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Region 2 University Transportation Center Consortium
led by Rutgers Center for Advanced Infrastructure
and Transportation

CAIT Presentation
The Effect of COVID-19 on the Port Industry – Global Trends & Regional Effects

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OUTLINE

- The COVID 19 pandemic and its impacts
  - Global shipping
  - Port industry
  - Logistics and freight transportation industry
- Framework Scenario on the midterm implications
  - Effects facing the Port Industry - traffic patterns, logistics business patterns and practices.
- The East Coast ports

COVID – 19, IMPACT ON THE MARITIME & THE PORT INDUSTRIES

- Severe negative impact worldwide on Cruise Industry, including Homeports and Ports of Call. Cruise Industry still to regain its momentum.
- Two Phase Impact on Container Shipping, has led to restructuring of the service network, vessels deployed and freight rate structure
- In Container Shipping, initially, Blank Sailings (skipping one Port of Call or cancelling the whole service string) were extensively adopted to mitigate the initial decrease in demand. This practice adopted by Carriers led to:
  - Decrease in Port Container Traffic
  - High Empty Container Imbalance
- Two Phase Impact pattern on Dry Cargo Shipping too, but with different structure. Second phase revival much slower for black and white breakbulk; steel and steel products; project cargo and machinery, as compared to containers

COVID – 19, IMPACT ON THE CONTAINER SHIPPING INDUSTRY- 1

TWO PHASES FOLLOWING COVID – 19 EMERGENCE:

Phase 1 (March 2020 – May 2020): Downwards Tendency in Weekly Capacity deployed in East – West mainline services

- Weekly Capacity deployed in Asia – North America, reduced by 10.2% between Feb. 2020 & May 2020

Phase 2 (June 2020 – Currently): Rapid restoration of Weekly Capacity & remarkable increase in Freight Rates

- Weekly Capacity deployed in Asia – North Europe, increased by 26% between May 2020 & Sept. 2020
- Container Shipping Lines continue their disciplined capacity management in Oct. 2020, avoiding overcapacity (capacity concentration helps this process)
- Freight rates (spot) in Shanghai -USWC increased by 167% between March 2020 & Sept 2020 and continue to break new records (exceed those of the much longer connection Asia – Europe).

