SBI Holdings

Strategic Business Innovator

Planned Construction Site for the Semiconductor Foundry and Plans of Operations for the Time Being

October 31, 2023

SBI Holdings, Inc.

Representative Director, Chairman, President & CEO

Yoshitaka Kitao

1. Establishment of the organizational structure for the semiconductor foundry business
2. Planned location for the semiconductor foundry and the reasons for its selection
3. Future Outlook

1. Establishment of the organizational structure for the semiconductor foundry business

(1) In July 2023, an MoU was Signed with PSMC on a Preparatory Company for Establishment of a Semiconductor Foundry

(2) Plan to establish a JSMC subsidiary, JSMC Holdings, as the foundry operations company

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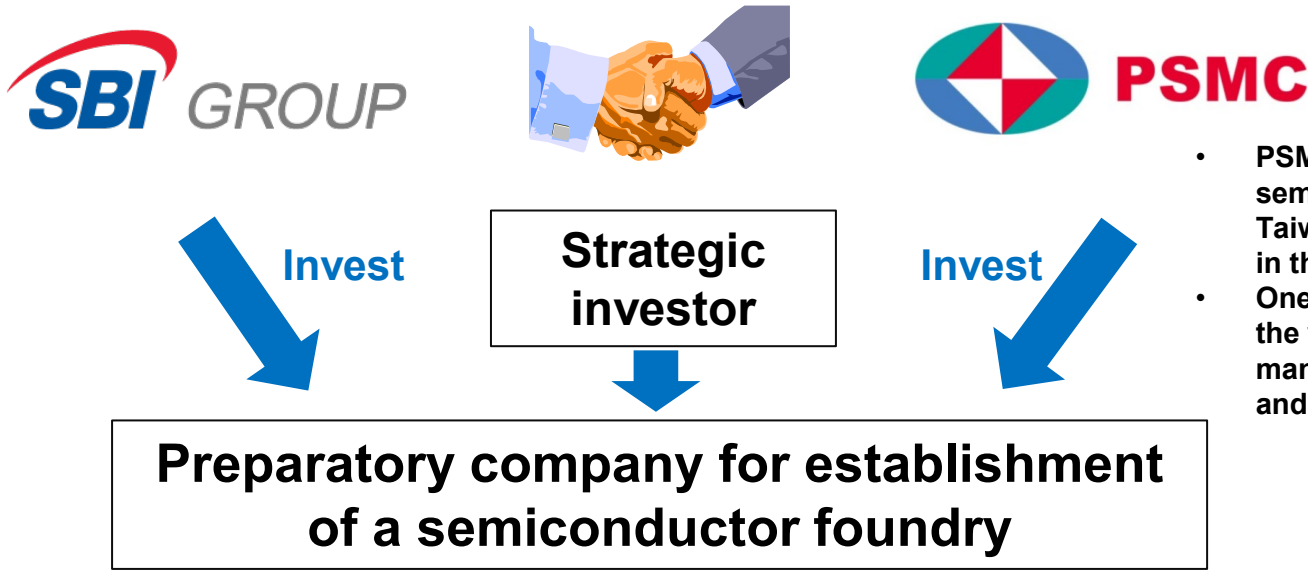
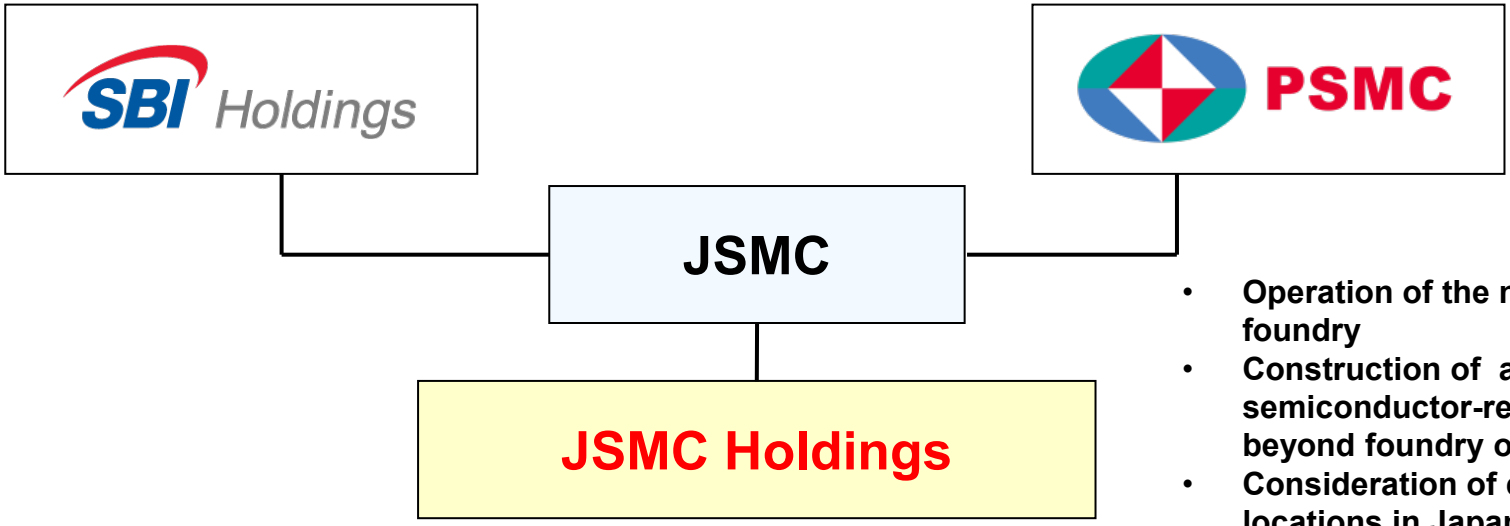


