Taiwan CbI

Taiwan Chip-based Industrial Innovation Program

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Outline

Global Semiconductor Trend and Taiwan's Position

Growth Opportunities for Taiwan

Vision and Strategies

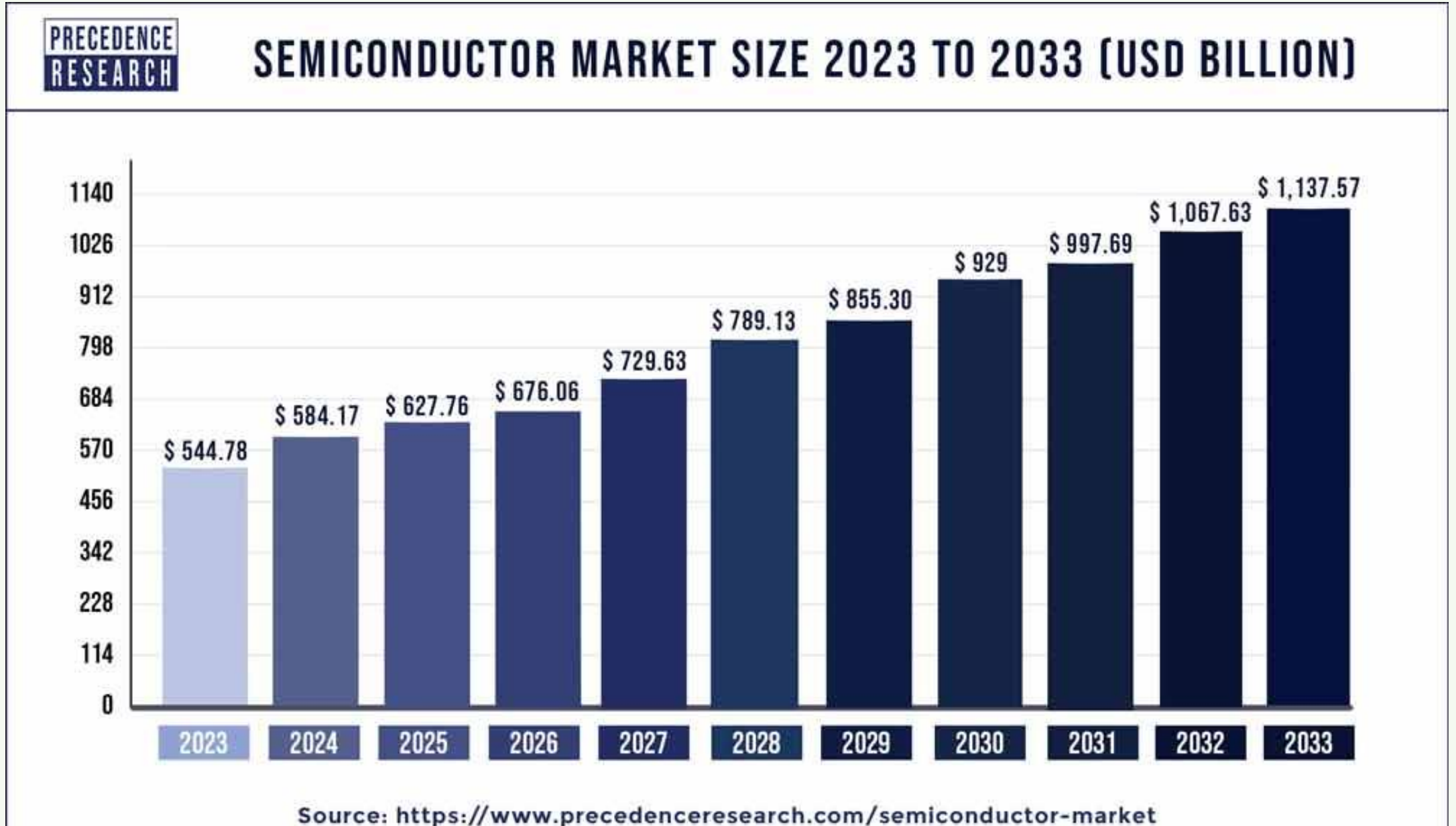
Talent Strategy

R&D Strategy

Industry Strategy

Cbl Blueprint

Global Semiconductor Market



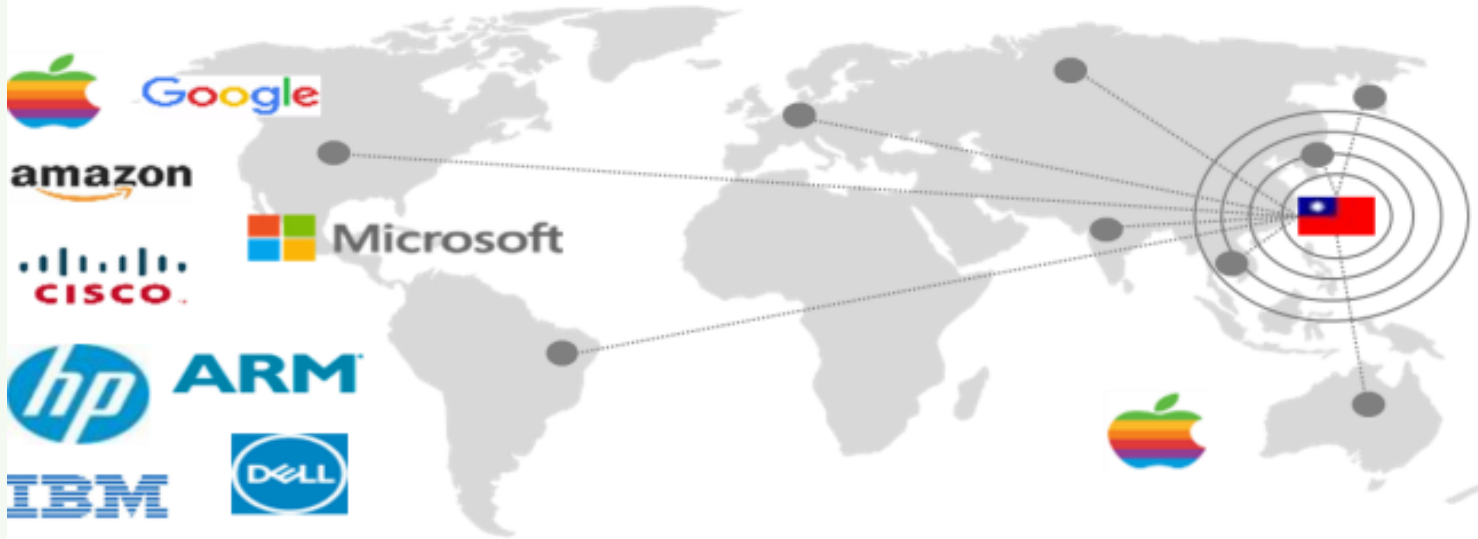
Semiconductor Market Share by Countries in 2022

	USA	Taiwan	Korea	Japan	China	EU
IC Design	63	18	1	<1	15	2
IDM	42	2	27	12	2	14
Global Semi. Market	**49.7**	**8.3**	**17.5**	**8.1**	**7.0**	**9.3**