Source: ALPHALINER

COVID – 19, IMPACT ON THE CONTAINER SHIPPING INDUSTRY- 2

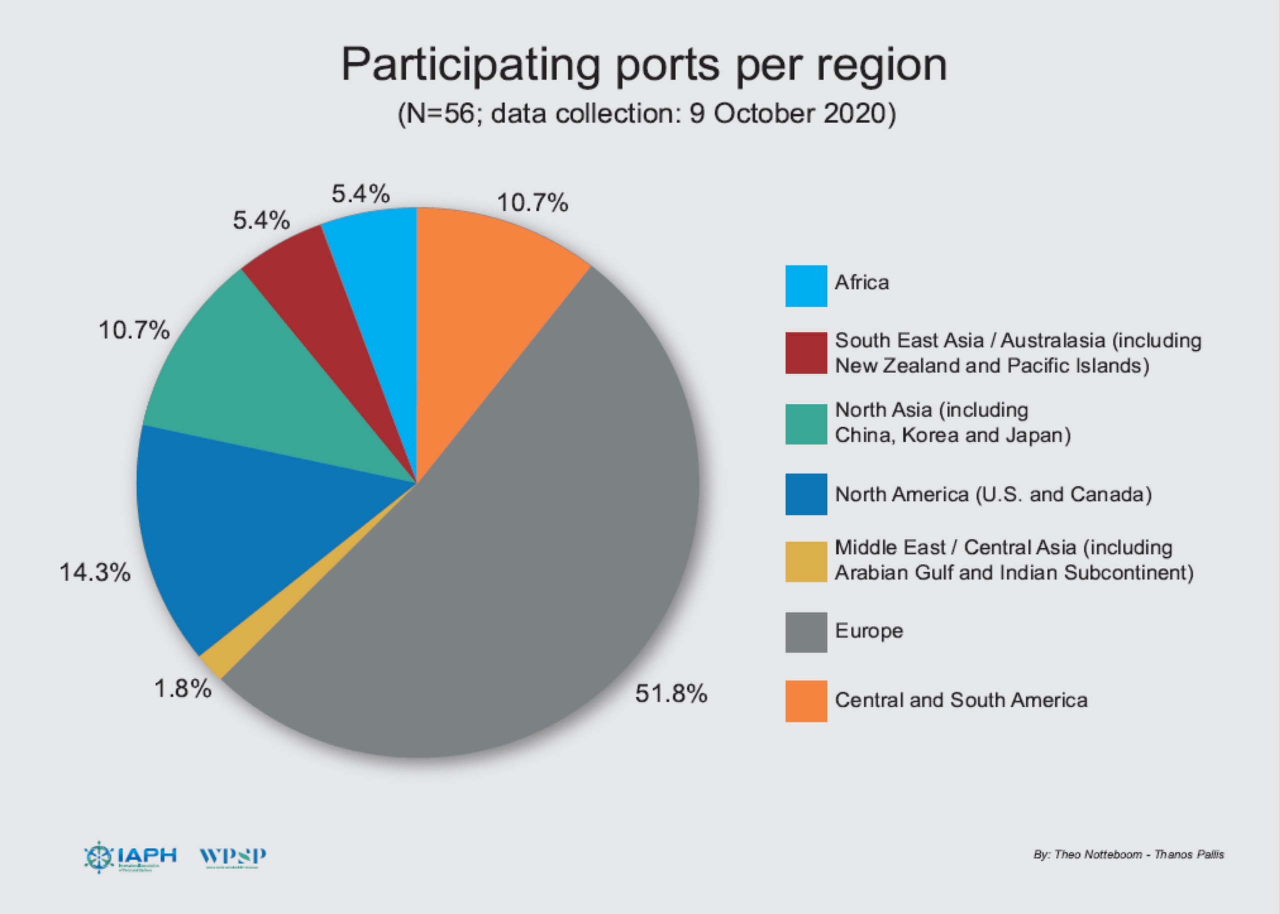
- Despite the ongoing COVID-19 pandemic, demand for container transport highest ever observed (particularly in the Asia- USWC trades)
- The first major crisis which Container Shipping Lines did not tackle by chasing more market share and fighting a rate war (plus the low bunker prices) leads them to profit making
- Inactive container vessel fleet only 1.8% by TEU Capacity (compared to 11.6% in May 2020), i.e. fell to 0.5MTEU!
- Globally, robust reefer market, but lack of reefer containers (very imbalanced reefer container inventory)
- Potential reasons for the sudden container shipping resumption:
  - Sharp increase in demand of hygiene products;
  - Issues with air freight transportation air freight markets benefiting maritime transportation
  - Change in spending focusing on consumer goods rather than on travelling
  - a catch-up effect

COVID – 19, IMPACT ON THE CONTAINER SHIPPING INDUSTRY- 3

- Some Shipping Lines continue (Oct. 2020) suspension of loops due to COVID – 19 (e.g. N. Europe – USEC Transatlantic Loop TA4/ NEUATL4 by 2M i.e. Maersk & MSC – Loss of capacity is partly compensated by deploying larger vessels in the rest three loops). No more blank calls, in general.
- Shipping Lines have so far resisted the urge to increase the speed of their vessels to augment their transportation capacity
- Tighter capacity management discipline among Shipping Lines, thanks to the Container Shipping concentration.
- As a consequence of the traffic revival, a far lower decrease than envisaged of around - 8% year-on-year is expected, while projections in June 2020 anticipated -16% or even more.
- **IT IS UNKNOWN HOW LONG THIS SITUATION WILL LAST, but** a transformation of the container shipping sector may be underway

COVID – 19, THE IAPH – WPSP BAROMETER SURVEY – THE STRUCTURE

- Survey spans from Week 15 (April 6, 2020) to Week 41 (Oct. 8, 2020)
- Sample size: 56 (structure as in the Pie Chart) (Week 41)
- Survey concerns:
  - Vessel calls evolution
  - Hinterland transportation delays
  - Capacity utilization of warehousing & storage
  - Workforce shortage