- PSMC is the third-largest semiconductor foundry in Taiwan and the sixth-largest in the world
- One of the few companies in the world capable of manufacturing both memory and logic semiconductors

< The initial purpose of the preparatory company >

① Hold joint deliberations on product composition and market research
② Decide on the equity structure and financing policy
③ Establish organizational structure and personnel training structure to recruit staff and engineers

(2) Plan to establish a JSMC subsidiary, JSMC Holdings, as the foundry operations company



- Operation of the newly established foundry
- Construction of an ecosystem including semiconductor-related businesses beyond foundry operations
- Consideration of establishing new locations in Japan and overseas in the future

< Executive team of JSMC Holdings (Plan)>

Director, Chairman : Yoshitaka Kitao (Representative Director, Chairman, President & CEO of SBI Holdings)
Director, Vice Chairman : Frank C. Huang (Chairman of Powerchip Group / Chairman of PSMC)
Representative Director & CEO : Joe Wu (Representative Director, and President of PSMC Japan)
Representative Director & CFO : Koji Nakano (Executive officer of SBI Holdings)
Director : Genki Oda (Managing Executive Officer of SBI Holdings)
Director : Martin Chu (Executive Vice President of Powerchip Group)

SBI Group Strives to Build a Semiconductor Foundry Ecosystem and Promotes Investment Activities in Domestic and Foreign Companies

[Development and design of semiconductor products and IP]

The following companies develop and design semiconductor products and circuit design data (IP: Intellectual property) .Their products are often manufactured by foundry companies like JSMC

Architek (JP) EdgeCortix (JP) Floadia (JP) FLOSFIA (JP)
Siglead (JP) LeapMind (JP) MetisX (KR) Macro Image Technology (KR)
Chips&Media (KR) TopoLogic* (JP) *Investment planned

[Development and Supplying of Manufacturing Equipment]

Companies which develop and supply the equipment used in various manufacturing processes such as film deposition, etching, lithography, packaging, and testing

TMH (JP) Forge Nano (US) Atonarp (JP) Sawnics (KR)
Nanojet Korea (KR) Green Optics (KR) CMITECH (KR)
SEALINK (KR) YOUNG KWANG YKMC (KR) YIK (KR)
CLEAN SOLUTIONS (KR) PHARMATRON (KR) PAMTEK (KR)
Accuracy (CN) HUMINTECH (KR) JINSUNG ENG (KR)
KONASOL (KR) EML (KR) KOMOTECH (KR) TRI-N (KR)
HB SOLUTION (KR)

[Process Informatics]

