

February 12-13, 2025

**7th IMF-JICA Conference**

Navigating for a Better Future in Emerging and Frontier Asia under Uncertainty:  
Economic and Fiscal Challenges and Prospects  
@JICA International Conference Hall

# How can we make industrial policy in Asia more effective?

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# Is industrial policy effective?

## Theory

### Positive

- Scale economies  
→ "big push" policy

### Negative

- Inefficiency
- Difficult targeting

## Empirical evidence

### Positive

- Heavy and chemical industries in South Korea (Lane 2022)

### Negative

- Regional high-tech clusters in Japan (Okubo & Tomiura 2012)

### Mixed

- Industrial policy of China (Aghion et al. 2015, Branstetter et al. 2023)

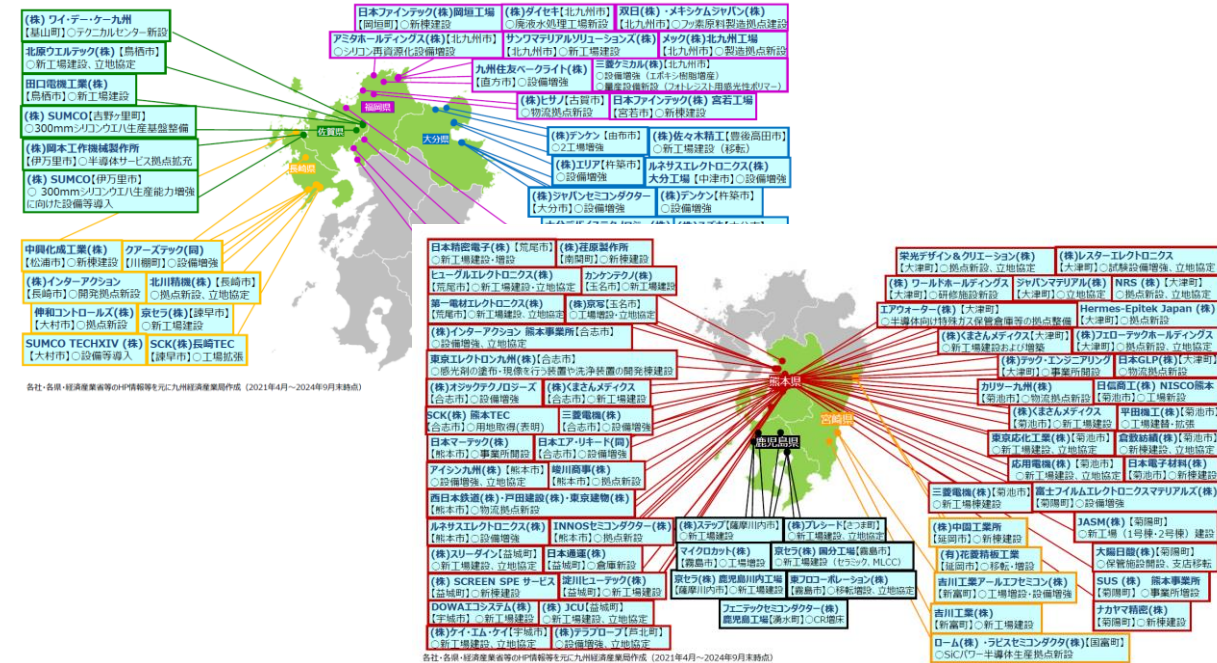
# The current industrial policy of Japan has been successful

## Subsidies to TSMC in Kyushu

### Why successful?

- FDI of frontier company  
→ technology spillovers
- Combined with other policies, e.g., regional consortium of 134 companies and universities  
→ industrial agglomeration  
→ scale economies, technology spillovers through regional supply chains

