Shipment of automotive parts with sea cargo vessel from Guangzhou, China, to Duisburg, Germany

Route

SEARATES by DP WORLD

Tools Services References Company Integrations SIGN IN

TRANSPORTATION BY: SEA | LAND | AIR

PORT OF ORIGIN: A Guangzhou, CN

PORT OF DESTINATION: B Duisburg, DE

AVERAGE SPEED 13 KNOTS

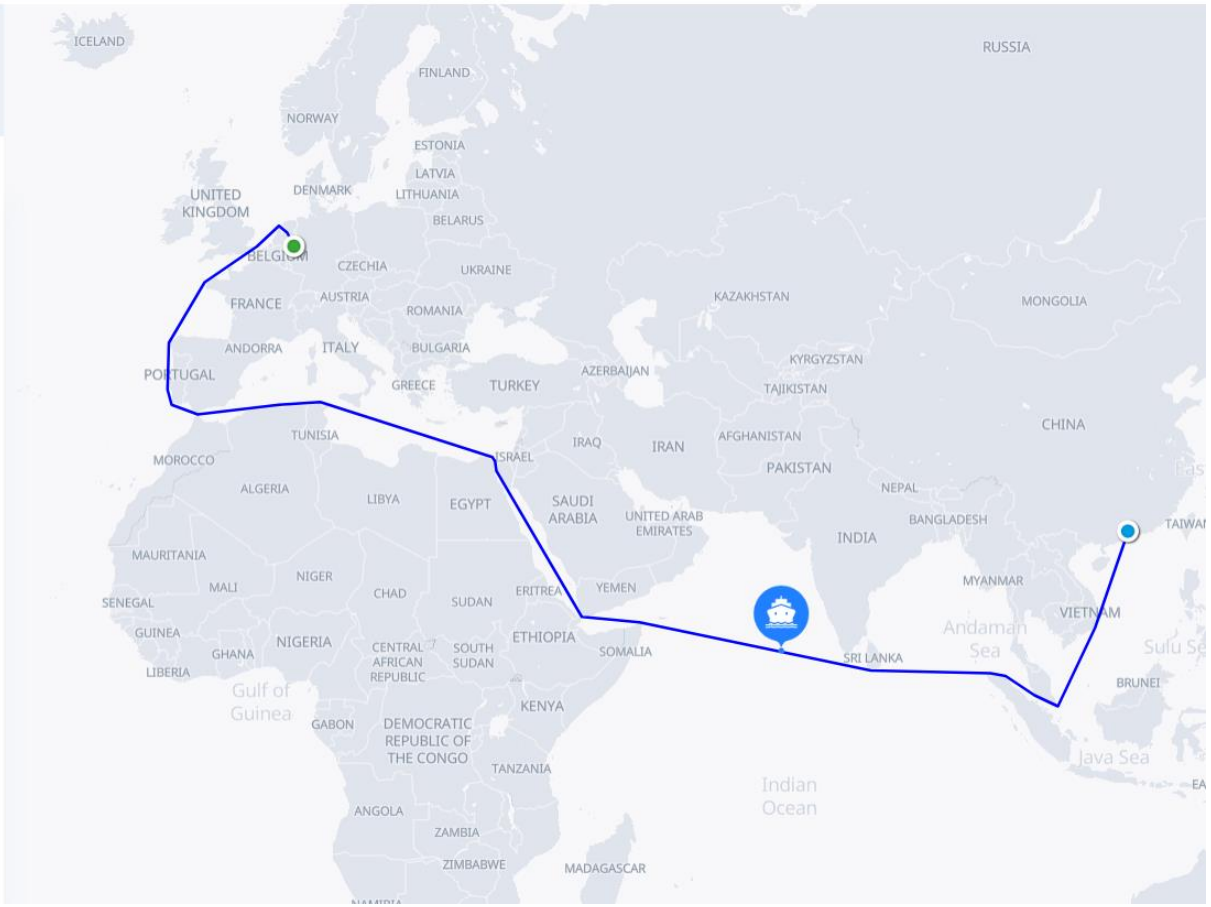
DISTANCES & TIME

Guangzhou, Guangdong, China
3.54 mi, (6.56 km)
Transit Time: an hour
Average Speed: 22 mp/h (35 km/h)

