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Responding to supply chain disruptions during Covid-19: The Vietnam Perspective

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Table of Contents

I. An overview of supply chain disruption due to Covid-19

1. Coronavirus outbreak triggered supply chain disruption
2. Inbound and outbound supply chain disruptions
3. Supply chain disruptions in certain industries of Vietnam

II. Strategy to address emerging supply chain distress due to Covid-19 outbreak in Vietnam

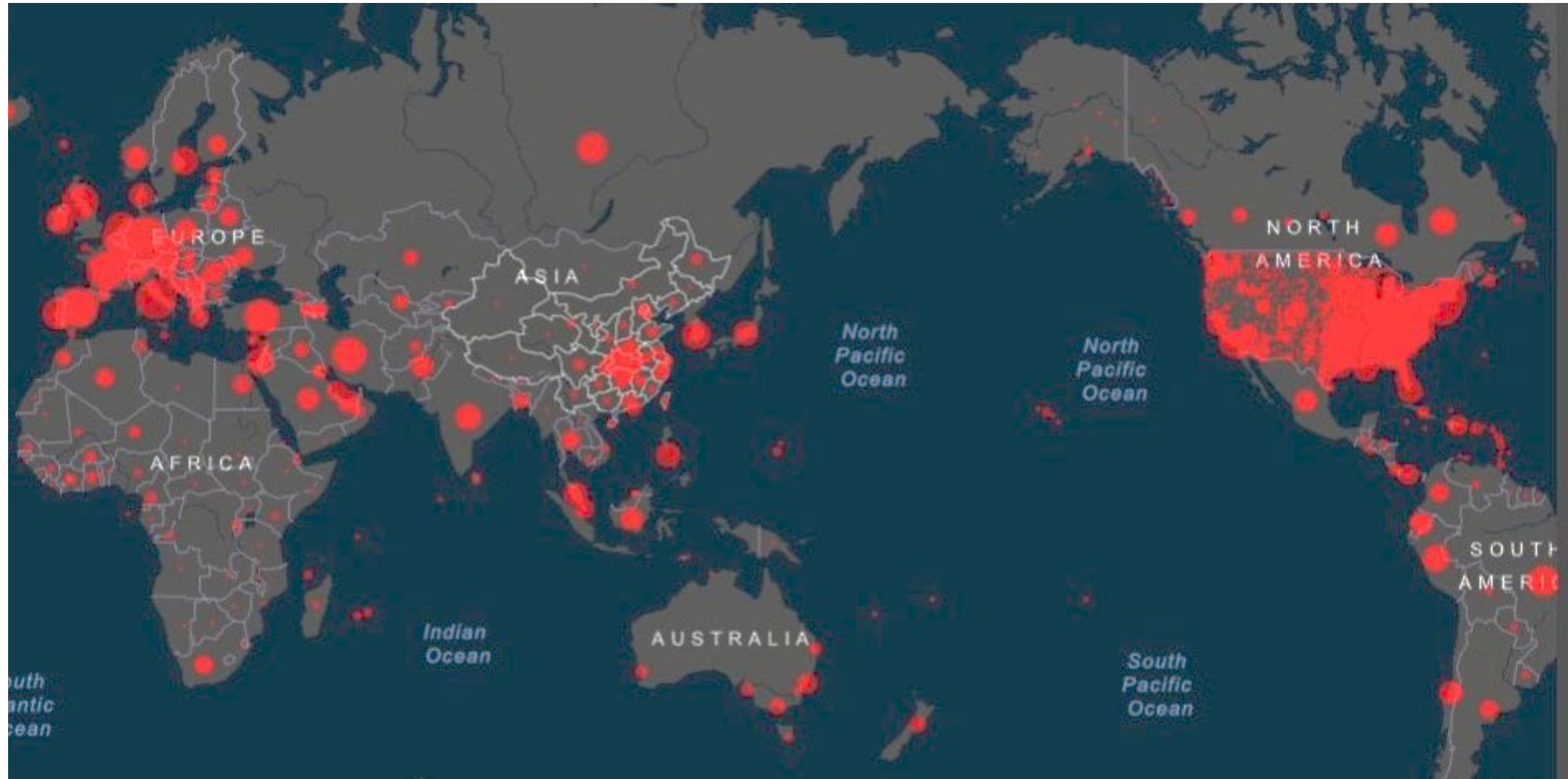
1. End-to-end analysis of supply chain and demand amid Covid-19
2. Short-term responses and long-term focus with upcoming opportunities



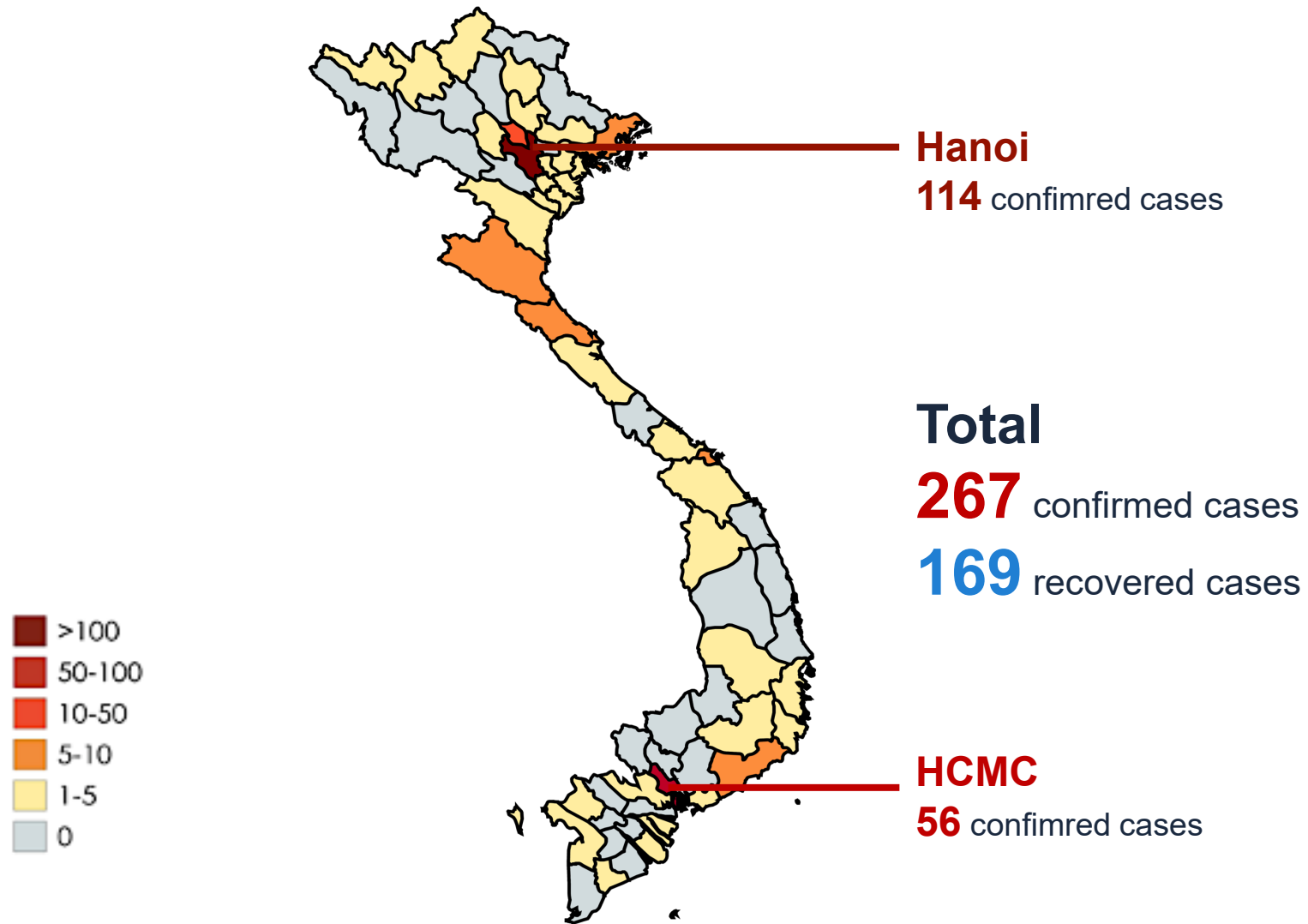
Part 1

An overview of supply chain disruption due to COVID-19

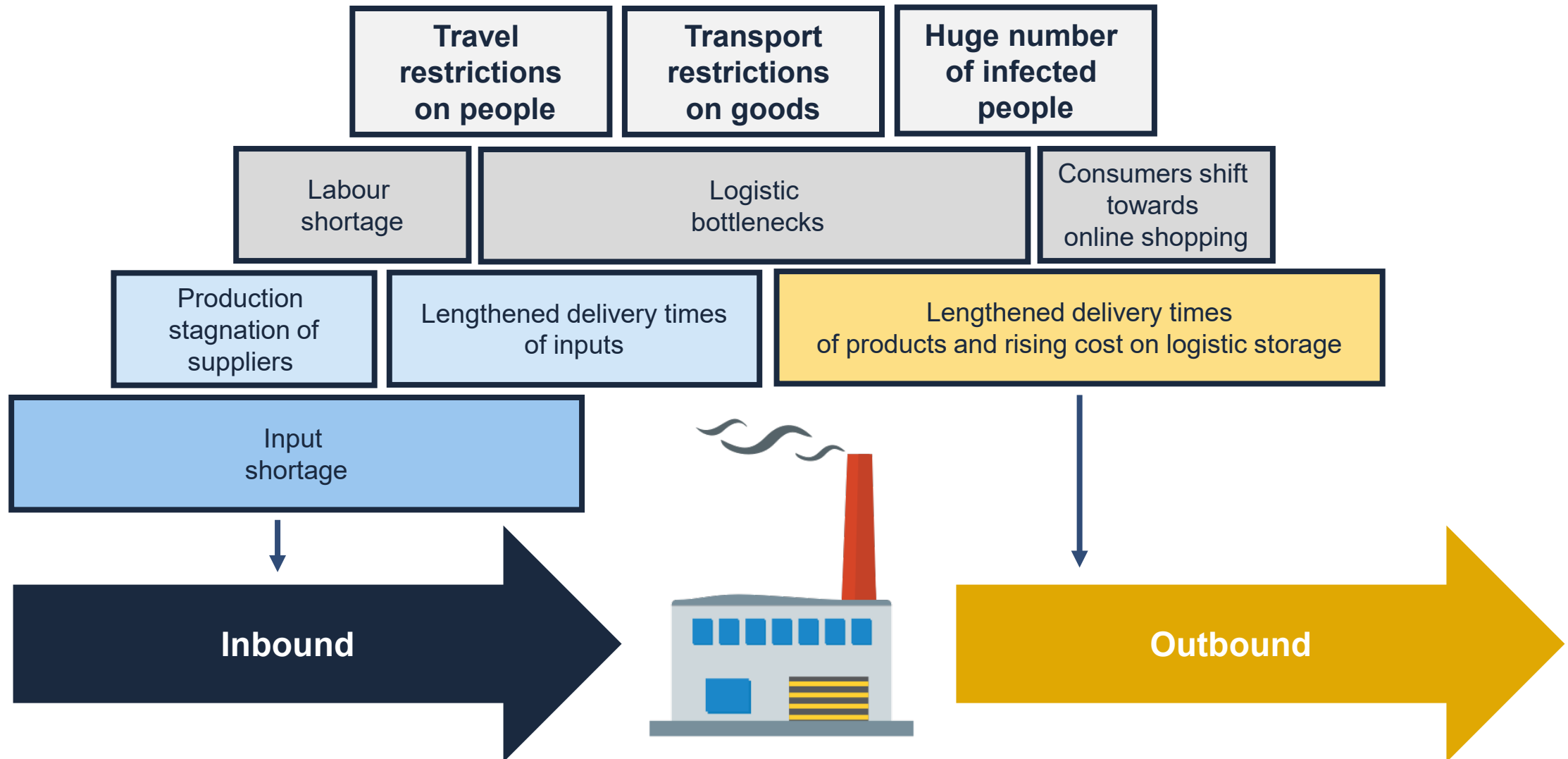
Coronavirus Outbreak Cumulatively Confirmed Cases