## New investments near TSMC (4.8 trillion yen, as of Sep 2024)



**Production of integrated circuits**  
 604 billion yen in 2013  
 → 1153 billion yen in 2023

# The current industrial policy of Japan has been successful

## Subsidies to Rapidus (newly established company for chip production)

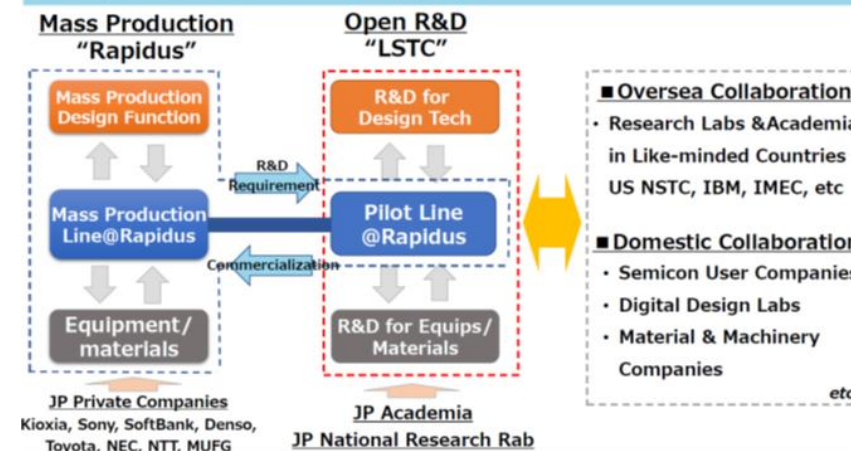
### Why successful?

- Research collaboration with US, European, and Asian companies and research institutions  
→ knowledge spillovers
- Also, subsidies to research centers of TSMC and Samsung

Ministry of Economy, Trade and Industry  
[https://www.meti.go.jp/english/press/2022/pdf/1111\\_001a.pdf](https://www.meti.go.jp/english/press/2022/pdf/1111_001a.pdf)  
 Tsukuba Global Innovation Promotion Agency  
[https://www.tia-nano.jp/data/doc/1635482975\\_doc\\_66\\_0.pdf](https://www.tia-nano.jp/data/doc/1635482975_doc_66_0.pdf)

#### Project Framework for Next Generation Beyond 2nm Project (B2P)

- <METI announcement on 11<sup>th</sup> Nov.>: Establishment of Two Entities for B2P
1. "LSTC": Open Collaborative R&D Platform (Public Entity) ≡ Leading-Edge Technology Center
  2. "Rapidus": Mass Production Entity (Inc.)



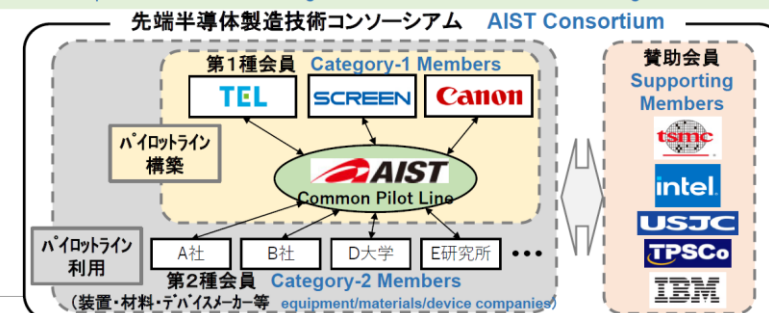
#### AIST Consortium for Advanced Semiconductor Manufacturing Technology

##### 【活動内容／Activities】

- ・パイロットラインの運営を通じて、先端半導体製造技術の研究開発と普及を促進。  
To facilitate R&D and implementation of advanced semiconductor manufacturing technology through the pilot-line operation.

##### 【会員／Membership】

- ・3種類の会員種別(下図参照)。第2種および賛助会員の加入を歓迎。  
Three types of membership as shown in the figure below. New members are welcome as Category-2 and Supporting Members.
- ・パイロットラインの利用に係る費用は、各会員の利用実態に応じて各会員が負担。  
Cost of the pilot-line use will be charged to each member on an actual usage base.



