



# The Impact of Supply Chain Adjustments Under the New International Situation

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Supply chain layout of  
Taiwanese suppliers

The external environment catalyzes  
changes in the supply chain

Exploring possible variables of  
new era in 2021

Conclusion



## Supply chain layout of Taiwanese suppliers

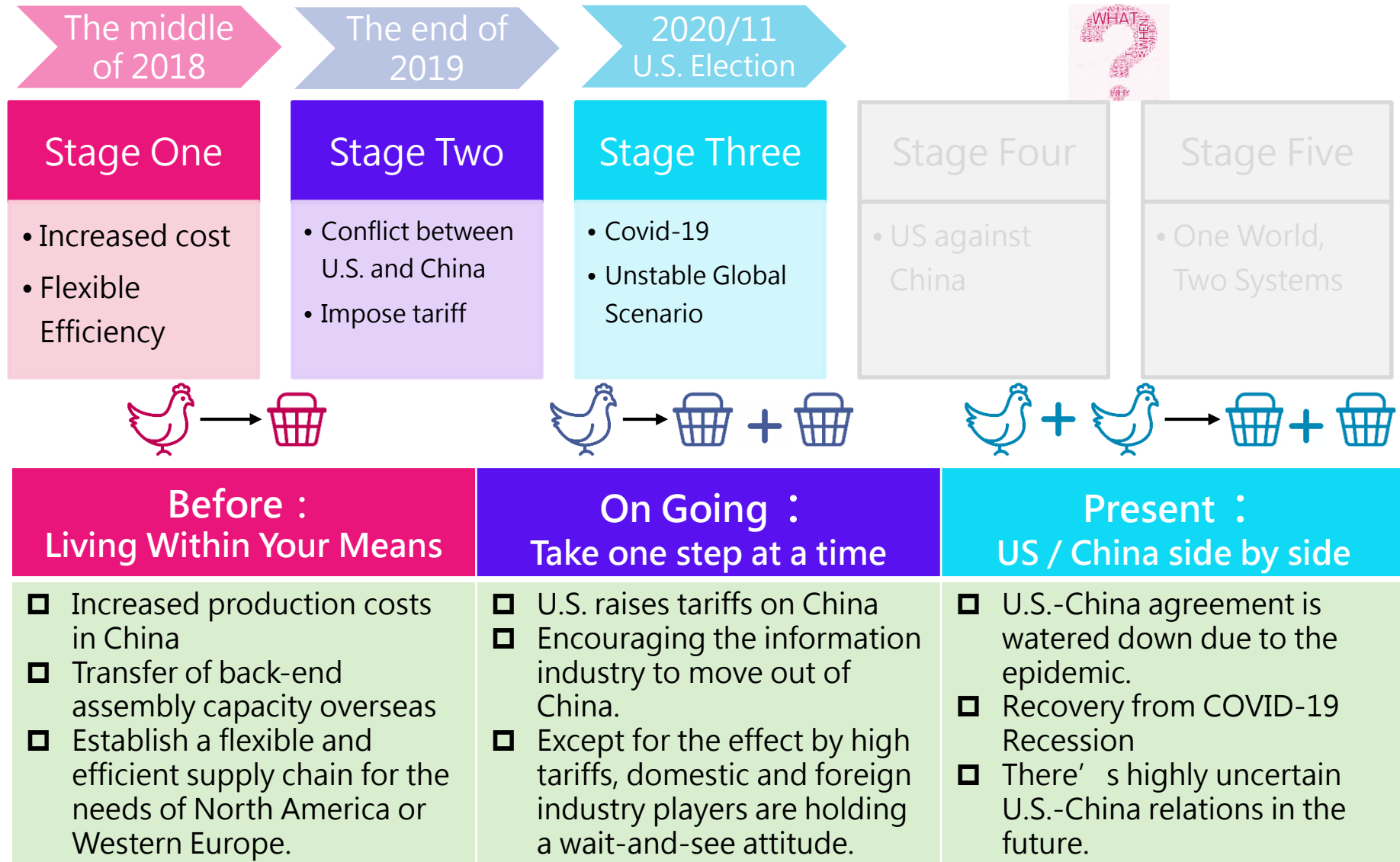
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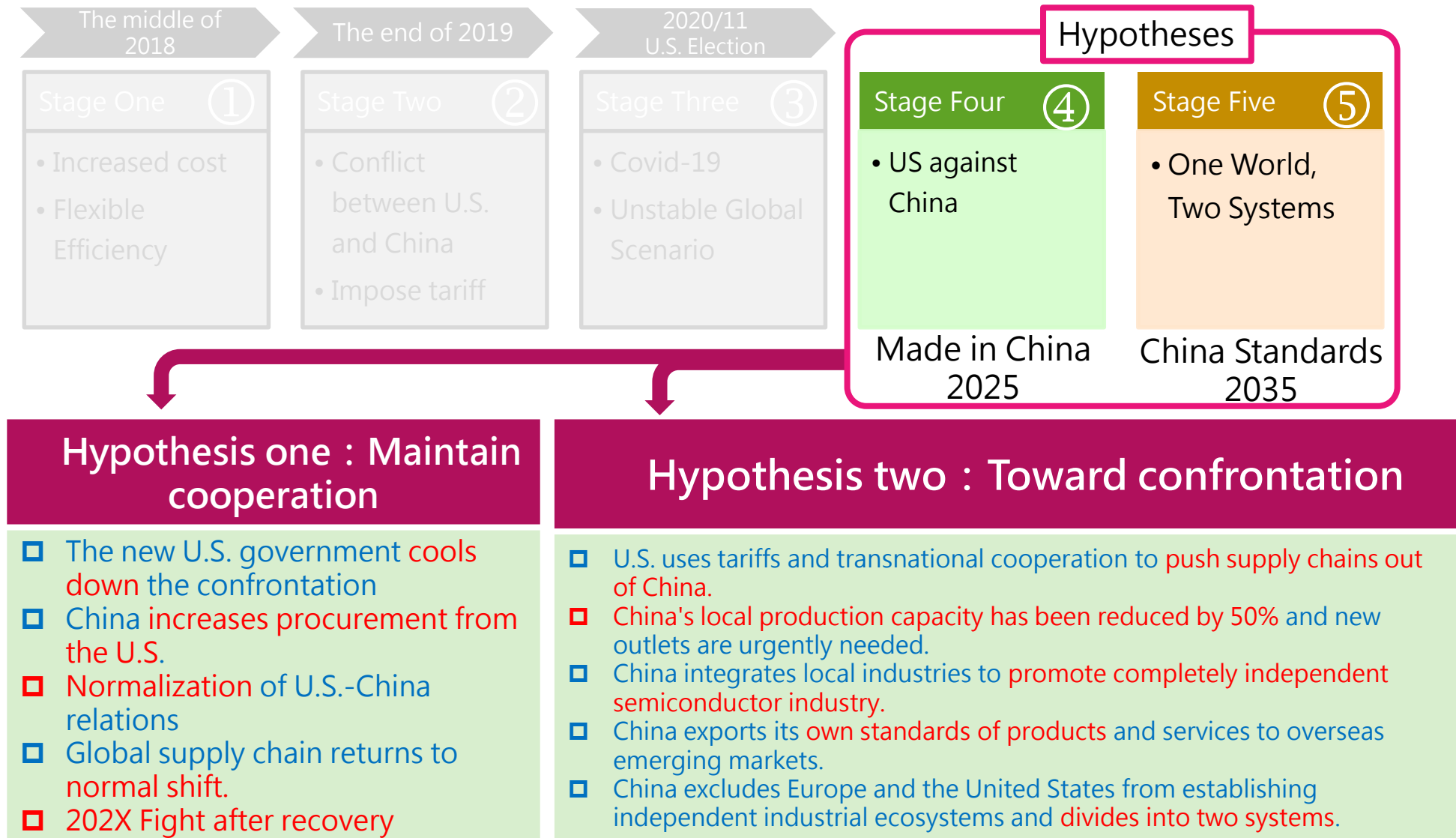