Guangzhou
9831.03 mi, (18207.07 km)
Transit Time: 31 days 12 hours
Average Speed: 13 knots

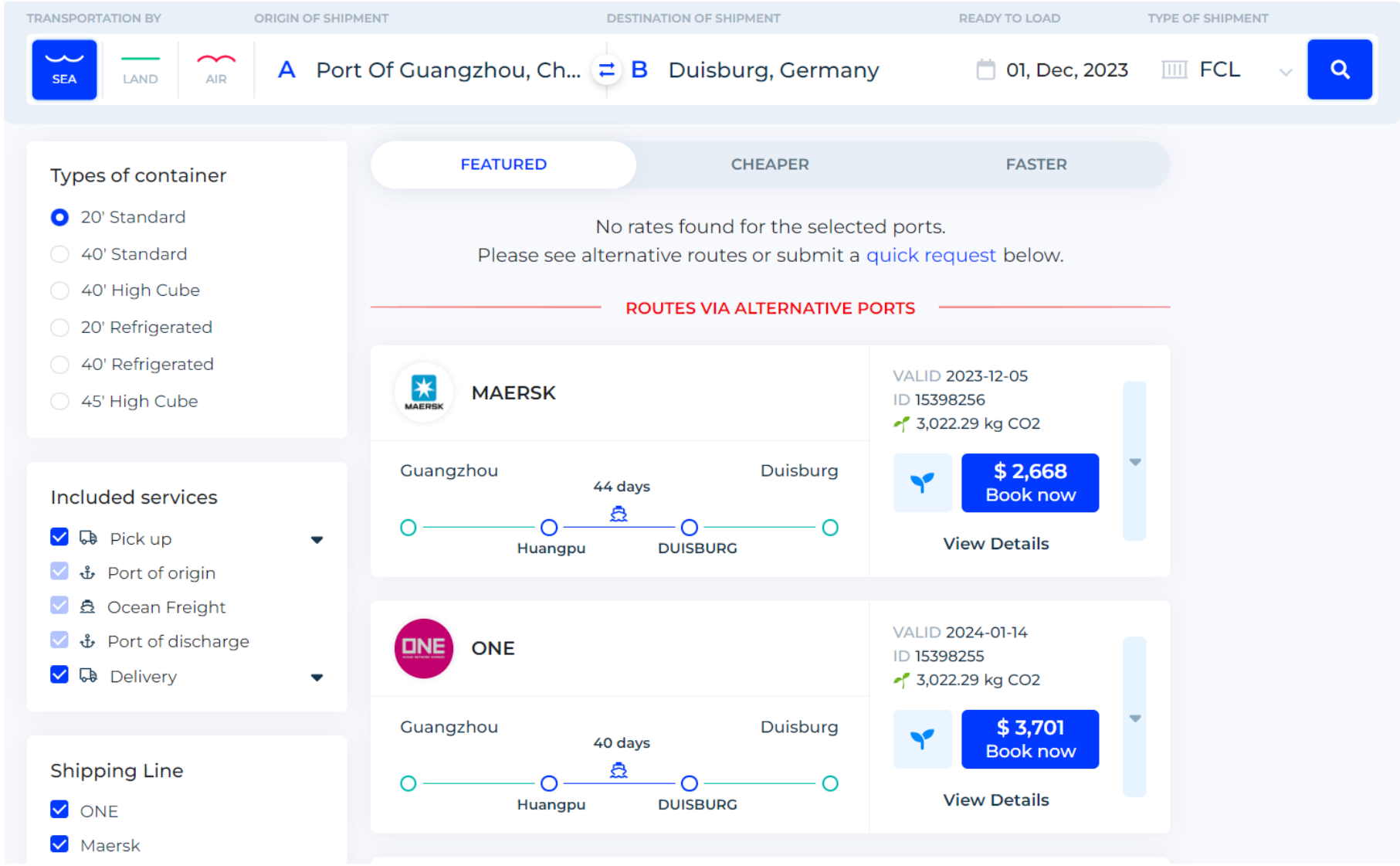
DUISBURG
0.87 mi, (1.61 km)
Transit Time: an hour
Average Speed: 22 mp/h (35 km/h)