Foundry	7	65	18	<1	8	2
OSAT	17	54	4	<1	24	2
EDA/IP	67	<1	<1	2	1	29
Equip./Mat	36	8	3	26	8	19
Global Semi. Related Market	**39.8**	**18.3**	**13.9**	**9.8**	**8.0**	**10.2**

Source: DigiTimes, August 1, 2023

Taiwan's Unique Role in IC Industry

Global Partners and Customers



Supporting Global Electronic System and Application Companies

- **Advanced Technology**

  Advanced semiconductor process technology leader

- **Mature Clusters**

  World's 2nd biggest player in IC industry with mature clusters

Source: TSIA

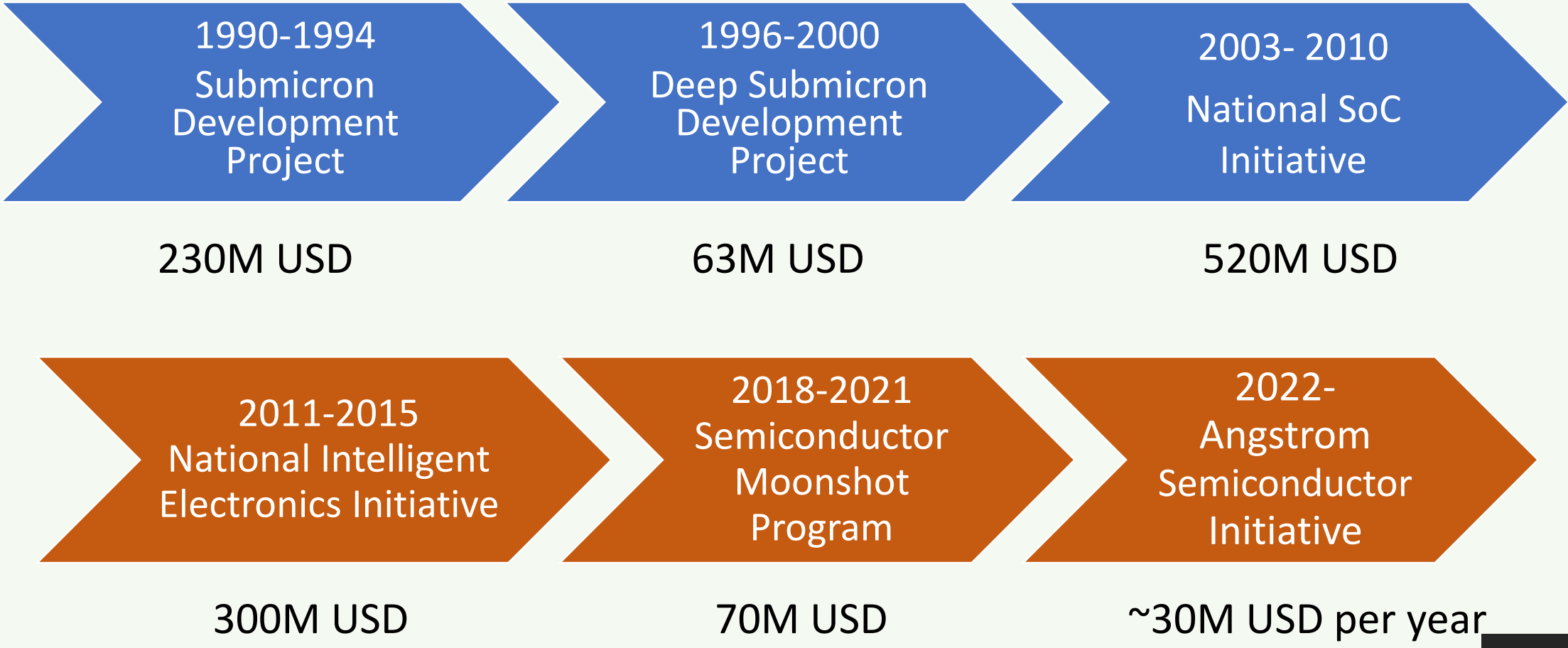
Excellences of Taiwan Semiconductor Industry @2021