# Supply Chain Is Changing Because of COVID-19



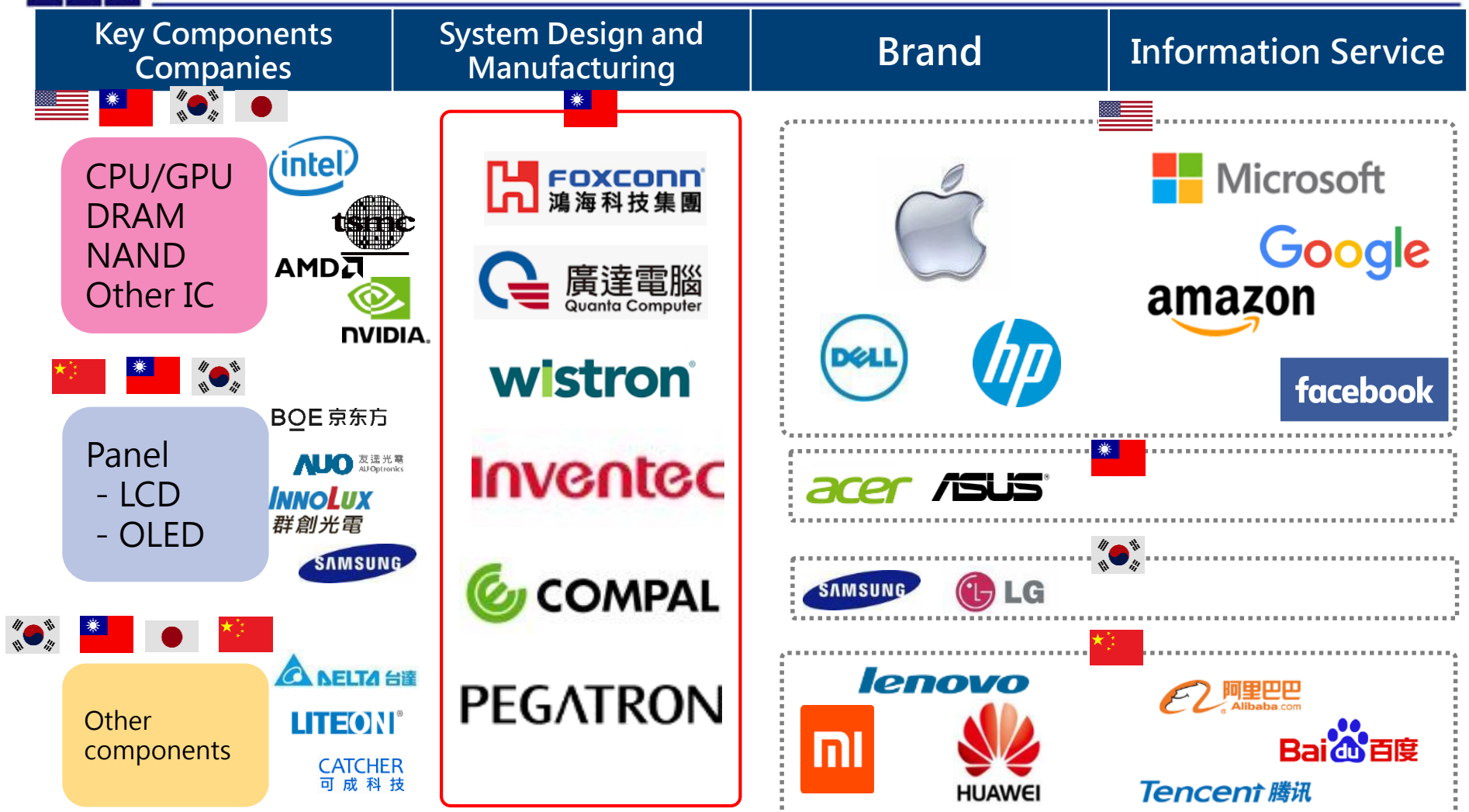


# 2021 Is The Turning Point for Supply Chain





# ICT Supply Chain – Notebook





# ICT Supply Chain - Server

## Key Components Companies

### Processor

- CPU : Intel、AMD、IBM、ARM
- GPU : NVIDIA、AMD
- BMC : 信驊、新唐、旭準
- 高速傳輸晶片 : 譜瑞、Texas Instruments、Maxim、NXP、Pericom
- SSD控制晶片 : 群聯、慧榮、Marvell

### PCB

- PCB : 臻鼎、瀚宇博德、金像電、博智、健鼎、華通、欣興、嘉聯益、台郡、先豐、深南、
- CCL 銅箔基板 : 台耀、聯茂、台光電、金居、騰輝、Panasonic
- ABF : 欣興、南電、景碩
- 光纖線纜 : 上詮、波若威
- 光被動元件 : 統新、東典、聯鈞

### Memory

- DRAM : Samsung、Micron、SK Hynix
- SSD : Samsung、Western Digital、Toshiba、SK Hynix、Micron、Intel
- HDD : 希捷、Western Digital、Toshiba

### Switch

明泰、智邦、Cisco、HP、Juniper

### Power

光寶科、群光、群電、全英、康舒、台達電

### Fan

風扇 : 台達電、建準、動力應廣、新纖  
散熱 : 超眾、雙鴻、健策、建準、泰碩、奇鋆、聯德、高力、廣運、安力  
滑軌 : 川湖、南俊、聯德、Accuride、Jonathan

### MotherBoard & Case & Connector

MotherBoard : 鎧勝、勤誠、營邦、鴻海、光寶、聯德、神準、經緯精密、新纖  
Case : 華碩、技嘉、微星、美超微  
Connector : 鴻海、嘉基、立訊、詮欣、正凌