Companies which leverage AI to optimize semiconductor processes

RTM (KR) AIXtal* (JP)
*Investment planned

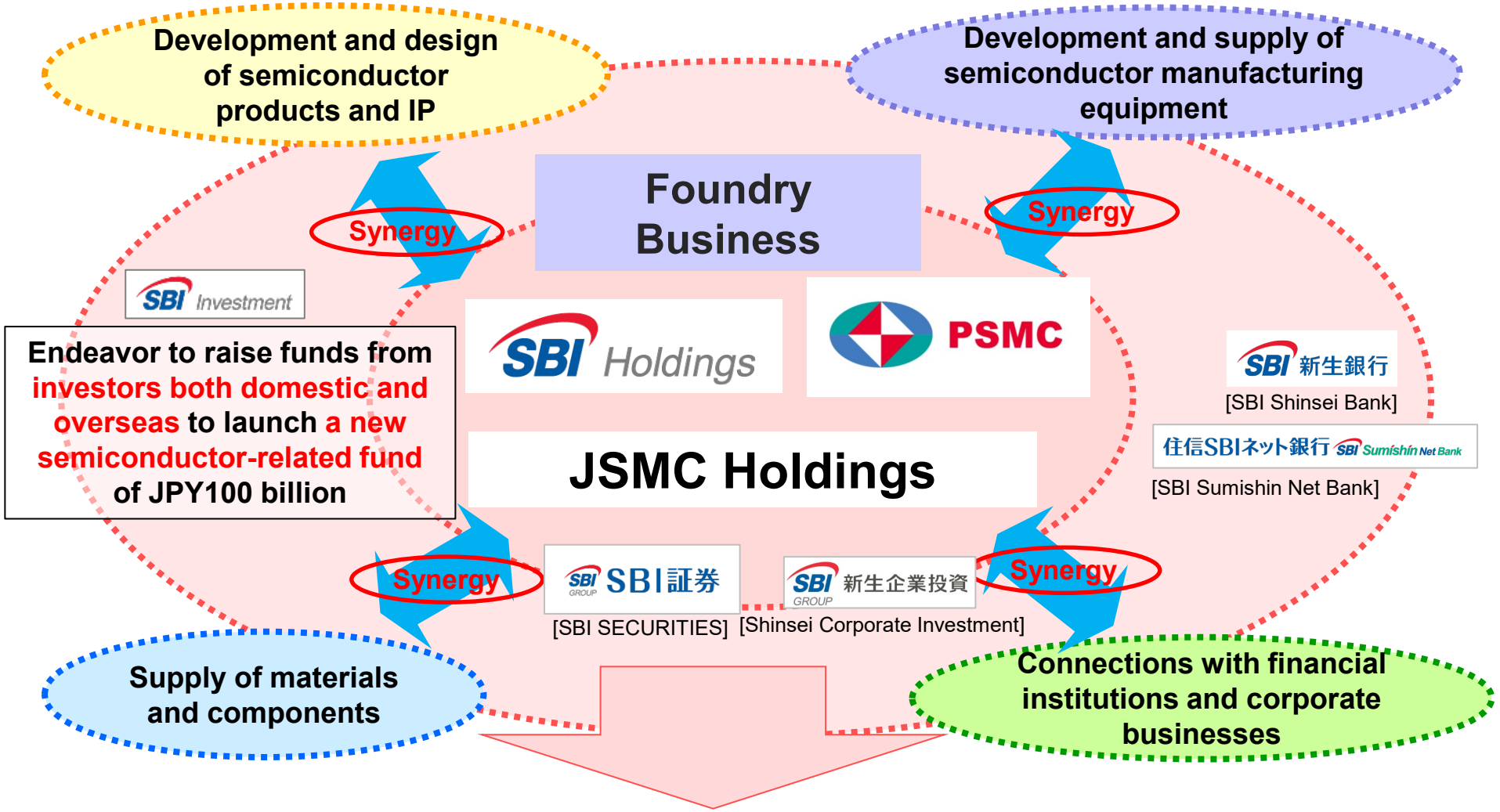
[Material Supply]

Companies which manufacture and sell silicon wafers and semiconductor-related consumable materials

A-PRO SEMICON (KR)
RS Technologies* (JP)
*SBI SECURTIES became the lead underwriter

Strengthening Competitiveness through Synergy Effects and Mutual Evolution between related companies forming an Ecosystem of Semiconductor Foundry

- Introduce related companies domestic and abroad that will provide supporting function to the foundry business -



Considering expansion overseas by relocating the entire ecosystem when its success is determined in Japan