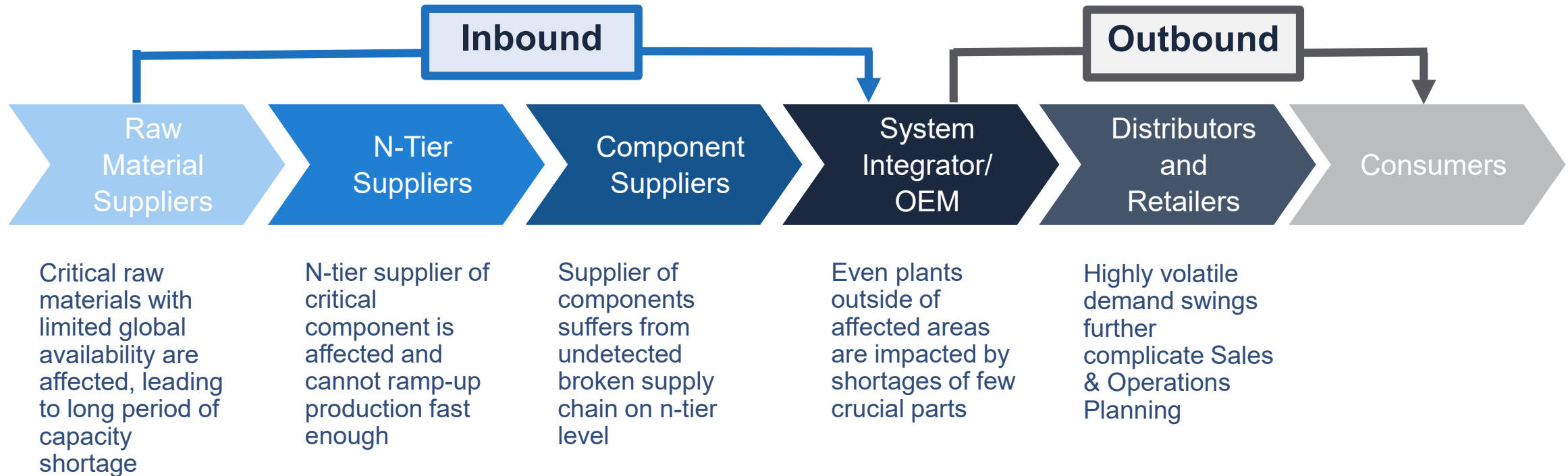
Coronavirus Outbreak Cumulatively Confirmed Cases in Vietnam



Driving factors of supply chain disruption during Covid-19



Disruptions ripple throughout supply chains



Supply chain disruption in Vietnam during Covid-19 | Inbound

Raw materials and intermediate goods are imported or domestically produced:

- ❖ Imported inputs are mainly from major Asian countries (China, Korea and Japan), EU nations and ASEAN countries.

For manufacturers of:

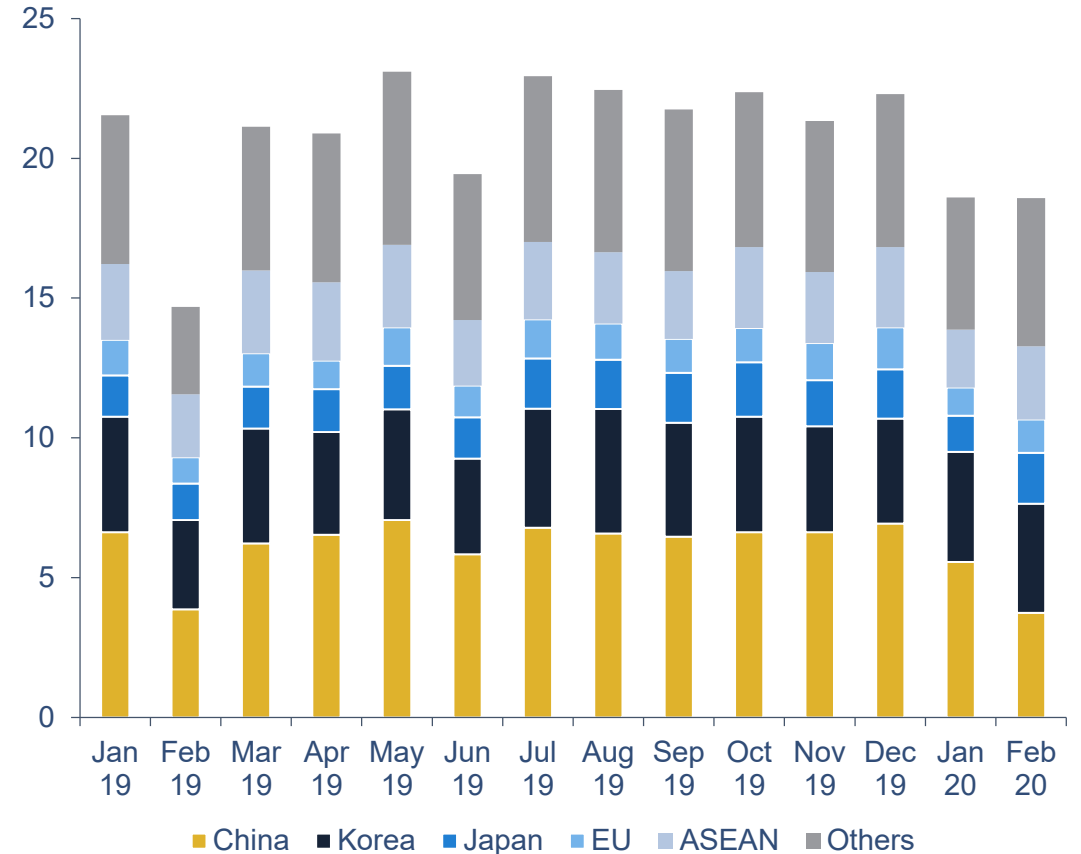


- ❖ Domestically produced inputs are insufficient to meet ongoing demand of manufacturers in terms of quantity and quality.

For manufacturers of:



Vietnam's import value (billion USD)



Source: Custom Office

→ Disruptions during coronavirus outbreak may arise from foreign and domestic sources of supplies.

Supply chain disruption in Vietnam during Covid-19 | Outbound

Domestic production is to cater for demand from Vietnamese consumers and service exports to foreign market

❖ **11.8** billion USD trade surplus of Vietnam in 2019

Major “made in Vietnam” products include:

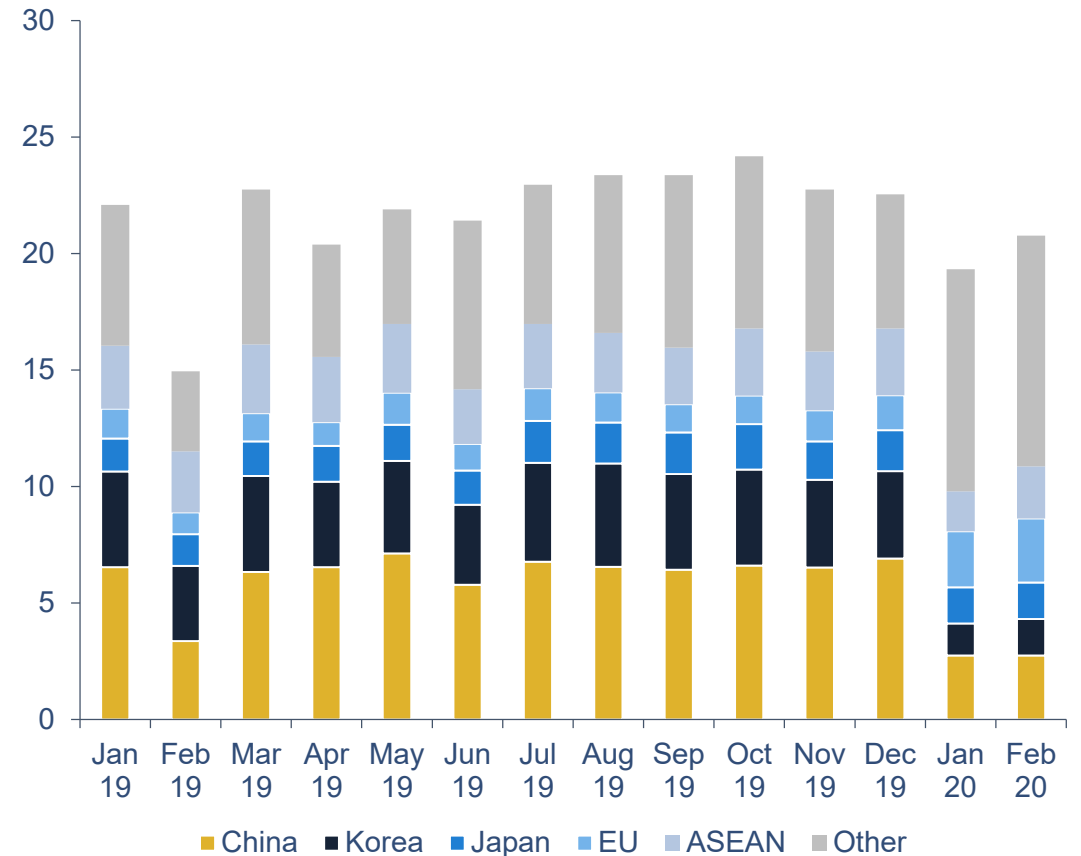


❖ **No logistic bottleneck** is recorded during domestic transportation of goods since the outbreak of Covid-19 in Vietnam

	Air	Port	Road
Vietnam (Hanoi)	Terminal operating normally for cargo	Port operating normally (100% depots resumed)	Normal cargo movement between cities
Vietnam (HCMC)	Terminal operating normally for cargo	Port operating normally (100% depots resumed)	Normal cargo movement between cities

Source: Agility, Global Integrated Logistics, updated on 14th April, 2020

Vietnam’s export value (billion USD)



Source: Custom Office

→ **Disruptions during coronavirus outbreak is more likely to arise in logistics of export orders.**

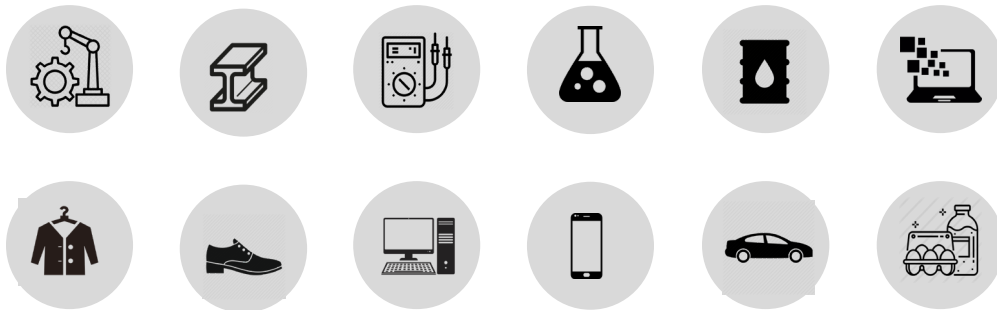
Disruptions from major trading partners | China

China plays key role in global supply chains

- ❖ Japan, Korea and Vietnam have over **35%** of production inputs imported from China.
- ❖ Japan and Korea are also largest sources of input supplies to Vietnam.