## System Design and Manufacturing

**FOXCONN**  
鴻海科技集團

**英業達**  
**Inventec**

**wistron**  
緯創資通

**wiwynn**

**廣達電腦**  
Quanta Computer

**QCT**

**MITAC**

**TYAN**

## Brand : U.S. / China

**DELL** EMC

Hewlett Packard  
Enterprise

**IBM**

**Lenovo**



**HUAWEI**

**inspur**

**Sugon**

## Data Center: U.S. / China

**amazon**



**Microsoft**

**facebook**

**Google**

**Baidu**

**字节跳动**

**Tencent**

**Alibaba Group**



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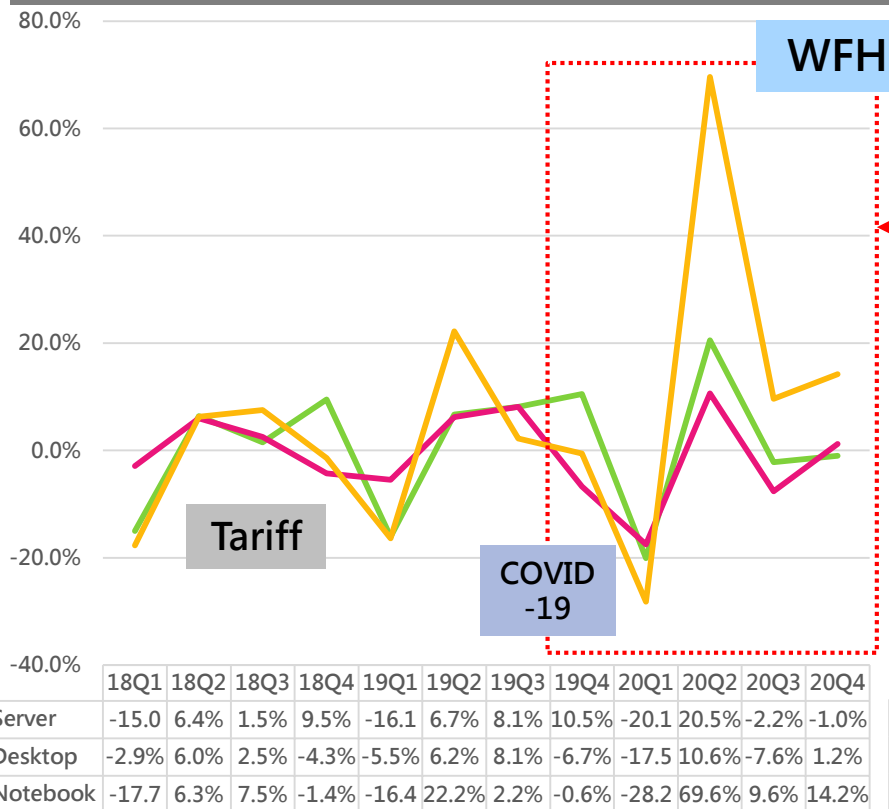
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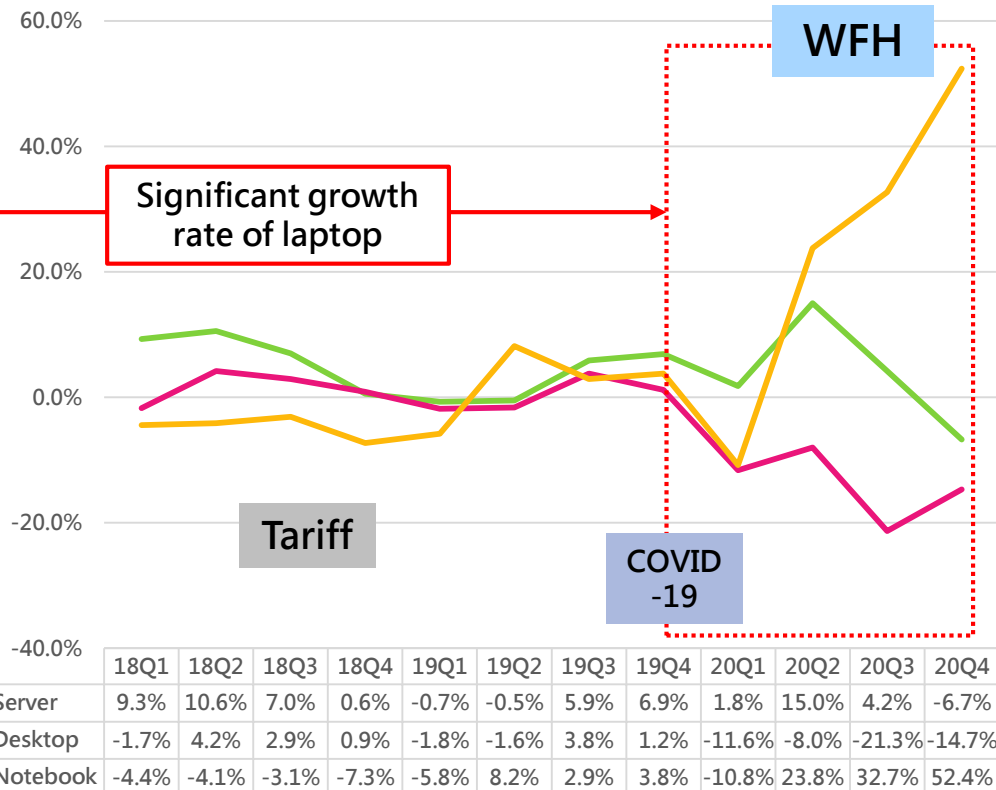