2. The planned location for the semiconductor foundry and the reasons for its selection

(1) The location for the construction of the semiconductor foundry has been determined

(2) Relative advantage and overall evaluation of Second Northern Sendai Central Industrial Park which we have decided as the location for a fab

(3) Semiconductor-related supply chains exist in various regions of Tohoku including Miyagi Prefecture

(1) The Location for the Construction of the Semiconductor Foundry has been Determined

The construction of a semiconductor foundry is an initiative expected to greatly contribute to regional revitalization by promoting income growth and creating employment opportunities of the region

Following the notice of the establishment of a semiconductor factory in Japan, highly constructive proposals from 31 municipalities from Hokkaido to Kyushu were presented encompassing various aspects, including infrastructure development, site selection, and diverse economic conditions

While we have decided on the location to Miyagi Prefecture by putting various factors into perspective, we would like to express our sincerest gratitude to all the officials from these municipalities for their voluntary participation in the bid and for their extensive support and consideration

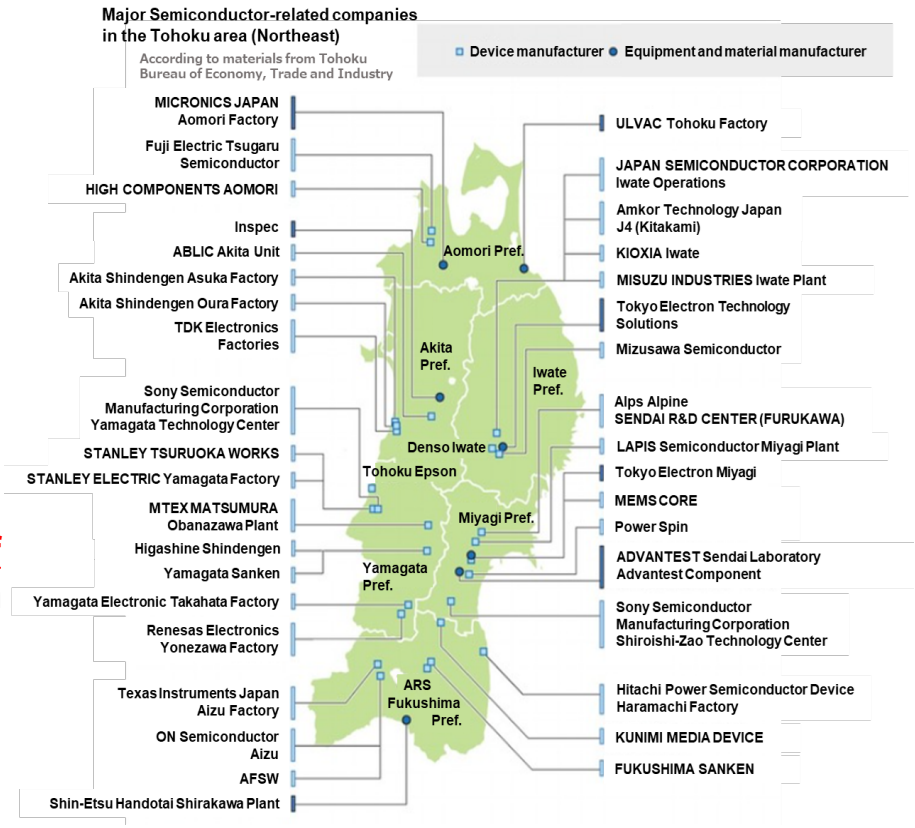
(2) Relative Advantage and Overall Evaluation of Second Northern Sendai Central Industrial Park as the Location for a Fab

The construction of a foundry requires various essential factors, such as water supply and drainage, high-voltage power, and infrastructure development. The Second Northern Sendai Central Industrial Park has all of them at a high level