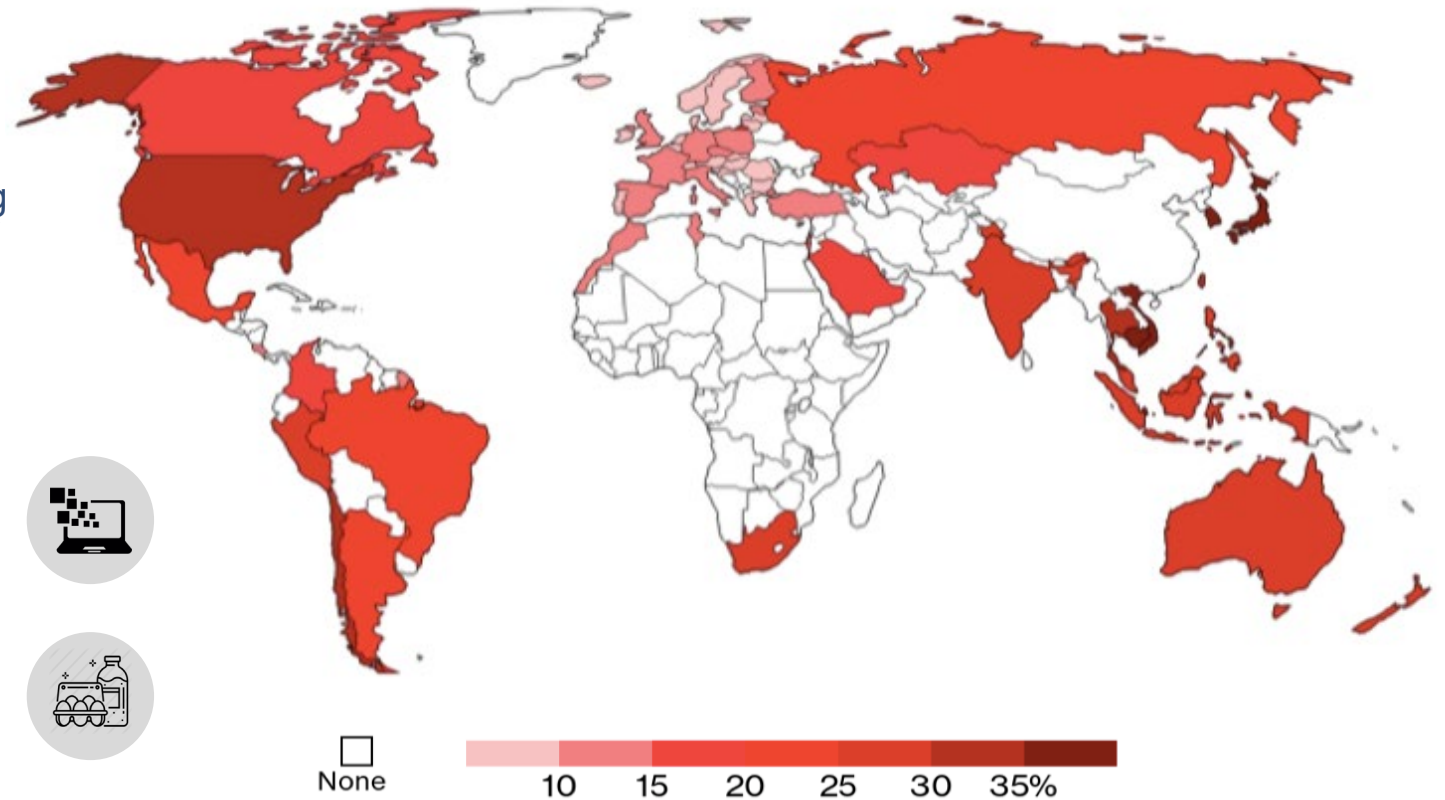
→ Any production stagnation of this manufacturing hub shall lead to severe supply chain disruption of manufacturers around the world, especially in Vietnam.

Major industries of China:



Share of all imports of intermediate products coming from China

20% of global trade in intermediate goods originates in China



Source: OECD TiVA, Bloomberg

Disruptions from major trading partners | China

Production stagnation during Covid-19 in China disrupted global supply chains

Caixin China General Manufacturing PMI

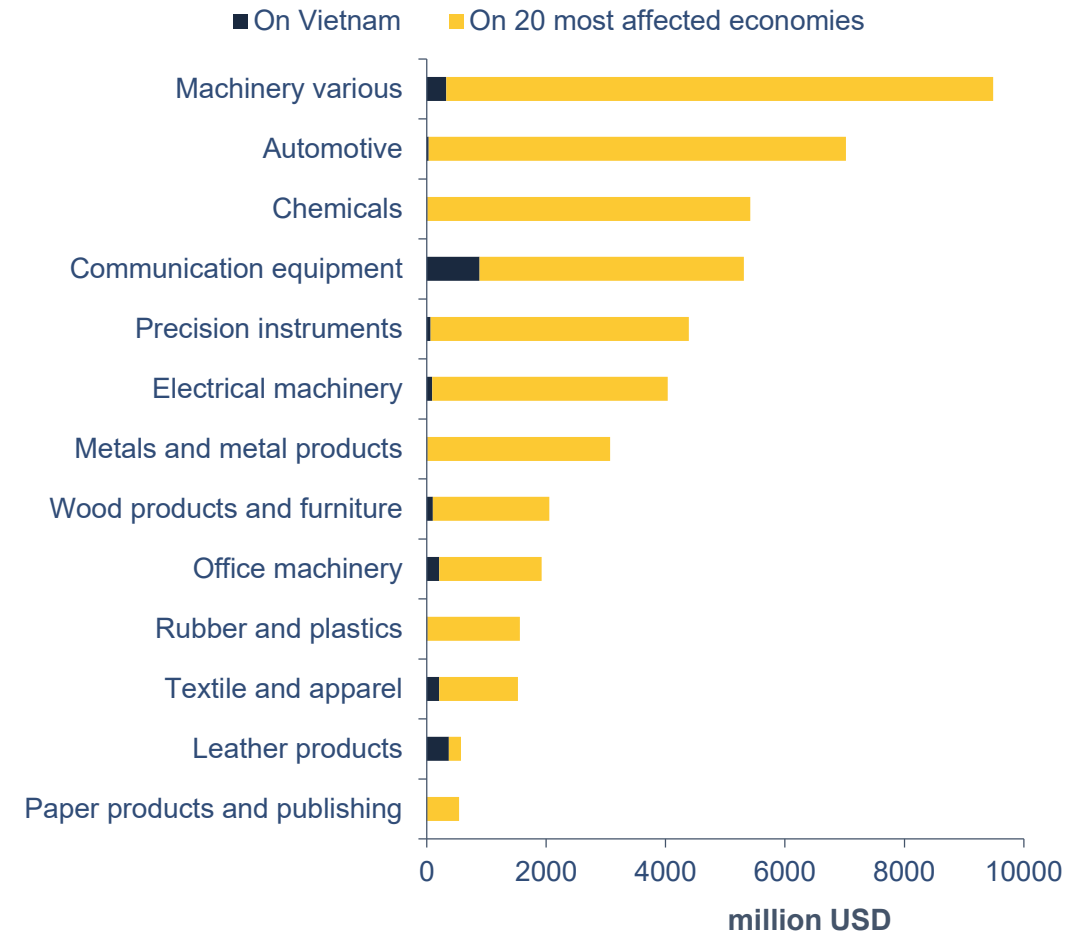
China's PMI plummeted to its bottom in Feb 2020

sa, >50 = improvement since previous month



Sources: Caixin, IHS Markit

Effects from a 2 percentage reduction of China exports in intermediate inputs

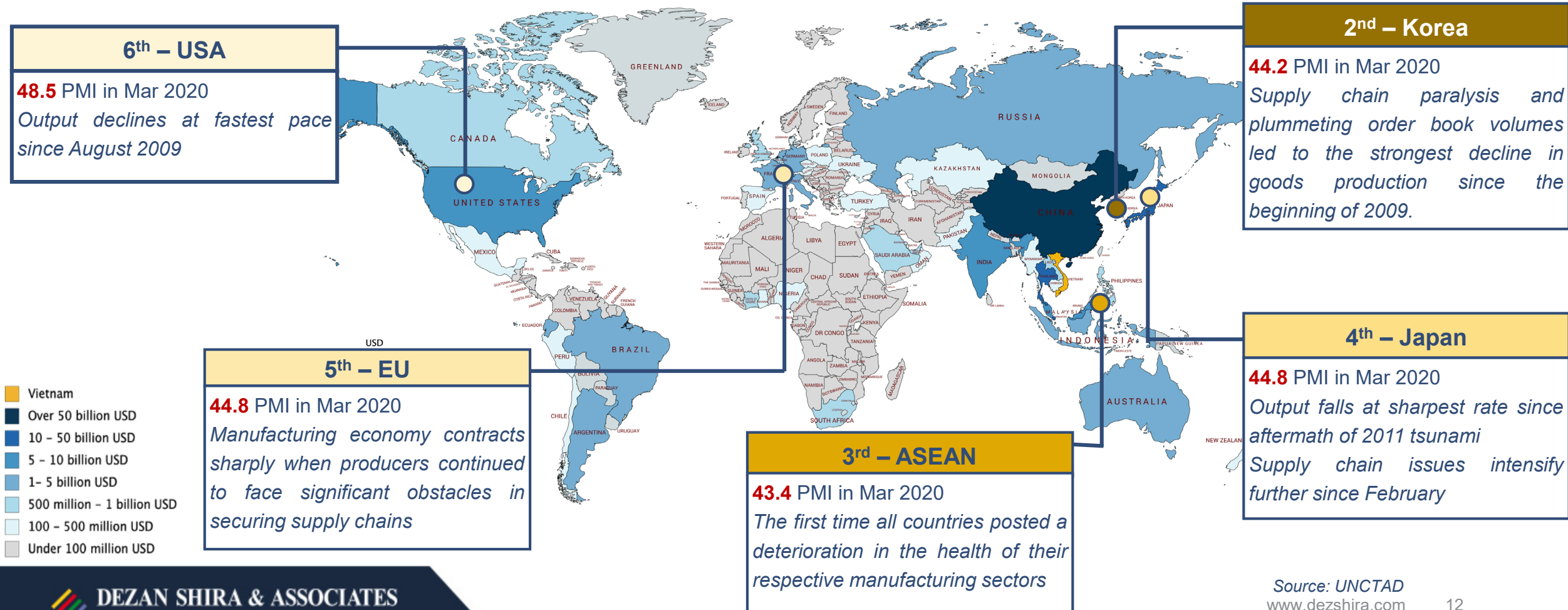


Source: UNCTAD

- Travel restrictions led to severe labor shortage and factories shutdown in February due to coronavirus.
- Supply chains were hit heavily, with average delivery times increasing at the quickest pace on record.
- Although manufacturing sector operating conditions stabilized in March, Covid-19 outbreak continues to weigh on supply chains and capacity.

