ITU Emerging Technologies for Development Week

Localized Big Data Applications for Supporting Decision-Making

Friday 18 December 2020

Economic and Social Commission for Western Asia

UNITED NATIONS
الاسكوا
ESCWA

The use of Big Data to assess the effects of COVID 19 on the Arab Transport

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Challenges for Transport and Trade Connectivity from COVID 19

- **Spread Prevention:** 80% of global trade is transported by commercial shipping which can act as virus transmission channel.(Goods and Transport Documents)
- **Intermediate and Consumption goods shortage:** Fall in world trade due to lock down by 13-32% in 2020 (WTO 2020)
- **Increase in burdensome procedures:** Due to closure or reduction of activities on border crossings
- **Disruptions in the logistics industry:** Over the whole supply chains
- **Extensive commercial law implications and proliferation of legal claims:** Delays, performance failure, contract liability, etc
- **Poorly coordinated responses:** Sometime even at the national level.

ESCWA Initiative in the field of Transport:

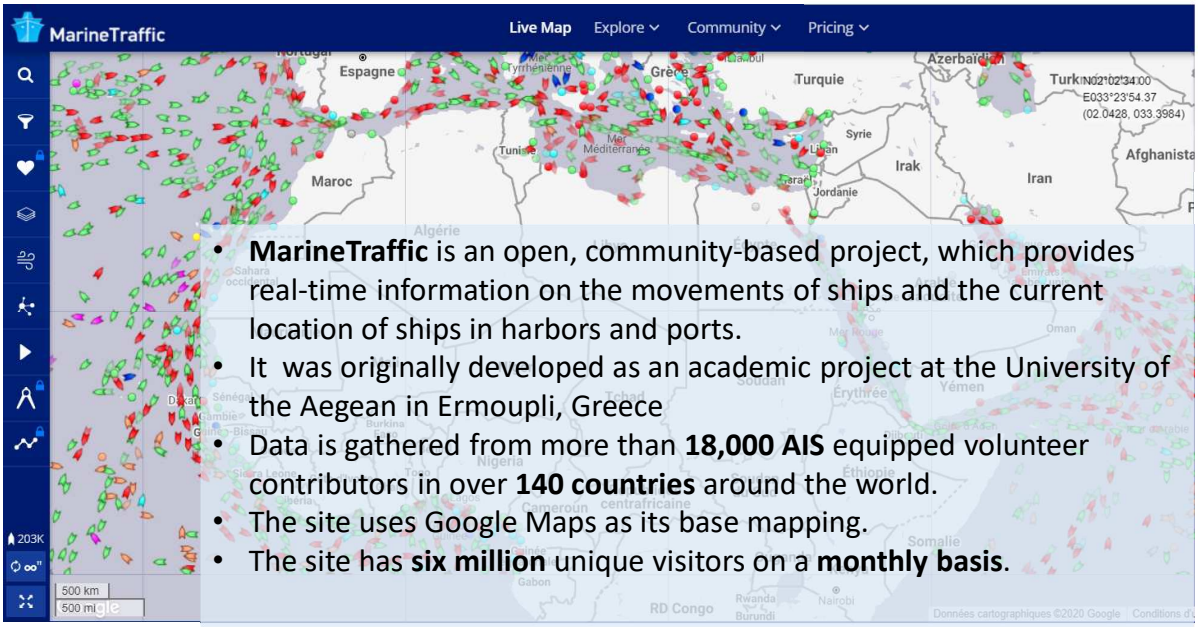
- **A study on the quantitative effects of COVID-19 on the Transport and Logistics in the Arab region:**
  - 20 Countries
  - Air, Maritime and Land Transport
- **Policy recommendations:**
  - Short Term: Insuring transport flows while containing the pandemic
  - Middle Term: Recovery
  - Long Term: Resilience

Need for reliable quick data

Maritime Transport: AIS Data

(In cooperation with UNCTAD)