Land		In the construction, a large rectangular-shaped land is required to accommodate future expansion. However, a nearly square plot of land of 168,600㎡, which exceeds the planned 150,000㎡, has been secured.
Water, Electricity, Gas		• Industrial water and wastewater facilities have already been installed on the premises • Many substations are near the industrial park; extra high-voltage power supply has been secured • Working with local municipalities, a stable supply of industrial water and gas is available
Construction		• Confirmation of cooperation from construction companies in the Tohoku region, including Miyagi Prefecture
Access	Land route	TOHOKU EXPWY Ohira IC Access time: approximately 3 minutes Tohoku Shinkansen Sendai Station Access time: approximately 30 minutes
	Air route	Sendai Airport Access time: approximately 40 minutes • One of the only eight airports within Japan that operates 24 hours
	Sea route	Port of Sendai Access time: approximately 25 minutes
Securing and developing human resources		• Many semiconductor-related research facilities nearby including Tohoku University, Center for Innovative Integrated Electronic Systems, Micro System Integration Center (μSIC), Next-Generation Synchrotron Radiation Facility, NanoTerasu • The neighboring city of Sendai has a population of over 1 million and is the only ordinance-designated city in the Tohoku region

(3) Existence of semiconductor-related supply chains in various regions of Tohoku including Miyagi Prefecture

- **Many semiconductor related companies such as etching equipment, semiconductor laser and photolithography equipment manufactures are clustered within Miyagi Prefecture**
- **There are clusters of bases of companies that are potential suppliers of semiconductor wafers or suppliers of materials in various regions of Tohoku**
- **According to the Survey on Planned Capital Spending conducted by the Development Bank of Japan, semiconductor-related investment in Tohoku for the fiscal year 2022 was JPY104.5 billion on a planned basis. This reflects a significant increase of 83.8% from the actual expenditure of JPY56.9 billion in the previous fiscal year and surpasses the national average growth rate of 42.9% by a large margin**
- **As the Ministry of Economy, Trade and Industry envisions the revival of the semiconductor industry as a "national strategy," the industry, government, and academia in Tohoku are also working together to emphasize research and development as well as talent cultivation**



Reference: The Asahi Shimbun, April 15, 2023 (Translated by the Company)

3. Future Outlook

(1) Shortening the construction period by referencing the blueprint of PSMC's latest foundry

(2) Plans for the manufacture of semiconductor wafers at the foundry

(3) Plans to raise capital to build and operate the foundry

(1) Shortening the construction period by referencing the blueprint of PSMC's latest foundry

It takes a long time to complete the foundry blueprint before the construction company enters into a specific construction plan

JSMC plans to refer the blueprint for P5, a fab PSMC is currently constructing in Taiwan with plans to begin operation in 2024, to save a significant amount of construction planning time

Discussions about construction plans with major domestic construction companies are currently underway under the premise that government subsidies will be received

Fab Image (PSMC P5)

CUP : Central Utility Plant
WWT : Wastewater Treatment
FAB : Fabrication
ADM : Administration Management

(2) Plans for the manufacture of semiconductor wafers at the foundry

PSMC's expertise will be utilized at the fab to be built to mass-produce, high-quality, and low-cost 28nm and above semiconductors, which are estimated to account for more than 90% of the demand for automotive semiconductors

- **As Phase1, complete the building, facilities, automation equipment, etc. and produce 10,000 units of 40nm and 55nm semiconductor wafers per month, which are currently in most demand for automotive applications**
- **In Phase2, the fab will be in full operation, with a mass production capacity of 40,000 semiconductor wafers per month including 28nm and those using WoW technology**