Source: IAPH – WPSP, Oct. 2020

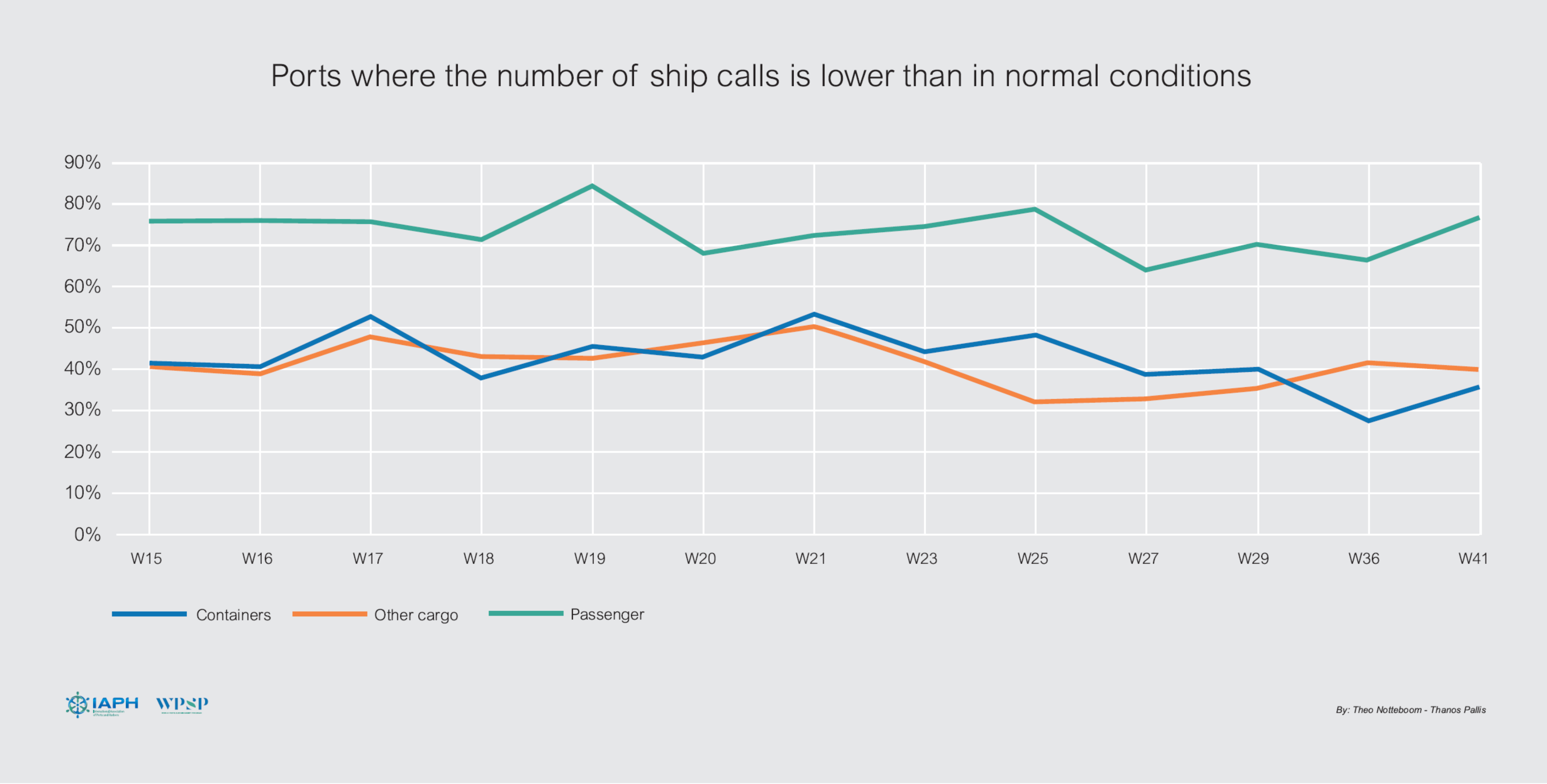
COVID – 19, THE IAPH – WPSP BAROMETER SURVEY / THE OVERALL PICTURE

		Week 15 April 06	Week 16 April 13	Week 17 April 20	Week 18 April 27	Week 19 May 05	Week 20 May 12	Week 21 May 19	Week 23 June 02	Week 25 June 16	Week 27 July 01	Week 29 July 15	Week 36 Sept 02	Week 41 Oct 08
Ports with decline in vessel calls (last week compared to normal conditions, %)	Container vessels	41%	41%	53%	39%	45%	43%	53%	45%	48%	40%	40%	28%	35%
	Other cargo vessels	41%	39%	47%	44%	42%	46%	51%	42%	33%	33%	37%	41%	40%
	Passenger vessels	77%	77%	76%	71%	85%	68%	73%	74%	78%	64%	70%	66%	77%
Ports facing hinterland transport delays (last week compared to normal conditions, %)	Trucks (cross-border)	43%	41%	35%	37%	38%	26%	28%	23%	28%	15%	9%	13%	0%
	Trucks (in/out port)	37%	33%	35%	35%	16%	15%	23%	8%	11%	15%	11%	12%	6%
