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Economic Cooperation**

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Session 4

Case Studies from Economies on Participation in Global Value Chains

Submitted by: Industrial Technology Research Institute



**Workshop on Opportunities and Challenges
for Global Value Chains During the COVID-19
Pandemic and Post-Pandemic Economic
Recovery
13-14 October 2022**

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Case Studies from Economies on Participation in Global Value Chains (GVCs)

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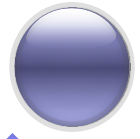
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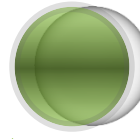
Agenda



Contribution of GVCs to Development



Case Studies for Resilient GVCs



GVCs as Tools to Achieve GRID



Future Vision

Contribution of GVCs to Development

- GVCs are essential to **development** and **poverty reduction**

Low/middle income economies in global export rose from 16% to 30% during 1990-2017

People living in extreme poverty fell from 36% to 9% during 1990-2017

Source: World Bank (2022), Reshaping Global Value Chains in Light of COVID-19

- Specialization and economies of scale bring **productivity gains** and **create opportunities** to participate in the global economy

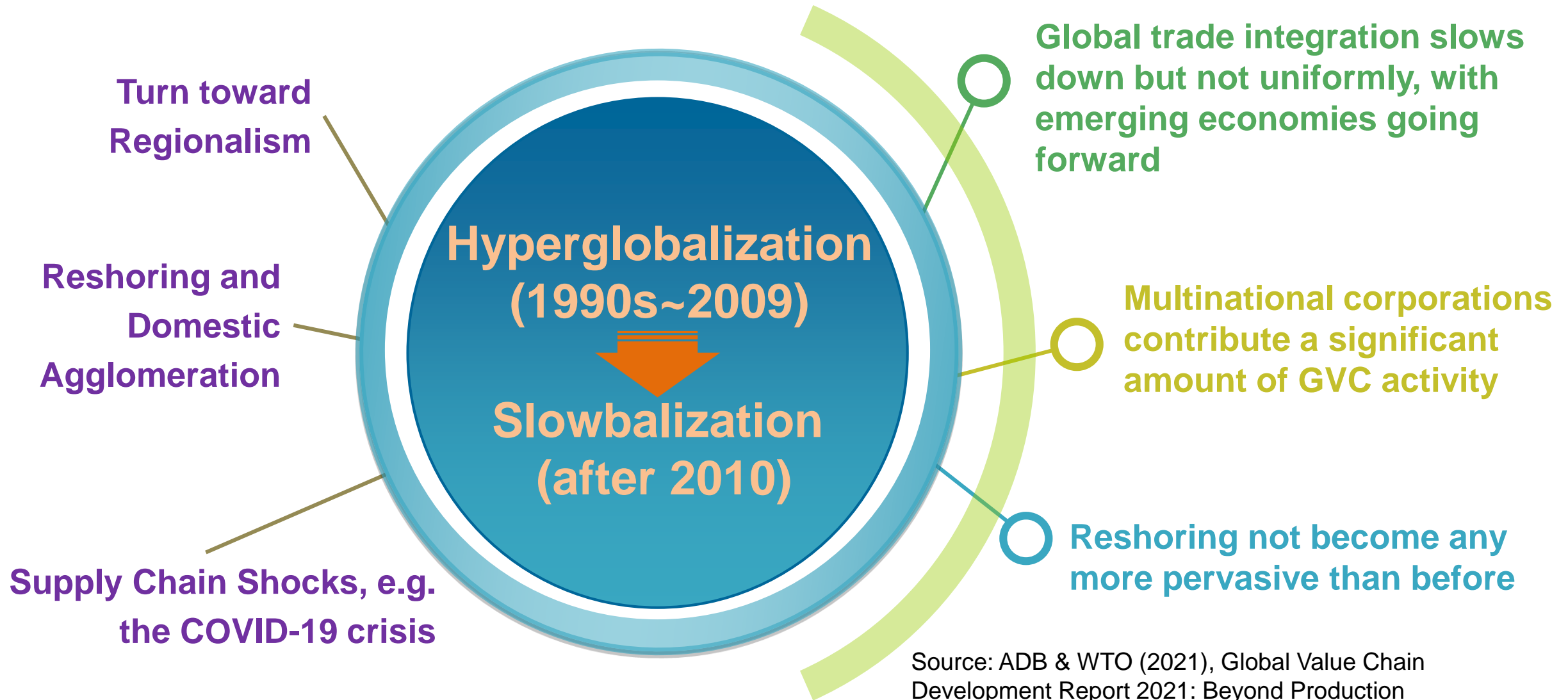
2021 global semiconductor industry sales: \$556 billion