Duisburg, Germany



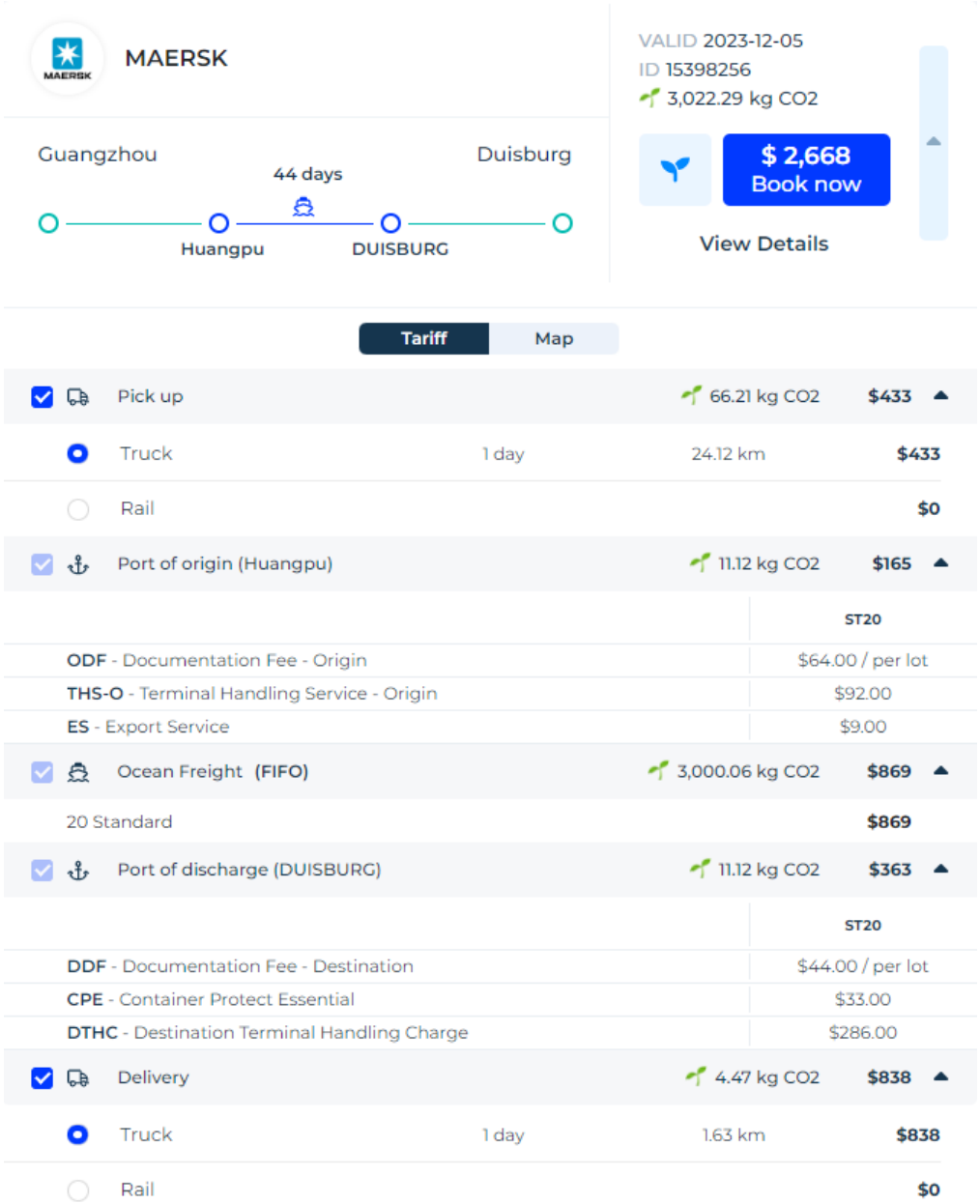
Source: [1]

Costs



Source: [1]

Costs



MAERSK

VALID 2023-12-05
ID 15398256
3,022.29 kg CO2

Guangzhou — 44 days — Duisburg
Huangpu — DUISBURG

$ 2,668
Book now

View Details

Tariff | Map

Pick up		66.21 kg CO2	$433
Truck	1 day	24.12 km	$433
Rail			$0
Port of origin (Huangpu)		11.12 kg CO2	$165

	ST20
ODF - Documentation Fee - Origin	$64.00 / per lot
THS-O - Terminal Handling Service - Origin	$92.00
ES - Export Service	$9.00