	Rail services	28%	21%	32%	13%	22%	17%	19%	14%	13%	8%	9%	14%	5%
	Inland barge services	41%	23%	40%	21%	19%	21%	20%	20%	18%	3%	9%	13%	4%
Ports facing high capacity utilization of warehousing and storage facilities (last week, %)	Foodstuff & medical supplies	35%	34%	33%	25%	25%	20%	14%	16%	8%	15%	10%	20%	17%
	Consumer products	27%	28%	25%	18%	19%	9%	12%	13%	10%	12%	10%	17%	17%
	Liquid bulk	21%	22%	20%	15%	20%	17%	13%	17%	16%	16%	16%	18%	17%
	Dry bulk	16%	17%	13%	12%	17%	13%	10%	9%	18%	15%	10%	19%	16%
Ports facing shortages in port-related workers (last week, %)	Dock workers	16%	16%	16%	22%	19%	17%	16%	13%	13%	14%	5%	15%	7%
	Technical-nautical services	7%	9%	4%	12%	11%	6%	8%	7%	7%	7%	4%	12%	4%
	Harbor master services	4%	8%	7%	10%	4%	8%	10%	5%	4%	6%	2%	9%	4%
	Port authority	28%	22%	22%	26%	16%	22%	12%	12%	21%	8%	7%	15%	7%
	Truck drivers	no data	no data	21%	16%	12%	9%	11%	10%	3%	7%	5%	12%	7%