Global revenue

2nd

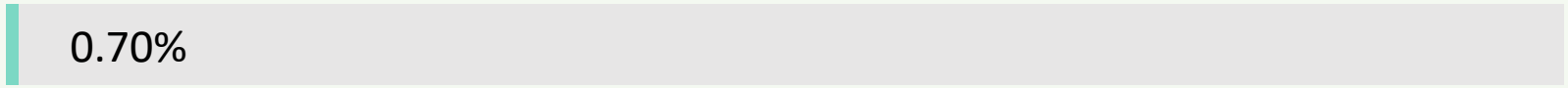
IC Design	No. 2
Foundry	No. 1
Memory	No. 4
Packaging	No. 1

Government Initiatives on Semiconductor



Source: ITRI

Taiwan's 2023 GDP only accounted for 0.70% of the global GDP in 2023.



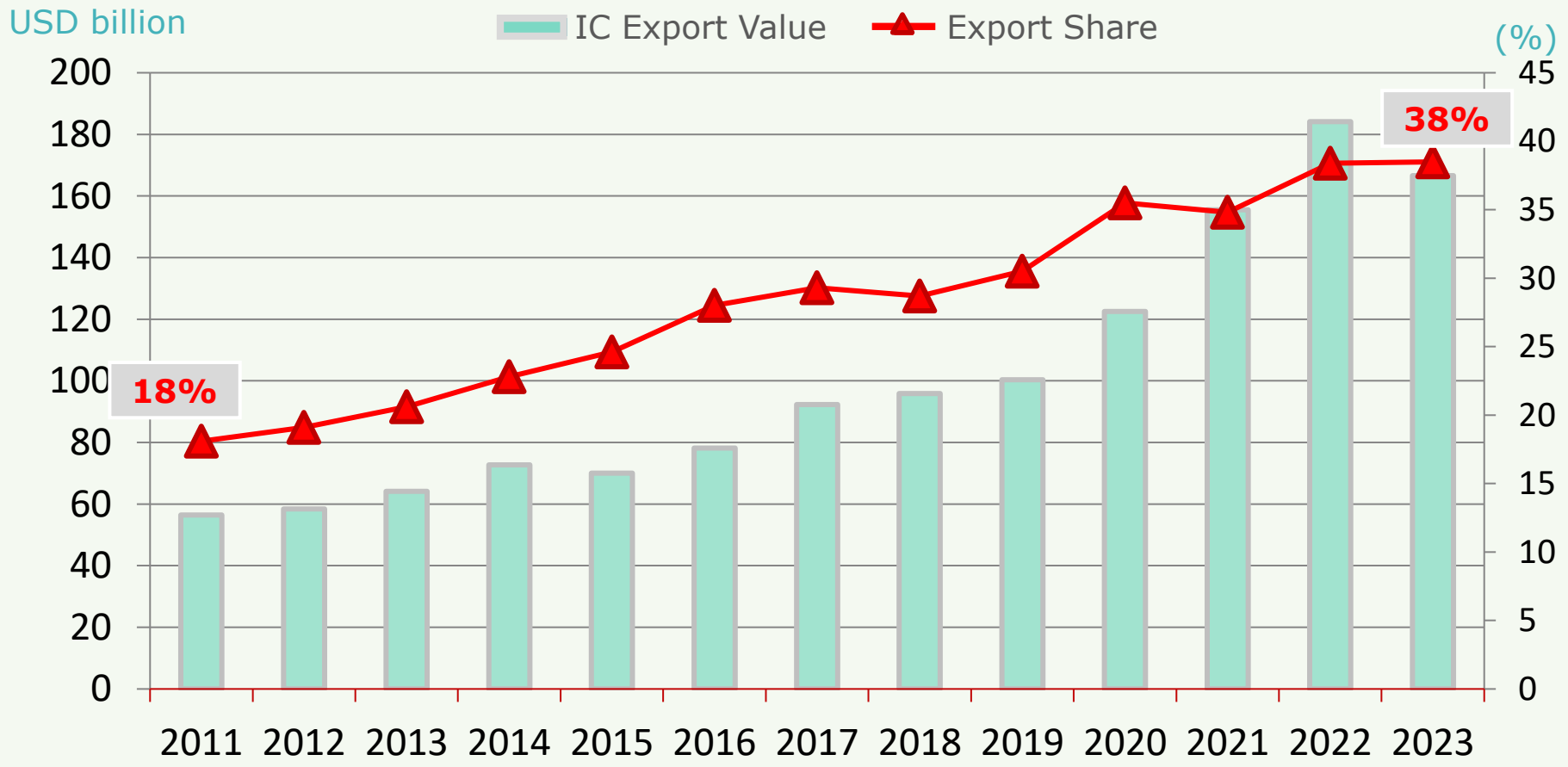
0.741 trillion USD vs. **105.44** trillion USD