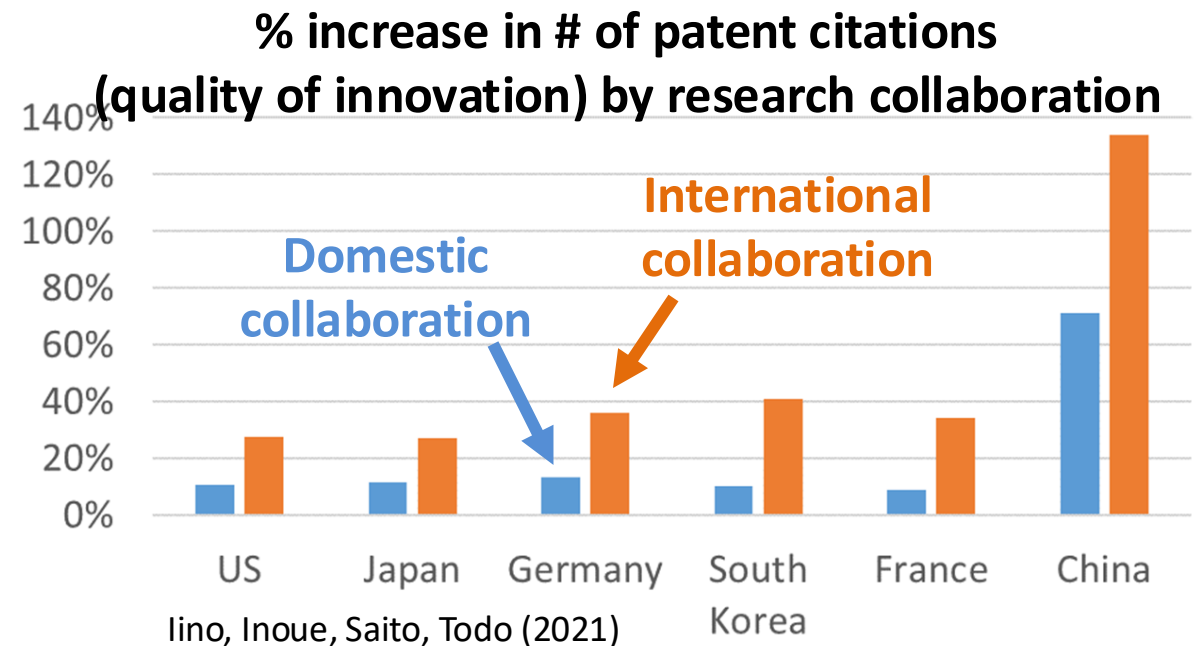
# 2 key factors of success of industrial policy

## Open and competitive

- Promote foreign and domestic investment, rather than restrict trade
  - Trade restrictions should be limited to critical products
- Maintain competition in the private sector to avoid inefficiency
  - Subsidies to Chinese companies were effective only in competitive industries (Aghion et al. 2015)

## Support for networks

- Regional and global supply chains → resilience
- International and domestic research collaboration → innovation