By: Theo Notteboom - Thanos Pallis

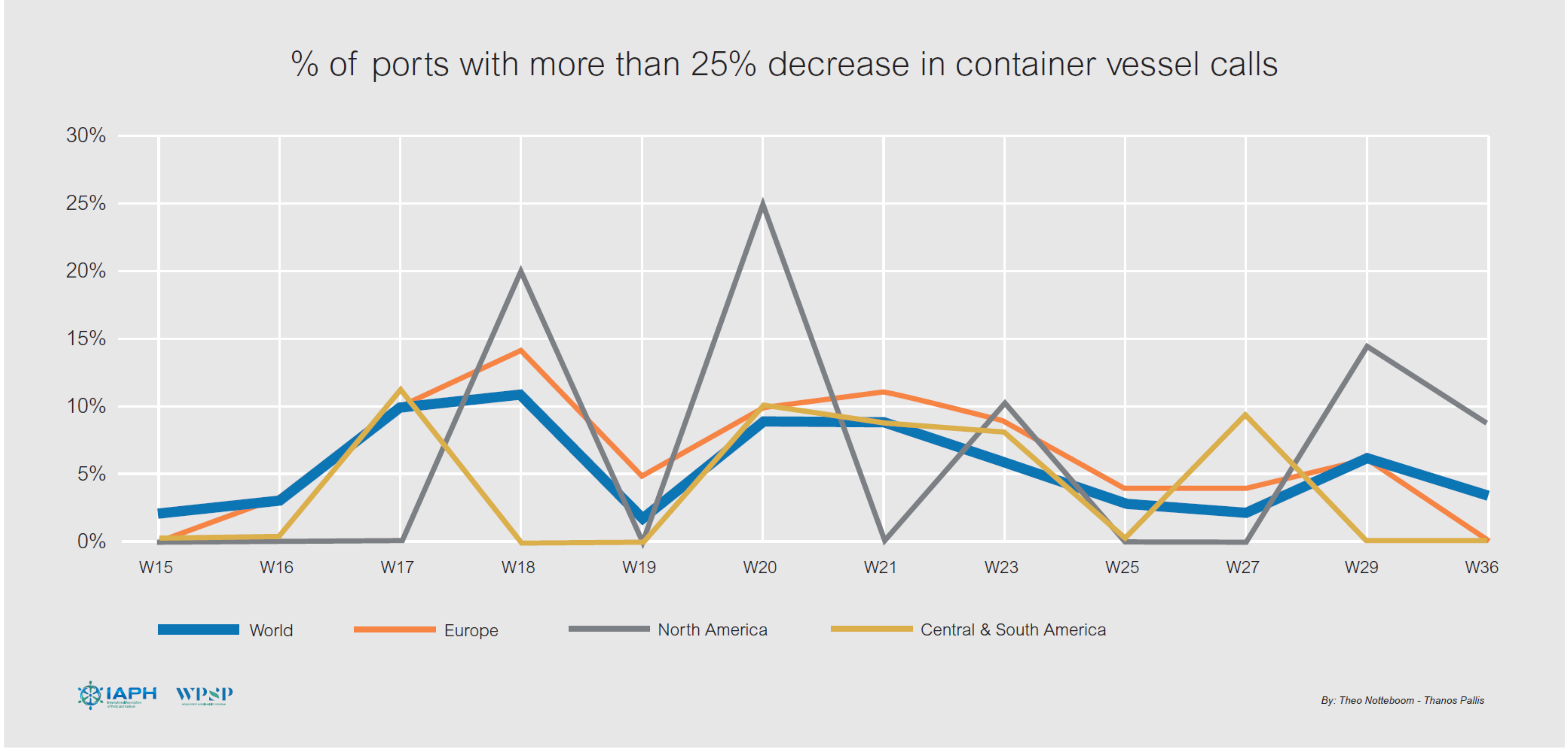
Source: IAPH – WPSP, Oct. 2020

COVID – 19, THE IAPH – WPSP BAROMETER SURVEY / EVOLUTION OF SHIP CALLS



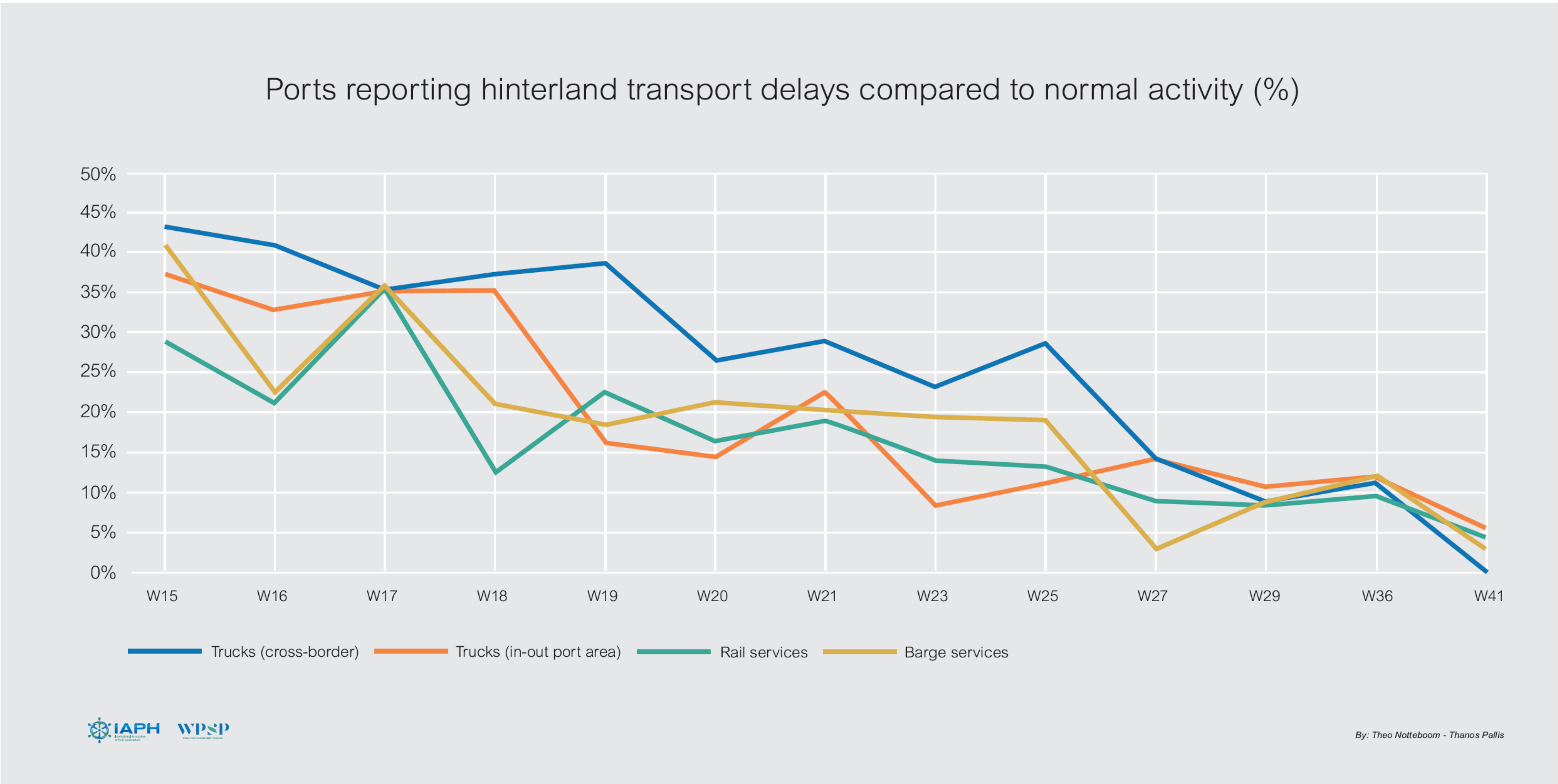
Source: IAPH – WPSP, Oct. 2020

COVID – 19, THE IAPH – WPSP BAROMETER SURVEY / EVOLUTION OF CONTAINER SHIP CALLS



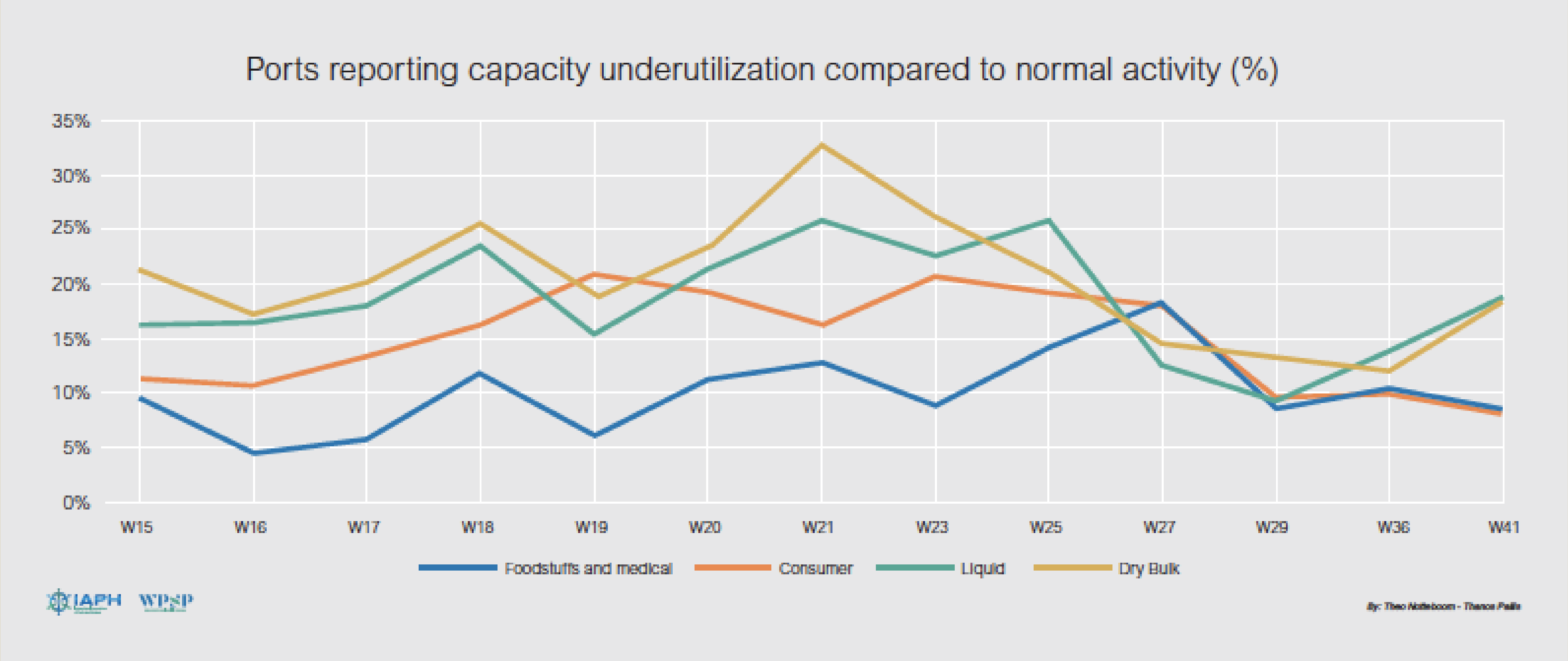
Source: IAPH – WPSP, Sept. 2020

COVID – 19, THE IAPH – WPSP BAROMETER SURVEY /Impact on Hinterland Transport



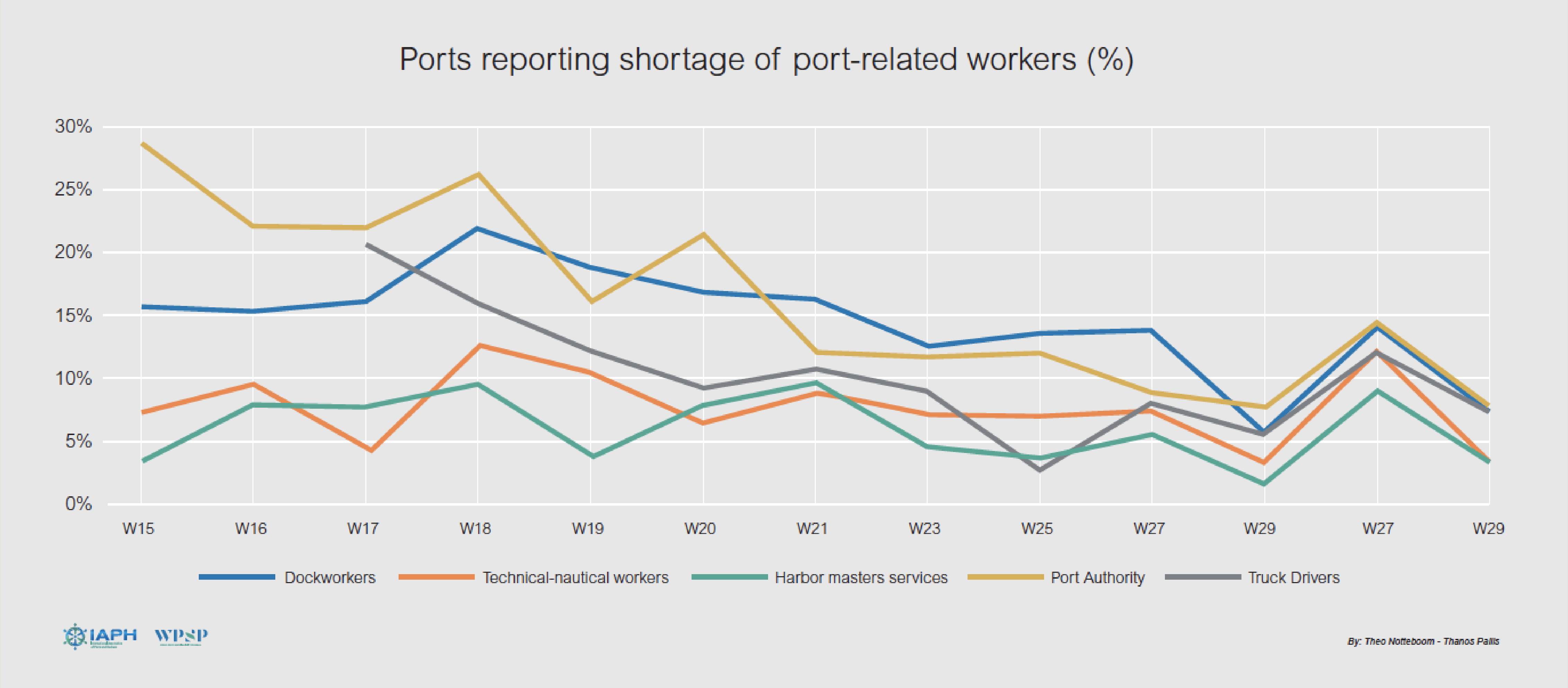
Source: IAPH – WPSP, Oct. 2020

COVID – 19, THE IAPH – WPSP BAROMETER SURVEY / Capacity Utlization incl. Warehousing



Source: IAPH – WPSP, Oct. 2020

COVID – 19, THE IAPH – WPSP BAROMETER SURVEY / Shortage of Port Related Workers



Source: IAPH – WPSP, Oct. 2020