Taiwan's 2023 semiconductor share in in the global IC+ foundry+ OSAT market is 20.8%.

157 billion USD vs. **574+ 130+ 51.5** billion USD

Semiconductor exports account for 38% of Taiwan's total exports in 2023.

Taiwan semiconductor in global supply chains not only becomes crucial but also plays the most important role in Taiwan's prosperity.



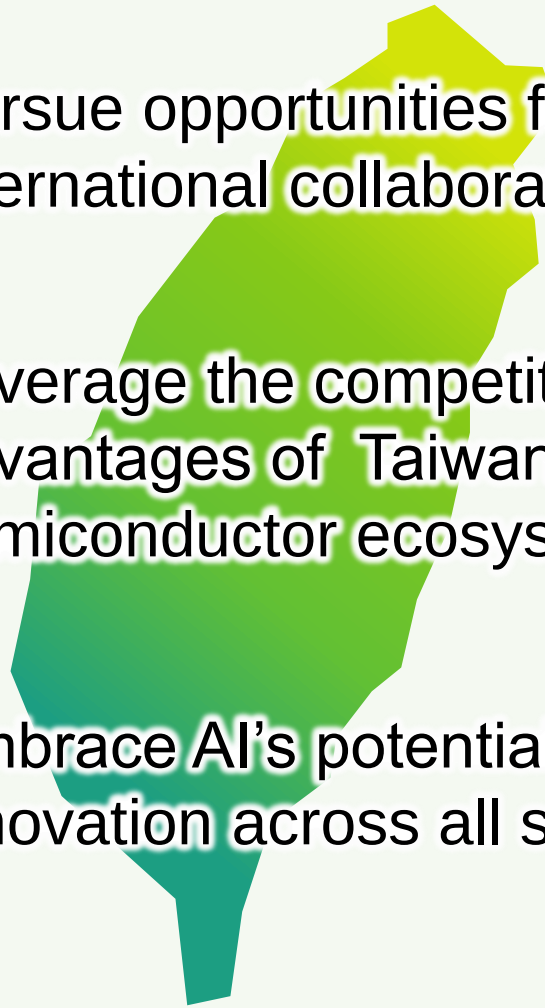
Opportunity and Strategies

Split supply chain, Talent cultivation, technology development, industry innovation

Growth Opportunities for Taiwan

Global Trends

- Geopolitical shifts are transforming global dynamics.
- Various countries are racing to gain a competitive advantage in semiconductor sector.
- Generative AI is driving the new industrial revolution.



- Pursue opportunities for international collaboration
- Leverage the competitive advantages of Taiwan's semiconductor ecosystem
- Embrace AI's potential to drive innovation across all sectors.

Vision and Strategies

Vision

Drive innovation and technological advancement through the embedding of generative AI and the optimization of semiconductor technology.

CbI Strategies

Talent

Strengthen the talent development environment and attract global talent

Technology Research/Development

Invest in key advanced technologies to maintain leadership in the semiconductor industry

Industry innovation

Connect the global startup ecosystem and empower innovation by integrating generative AI with chips

