BUSINESS UPDATE
MARKET OPPORTUNITIES
SAMSUNG STRATEGY
KEY TAKEAWAYS
Financial Highlights

Continuous revenue growth, exceeded $10 billion since 2018

$10B

2005 2015 2019

Samsung Foundry

A

B

C

D

$10B
Business Milestones

- Foundry Business Start
- Foundry 1st HKMG Mass Production
- Foundry 1st FinFET Mass Production
- Industry 1st 10nm Mass Production
- Spin-off into Independent Business Unit
- 7nm EUV Production Start
- Completed V1 Line Construction

- S1-Line Construction
- S2-Line Ramp up
- 8-inch Business Start
- S3-Line Ramp up
- 14LPE

- 2005
- 2011
- 2015
- 2016
- 2017
- 2018
- 2019
Global Manufacturing Sites

Advanced 300mm Fabs, Matured 200mm Fab, Test/Package Facilities

- **SSES**: Samsung Electronics Suzhou Semiconductor
- **TSP**: Test and System Package
- **Onyang**, Korea
- **Giheung**, Korea
- **Hwaseong**, Korea
- **Austin, Texas, USA**
- **Suzhou, China**

**Line-6** (180nm~65nm)
**S1-Line** (65nm~8nm)
**S3-Line** (10nm~)
**S2-Line** (65nm~11nm)
**S4-Line** (65nm~28nm)
**V1 Line** (7nm~)

* SSES: Samsung Electronics Suzhou Semiconductor
* TSP: Test and System Package
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New applications emerge with 5G, bringing greater demand for semiconductor
Foundry will be a pathfinder in realizing unforeseen technology

* DSP: Design Solution Partners / EDA: Electronic Design Automation / OSAT: Outsourced Semiconductor Assembly and Test
Foundry Market Opportunities

Foundry Market by Node
Expected to grow more than 5% per year on average by 2022

# of Foundry Providers by Node
Now only 2 companies, including Samsung, provide leading-edge foundry services

* Source: Gartner, Samsung Internal
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Our Vision

The Most Trusted Foundry,
providing creative solutions for customers’ innovation needs

Technology
- Unrivaled process technology
- Customer-friendly design infrastructure
- Semiconductor ‘One stop shop’

Operation
- Flawless supply chain management
- Unparalleled execution to deliver our commitment
- Highest level of visibility & flexibility

Service
- Service beyond expectation
- Deep knowledge and expertise to solve customer challenges
- Agile collaboration for customers’ success
Advanced Technology

Maintain Firm Technology Leadership through Continuous Node Scaling

Ready to support a wide variety of applications and customers

Transistor Structure
- Planar
- FinFET
- GAA

Design Rule
- 32/28nm
- 14nm
- 10nm
- 7nm, 5nm, 3nm

Lithography Light Source
- ArF
- EUV

Development Schedule
- 2010
- 2012
- 2014
- 2016
- 2018
- 2020
Differentiated Platform, FD-SOI

28/18FDS, Solution for IoT, Security, Industrial, and Automotive

- RF : Supports 110GHz mmWave
- eMRAM : Extremely small bitcell, superior write speed and endurance time

FDS Technology Offering

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Available ○ Under Development

Next Generation eMRAM Strategy

- 28FDS eMRAM solution’s Commercial Shipment Started in 2019
- 1Gb eMRAM Development on Track
- eMRAM on FinFET Technology under development
8-inch Value-Added Offerings

Portfolio Expansion from eFlash, Power IC, DDI, CIS, MS/RF to Power-discrete Technologies extensively optimized through many years of product manufacturing
Advanced Package Solutions

Advanced Package Technology Drives System Level Performance Improvement by Enabling More Integration and Better Performance

Mobile Package
- iPoP
- Fan-Out PLP-PoP

HPC Package
- 2.5D Si Interposer
- RDL Interposer

'SAFE', the Ecosystem that Samsung Foundry has Built with its Partners, is Always SAFE

- Silicon proven
- Comprehensive
- To EUV based advanced node
- From 350nm↑ to various applications
- From RTL to GDS II
- Reference Flow

- Optimized and Tuned
- Dedicated and Flexible
- Technical Support

- Effective and Secure
- Realize Your Idea
- Integrated Solutions in Supply Value Chain

- Ready to Use Design Environment
- Worldwide Design Service on Cloud

* IP: Intellectual Property / EDA: Electronic design automation / DM: Design Methodology
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Key Takeaways

- Maintain firm leadership in advanced node technology
- Expanding differentiated offerings and solutions for various applications
- Enhancing state-of-the-art operations to satisfy customers' needs
- Providing best products and services to enable customers' success