Disruptions from major trading partners

Vietnam's trading partners by import value, 2019 (billion USD)



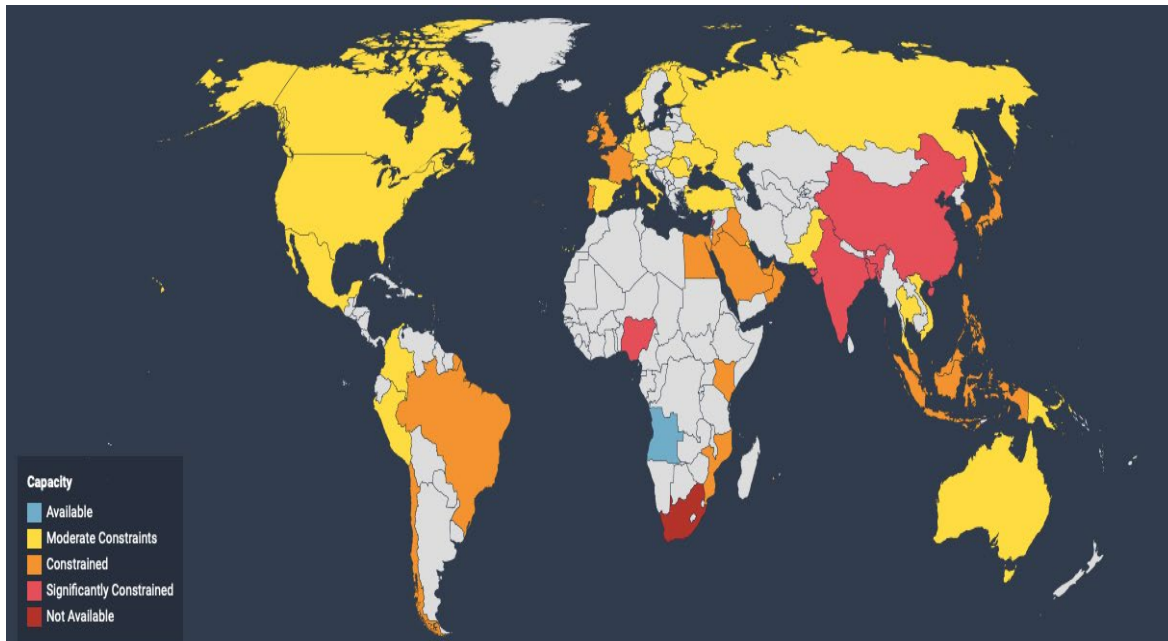
Disruptions from major trading partners

Countries are imposing travel restrictions, both cross-border and inland

Global air freight capacity is severely disrupted with air freight prices also spiked

- ❖ Suspend passenger flights are supposed to carry freight
- ❖ Travel restrictions lead to labor shortage

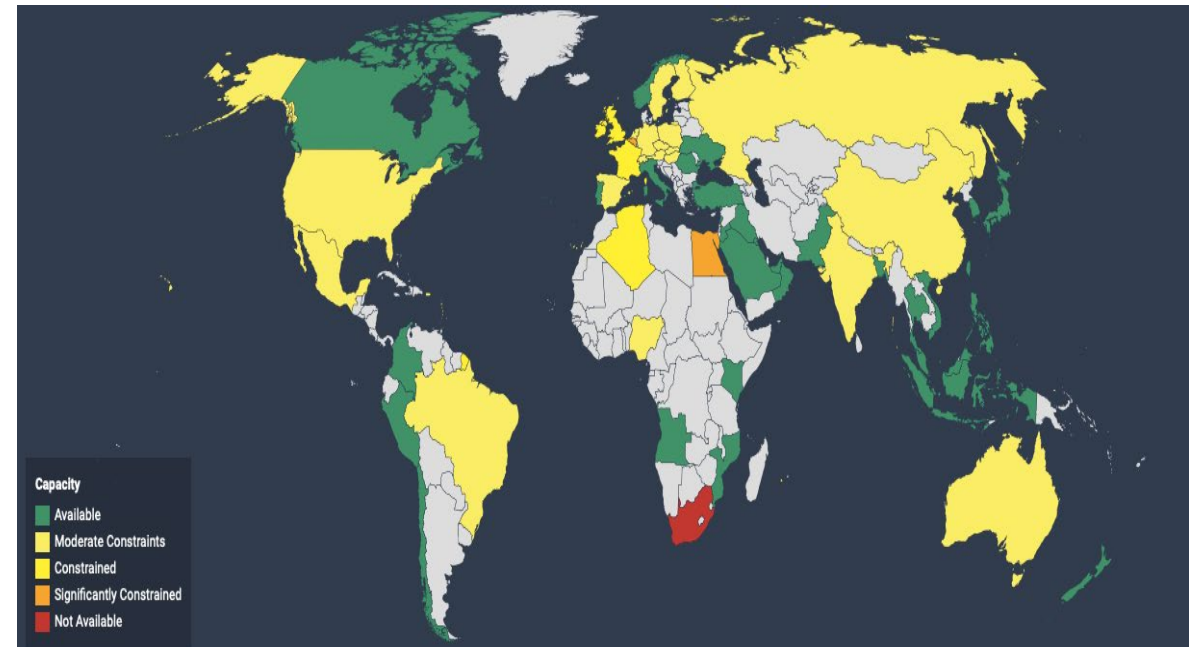
Impact of Covid-19 on global air freight capacity



Global ocean freight bears a smaller impact

- ❖ Travel restrictions lead to labor shortage
- ❖ Container shortage if bottlenecks arise

Impact of Covid-19 on global ocean freight capacity



Disruptions from major trading partners | Inbound

Country Operations Update: Air & Ocean Freight to Vietnam Capacity

Origin	Air			Ocean	
	Current capacity status	% Tradeline capacity Impacted by Passenger Flight Cancellation	% Capacity Impacted by Freighter Cancellations	Current capacity status	Container Availability
China	Significantly constrained	80-90% cargo capacity reduction	N/A	Constrained	Normal - no shortages
Korea	Significantly constrained	90-100% cargo capacity reduction	50-60% capacity reduction	Available	Normal - no shortages
Japan	N/A	N/A	N/A	Available	Normal - no shortages
Thailand	Constrained	80-90% cargo capacity reduction	Some ad hoc freighters have entered market	Available	Normal - no shortages
Singapore	Significantly constrained	90-100% cargo capacity reduction	40-50% capacity reduction	Available	Normal - no shortages
Malaysia	N/A	N/A	N/A	Available	Normal - no shortages
Germany	Constraint	80-90% cargo capacity reduction	More freighters than normal	Significantly constrained	Moderate container or equipment shortages
France	Significantly constrained	80-90% cargo capacity reduction	80-90% capacity reduction	Significantly constrained	Acute container or equipment shortages
USA	Constrained	30-40% cargo capacity reduction	10-20% capacity reduction	Significantly constrained	Slight container or equipment shortages

Disruptions from major trading partners | Outbound

Vietnam Country Operations Update: Air Freight Capacity

Destination	Current capacity status	% Tradelane capacity Impacted by Passenger Flight Cancellation	% Capacity Impacted by Freighter Cancellations	Charter situation
China	Constraint	90-100% cargo capacity reduction	1-10% capacity reduction	More charter movements than normal
Europe	Constraint	80-90% cargo capacity reduction	30-40% capacity reduction	Charter market as normal
Japan	Constraint	90-100% cargo capacity reduction	40-50% capacity reduction	Charter market as normal
Malaysia	Available	80-90% cargo capacity reduction	10-20% capacity reduction	Charter market as normal
Philippines	Available	70-80% cargo capacity reduction	1-10% capacity reduction	Charter market as normal
Thailand	Available	50-60% cargo capacity reduction	1-10% capacity reduction	Charter market as normal
US	Constraint	80-90% cargo capacity reduction	70-80% capacity reduction	Charter market as normal

Disruptions from domestic sources of supplies

A steep decline in the health of manufacturing sector amid Covid-19 outbreak

Sharpest falls in output, new orders and employment since 2011

Supply chain bottlenecks arise

- Steep reductions in intermediate goods sectors
- Domestic vendors and suppliers will likely face operational or financial struggles of their own when **98%** over **760,000** companies in Vietnam are SMEs.
- Suppliers' delivery times continued to lengthen.

Input costs rose marginally in March, and at the slowest pace in four months

- Increased input prices were linked to a scarcity of raw materials
- Some manufacturers recorded a drop in input costs due to a lack of demand for inputs and lower oil prices

Output prices decreased sharply, and to the greatest extent since July 2012.