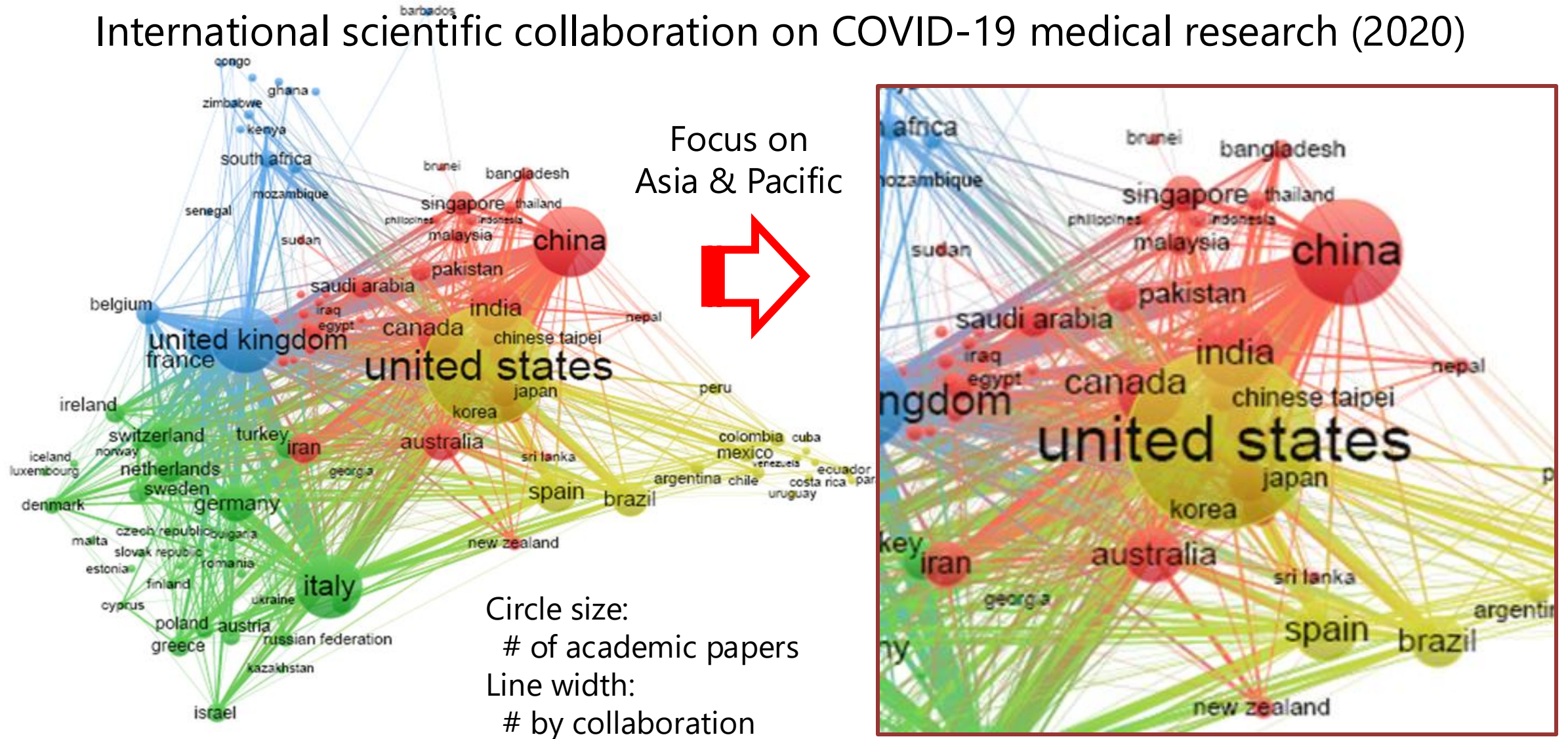
## Expand supply chains and knowledge networks

- Information provision for business matching
  - Domestic public institutions: JETRO, JICA for Japan
  - International frameworks: RCEP, CPTPP, APEC
- Infrastructure development
  - Kyushu Shinkansen
    - ➔ supply chain linkages in the region  
(Bernard et al. 2019)
  - Hokuriku Shinkansen
    - ➔ research collaboration  
b/w the region & Tokyo  
(Inoue et al. 2017)



# Expanding knowledge networks in Asia and Pacific

International scientific collaboration on COVID-19 medical research (2020)