# COVID-19 Impacts ICT Supply Chain

2018-2020  
Major shipment of Taiwan's information industry by QoQ

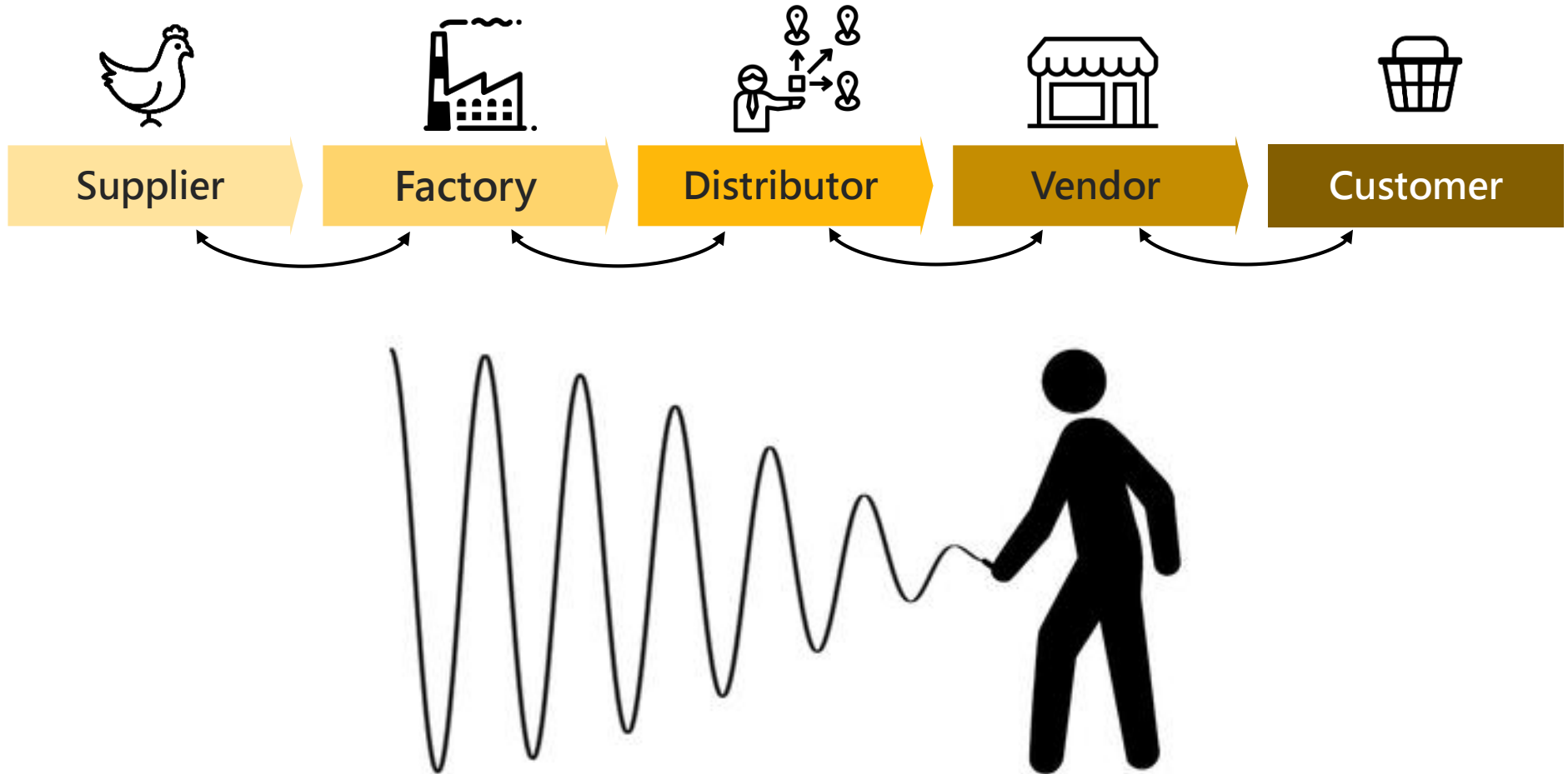


2018-2020  
Major shipment of Taiwan's information industry by YoY





# Bullwhip Effect and Overbooking





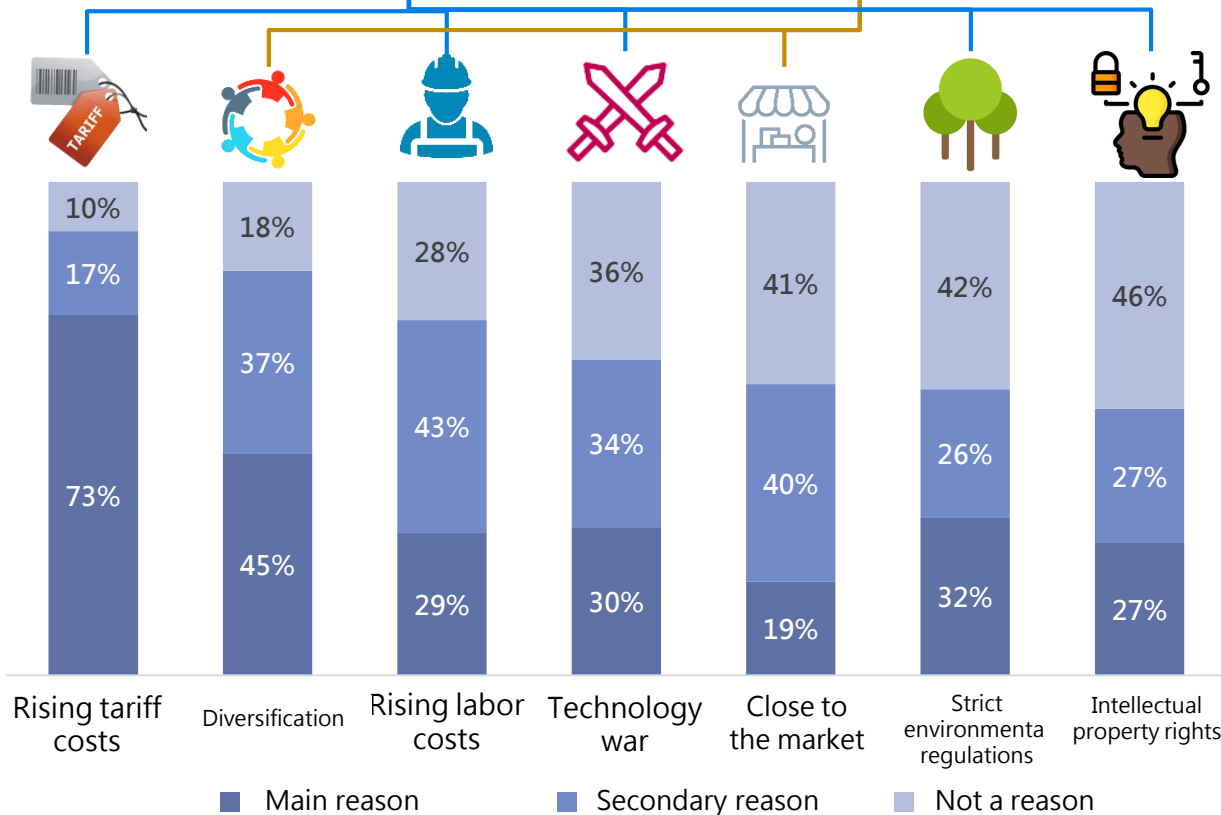
# Push and Pull Theory

Reasons for driving the factory to leave China

The ranking of the top three countries after leaving China

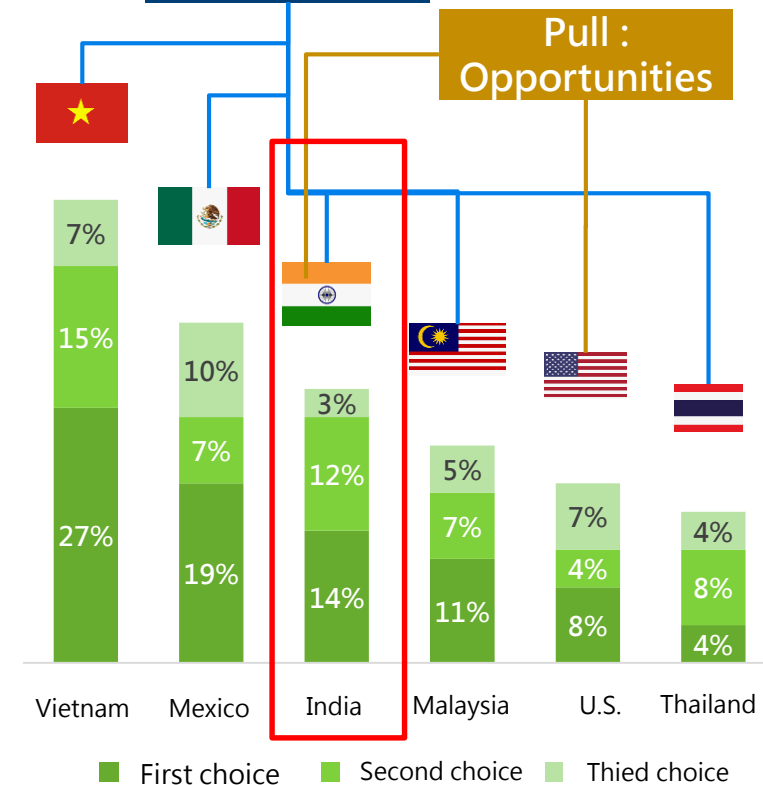
## Push : Cost

## Pull : Opportunities



## Push : Cost

## Pull : Opportunities





# Industry Return Policy Are Emerging

America

Europe

Southeast Asia

North Asia



U.S. plans to set up \$25 billion "Reshoring Fund"



Britain started to formulate "Project Defend"

Europe

Low cost

Market expansion

V

Germany modify Trade and Payments Regulation



India publish Production-Linked Incentive Scheme (PLI)

Asia

Low cost

Market expansion

V

Japan lunches Supply Chain improved project



America

Low cost

Market expansion

V

Central/South America

Low cost

Market expansion

V

V

US : Quanta · Foxconn

Mexico : Foxconn · Pegatron · Wistron · Inventec

Brazil : Foxconn · Wistron · Pegatron

Chile : Wistron ( Maintenance )



Thailand continues to promote economic revitalization programs, Thailand Plus and Eastern Economic Corridor.