➡ Regions specializing in different activities of the value chain

2021 our semiconductor industry sales: \$146 billion

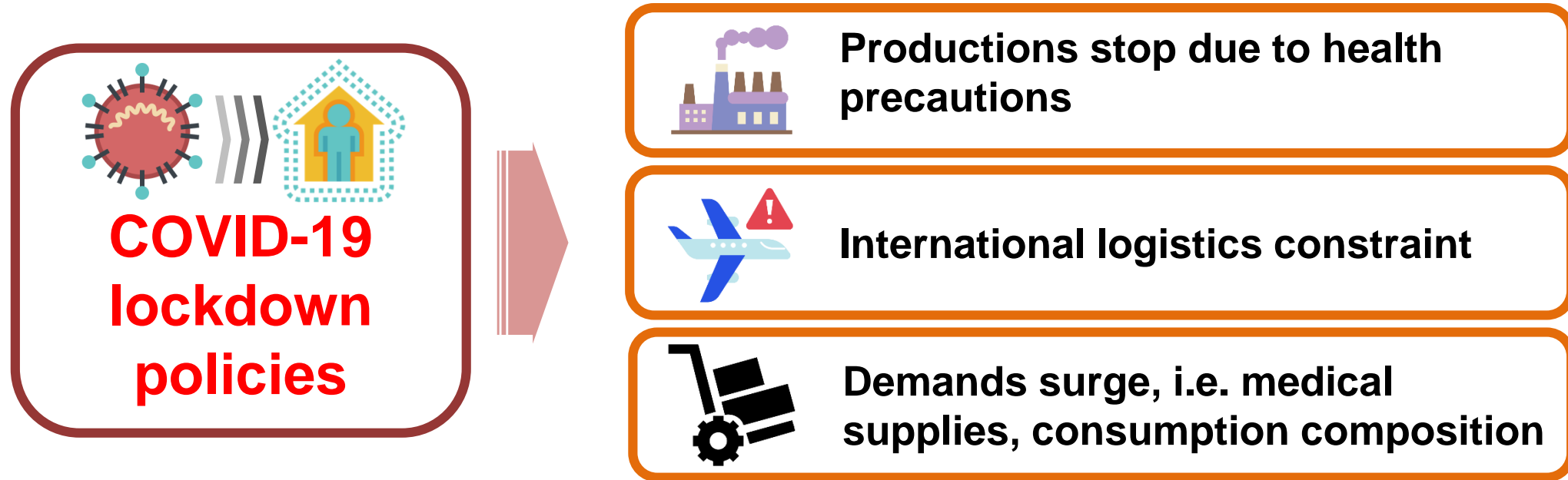
➡ Demonstrating high degree of resilience during pandemic

Recent Trends in GVCs



Lessons from the COVID-19 Pandemic (1/2)

- **COVID-19** re-ignites a debate on **risks** associated with **international production**



Source: OECD (2020), COVID-19 and Global Value Chains: Policy Options to Build More Resilient Production Networks
Icons Source: ICONFINDER, created by Becris., Laura Reen, PINPOINT.WORLD

Lessons from the COVID-19 Pandemic (2/2)

- **GVCs** can help firms and economies **recover faster** from economic shocks caused by COVID-19