Talent

Strengthen the talent development environment and attract global talents

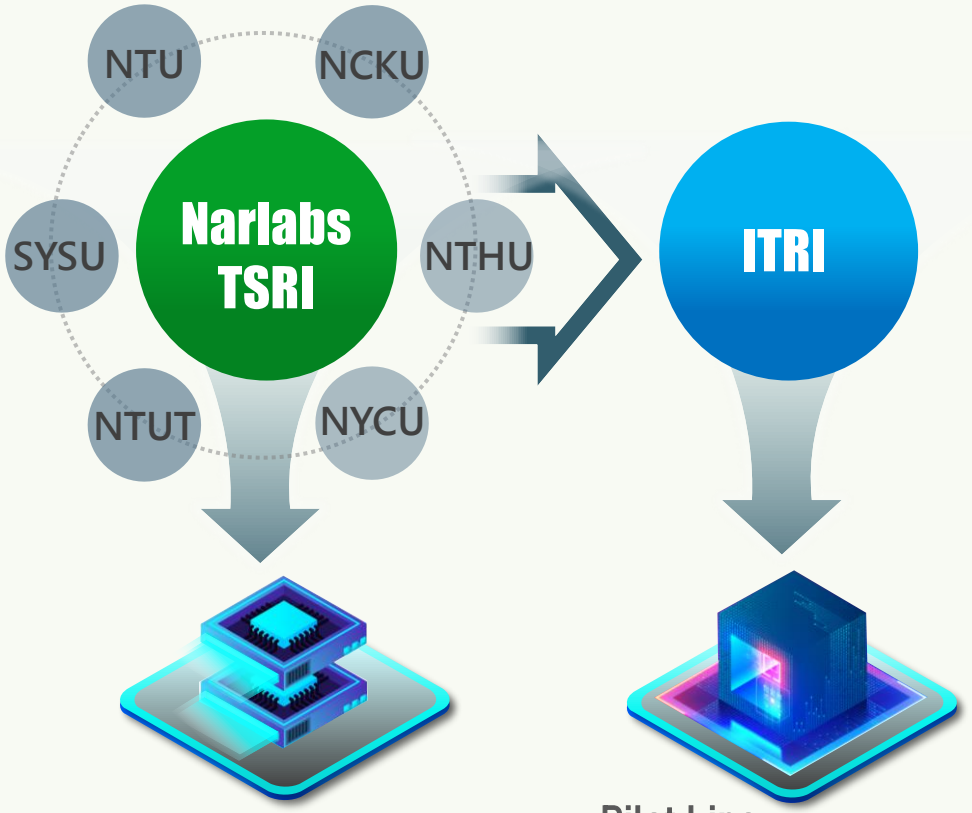
Mechanism for R&D Facilities and GAI-based Ecosystem

Upgrade R&D infrastructure

- Improve the environment for talent development and advanced R&D
- Expand learning materials and teaching environment for IC design

Nurture GAI talent for industries

- Collaborate with private sector
- Promote practical AI courses at universities



R&D Hubs for Materials and Equipment

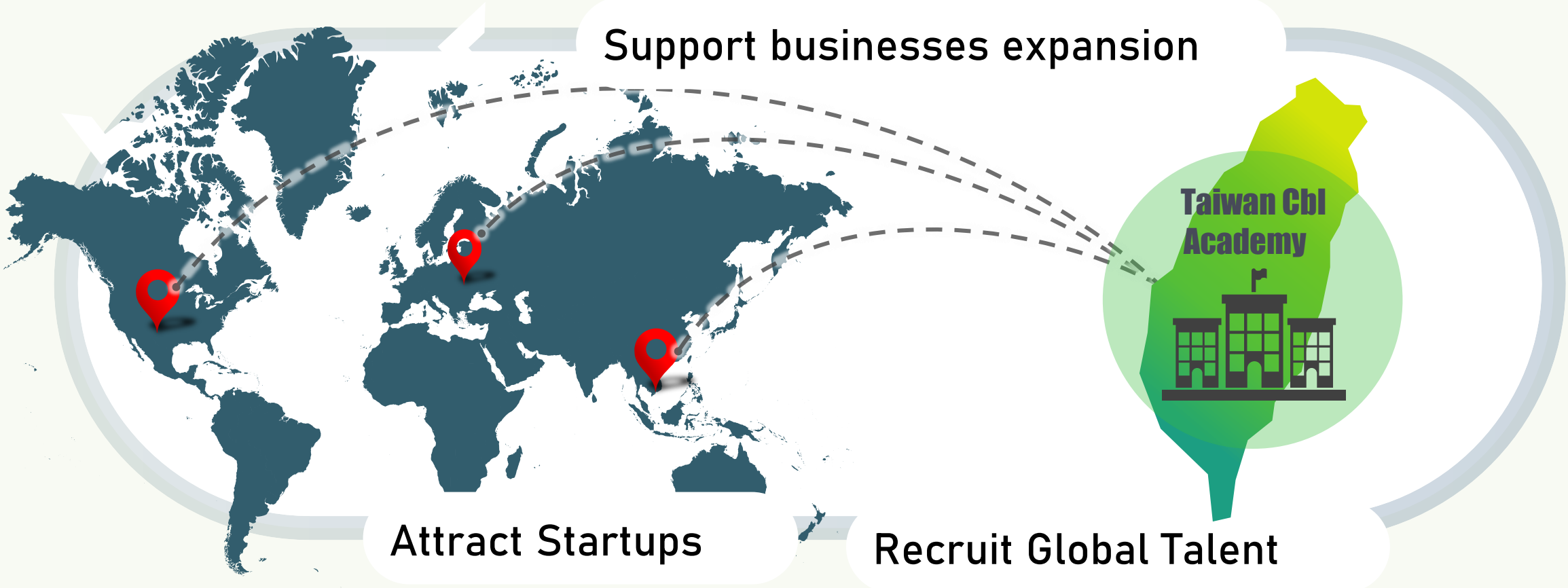
Pilot Line
Infrastructure for advanced manufacturing and submicron sensor wafer process platform

National Taipei University of Technology, (Taipei Tech)； National Tsing Hua University (NTHU) ；National Taiwan University (NTU) ；National Yang Ming Chiao Tung University (NYCU)
Taiwan Semiconductor Research Institute(TSRI) ； Industrial Technology Research Institute (ITRI) ；National Cheng Kung University (NCKU) ； Sun Yat-sen University(SYSU)

International Talent-Nurturing Network

Introduce Taiwan's semiconductor talent development system to the world, fostering an innovation ecosystem with international partners.