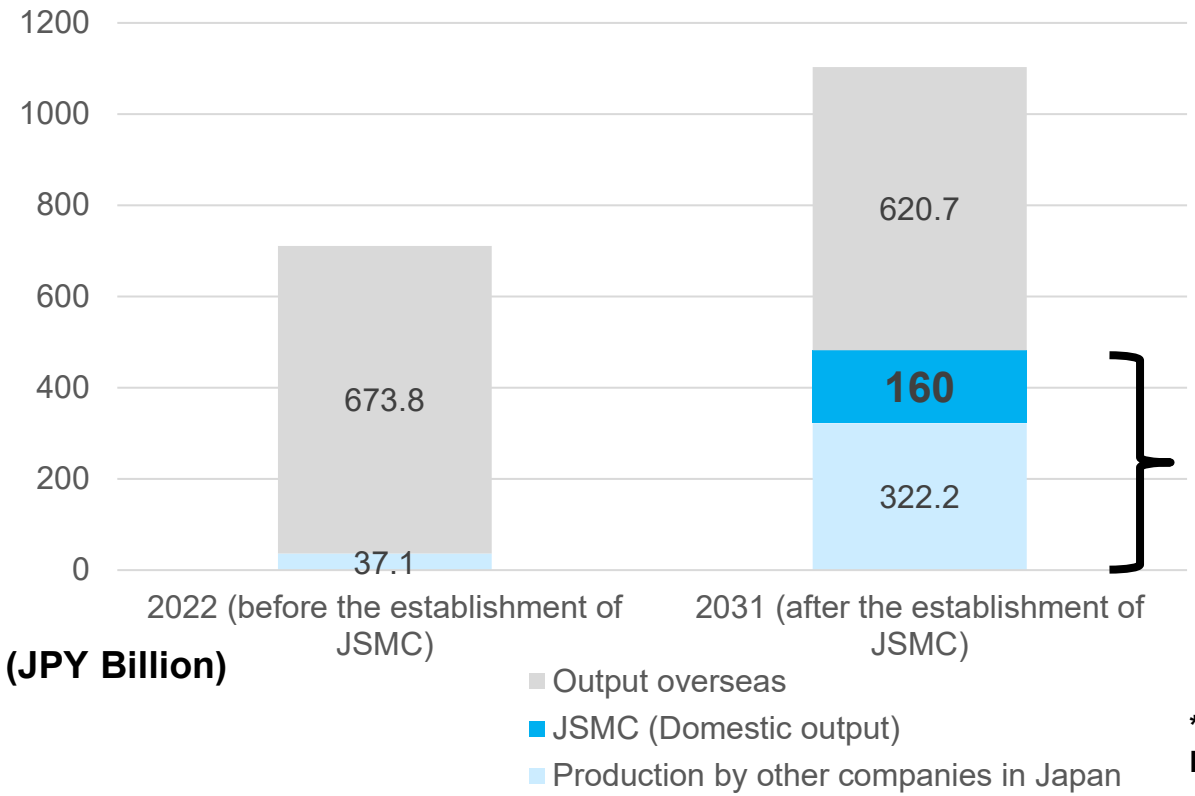
*WoW (Wafer-on-Wafer):Unique 3D Stacking Technology of PSMC

	Period	Investment		Types of semiconductor wafers		Monthly output
Phase 1	2027 (planned)	Building and facilities	Manufacturing facilities	55nm		10,000 wafers in total
			Automation・Lab	40nm		
Phase 2	2029 (planned)		Manufacturing facilities	55nm	28nm	40,000 wafers in total
				40nm	WoW	

JSMC will Contribute to Domestic Production of Semiconductors

Domestic demand for 28~55nm semiconductor wafers is estimated to be increase form JPY 710 billion in 2022 to about JPY 1.1 trillion* in 2031. Currently more than 90%of 28-55nm semiconductors are produced overseas, and JSMC is expected to be able to cover 14.5% of Japanese demand

Domestic demand of 28~55nm semiconductor wafer (by production location)



Including other new domestic foundries, the self-sufficiency rate of semiconductors will improve 5.2%⇒43.7% (Of which JSMC contribution is 14.5%)

***Reference: Gartner, Semiconductors and Electronics Forecast Database, Worldwide**

The Establishment and Strengthening of Domestic OSAT are also Expected to Enhance the Supply Chain in Coordination with JSMC

An OSAT (Outsourced Semiconductor Assembly & Test) is a factory where semiconductor chips are cut, assembled, and tested from semiconductor wafers produced in semiconductor foundries like JSMC

- In Taiwan, the pre-process and post-process are concentrated in the same area, and investments for the establishment and enhancement of OSAT in recent years have also been made in the same area as the pre-process
- Japanese automotive semiconductor customers also prefer OSATs to be conducted in the same area as the pre-process
- SBI Group, PSMC, and JSMC are collaborating as one team to attract OSATs in the vicinity of a fab

It is expected that companies from Japan, Taiwan, and other countries will construct OSAT in Japan, which will strengthen the semiconductor supply chain in Japan

JSMC has Already Started Collaboration Projects with OSATs

For general-purpose products such as semi-advanced process semiconductors and power semiconductors that JSMC plans to manufacture, reducing package costs is also an important topic to address. Through collaboration with OSATs, we will endeavor to improve production capacity, accumulate technical expertise, and achieve stable production.