Vietnam has signed FTA with EU, Japan and other developed countries and regions.

Czech : Foxconn · Wistron  
Pegatron · Inventec  
Slovakia : Foxconn  
Hungary : Foxconn  
Poland : Compal

India : Foxconn · Wistron · Inventec

Indonesia : Pegatron

Thailand : Quanta · Wistron

Malaysia : Foxconn · Wistron · Inventec

Philippines : Wistron ( Maintenance )

Vietnam : Foxconn · Compal · Pegatron · Wistron

South Korea provides corporate subsidies and tax incentives, and shares part of the factory relocation costs.



South and Southeast Asia

Low cost

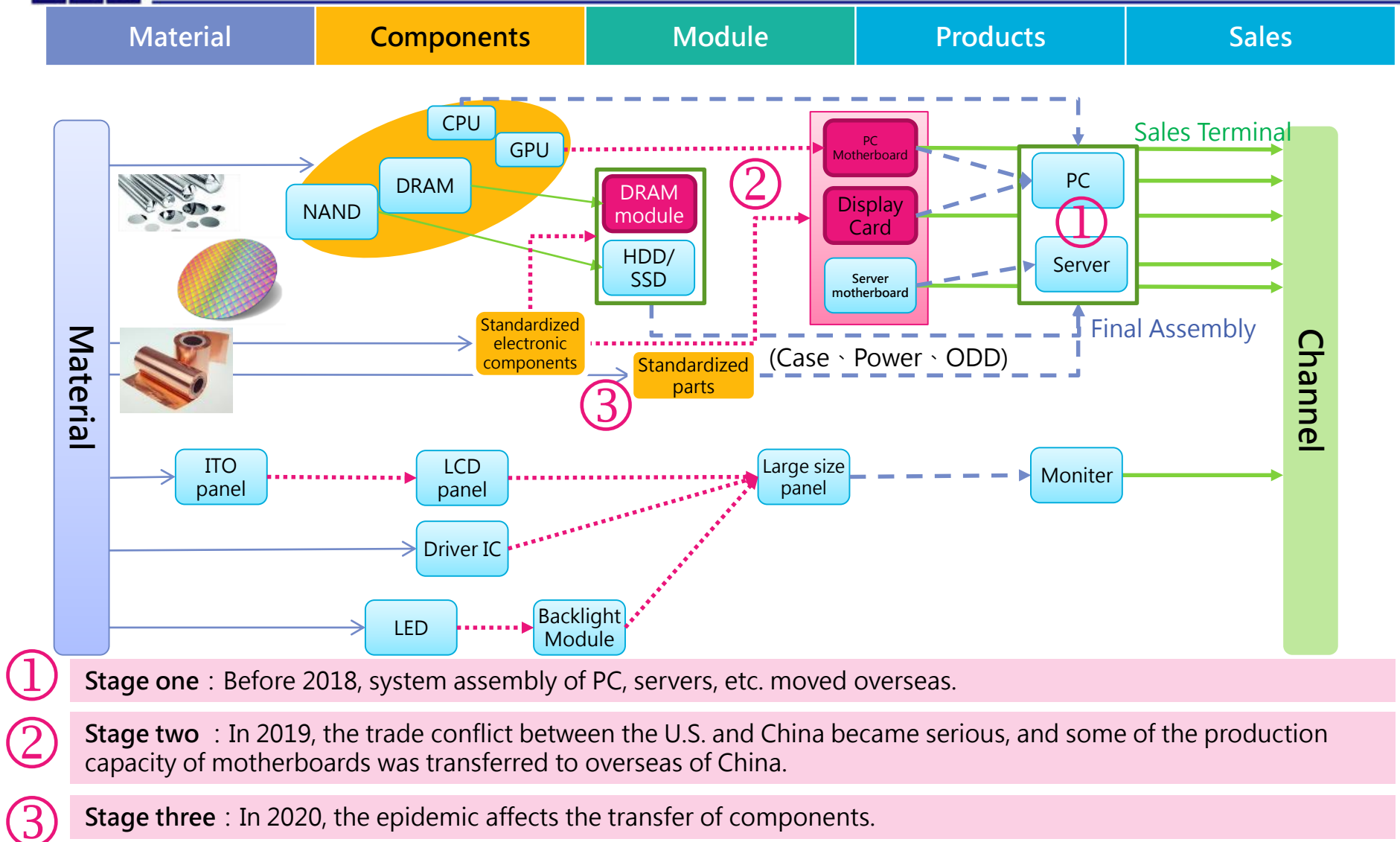
Market expansion

V

V

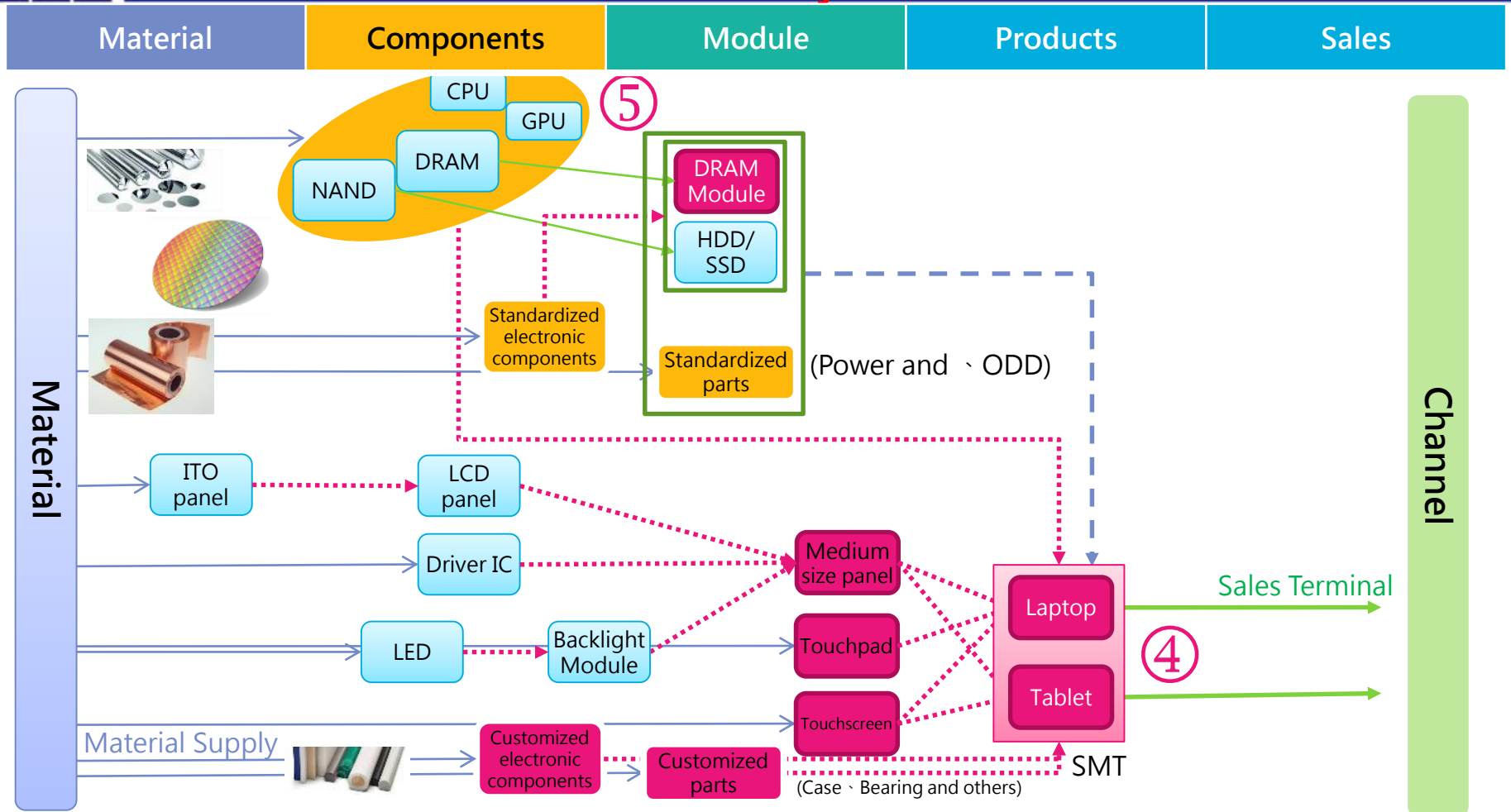


# Assemble Level Moving Faster Than Component Level





# Not All Component Can Move Away From China



④ Stage four : Before 2025年, Notebook and Display partially moved away from China

⑤ Stage five : Before 2035, China will build it' s own standard, separated from US.



# 簡報大綱

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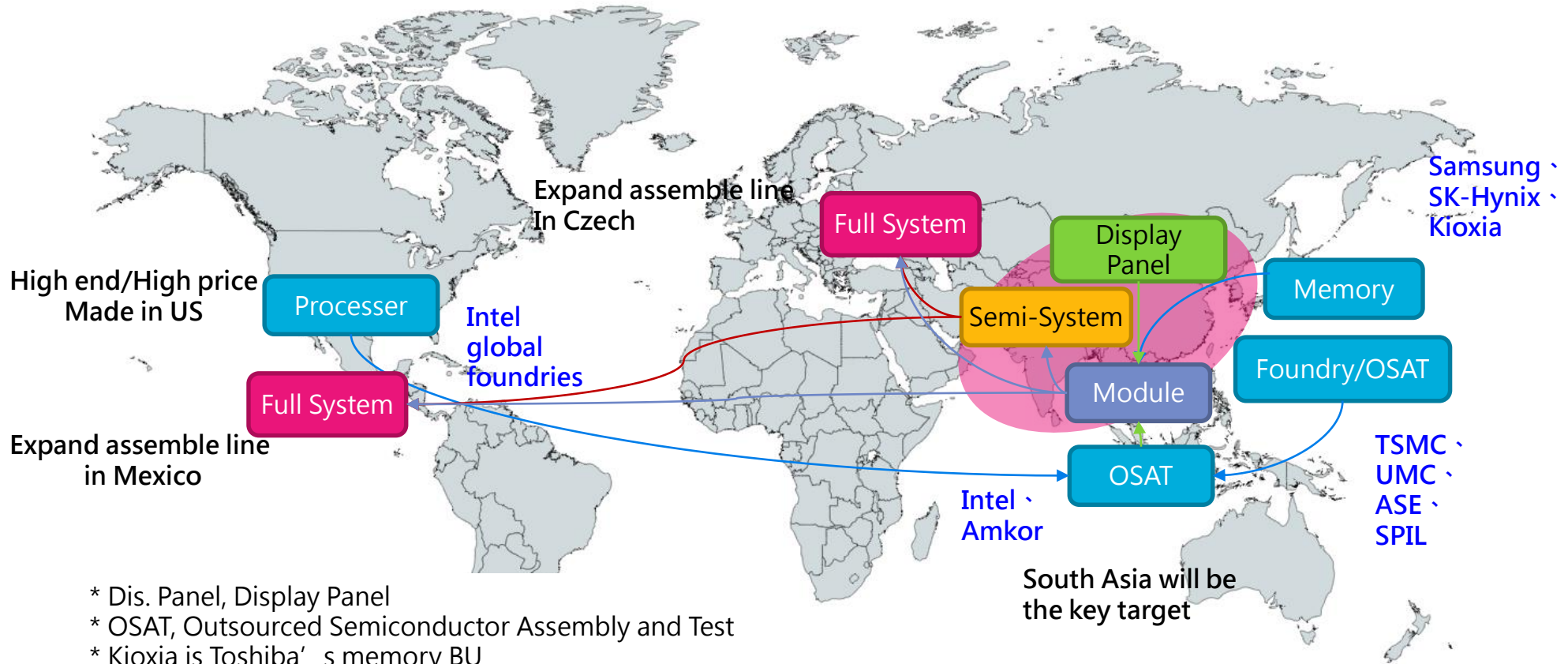
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# Stay In China : Import and Export Model Disappear