Ocean Freight (FIFO)		3,000.06 kg CO2	$869
20 Standard			$869
Port of discharge (DUISBURG)		11.12 kg CO2	$363

	ST20
DDF - Documentation Fee - Destination	$44.00 / per lot
CPE - Container Protect Essential	$33.00
DTHC - Destination Terminal Handling Charge	$286.00

Delivery		4.47 kg CO2	$838
Truck	1 day	1.63 km	$838
Rail			$0

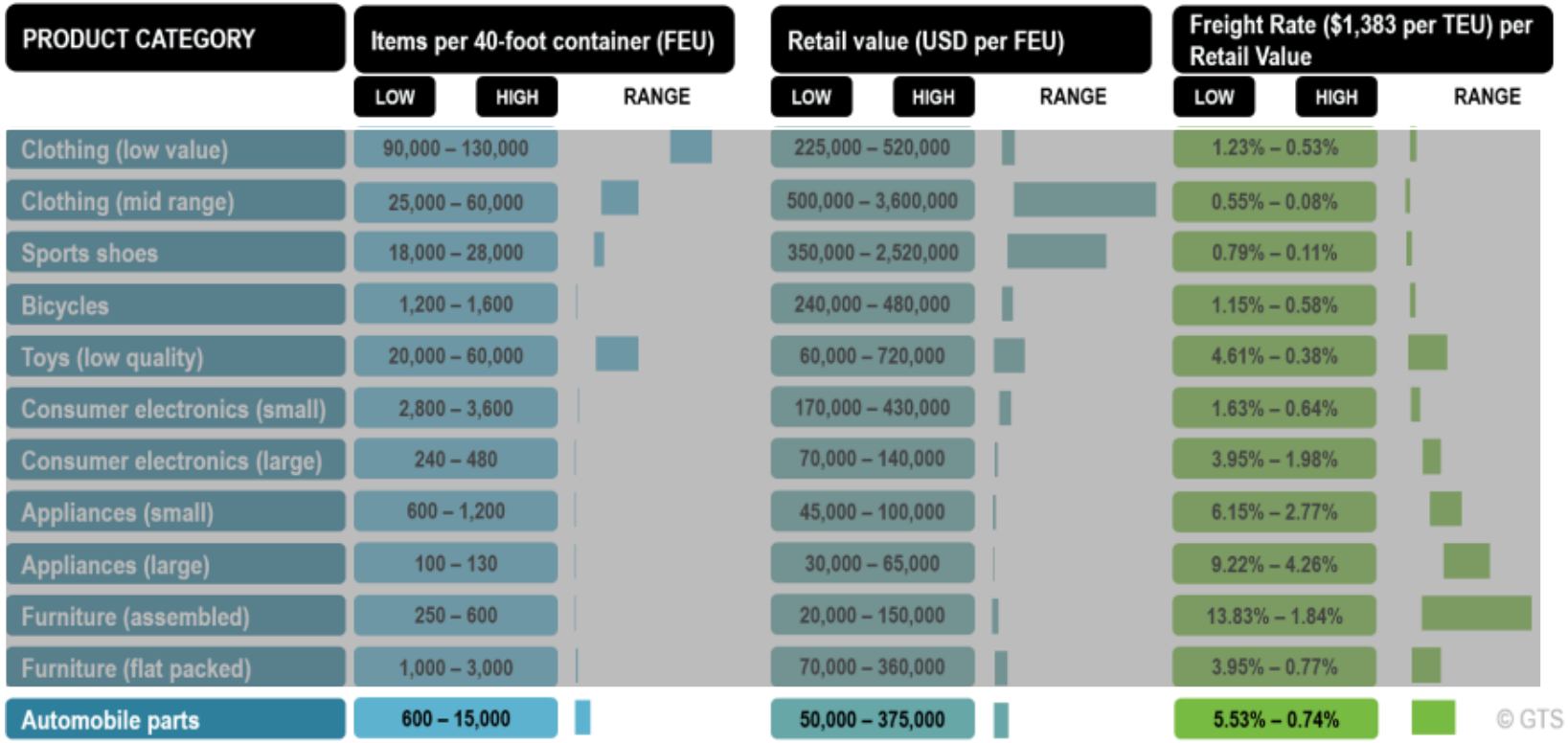
Source: [1]

Cost dependencies

- Availability of containers
- Availability of vessel freight capacit
- The freight type of shipping
- The size of shipment
- Current fuel cost

Cost and Value of parts

Parts with relatively low value per kilogram, such as tires, wheels, body parts, and frames, are suitable for transportation via sea cargo. Value of automobile parts transported via maritime is between 50,000 and 375,000 (USD per FEU).



