

The Strategy for Semiconductors and the Digital Industry (Summary)

1. Basic concepts

- (1) With regard to securing the foundations of a digital industry that will support the economy, society, and democracy, the work will proceed in the same way as it has for the policies on securing energy and food that have been put in place thus far. That is, it will be conducted as a national project that goes beyond the framework of general private-sector support, while always placing importance on capitalism and free trade.
- (2) In order to ensure Japan remains strategically essential and strategically independent amid the conflict for technological hegemony between the U.S. and China, it will promote consolidating the digital industry's fundamental functions provided by businesses based in Japan. Japan will also establish a position in which it will play a central role in and contribute to the global supply chain.
- (3) Japan will progressively turn the whole of its archipelago into smart islands, and simultaneously achieve two global goals: digitalization and greenness. In addition, it will progressively contribute to and develop global innovations and systems.

2. Core fields for the foundations of the digital industry

- (1) Regarding the foundations of the digital industry to be the fundamental infrastructure whereby data is collected, transmitted, processed, stored in memory, and shared, work will proceed toward unified development of semiconductors, data centers, and clouds.
- (2) With regard to semiconductors, while the legacy of the past still remains, the foundations will be boldly strengthened and the direction of industrial development switched. These will be done reflecting on lost 30 years, and taking into account changes in the immediate geopolitical landscape.
- (3) With regard to data centers, in view of the fact that adequate support for establishing them has never been provided before despite their importance, development and investment support will proceed in a planned manner. With regard to clouds, adequate systems and businesses need to be secured. They must have the capability to respond to the industrial, governmental, and infrastructural fields as they expand in the future.

3. Directions to follow regarding the semiconductor field

- (1) Securing the semiconductor production and supply capacity the nation will require
 - Cutting-edge logic semiconductors are the fundamental devices that control all of society's electronic systems and support the data-driven economy. They are important as the "brains of industry," but are a missing piece for Japan. In order to strengthen strategic

independence regarding economic security, it is necessary to secure the foundations of domestic manufacturing through, for example, establishing joint venture factories with overseas foundries. In addition, domestic production with next-generation manufacturing technologies will be advanced.

- With regard to existing factories in Japan, in order for them to fulfill their role in supporting the global supply chain, it is necessary to identify targets and leaders for semiconductor manufacturing bases, for each of the following areas: memory, sensors, power, and microcomputers. Then, bold changes must take place.

(2) Design and development to support digital and green investment

- Viewing the global expansion of the markets for digital and green investment in areas such as 5G, AI, autonomous driving, electrified vehicles, and renewable energy as an opportunity, the strategy is to strengthen semiconductor design and technological development to support post-5G / Beyond 5G systems, green innovation, etc.

(3) Strengthening the choke point technologies of equipment and materials

- In order to gain and strengthen a strategically essential position regarding economic security, it is necessary to sophisticate choke point technologies through, for example, joint technological development with overseas foundries in the fields of manufacturing equipment and materials that will support the global semiconductor ecosystem and supply chain.

4. Directions to follow regarding data centers and clouds

(1) As aggregation sites for data that supports Japan's digitalization and for data used by companies doing business on a global scale, the strategy is to encourage data centers to be located in Japan, and aim to make it Asia's core data center base.

(2) With regard to clouds for industrial, governmental, and infrastructural uses, the strategy aims to establish services that are highly interconnected, reliable and secure, and to foster players that are based in Japan.

5. Future action

(1) Making use of the Post-5G Fund (200 billion yen), the Green Innovation Fund (2 trillion yen), the Industrial Competitiveness Enhancement Act, etc. that have already been in place, the strategy is to secure the commitment of the industrial world and the effective use of private-sector funding, and rapidly develop national projects and fundamental elements while designing credible exit strategies.

(2) In order to proceed with locating new data centers in Japan, it is essential to work with the Ministry of Internal Affairs and Communications and the other relevant ministries and

agencies in order to develop large-scale data center aggregation sites. The following specific actions will be taken in the future:

1. Organize the requirements for data center aggregation sites (electric power supply and communication infrastructure, disaster risks, transportation, distance from urban areas, etc.)
 2. Aim to formulate a location plan that includes how to proceed with selecting candidate sites.
 3. In light of the above, the government will support the development of the fundamental elements for encouraging data centers to be located in Japan, such as developing the various infrastructures and creating available land, as necessary.
- (3) The foundations of the digital industry—semiconductors, data centers, clouds, etc.—will support the economy, society and democracy in the 21st century and be an essential foundation for people's everyday lives. In view of this, among the businesses that constitute those foundations, the strategy is to identify the ones that national strategy should target through the appropriate internal government processes, and then consider establishing a system for special measures to treat them beyond normal industrial policy.