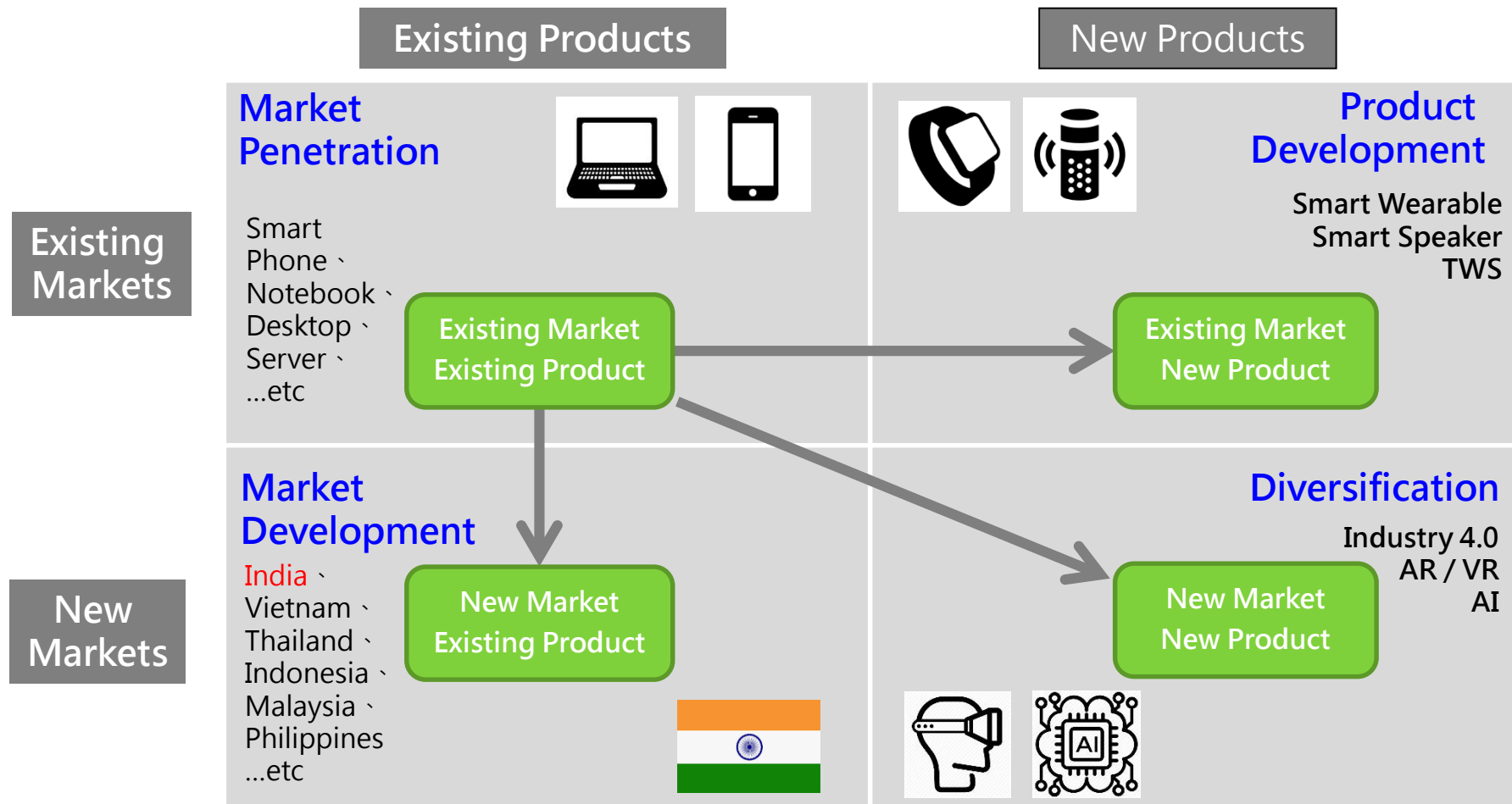


- ❖ International manufacturing company which rely on import and export in China will slowly disappear.
- ❖ China's labor force advantage will shrink in the future.
- ❖ China's Panel industry will continue play a key role in the future, but semiconductor industry still restricted by United States.