Firms scale back purchasing and inventory holdings

- **15%** manufacturers have cut down on their monthly output

Vietnam Manufacturing PMI

sa, >50 = improvement since previous month



Source: IHS Markit



↓ 11.5%



↓ 2.9%



↓ 0.5%



↓ 0.2%



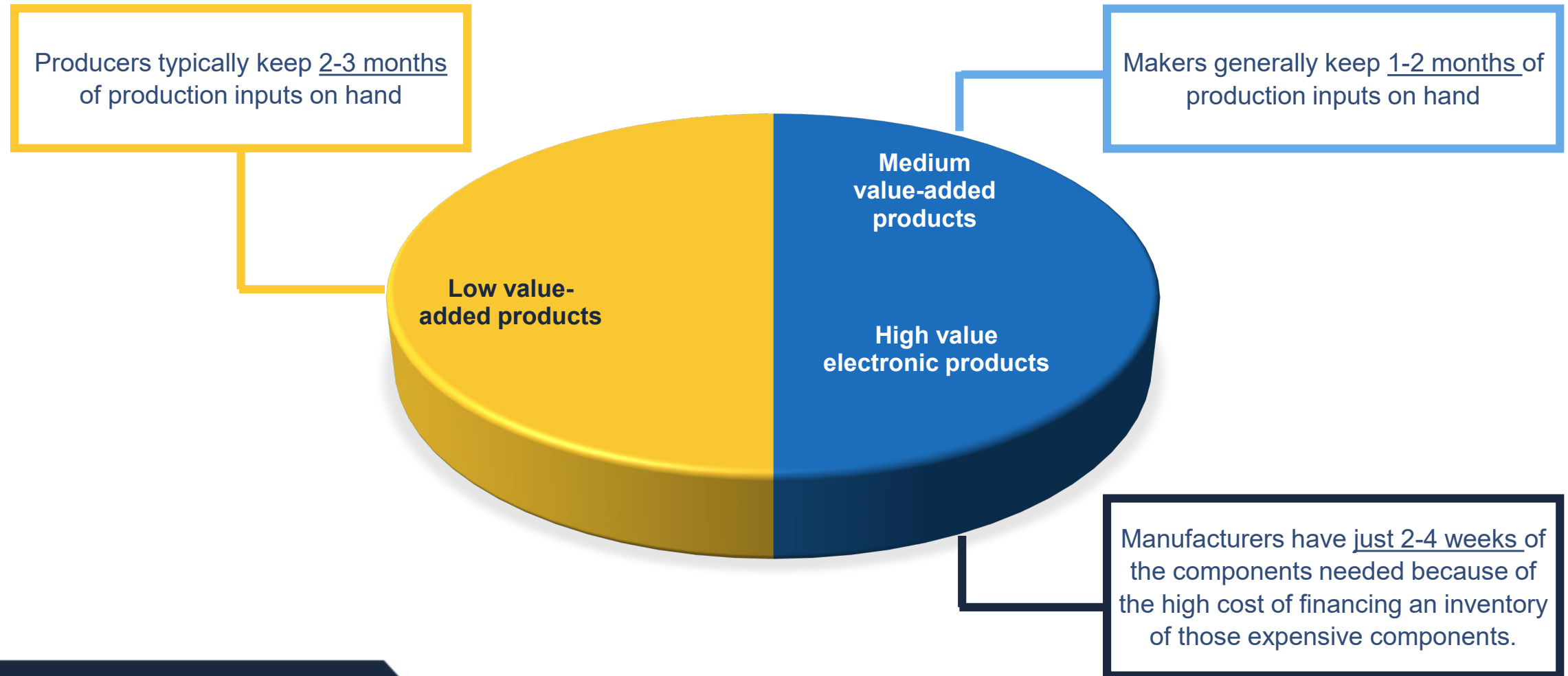
↓ 4.7%



↓ 5.2%

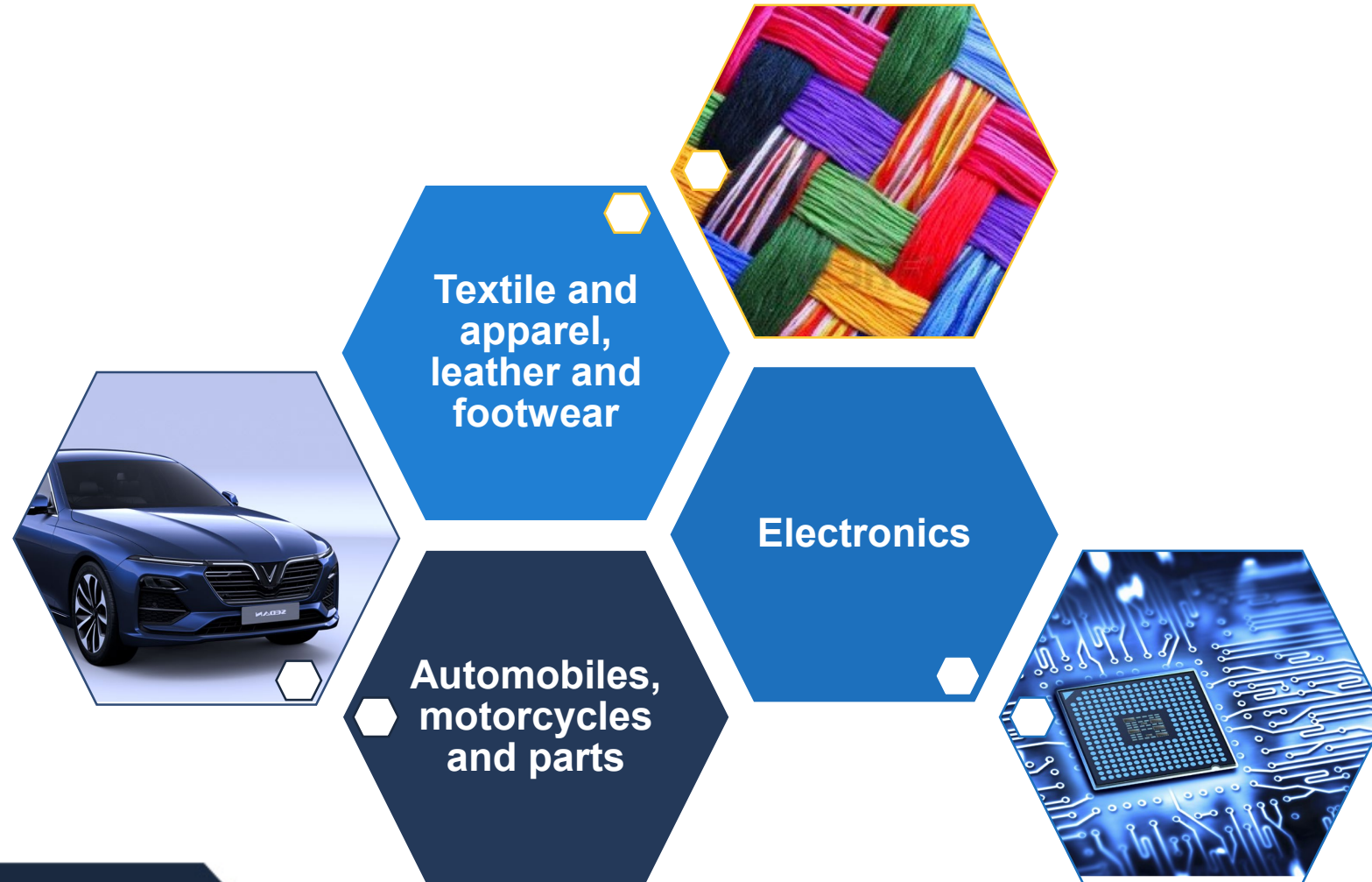
Supply chain disruption in Vietnam during Covid-19

Supply chain disruptions vary across industries and producers of medium to high-value goods shall suffer the most



Supply chain disruption in Vietnam during Covid-19

A dominant share of imported inputs and foreign consumption drives supply chain disruptions for certain products



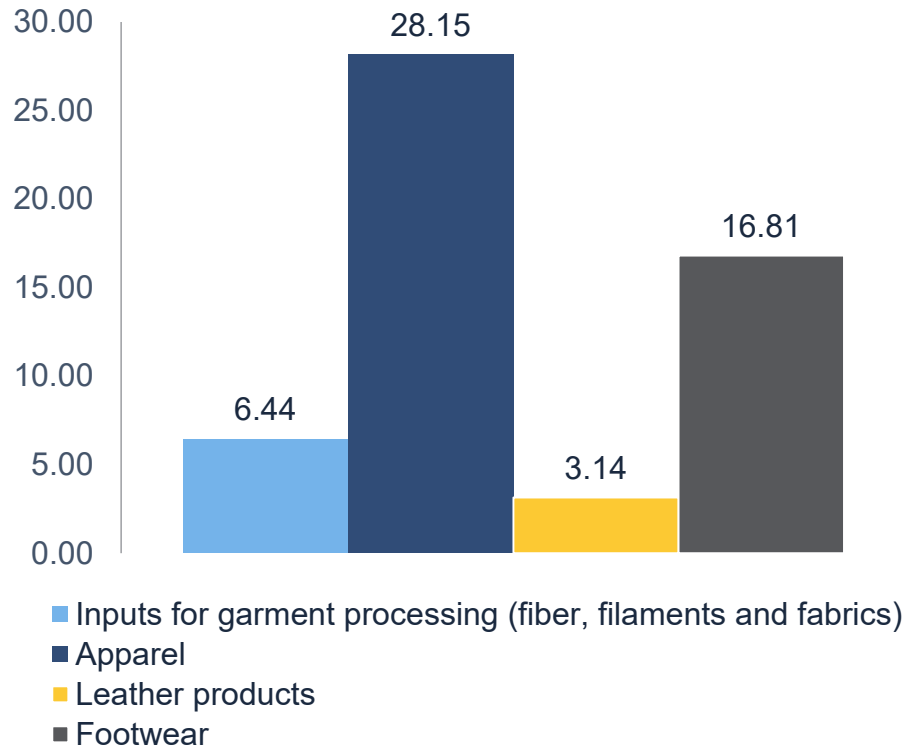
Supply chain disruption in Vietnam | Textile and apparel, leather and footwear

6,000+ companies

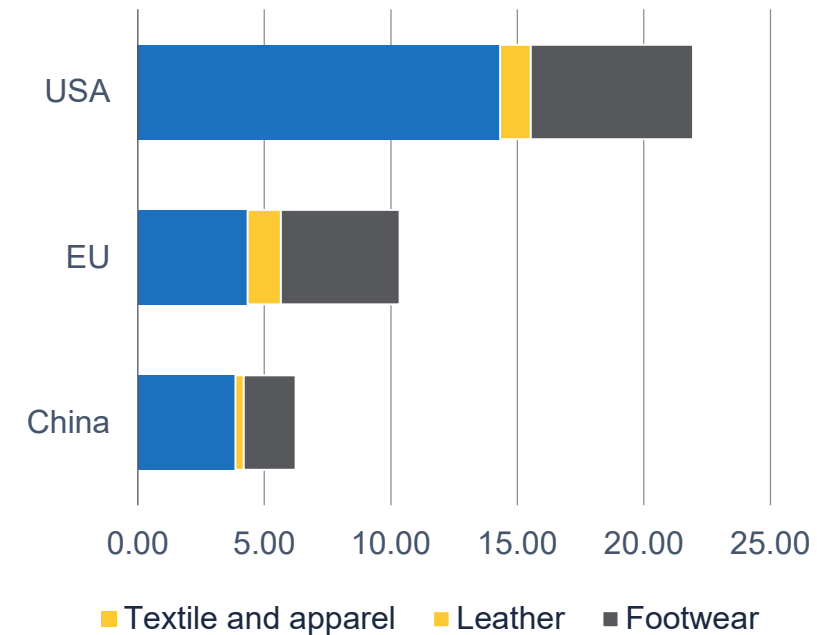
#2 in exports of footwear



Export of major products, 2019 (billion USD)



Exports to major market, 2019 (billion USD)

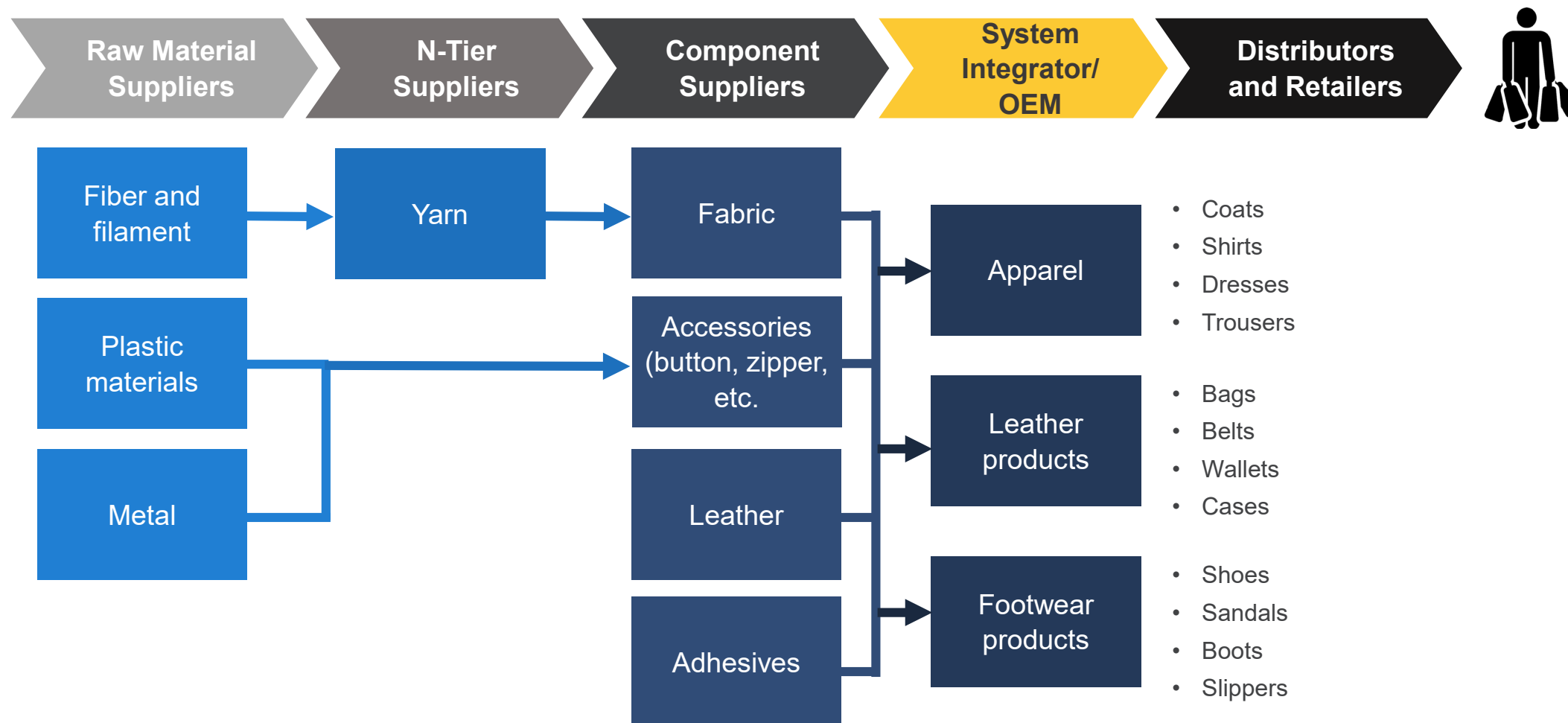


Sources: Custom Office, UNComtrade

www.dezshira.com

19

Supply chain disruption in Vietnam | Textile and apparel, leather and footwear



Supply chain disruption in Vietnam | Textile and apparel, leather and footwear

Cotton



- **-12.2%** decrease in imports compared to Jan & Feb 2019
- Major suppliers: USA, Indonesia and China