PRODUCT CATEGORY	Items per 40-foot container (FEU)			Retail value (USD per FEU)			Freight Rate ($1,383 per TEU) per Retail Value		
	LOW	HIGH	RANGE	LOW	HIGH	RANGE	LOW	HIGH	RANGE
Clothing (low value)	90,000	130,000		225,000	520,000		1.23%	0.53%	
Clothing (mid range)	25,000	60,000		500,000	3,600,000		0.55%	0.08%	
Sports shoes	18,000	28,000		350,000	2,520,000		0.79%	0.11%	
Bicycles	1,200	1,600		240,000	480,000		1.15%	0.58%	
Toys (low quality)	20,000	60,000		60,000	720,000		4.61%	0.38%	
Consumer electronics (small)	2,800	3,600		170,000	430,000		1.63%	0.64%	
Consumer electronics (large)	240	480		70,000	140,000		3.95%	1.98%	
Appliances (small)	600	1,200		45,000	100,000		6.15%	2.77%	
Appliances (large)	100	130		30,000	65,000		9.22%	4.26%	
Furniture (assembled)	250	600		20,000	150,000		13.83%	1.84%	
Furniture (flat packed)	1,000	3,000		70,000	360,000		3.95%	0.77%	
Automobile parts	600	15,000		50,000	375,000		5.53%	0.74%	

Source: [6]

Cost and Value of parts

Cost of parts produced in China:
- Average production cost: $0.5/piece
- Average production cost in Germany: $2.5/piece

Trade volume between China and Germany: $300 billion
- German imports of auto parts from China: $5 billion (1.7% share)
- German tariffs: 4.5%, VAT: 19%.

Cost-effective shipping： Medium to low-value, high-volume parts:

Ocean freight is ideal for cost-effective shipping of high-volume automotive parts, leveraging China's production cost advantage. The lower sea shipping costs result in significant savings, especially for large shipments.

Source: [2]

Capacity & Volume handling

Guangzhou harbour cargo throughput:

- Guangzhou port cargo throughput: 750 million tonnes
- Sea freight throughput: 680 million tonnes

Port of Duisburg:

- Port of Duisburg cargo throughput: 100 million tonnes
- Cargo throughput imported from China: 2 million tonnes)

Source: [3] [4]

Environmental Impact

According to S&P Global Platts Analytics, the shipping industry currently accounts for between 2% and 3% of global CO2 emissions and could be 17% by 2050 if left unregulated

Air Pollution

The pollutants released by ships include carbon dioxide (CO2), nitrogen oxides (NOx), sulfur oxides (SOx), and particulate matter

Carbon dioxide disrupts ecosystems and ocean circulation

Nitrogen oxide, sulfur oxides, and particulate matter contribute to the premature deaths of people and environmental pollution.

Noise Pollution

A cargo vessel emits around 190 decibels of noise – which is louder even than a jet engine at take-off.

Noise travels fast in water – four times faster than in air – meaning that noise from a ship can carry exceedingly far

Marine species who may rely on sound for their orientation, communication, and feeding, can be harmed by this sound pollution