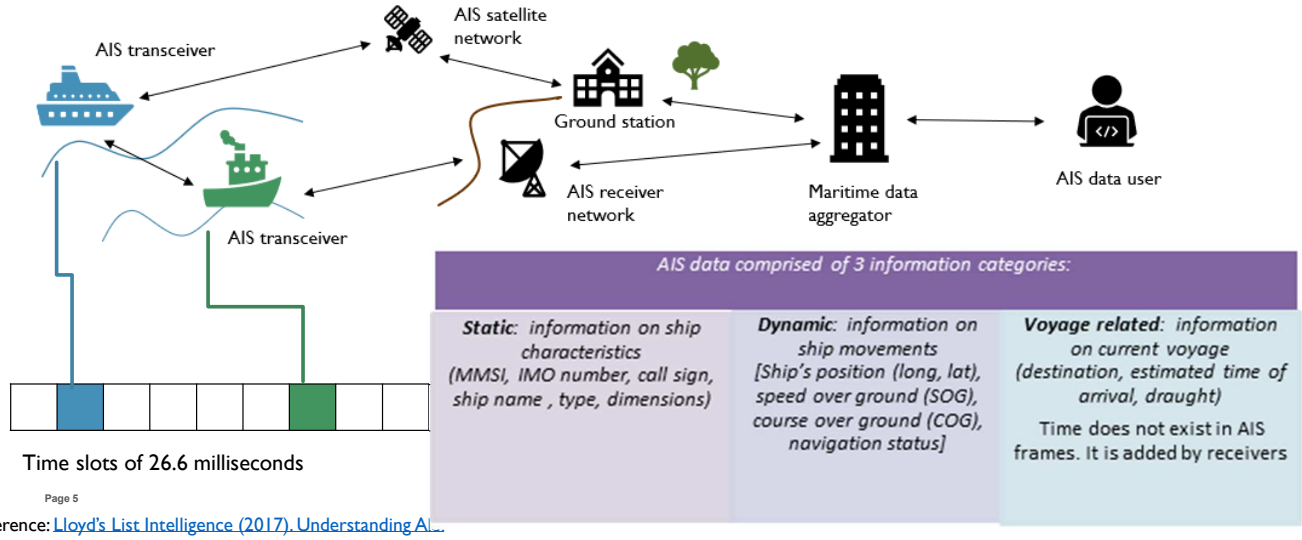
Vessel Tracking and Identification



- **MarineTraffic** is an open, community-based project, which provides real-time information on the movements of ships and the current location of ships in harbors and ports.
- It was originally developed as an academic project at the University of the Aegean in Ermoupli, Greece
- Data is gathered from more than **18,000 AIS** equipped volunteer contributors in over **140 countries** around the world.
- The site uses Google Maps as its base mapping.
- The site has **six million** unique visitors on a **monthly basis**.

AIS DATA – BASIC INFORMATION

The automatic identification system (AIS) is a tracking system for ships, originally developed for collision avoidance (Vessels of more than 5000 Tons)



AIS data comprised of 3 information categories:

***Static**: information on ship characteristics (MMSI, IMO number, call sign, ship name , type, dimensions)*

***Dynamic**: information on ship movements [Ship's position (long, lat), speed over ground (SOG), course over ground (COG), navigation status]*

***Voyage related**: information on current voyage (destination, estimated time of arrival, draught)*

Time does not exist in AIS frames. It is added by receivers

Reference: Lloyd's List Intelligence (2017). Understanding AI...

HISTORICAL AIS DATA: PORT CALLS

Historical AIS Data Services

Historical AIS data is a valuable data source used for vessel traffic analyzes, port calling information, risk assessment and accident investigation. The data is also used for analysing the vessels movements on a global scale, potential trends in the shipping market or vessel behaviour patterns for prosecution of illegal activites.