Case 1: Considering collaboration with university-led cluster hub initiative

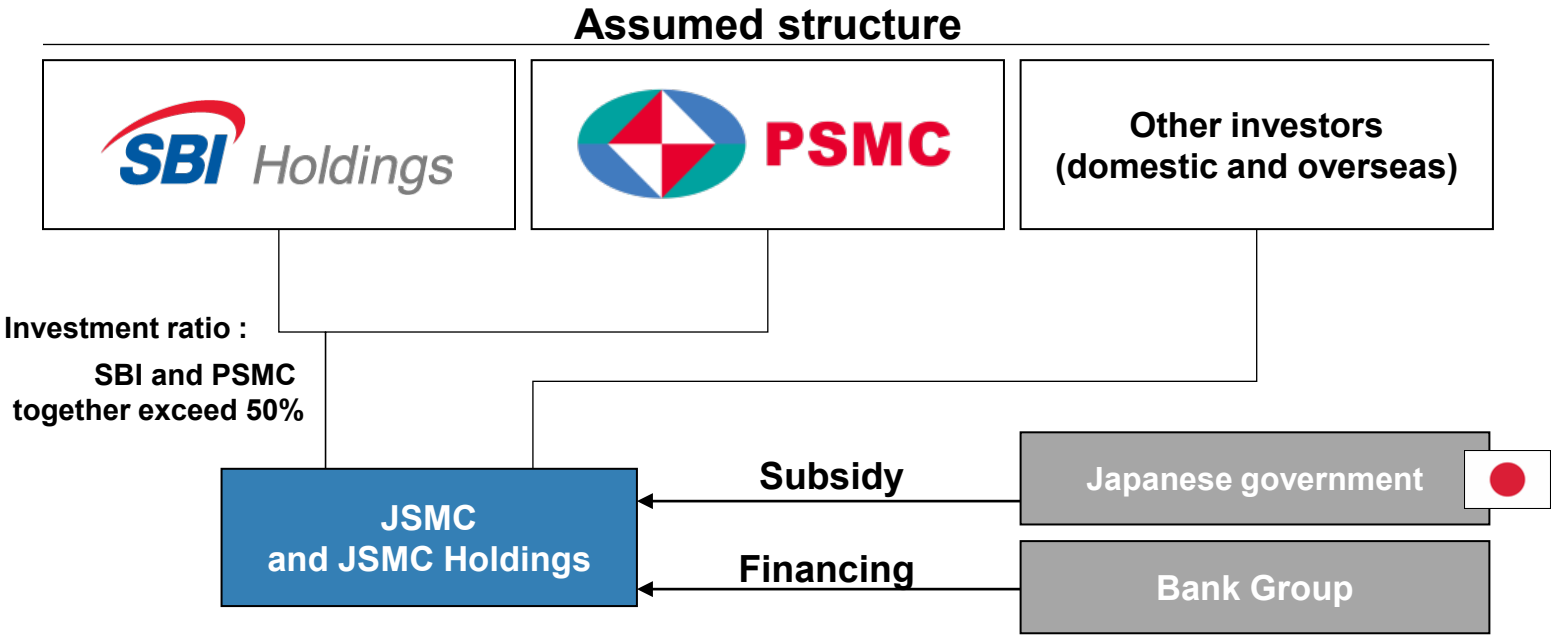
- The initiative is working on establishing OSAT development and manufacturing bases in collaboration with numerous component manufacturers, IDM manufacturers, OSAT, and universities
- **JSMC can provide support in terms of wafer supply and industry-academia collaboration**

Case 2: Considering the possibility of a “3D package OSAT by a Taiwanese publicly listed company” expanding into the vicinity of JSMC and collaborating with them

- JSMC has proposed collaboration with an OSAT, and one publicly listed Taiwanese company is considering establishing an OSAT near JSMC
- **JSMC plans to utilize its WoW to conduct 3D packaging and conduct testing**
- By coordinating from the WoW process, it will be possible to achieve speedy research and development

(3) Plans to Raise Capital to Build and Operate the Foundry

- The foundry is expected to require a capital of approximately JPY420 billion for Phase 1, and a total of JPY800 billion for Phase 2 onwards, for investment and working capital
- On the premise of receiving subsidy from the Japanese government above a certain level, we are considering various schemes of equity including SBI and PSMC investing more than 50%, soliciting investments from domestic and foreign investors, and accepting loans from bank groups



This project is subject to change based on whether a certain level of subsidy is received from the government

https://www.sbigroup.co.jp