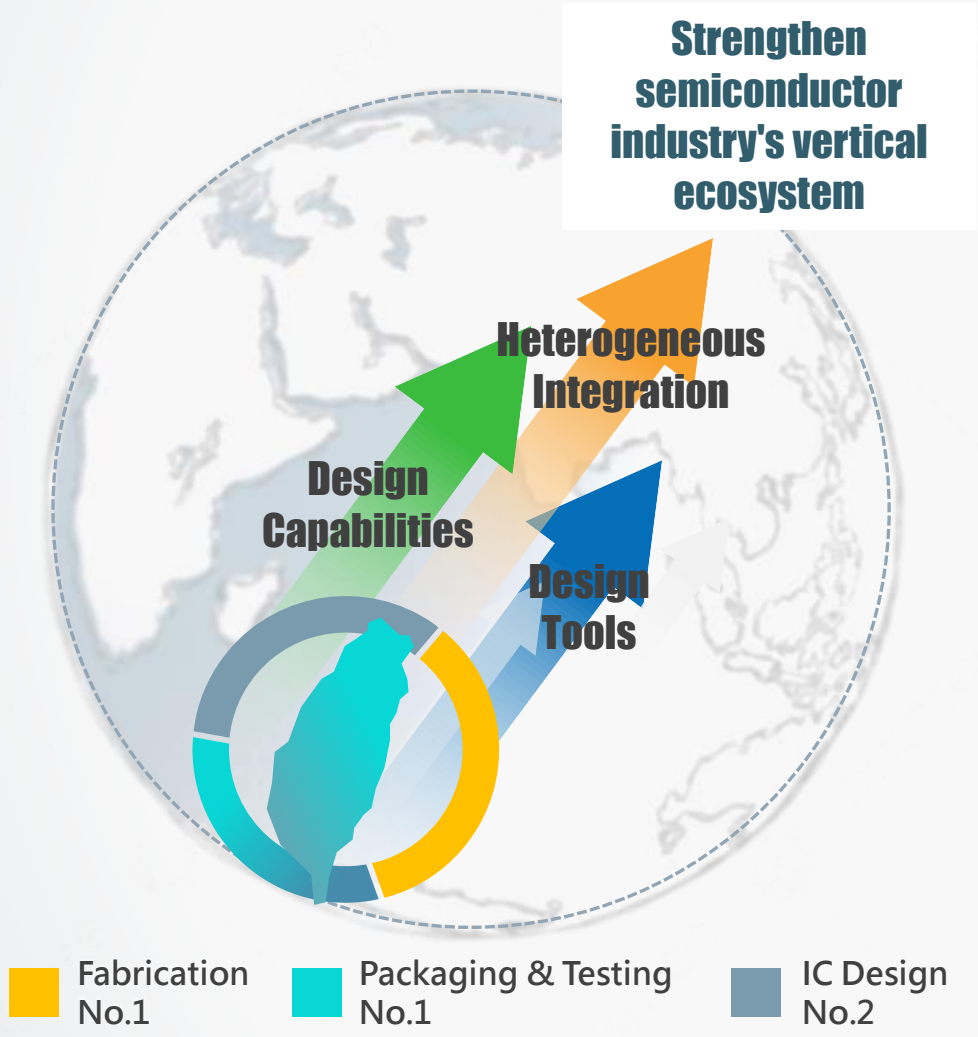
Develop a robust partner ecosystem with friendly countries



Research and Development

Invest in advanced tech to uphold semiconductor industry leadership

Accelerate Advanced Technology Development



Design Capabilities

Enhance IC design industry

- Accelerate the adoption of cutting-edge technologies
- Promote the creation of high-value and diverse applications

Heterogeneous Integration

Advance packaging technologies

- Invest in technologies like 3DIC, silicon photonics and chiplet.
- Develop key equipment and materials for advanced packaging.

Design Tools

Innovate EDA tools for emerging technologies

- Develop AI-driven chip design software and tools for heterogeneous integration.
- Establish a cloud environment for sharing tools and IPs.

