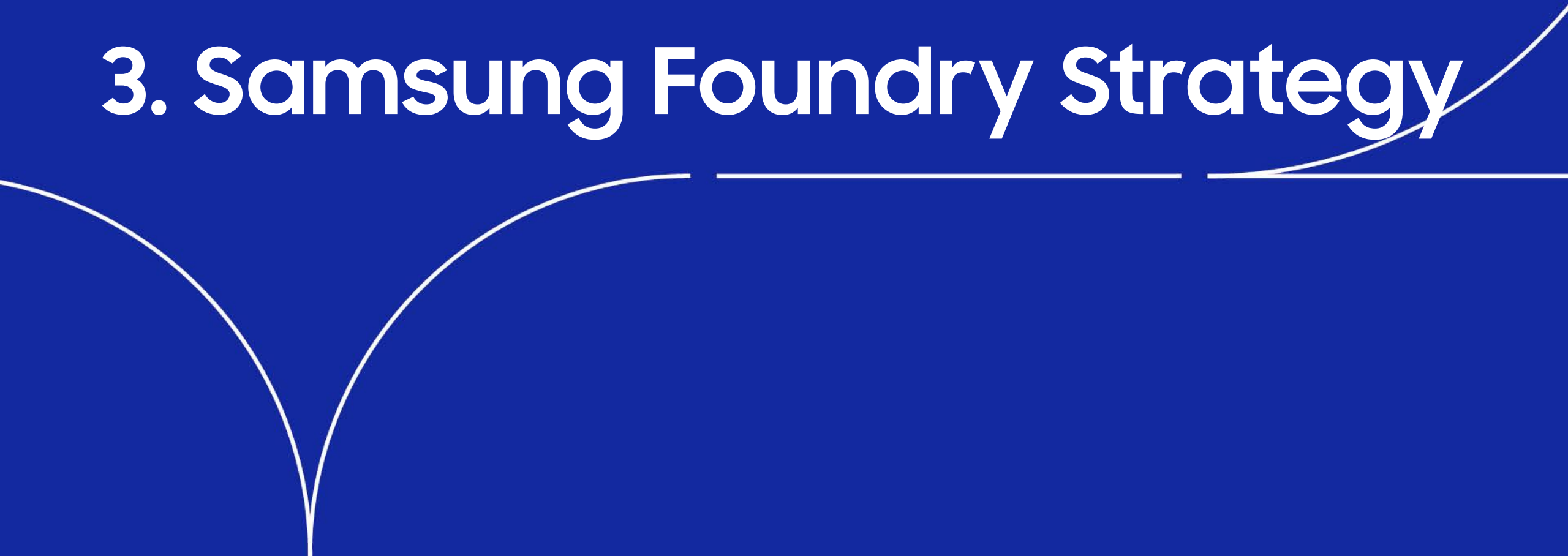


Strengthening Specialty Technologies

Focused on Developing
Customer- and
Application-Specific
Technologies Across RF,
CIS, DDI, PMIC, Silicon
Photonics, ISC, and More



3. Samsung Foundry Strategy

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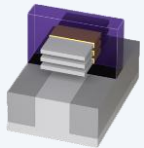
Technology Leadership

- A Broad Technology Portfolio Spanning Logic Technologies and Diverse Applications

Providing a stable technology foundation from product development through mass production with a broad portfolio tailored to diverse customer and application requirements.

Logic Technology

GAA

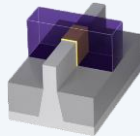


1.4nm

2nm

3nm

FinFET



4nm

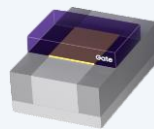
5nm

7nm

8nm

14nm

Planar



28nm

45nm

65nm

Specialty Processes & Applications

SPECIALTY PROCESS



eMRAM



eRRAM



eFlash



DDI



RF



CIS



PMIC



mmWave



Automotive

AI/HPC Specialty



SiPh



ISC

Tailored Offerings for Diverse Applications

- Application-Optimized Processes & Services

Delivering application-optimized processes and services tailored to the specific characteristics and customer requirements of AI/HPC, Mobile, Automotive, IoT, and more.