Fibers and filaments



- **-9.3%** decrease in imports compared to Jan & Feb 2019
- Major suppliers: Korea, Indonesia and Thailand

Fabrics



- **-12.8%** decrease in imports compared to Jan & Feb 2019
- Major suppliers: China, Korea and Indonesia

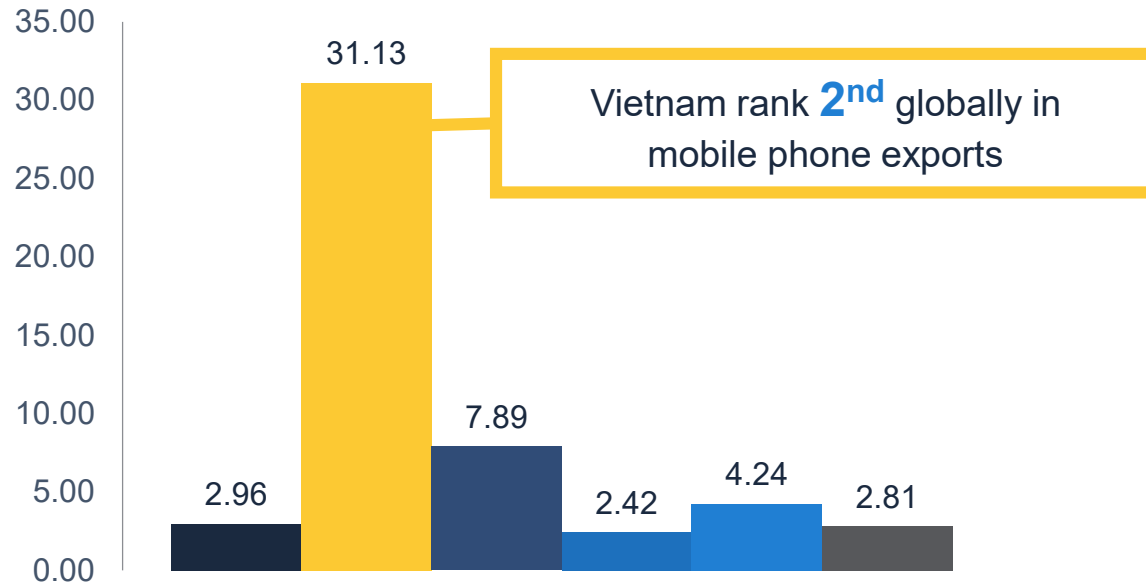
Leather and accessories



- **-8.7%** decrease in imports compared to Jan & Feb 2019
- Major suppliers: China, Korea and Italy

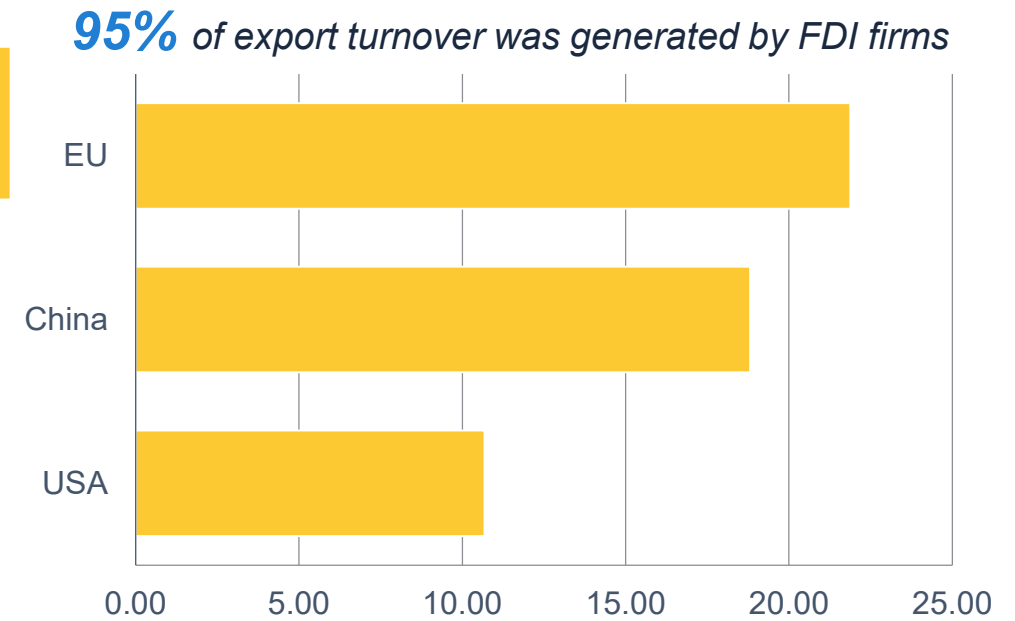
Supply chain disruption in Vietnam | Electronics

Export of major products, 2019 (billion USD)



- Computers (including laptop, PC, tablet, etc.)
- Smartphones
- Integrated circuits and microassemblies
- TV, radio or radar device parts
- Electric conductors and optical fibres
- Microphones, loudspeakers, headphones and earphones

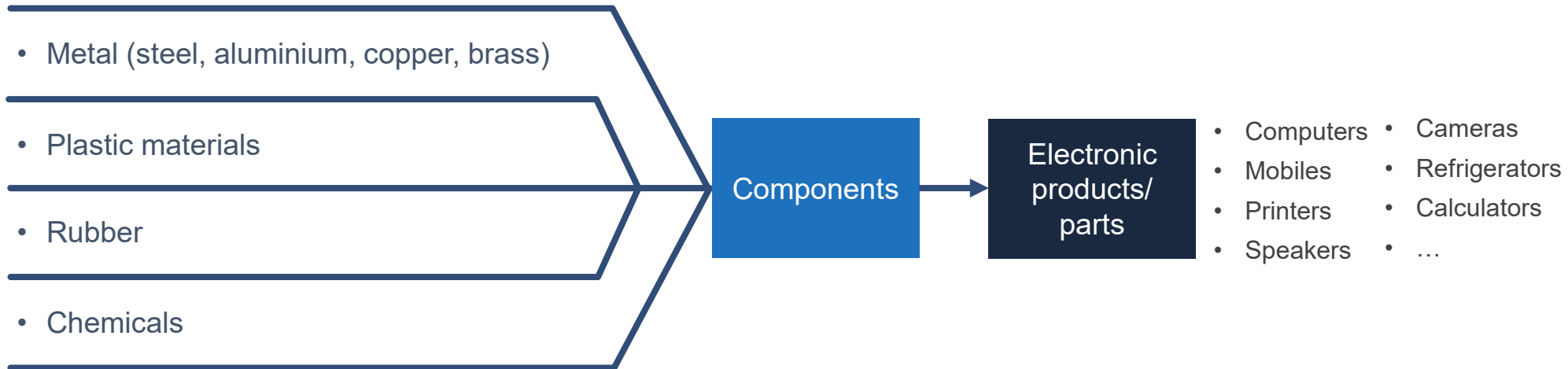
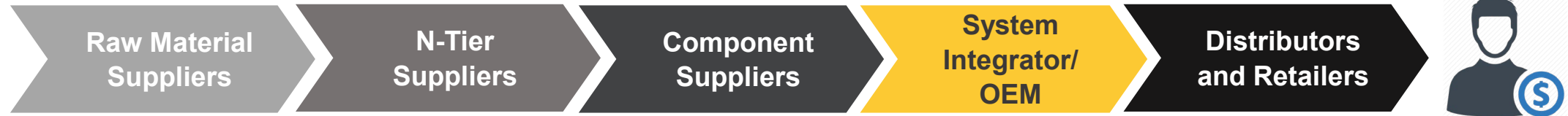
Exports to major market, 2019 (billion USD)



Sources: Custom Office, UNComtrade



Supply chain disruption in Vietnam | Electronics



Supply chain disruption in Vietnam | Electronics

Manufacturers of electronic parts

- Raw materials and intermediate goods are largely imported.
 - Generally focus on medium value-added goods and keep 1-2 months of inputs in hand
 - Output are mostly delivered domestically
- **Easier to track delivery time and identify supply chain disruptions.**

Manufacturers of electronic products

- Components are imported or supplied by domestic companies
 - Parts whose high technical standards are imported
 - Items with low to medium standards are sourced domestically
 - Keep little amount of inputs in hand (2-4 weeks) due to high cost to finance inventory
 - Higher risk in outbound supply chain
- **Harder to detect bottlenecks in their supply chains.**

Supply chain disruption in Vietnam | Electronics

- **Steel -13.1%** in Vietnam's imports compared to Jan-Feb 19
A renewed fall in steel prices but only at a marginal pace
- **Other metal -0.7%** in Vietnam's imports compared to Jan-Feb 19
Copper and aluminum prices fell for the first time since last November
- **Plastic material -4.9%** in Vietnam's imports compared to Jan-Feb 19
- **Rubber** is generally supplied by domestic manufacturers, located in Southern Vietnam

Components

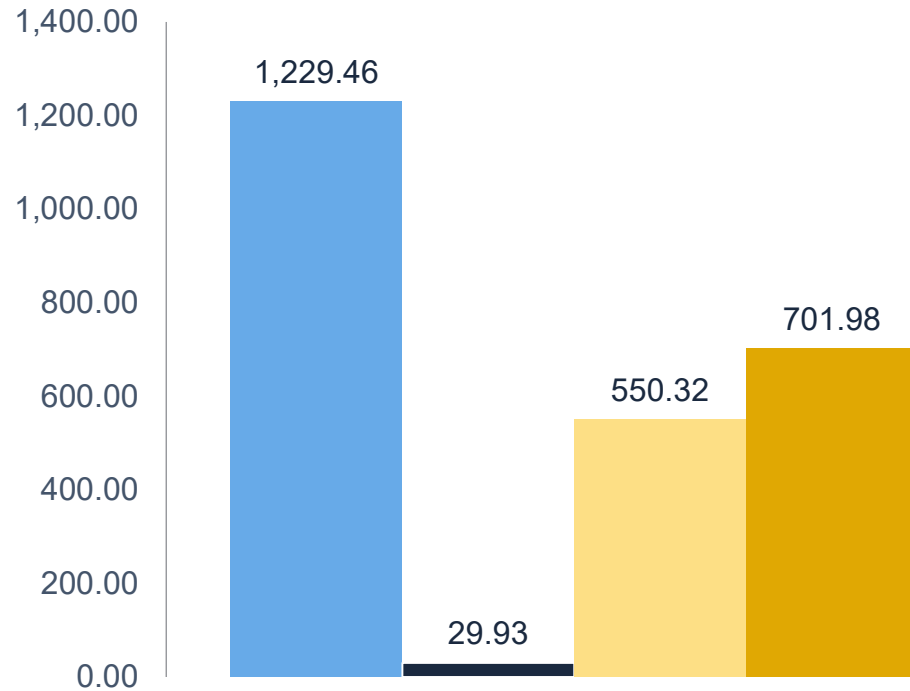
- **Products of steel**
-2.3% in imports
- **Products of other metal**
-30.1% in imports
- **Products of plastic**
-7.25% in imports
- **Products of rubber**
-5.6% in imports