Vessel Discharges

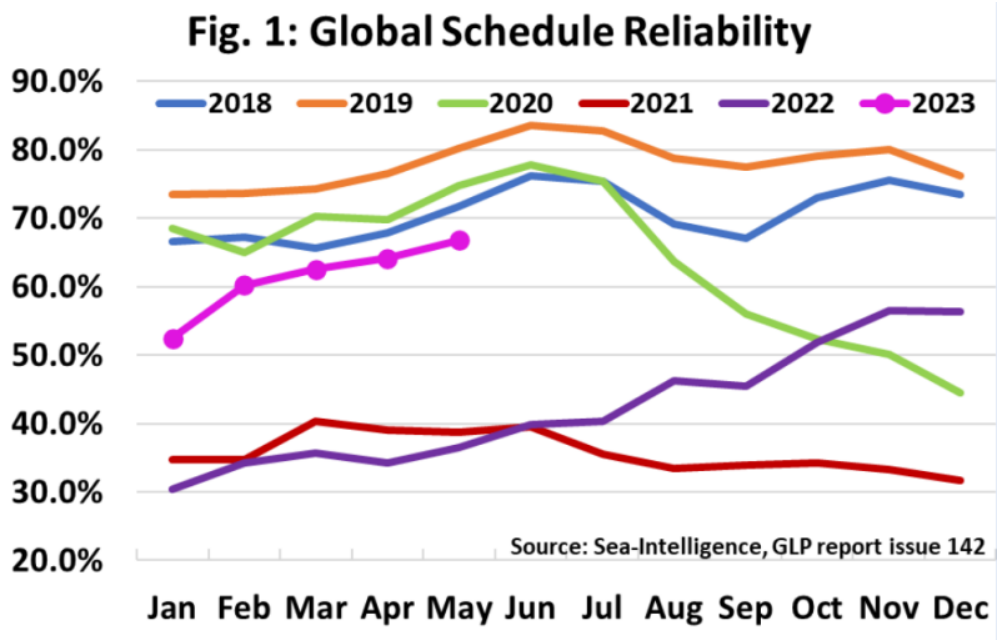
Blackwater is sewage, wastewater from toilets and medical facilities

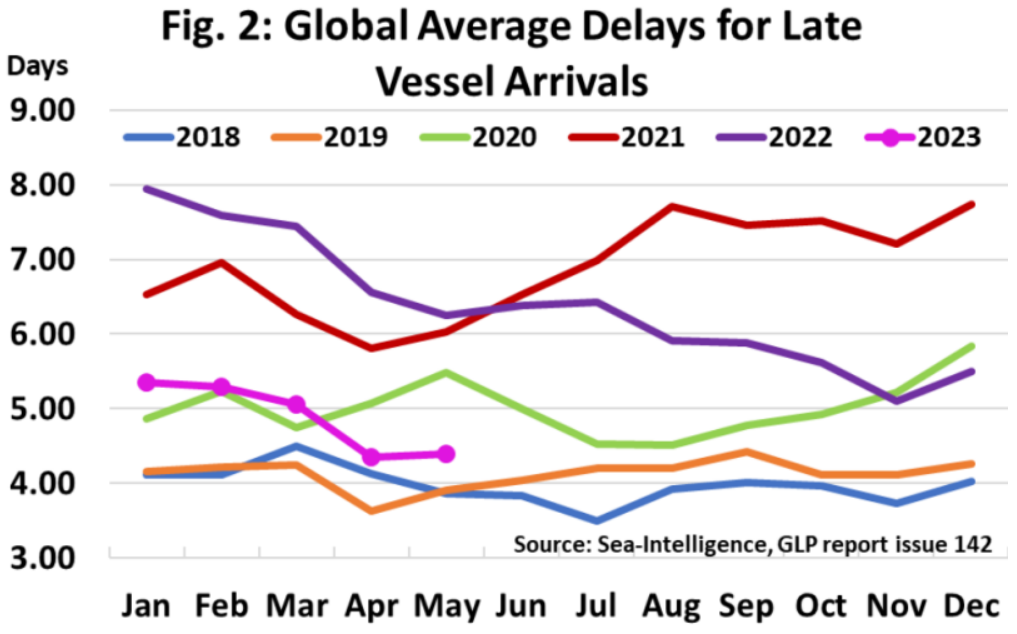
Graywater consists of discharges from sink, bath, and shower water

Discharge 'bilge' water illegally instead of treating it

Source: [5] [6] [7]

Reliability and consistency





Source: [8]

Sensitivity transportation

- Sensitivity of automotive parts to transportation conditions vary depending on the parts. For example, engines and transmissions are more prone to be damaged.
- To securely package those, foam-in-place or spray foam filler can be used
- Plastic and other breakable parts can be packed using air cushions
- Time tires can be transported without using any additional materials

Source: [9] [10]