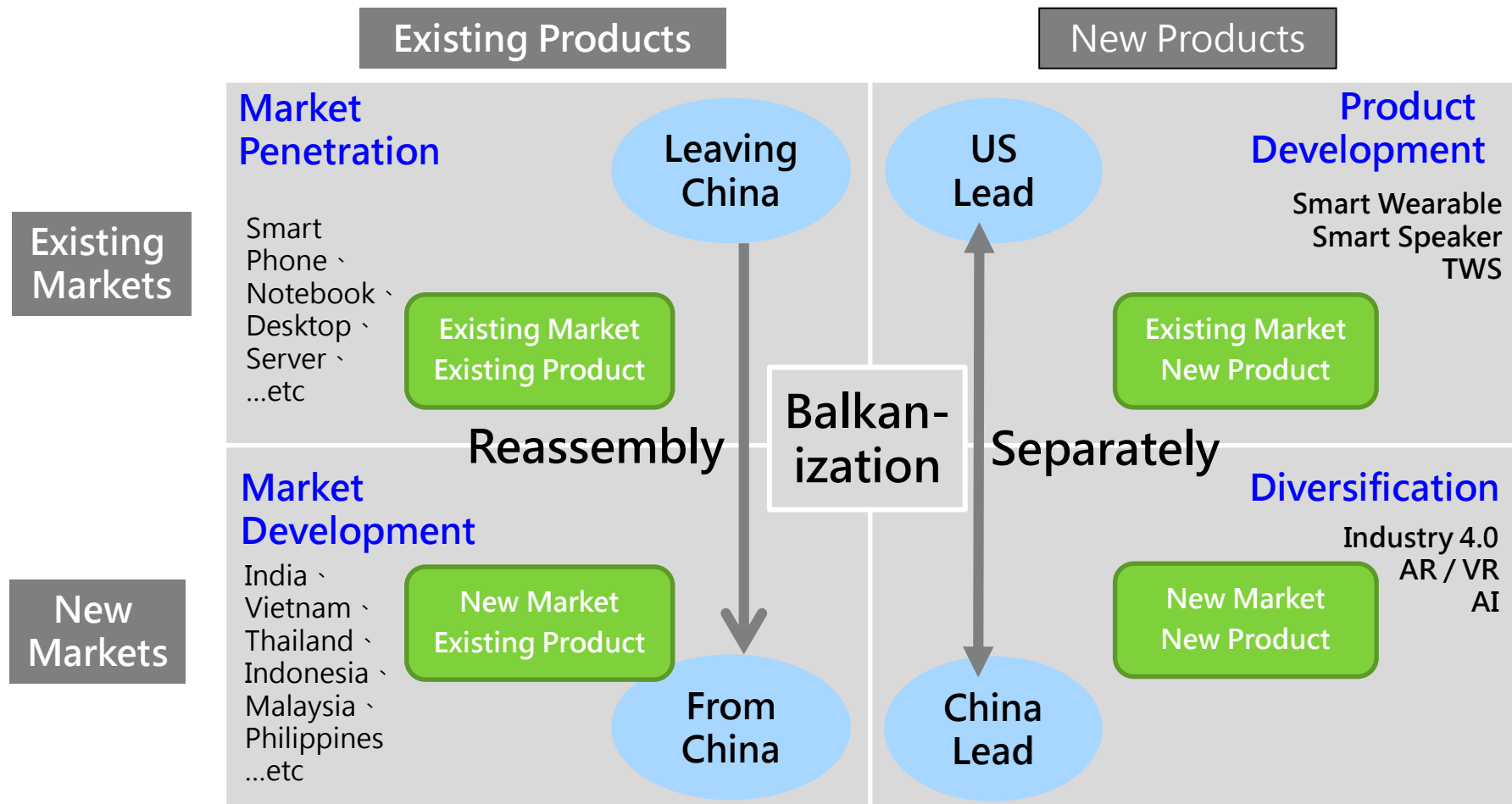


# Leaving China : Ansoff Matrix



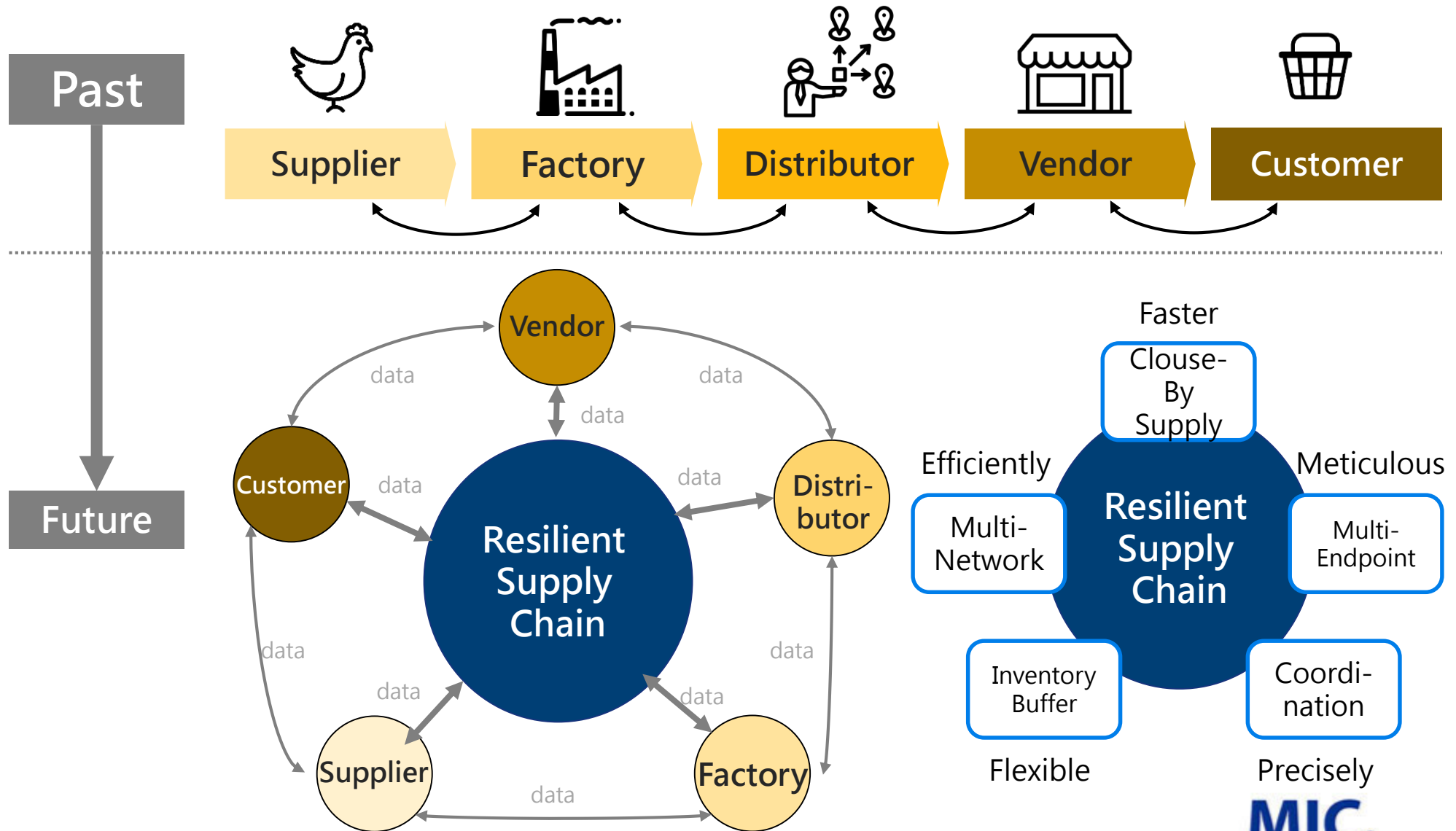


# Leaving China : Ansoff Matrix





# Resilient Supply Chain becomes Mainstream





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# Three Trends of Supply Chain



Follow



Stay in China

Explore Global



Value



Cost-Priority

Core Competency



Expand



New Tech

Innovation Service



# Three Trends of Supply Chain



Follow



Stay in China

Explore Global



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# Moving forward to a new area

## Looking for new business partners opportunities



Stage one :  
Cost first

Establish a plant  
locally

Efficient and flexible supply chain

Local  
procurement

Upstream and technology supplier

Value added

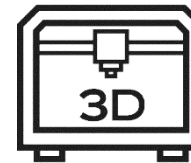
Irreplaceable status

Stage two :  
Local  
procurement