Electronic products/ parts

Source: Custom Office

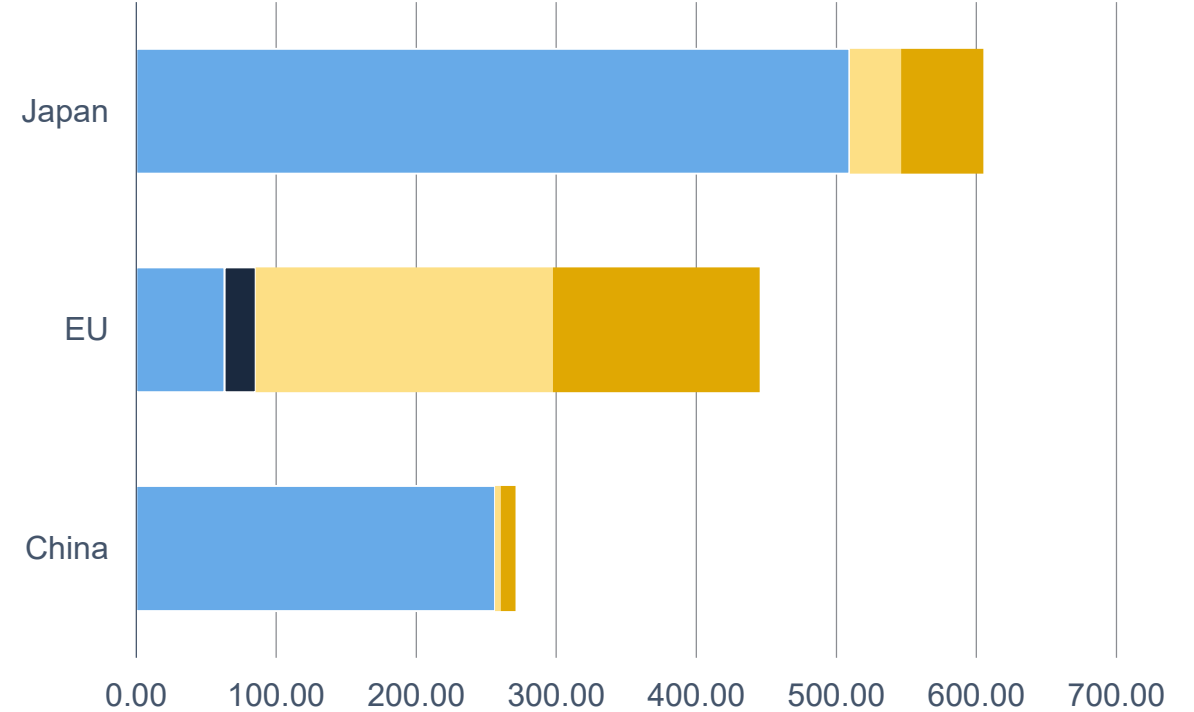
Supply chain disruption in Vietnam | Automobiles, motorcycles and parts

Export of major products, 2019 (billion USD)



- Auto parts
- Automobiles, trucks, buses and the like
- Motorcycle parts

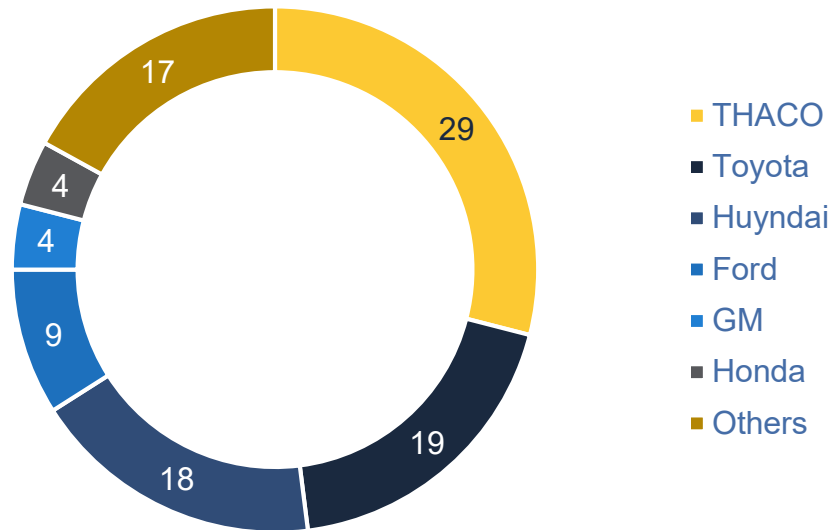
Exports to major markets, 2019 (billion USD)



- Auto parts
- Automobiles, trucks, buses and the like
- Motorcycle parts

Supply chain disruption in Vietnam | Automobiles and parts

Market share of auto brand in Vietnam, 2018



Source: CTS

Ford, Toyota, TC Motor, VinFast, Nissan, Honda, Mercedes and Yamaha paused automobile production in Vietnam during coronavirus outbreak

309 companies

233 suppliers for large auto brands, in which **33** are Tier-1

10 – 40% localization rate of automobile assembled in Vietnam

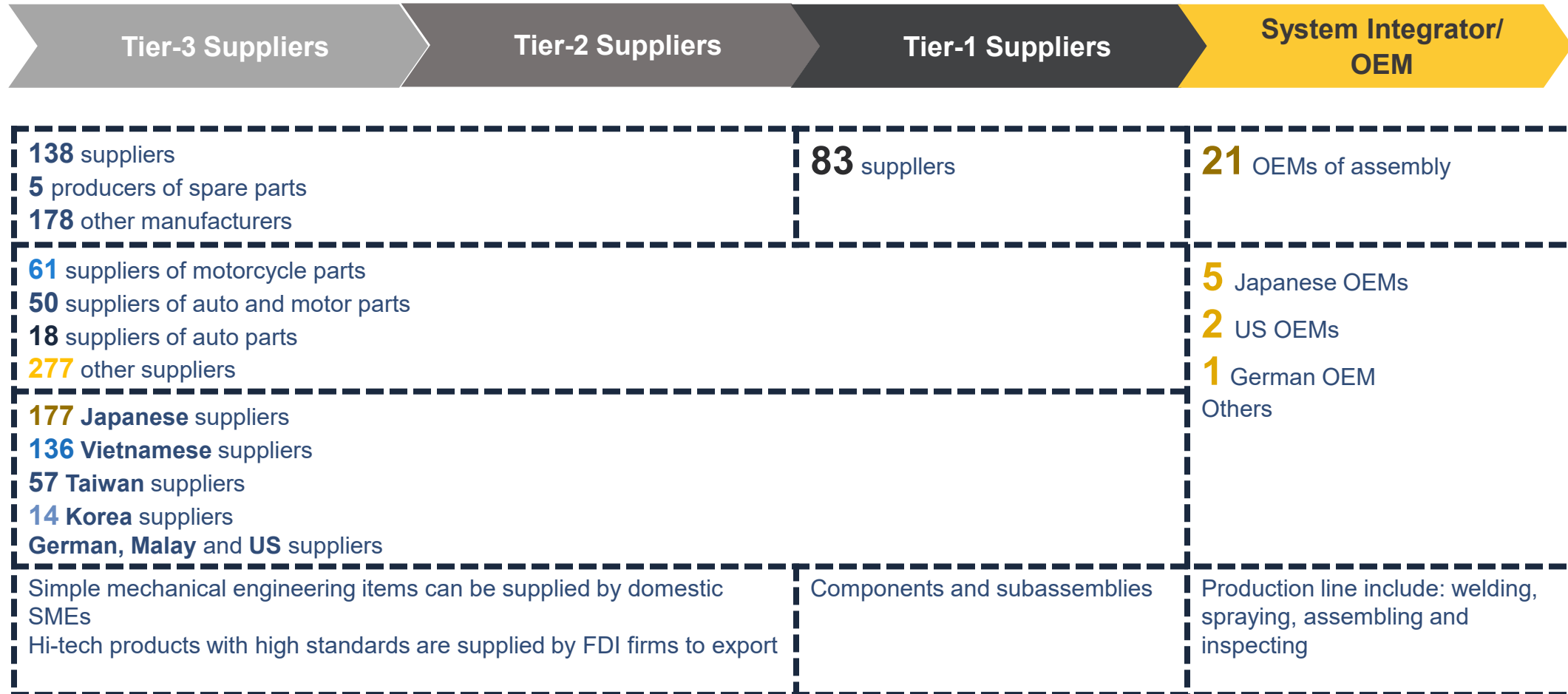
70% manufacturers relies on input supplies from China

Prevailing business line are assembly and simple auto parts such as electrical wire and plastic components.

VAMA announced its members' business situations in Vietnam amid Covid-19 outbreak. Auto manufacturers of **VAMA** are currently able to maintain their operations with a few months of inputs in hand.

Brand	Capacity	Joint venture	Major source of supplies
Kia	50,000	THACO	China, Korea
Hyundai	60,000	TC Motor	China, Korea
Mazda	100,000	THACO	Japan, China and Thailand
Toyota	50,000	VEAM	Japan, ASEAN
Honda	10,000	VEAM	Japan, ASEAN
Ford	14,000	VEAM	
Mercedes	4,000	SAMCO	EU, ASEAN
Isuzu	5,000		

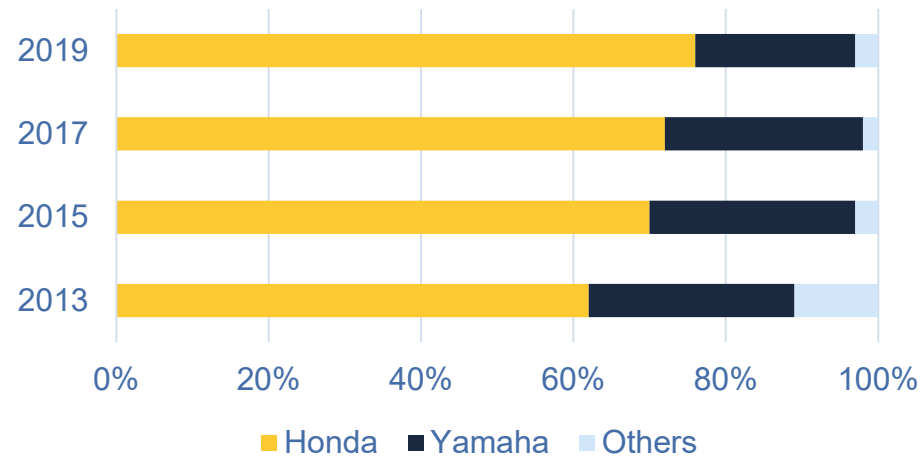
Supply chain disruption in Vietnam | Automobiles and parts



Supply chain disruption in Vietnam | Motorcycles and parts

80 – 90 % localization rate

Market share of motor brands in Vietnam



Production capacity of motorcycle producers in Vietnam)

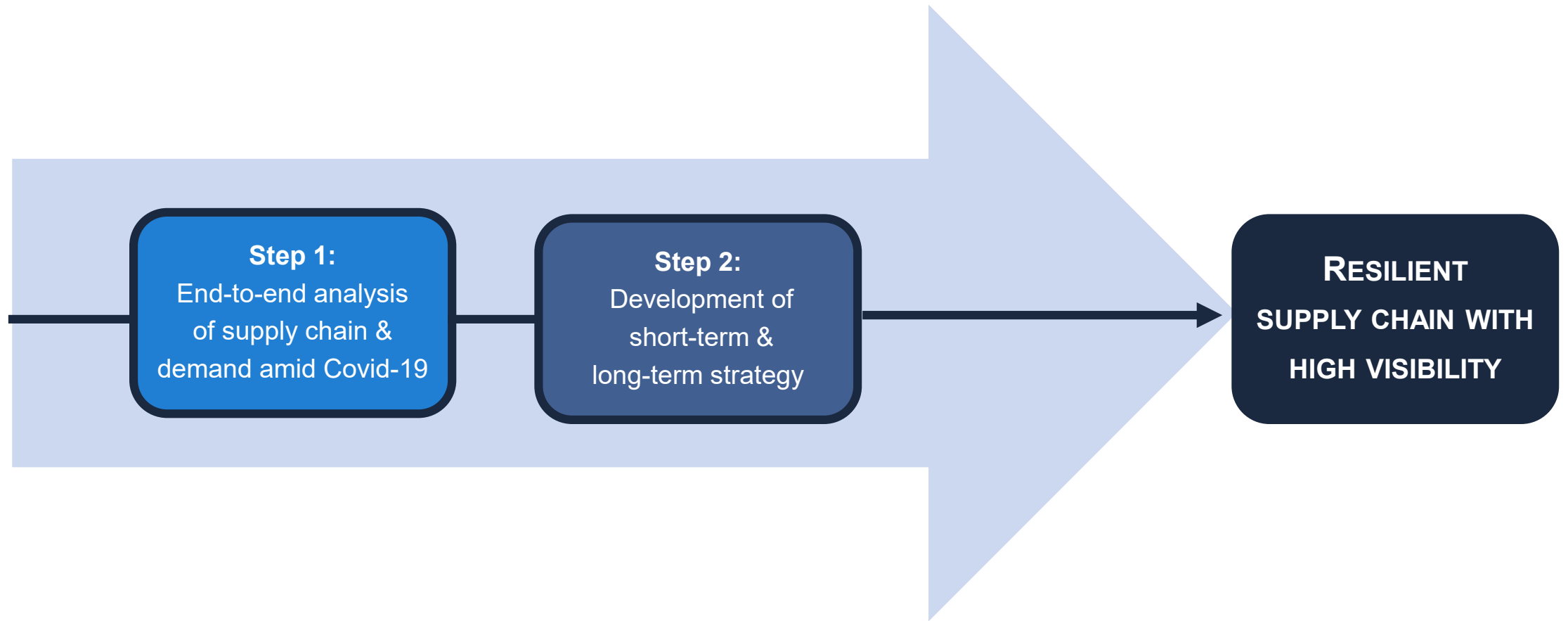
Brand	Annual capacity
Honda	2,500,000
Yamaha	1,500,000
SYM	540,000
Piaggio	300,000
Suzuki	200,000