# Japan's policy to expand knowledge networks in Asia (1)

## JICA's support to Indian Institute of Technology Hyderabad

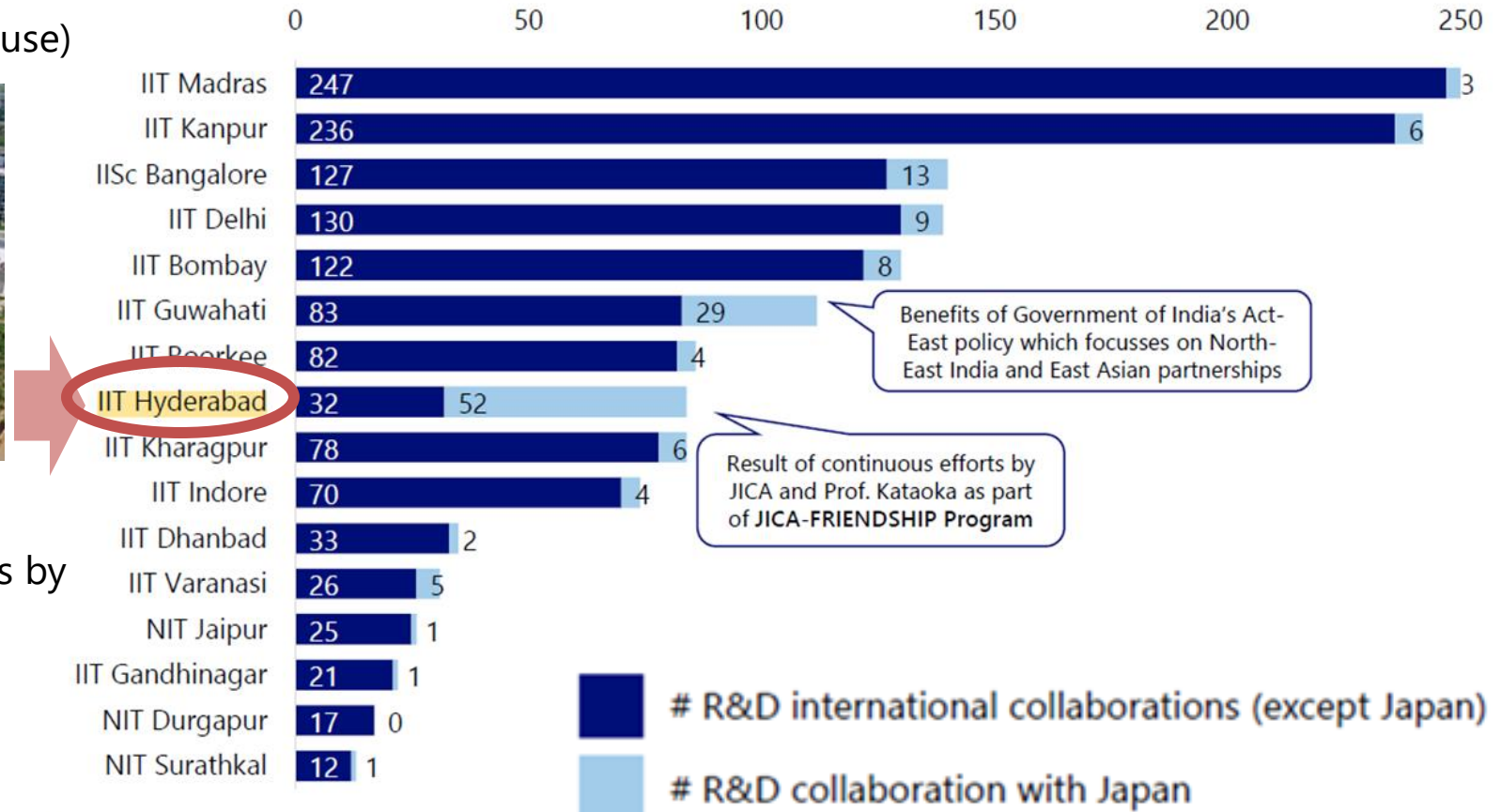
### Infrastructure development

(international conference hall and guest house)



### Networking

(scholarship for studying in Japan, mutual visits by researchers, grants to joint research)





# Japan's policy to expand knowledge networks in Asia (2)

## ASEAN University Network/Southeast Asia Engineering Education Development Network (AUN/SEED-Net) Project by JICA

- Scholarships (+1,400)
- Support short-term visits b/w Japan and ASEAN (+1,500)
- Support regional academic conferences (124)
- University consortiums (10)

### Research

**138**  
Collaborative Research  
for Alumni

**45**  
Collaborative Research  
for Solving Regional  
Common Issue

**47**  
Collaborative Research  
with Industry