2025

Highly  
customized

3D printing  
wildly adopted



Stage three :  
Local  
customization

2035

Highly  
automatic

Automation

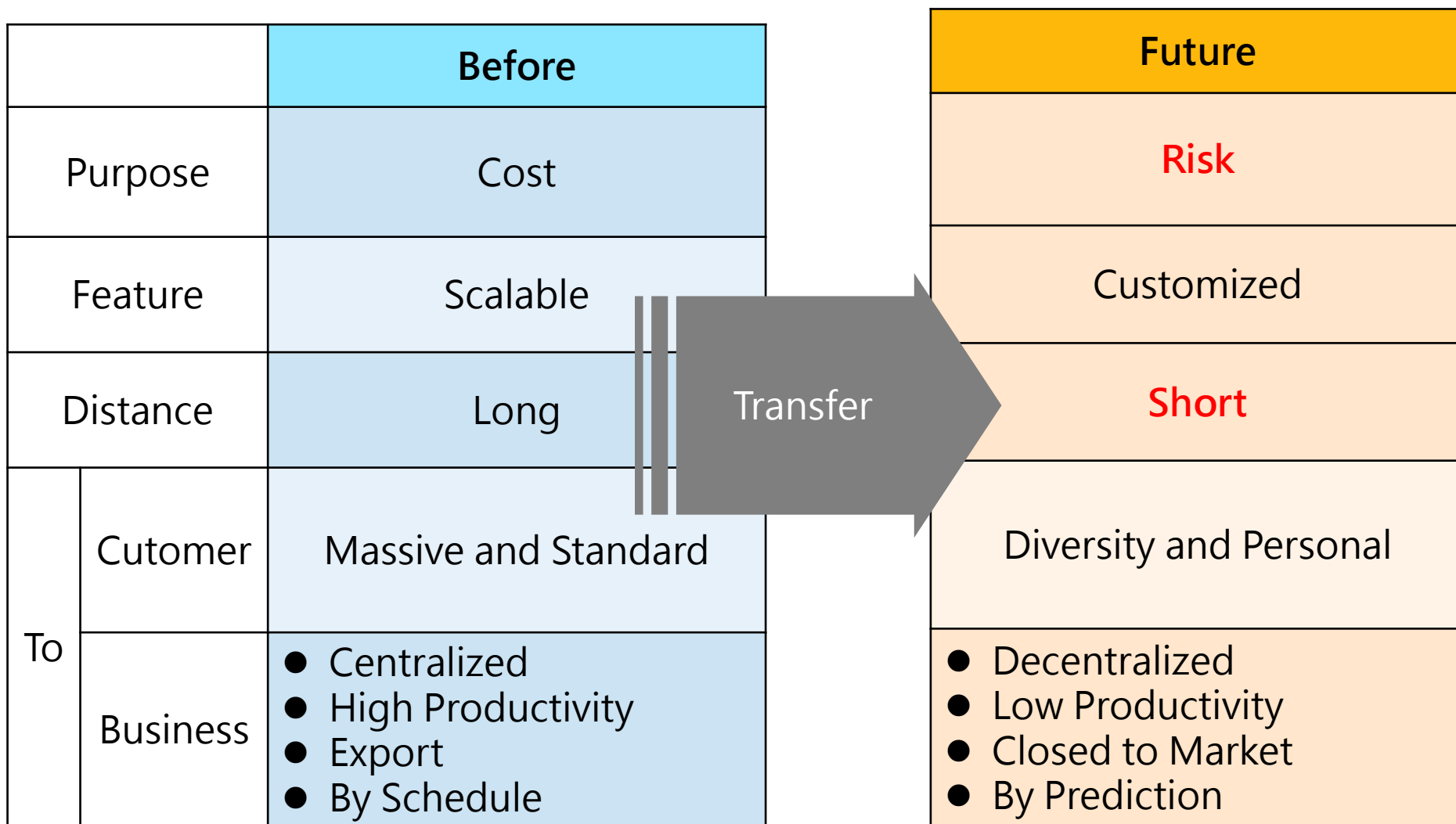


Stage four :  
Smart  
manufacturing

Vision



# Next Generation Supply Chain




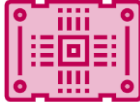






資料來源：MIC，2021年3月





# Opportunities and Challenges of Supply Chain

	Opportunity	Challenge
Stick to China	 Digital transformation as a niche point	 China's Industrial independence continues to increase
	 Expand next-generation supply chain partners	 Small components production line is still difficult to migrate
Leaving China	 Made in China is no longer the mainstream	 Low value added and the options of industrial transfer is limited
	 Countries began to invest in reindustrialization policies	 Strict environmental regulations



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