SAMSUNG FOUNDRY TOTAL DESIGN PLATFORM

HPC / AI



5/4/3/2nm

- High Performance IPs
- Design Methodology for HPC/AI
- Advanced PKG (3D, 2.5D, 2.3D - Chiplet)

Mobile / 5G



14/8/5/4/3/2nm

- Critical IPs for Mobile/5G
- Mobile Design Methodology

Automotive



14/8/5/4/2nm

- Automotive-Qualified IPs
- Design for ISO 26262/AEC-Q100
- Automotive Service Package (ASP)

IoT



14/8/5/4nm

- Critical IPs for IoT
- Ultra Low Voltage Design Methodology
- Cost & Form-factor Optimization

Total Solutions

- Integrated, Optimized System Solutions from Custom Chip Design to Logic, Memory, and Advanced Packaging

Enabling product realization through the seamless integration of design IP, advanced packaging, and a global partner ecosystem.

Semiconductor Products & IP



Custom Design



SRAM



IP



Memory



Logic



Specialty

Advanced Packaging & Ecosystem



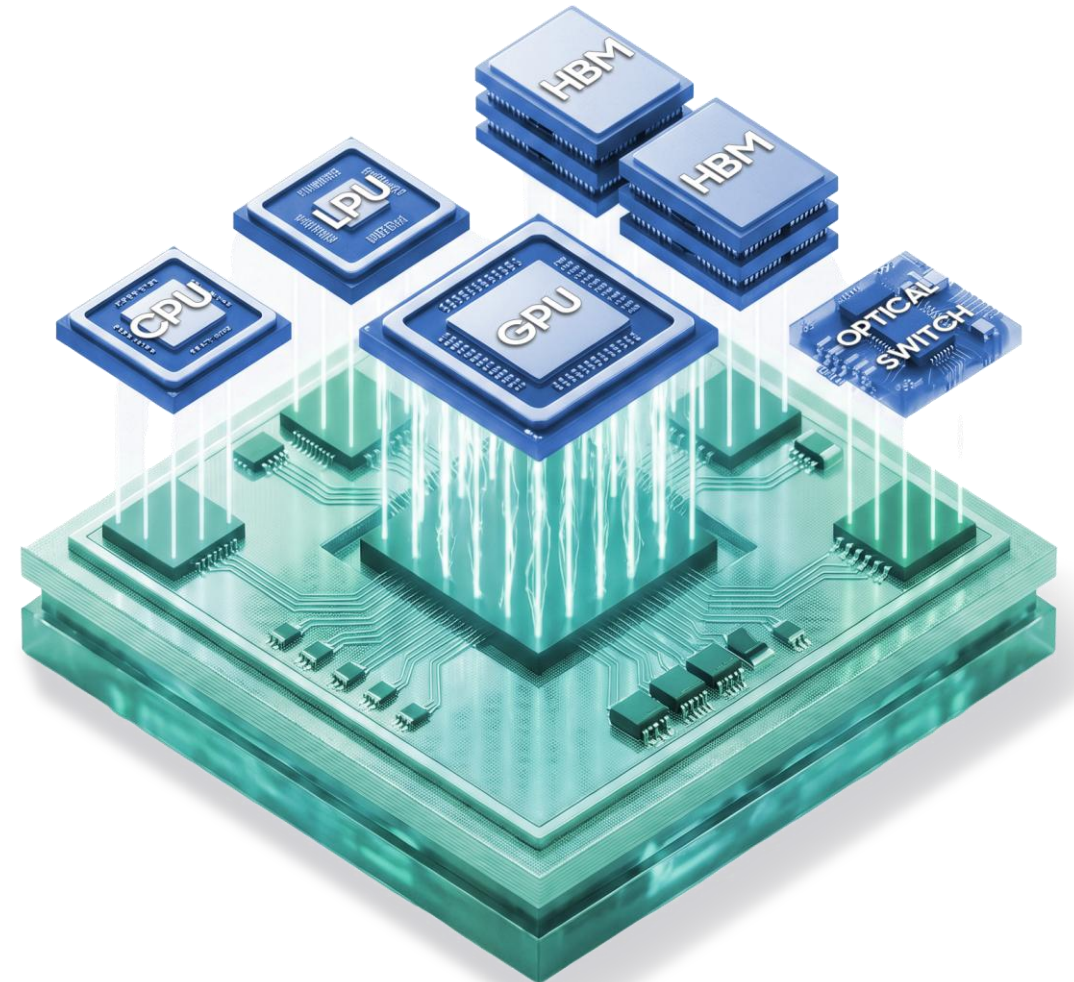
SAFE Eco