FRAMEWORK SCENARIO ON THE MIDTERM IMPLICATIONS

- Restrictive measures imposed by ports and carriers worldwide
  - Closed warehouses
  - Reduced workforce
  - Strict health protocols
- Implications
  - Congestion in container traffic
  - Disruption of the supply chain
    - Early stages of the pandemic – overcapacity in container shipping
    - After the reopening of economies – container shortages in Asian ports

THE EAST COAST PORTS – Port of NY/NJ

- Raising of the Bayonne bridge and deepening the navigation channels – larger size vessels calling at the Port of NY/NJ
- Expanded Panama Canal
- Proximity to big population centers on the east
- Production centers moving to Vietnam, Thailand, Cambodia, India
- ULCVs making transshipment calls in the Mediterranean, crossing the Atlantic to the USEC ports.

THE EAST COAST PORTS – Port of NY/NJ

- At the Port of NY/NJ cargo volumes fell 7.9% from January to July compared to the year before.
- In May, loaded container imports fell by 22%
- In August container traffic returned to the 2019 levels
- Retailers stocking up before the holiday season and high increase in relation to e-commerce
- Container volumes are projected to remain strong for the rest of the year
- Strain on the fluidity of the supply chain – equipment and drivers

THE EAST COAST PORTS – Port of NY/NJ

More & larger vessels → More exchanges per vessel → Supply chain efficiency & productivity strain

- Increased congestion – operational challenges
- Equipment inefficiencies
- Streched drayage market
- Improve off port support infrastructure
- Empty equipment management
- Truck appointment inefficiencies

COVID – 19 & THE PORT INDUSTRY - CONCLUSIONS

- Very complex situation, still evolving
- Huge impact on the Cruise Port sector
- No “one size fits all” way of tackling the impact of the COVID-19 in all port cases
- Ports are gaining experience on how to address external shocks, testing their resilience (first phase impact due to traffic reduction; impact on storage capacity & inventory receipt; empty container imbalance etc.)
- It appears that Shipping Lines are testing their market power to address the COVID – 19 impacts and port operators may be led to a situation with reduced market/pricing power, though participation of Shipping Lines in port operations makes the business structure complex

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