Video playback of vessel movements

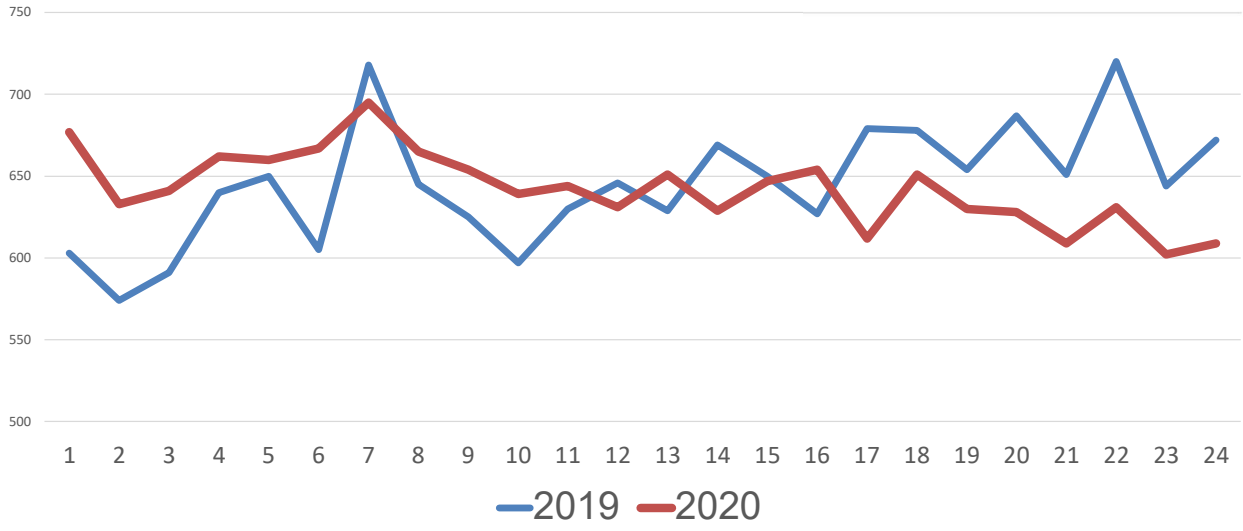
AIS data on past ship positions since 2009

Port Calls for ship/port and Event tracking

Traffic density analysis in critical area or port

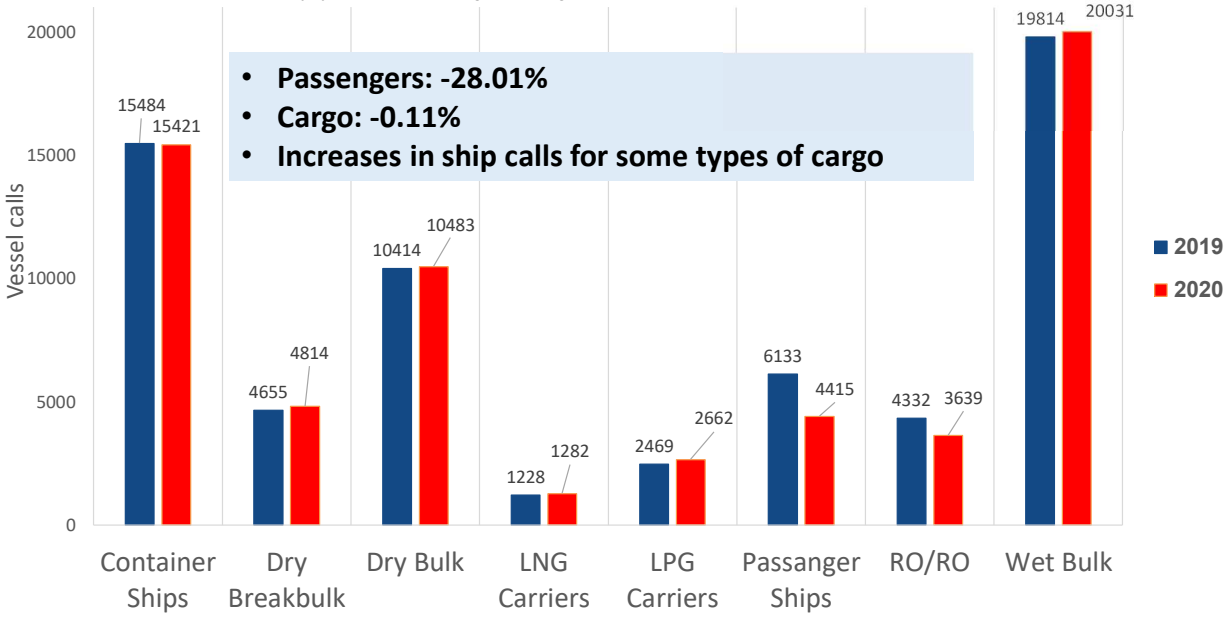
Container Vessels Port Calls 2019/2020

Evolution of the number of Container Vessels Port Calls in the Arab region during the first 24 weeks of 2019 and 2020