3D IC



2.xD PKG

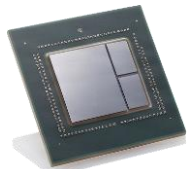


Advanced Packaging

- A New Dimension of Advanced Heterogeneous Integration for a New Era

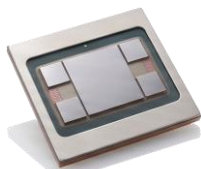
Enabling ultra-high-speed, low-power performance through 3.xD- and 2.xD-based system packaging, while advancing customer-driven packaging technologies and solutions to improve power efficiency and voltage stability for AI/HPC applications.

Horizontal Integration



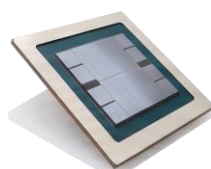
2.5D Cube-S (2xHBM)

IN PRODUCTION



2.5D Cube-S (4xHBM)

IN PRODUCTION



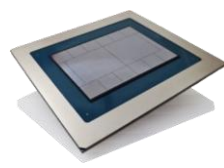
2.5D Cube-S (8xHBM)

READY TO DESIGN



2.3D Cube-E (12xHBM)

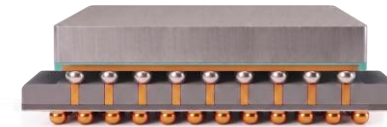
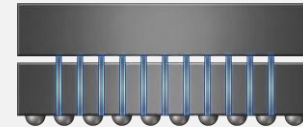
IN DEVELOPMENT



2.3D Cube-R (12xHBM)

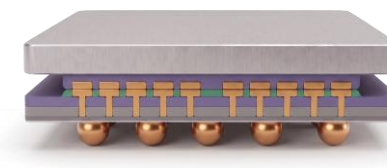
IN DEVELOPMENT

Vertical Integration



3D Cube-T (TSV Interconnect)