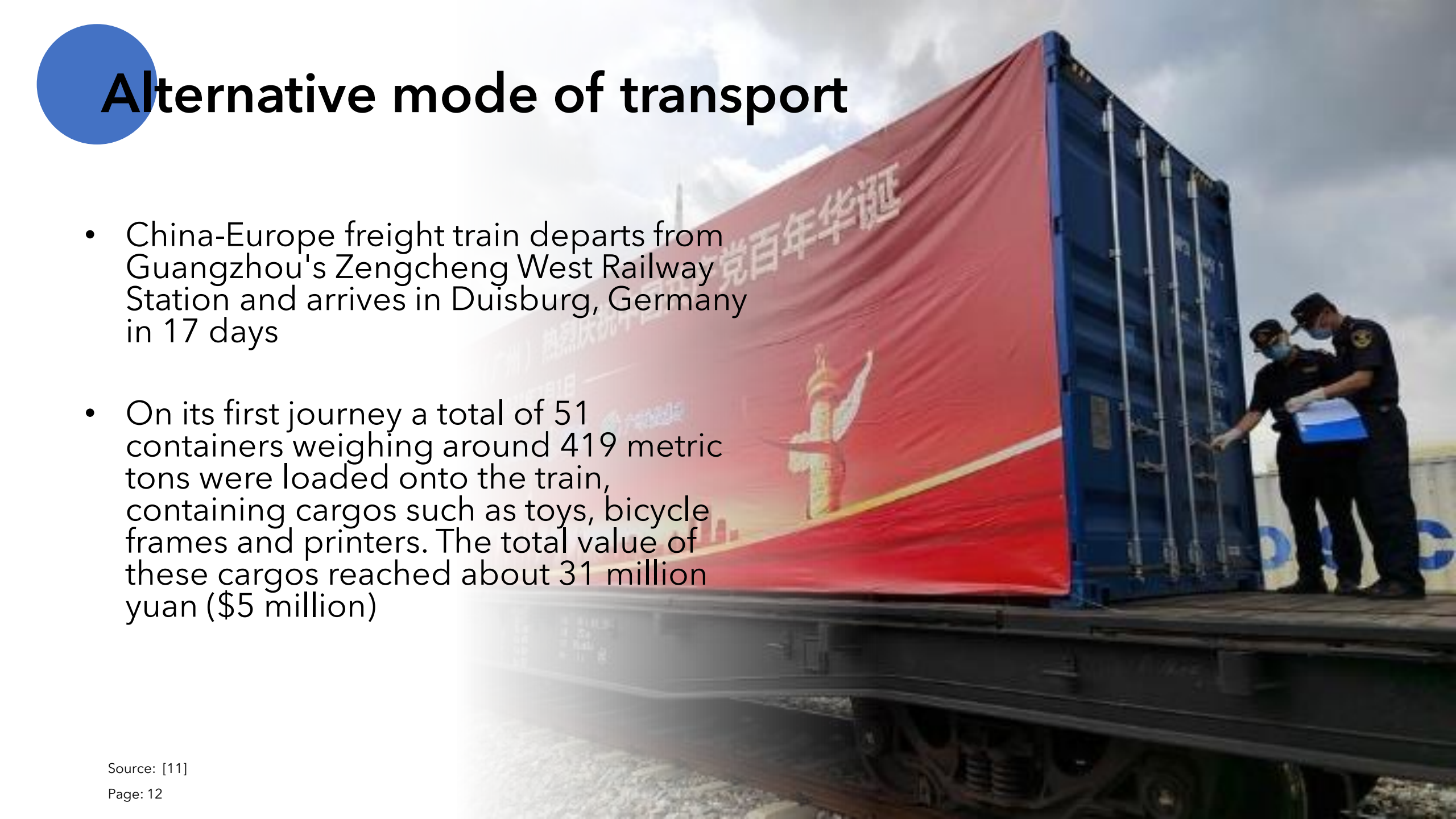
Time constraints

- At a minimum of 30-40 days for a door-to-door shipment from China to Germany, under normal conditions
- During peak season or Chinese major holidays, the total shipping time will become longer.

Alternative mode of transport

- China-Europe freight train departs from Guangzhou's Zengcheng West Railway Station and arrives in Duisburg, Germany in 17 days

- On its first journey a total of 51 containers weighing around 419 metric tons were loaded onto the train, containing cargos such as toys, bicycle frames and printers. The total value of these cargos reached about 31 million yuan ($5 million)



Source: [11]

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