Reshoring could cause economic loss

Localization of GVCs estimated to decrease global real GDP by more than 5%

Source: OECD (2021), Global Value Chains: Efficiency and Risks in the Context of COVID-19

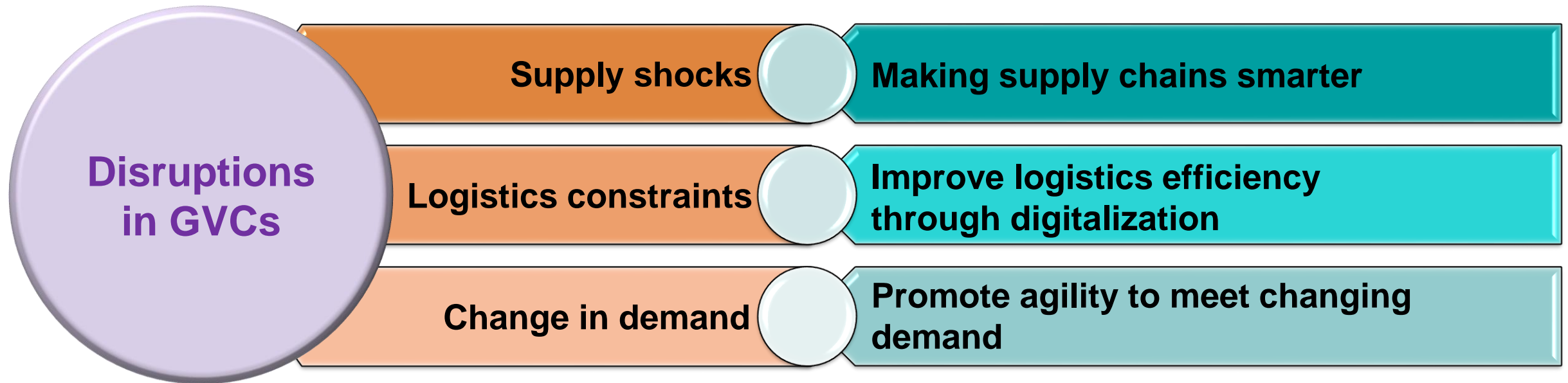
Reshoring could reduce trade and increase poverty

Shift toward global reshoring estimated to drive additional 52 million people into extreme poverty by 2030

Source: World Bank (2022), Reshaping Global Value Chains in Light of COVID-19

Case Studies for Resilient GVCs

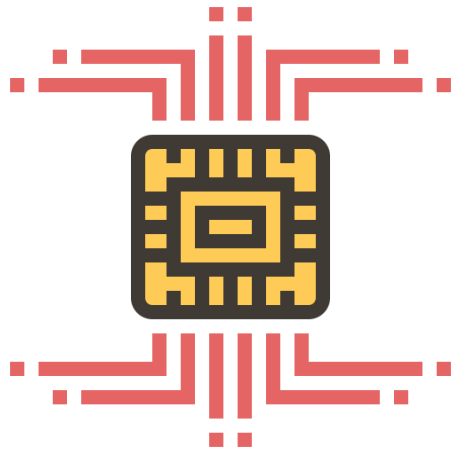
- Companies can make GVCs **more resilient** by taking **better risk management strategies** with the **assist of technologies**