Source: CTS



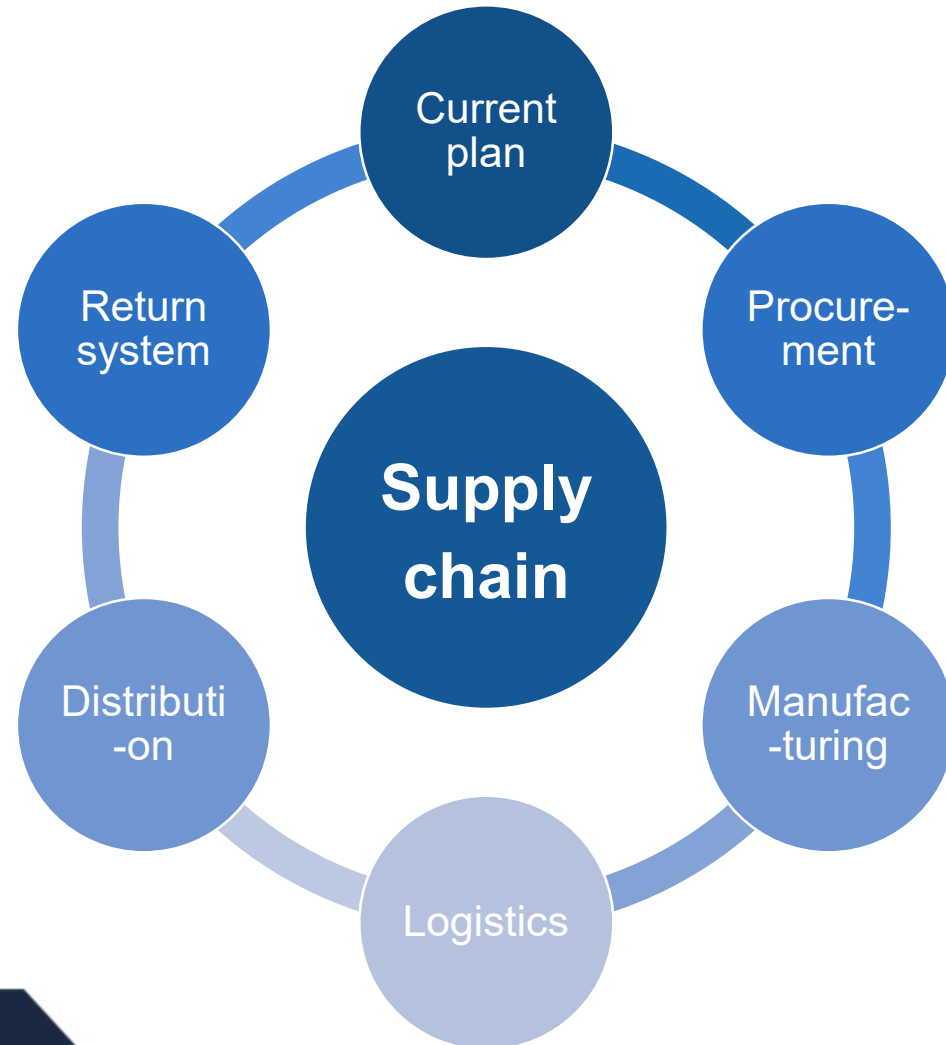
Part 2
**Strategy to address emerging
business distress due to
Covid-19 outbreak in Vietnam**

Strategy to address emerging business distress due to Covid-19 outbreak in Vietnam



Strategy to address emerging business distress due to Covid-19 outbreak in Vietnam

Step 1: End-to-end analysis of supply chain and demand amid Covid-19



Strategy to address emerging business distress due to Covid-19 outbreak in Vietnam | Short-term responses

Sanitation & labor planning

- Conduct a health check
- Immediately implement sanitation measures and reconfigure workspaces for safety
- Prepare succession plans for key positions

Production planning

- Try and maintain operations since shutting down production and re-starting can be an expensive endeavor
- Maintain manufacturing balance to fit with changing demand
- Implement digital and automated manufacturing capabilities to address labor shortage, if possible

Procurement

- Secure supplies
 - Buy ahead to procure inventory and raw material that are in short supply in impacted areas
 - Secure capacity and delivery status for Tier-2 and Tier-3 suppliers, and allocated supplies and overtime assembly capacity
 - Pursue alternative sourcing strategies
- Procurement of spare parts for facilities to forego maintenance schedule
- Renegotiate contracts

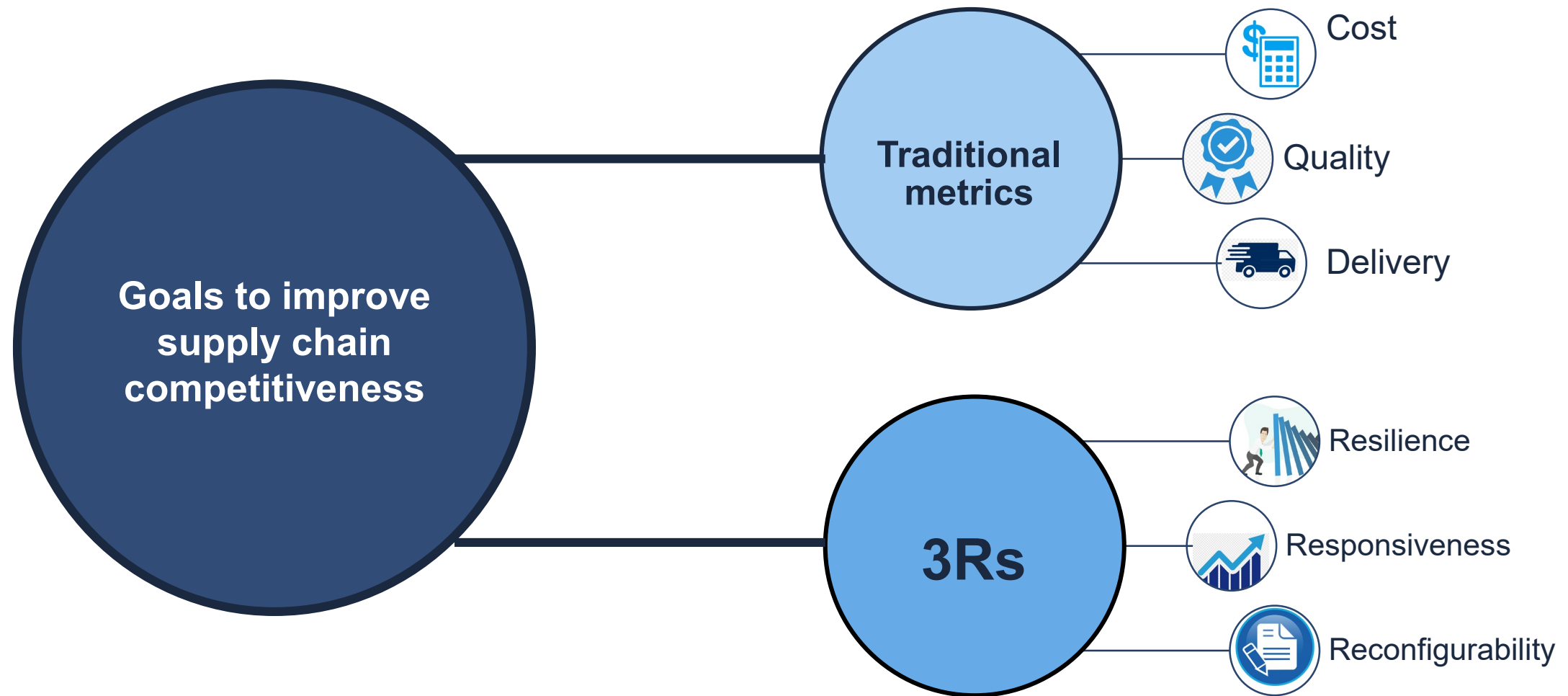
Logistics

- Diversify logistics network and last-mile partners to navigate this crisis
- Transport available inventory to areas away from quarantine zones and near ports where it can be accessed for shipping
- Evaluate alternative outbound logistics options and secure capacity

Distribution channels

- Boost online business

Strategy to address emerging business distress due to Covid-19 outbreak in Vietnam | Long-term focus



Strategy to address emerging business distress due to Covid-19 outbreak in Vietnam | Long-term focus

Investment in technology

- ❖ **Big data** streamlines supplier selection process
 - ❖ **Cloud-computing** is increasingly being used to facilitate and manage supplier relationships and logistics
 - ❖ **IoT** devices for demand sensing and goods movement tracking
 - ❖ Advanced forecasting solutions
 - ❖ **Social media** demand behaviour monitoring
- Improvement of supply chain **visibility** and **resilience**

Diversify supply network

- ❖ Businesses in Vietnam remain reliant on sourcing inputs from China and the pandemic is a good wake up call for them to diversity
 - **40%** manufacturing inputs of Vietnam coming from China
- ❖ In this context, favourable trade agreement network of Vietnam is critical
 - **EU-Vietnam Free Trade Agreement (EVFTA)**

Strategy to address emerging business distress due to Covid-19 outbreak in Vietnam | Upcoming opportunity

	EVFTA: Vietnam's tariff lines for EU	Major exporter to Vietnam in EU
Machinery and equipment	About 60% of Import Tariffs shall be eliminated once the agreement comes into force.	Germany
	The remaining custom duties shall be reduced to 0% within 10 years.	
Automobiles, motorcycles and parts	Automobiles with capacity of more than 2500cm ³ for diesel vehicles, more than 3000cm ³ for petrol vehicles shall be free from import tariff after 9 years.	Germany
	Other types of automobiles shall be free from import tariff after 10 years.	
	All types of auto parts shall be free from tariff barriers after 7 years.	
	Moped or motorcycles more than 150cm ³ shall be free from import tariff after 7 or 10 years	
Chemicals and chemical products	About 70% of import tariffs shall be eliminated once the agreement comes into force.	Germany
	The remaining custom duties shall be eliminated from tariff barriers after a maximum 7 years.	
Textile, apparel and footwear	About 80% of import tariffs shall be eliminated after the agreement comes into force.	Italy
	The remaining custom duties shall be eliminated after 3 to 5 years.	



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