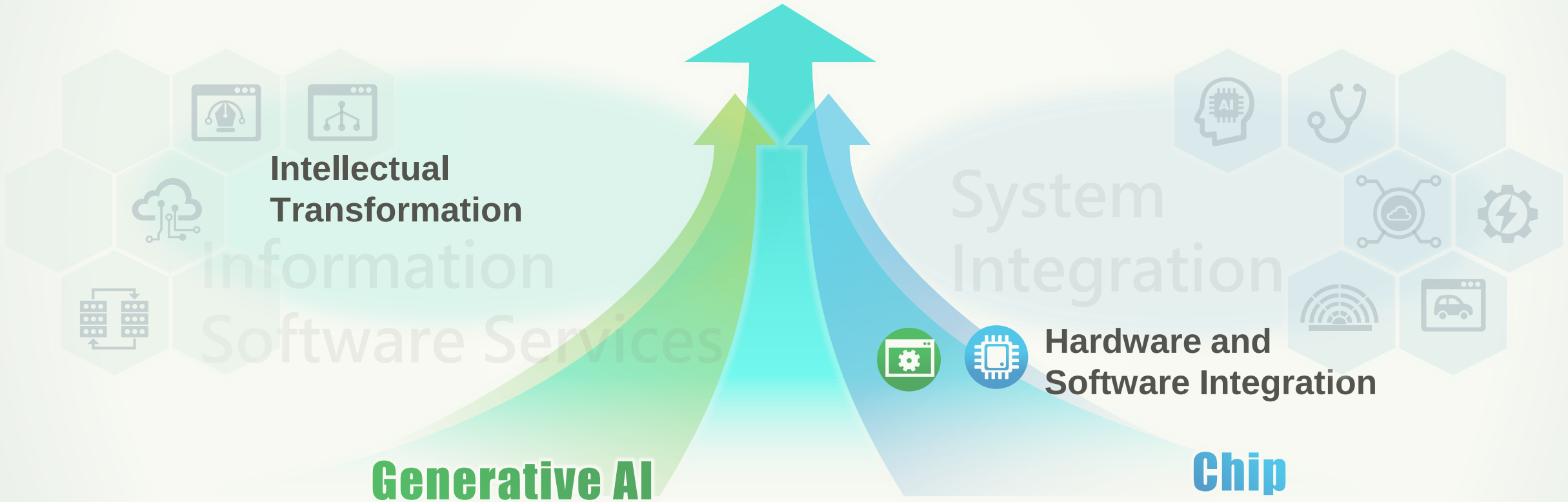
Industry

Connect the global startup ecosystem and empower innovation by GAI・Chips technology

Drive All-Industry Innovation through GAI · Chips

Innovation Everywhere

Manufacturing, Healthcare, Transportation, Food, Housing, Recreation, ….



Generative AI

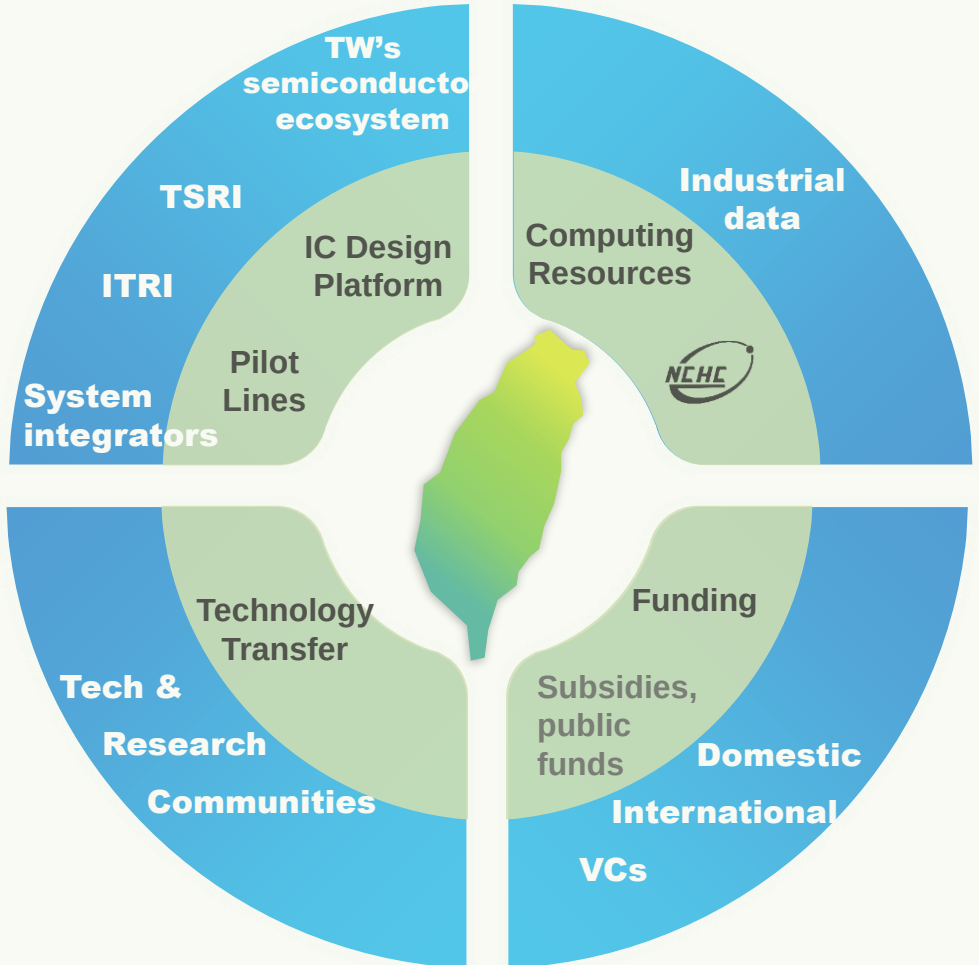
- Establish data sharing mechanisms
- Develop domain-specific foundation models
- Create generative AI tools

Chip

- Foster cross-discipline collaboration between semiconductor industries and various application domains.