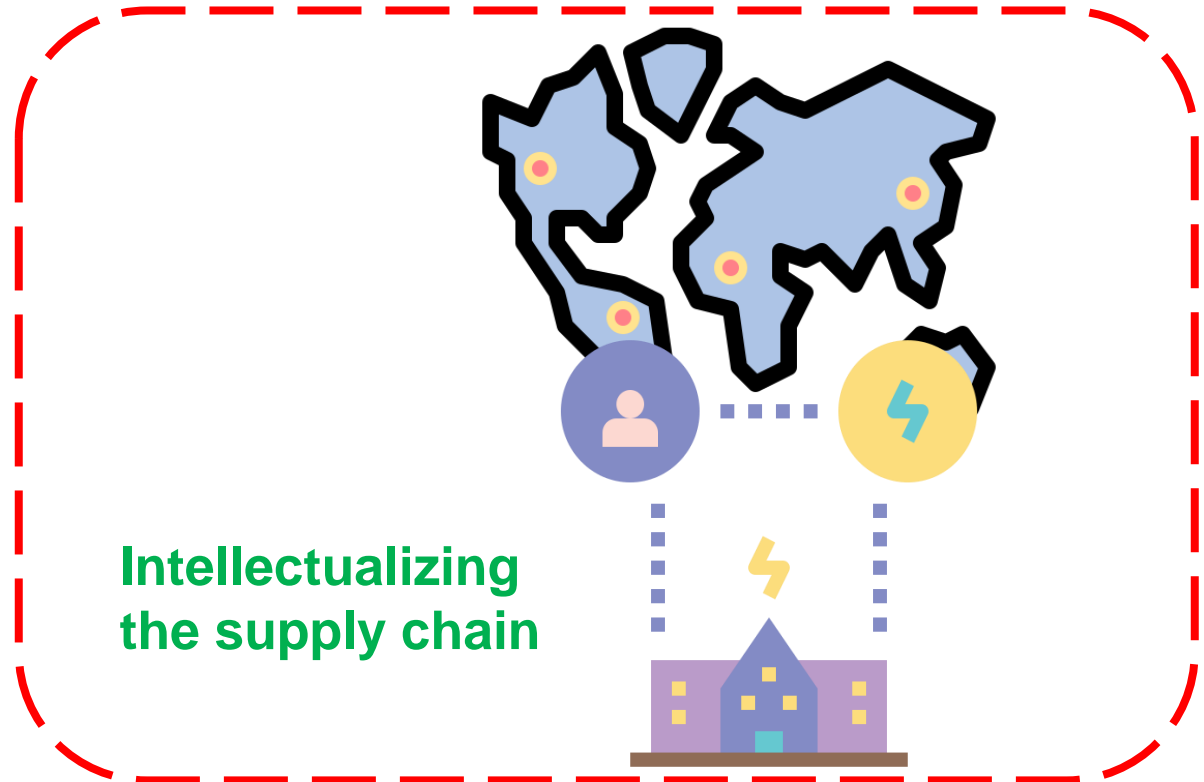
- Governments can support companies by **providing information** on GVCs and creating **conductive regulatory environment**

Case Studies for Resilient GVCs: Intellectualization

- Schneider Electric developed a **self-healing digital supply chain platform**, using **adaptive machine learning** to optimize performance
- Resulting in **reduction of energy costs and maintenance costs**



Adaptive Machine Learning



Intellectualizing
the supply chain

Icons Source: ICONFINDER, created by Eucalyp Studio, Sumit Saengthong, Geotatah,

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Case Studies for Resilient GVCs: Digitalization

- Nike spreads out its distribution network by adding **regional distribution centers** in the U.S. and Europe
- Nike digitalizes its distribution network by using **robots** to assist with sorting and packing and using **AI** to help to prioritize orders and deliveries



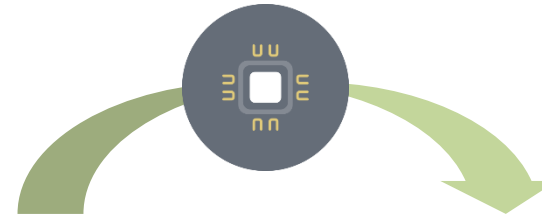
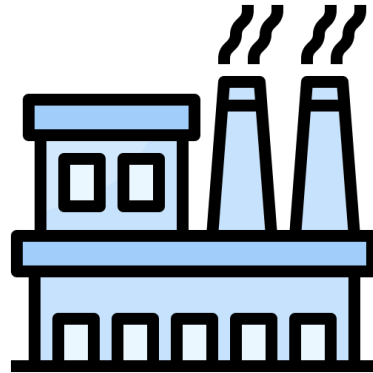
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Case Studies for Resilient GVCs: Agility