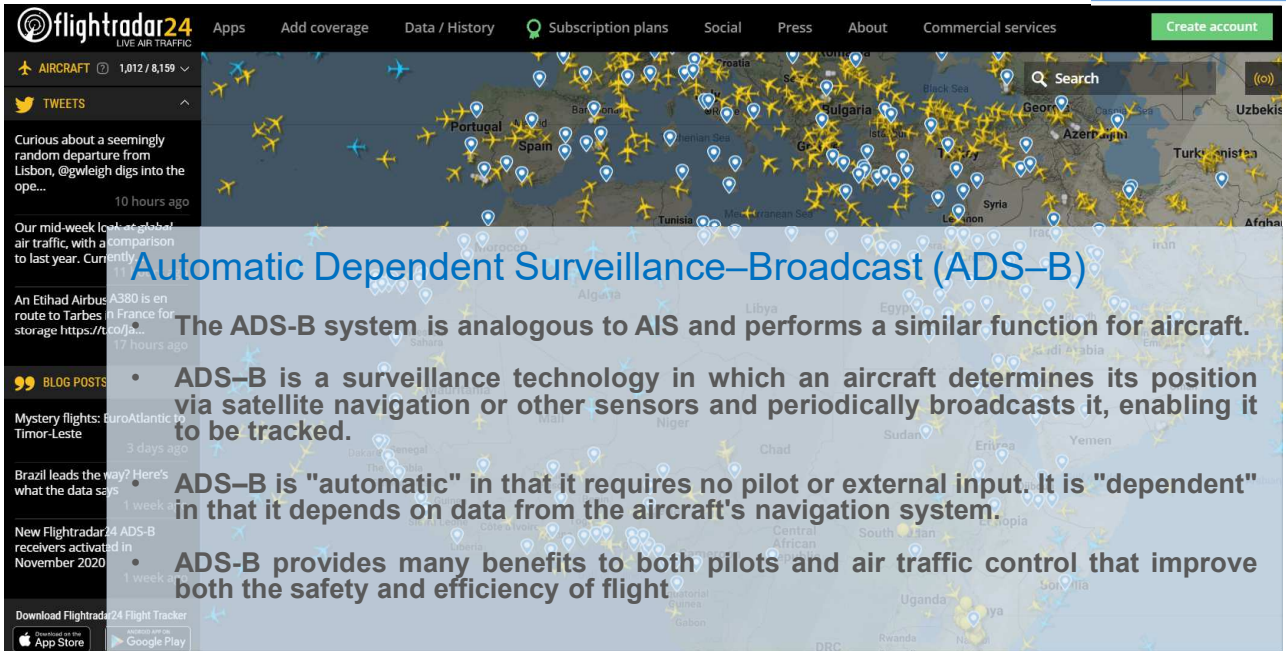
Port Calls by Category of Vessels

The number of vessel port calls by type in the Arab region during the first 24 weeks of 2019 and 2020



Air Transport:

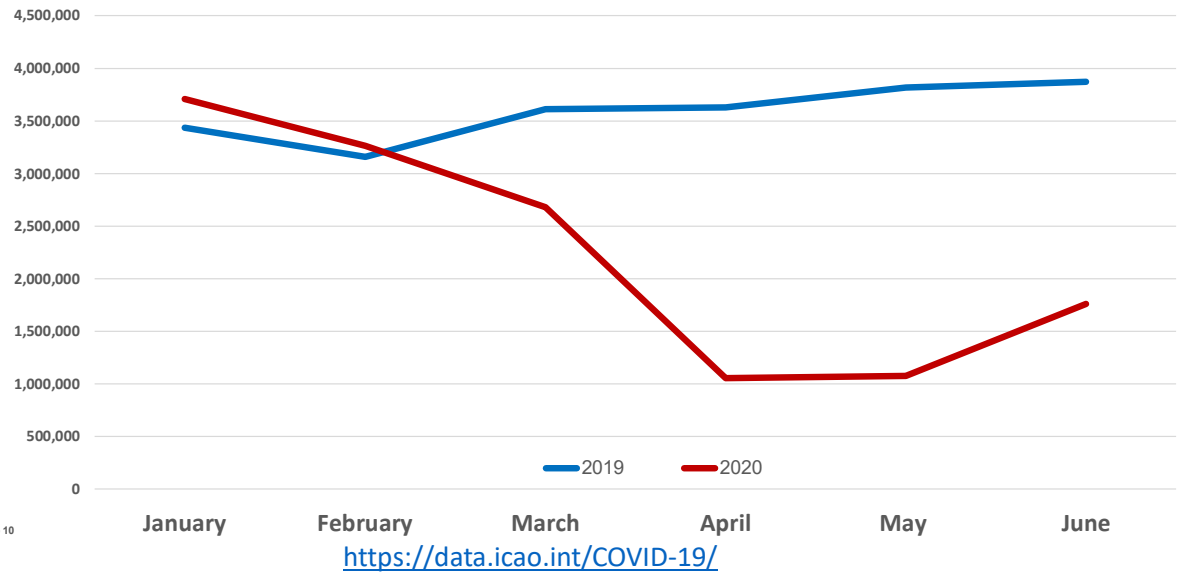
Evolution of Passenger and Cargo Flights 2019/2020 (January- June)



Passenger Flights: -53.12%

ESCWA based on ICAO Operational Impact on Air Transport

Evolution of the number of passenger flights in the Arab region, during the periods January-June 2019 and 2020

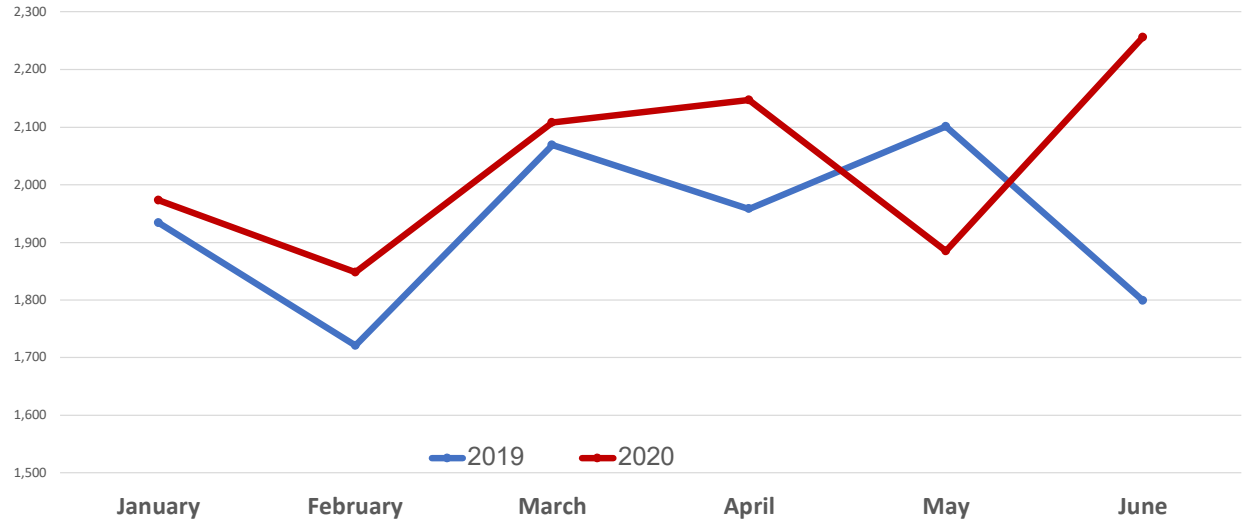


https://data.icao.int/COVID-19/

Cargo Flights + 5.48%

ESCWA based on ICAO Operational Impact on Air Transport

Evolution of the number of cargo flights in the Arab region during the periods January-June 2019 and 2020



Next Steps

- **Continue the assessment for 2H 2020**
- **Compare with Official Data, once available in 2021**
- **Complement with other information on transport and trade volumes**

For more information: Click Here

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