Position Taiwan as a Global Hub for Innovation

Establish a comprehensive ecosystem to recruit and foster international and domestic startups, and support teams in realizing their ideas.

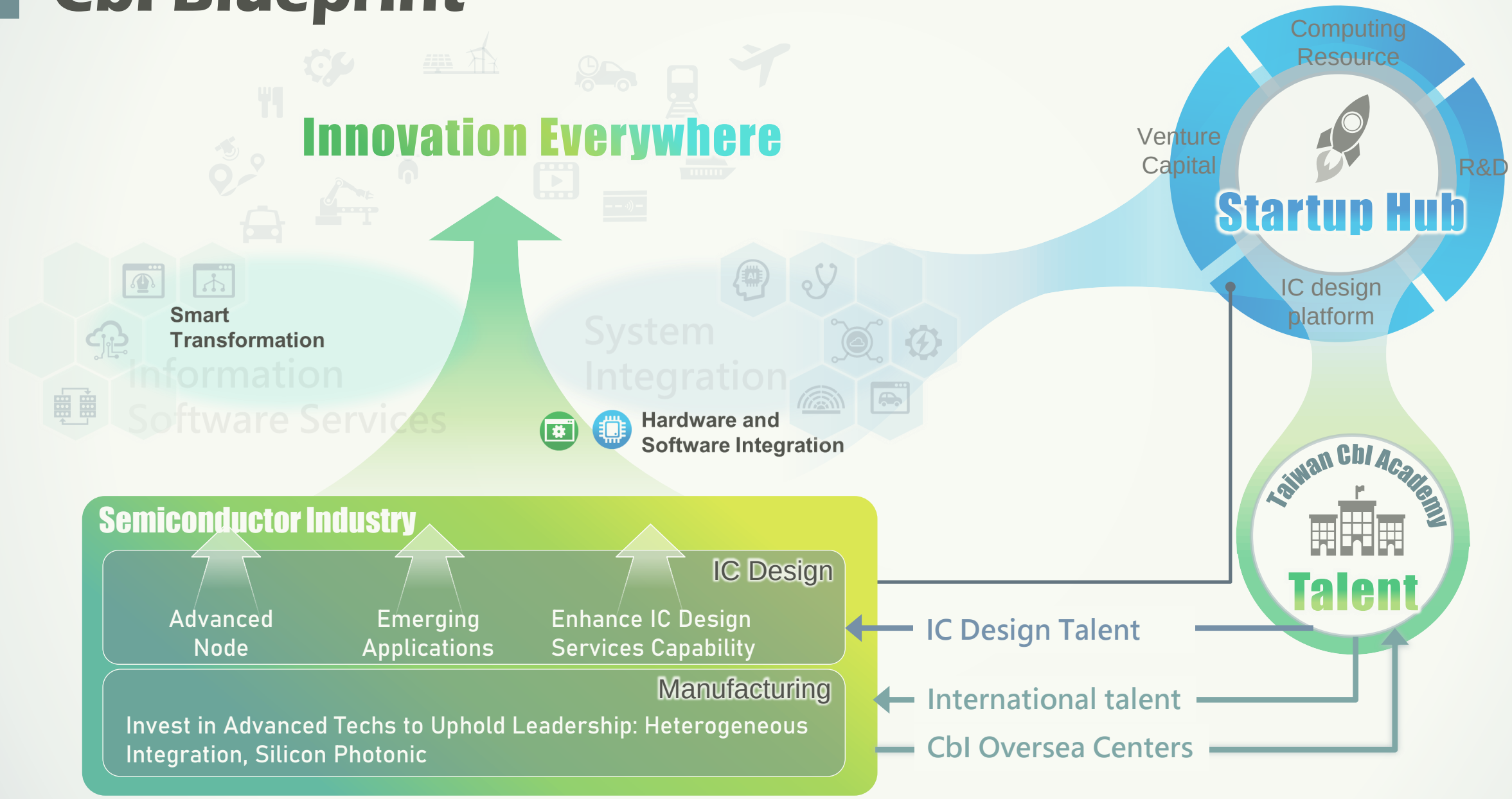


Global Grand Challenge

- IC Design Innovation
- Innovative Chip Application
- Innovative GAI application

semi · Fraunhofer · imec · 玉山MJ · CES · COMPUTEX TAIPEI · HLF HIGH LEVEL FORUM · InnoVEX · VIVA · tie

CbI Blueprint



Innovating Tomorrow
Taiwan Chips In !!

Food Service

Maintenance & Repair Services

Energy

Logistics

Airlines

Maps & Navigation

Last mile/ Micro-mobility

Media & Entertainment

Sea

Railroads

Smart Roads/Rails

Transportation Hubs

Ride Sharing

Manufacturers/ Equipment Providers

Communications