READY TO DESIGN



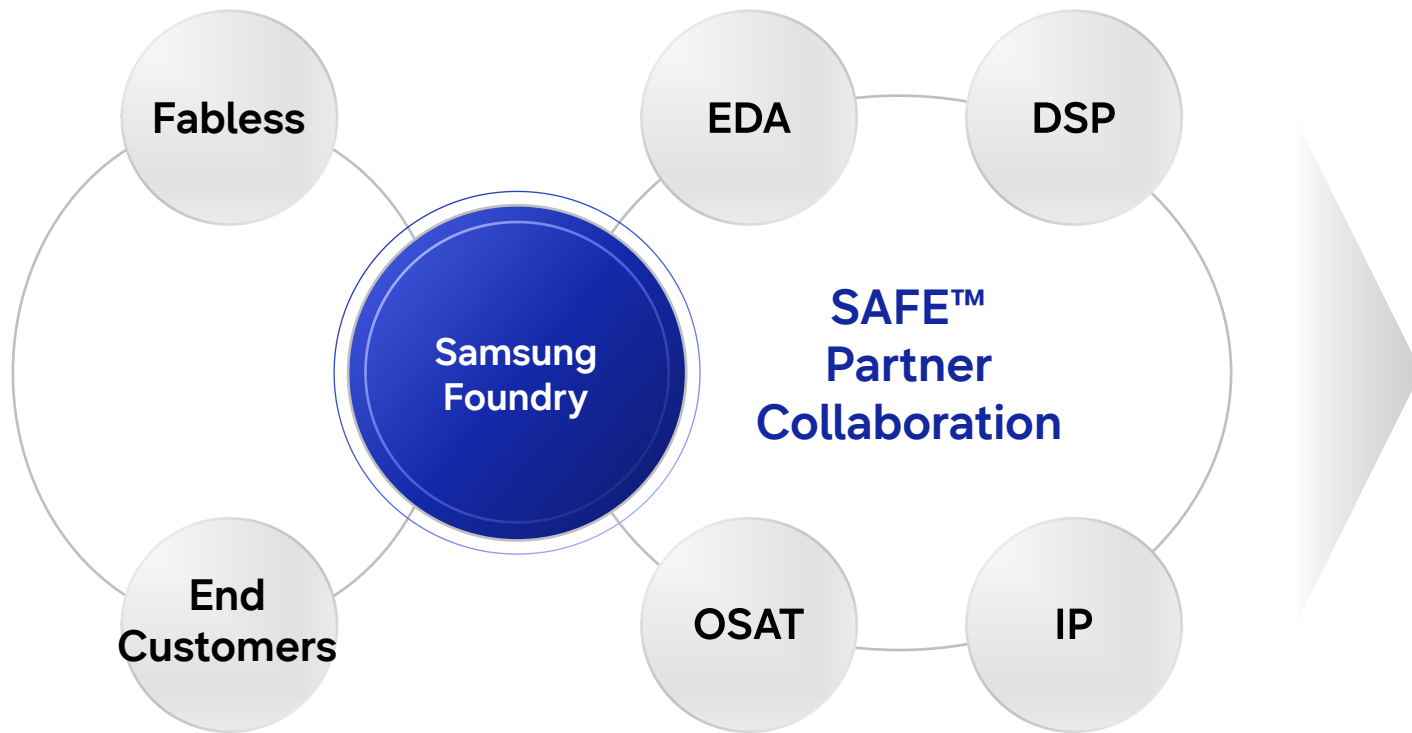
3D Cube-H (Direct Cu-Cu Bonding)

READY TO DESIGN

SAFE Ecosystem

- Advancing SAFE™-Based Customer & Partner Collaboration to Serve as a Key Hub for the AI Semiconductor Ecosystem

Evolving into a “Nexus” connecting customers, partners, and infrastructure, while continuously expanding technology competitiveness through next-generation process technologies, logic-memory integration, and a strengthened design ecosystem.



SAFE™ Partner					
EDA	ARTERIS	ASML	cadence	Empyrean	IC manage
	KEYSIGHT	KLA	LORENTZ SOLUTION	REAL INTENT	SIEMENS
DSP	ADTechnology	Alphachips	Capgemini	CoSia SEMI Ltd.	FARADAY
	HCLTech	INNOVILICON	VeriSilicon	SEMI FIVE	GAONCHIPS
IP	4lynx	ALPHAWAVE SEMI	ARMORBIT	ARAGIO	arasan
	ARTERIS	cadence	CAST	C3VA	Chips Media
	eliyan	ememory	FARADAY	Fraunhofer	Imagination
	InPsytech	Leo1st	M31	miXel	MOVELLUS
	proteanics	Qualitas	QuickLogic	Rambus	ram-CHIP
	Silicon Citations	SLI	SKAI	SKY-CHIP	SYNOPSYS
	tenstorrent	Uniquify	VeriSilicon	Verveant	xenergetic

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