- TSMC increased its production capacity for **manufacturing automotive chips by 50%** in 2021 to alleviate the semiconductor shortage
- With its **technological superiority** and the effect of **industrial clusters**, TSMC shows that **agile capacity** could seize opportunity of sudden demand surge

Reallocating
production
capacity



Providing more
automotive chips



Icons Source: ICONFINDER, created by Starup Graphic Design, Eezy, Muhammad Akash

GVCs as Tools to Achieve GRID

Multinational corporations making supply chains greener or more inclusive

- Apple transforming its supply chain to **100% renewable electricity** by 2030
- P&G will spend \$5 billion annually with **diverse-owned / women-led businesses** by 2030

Climate mitigation policies leading a shift away from carbon-intensive GVCs

- e.g. **European Green Deal**

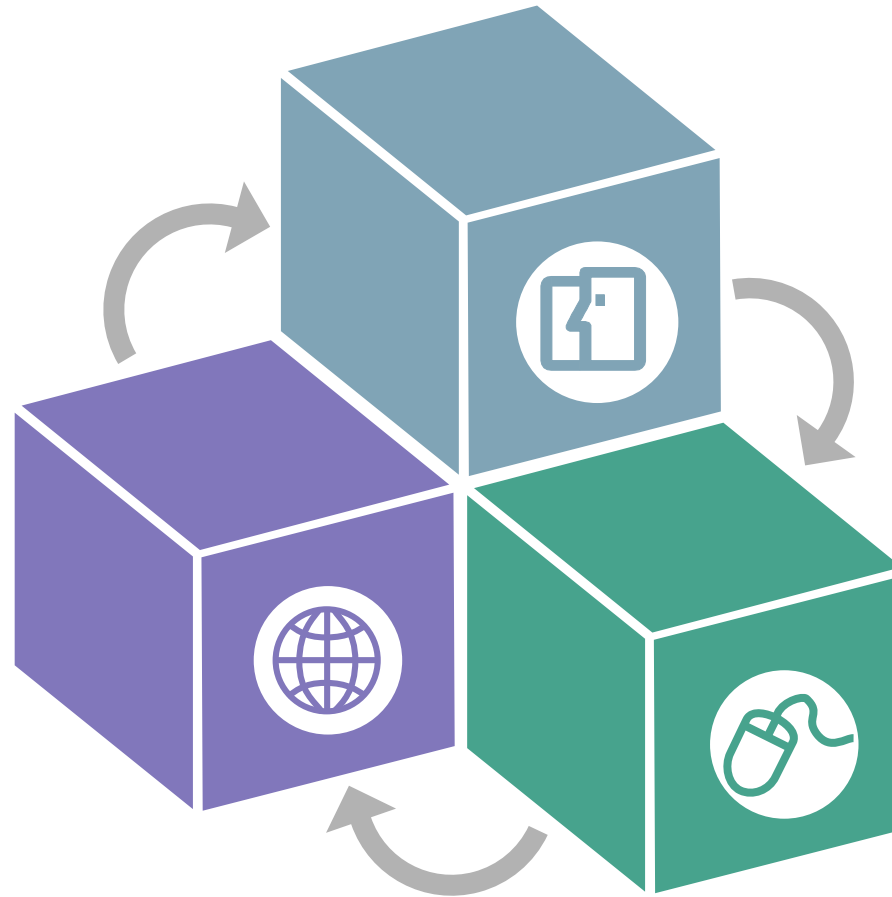
Governments assisting companies in improving supply chains

- Japan releases the Guidelines on **Respecting Human Rights in Responsible Supply Chains**

**Integrate into the global trading system can help achieve
Green, Resilient and Inclusive Development (GRID)**

Future Vision: More Collaboration among Member Economics

More collaboration among member economies to participate more in GVCs, such as expanding 3C supply chain



Collect and share information on GVCs

Integrate into digital platform economy

THANK YOU

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