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HIGH LEVEL DIALOGUE
ON ASEAN ITALY
ECONOMIC RELATIONS

HIGH LEVEL DIALOGUE ON ASEAN ITALY ECONOMIC RELATIONS 2020

2° Digital Round Table

September 30, 2020

PRESENTATION BY EMANUELE LOURIER

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ADVANCED AIR TRAFFIC SYSTEM: A WAY TO SAFELY INCREASE THE ASEAN CONNECTIVITY AND TO BOOST THE REGIONAL INDUSTRIAL & ECONOMIC GROWTH





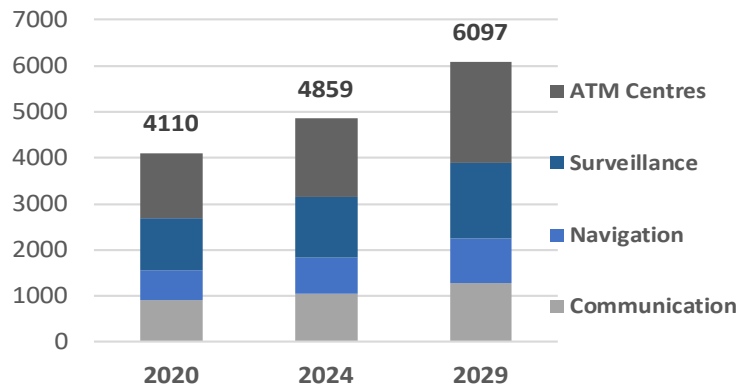
2020-2029 ATC/ATM Market

Source 2019-2029 Visiongain ATC Equipment Report

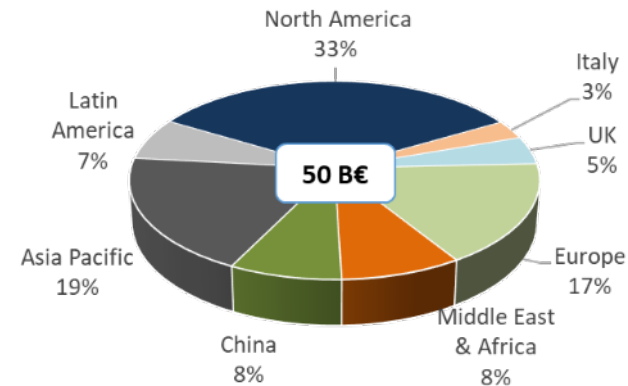
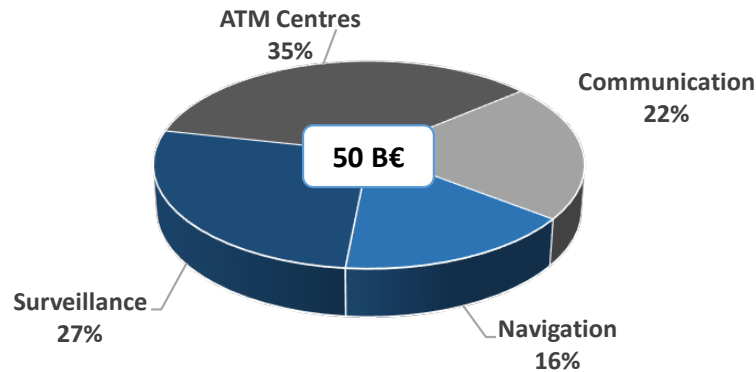
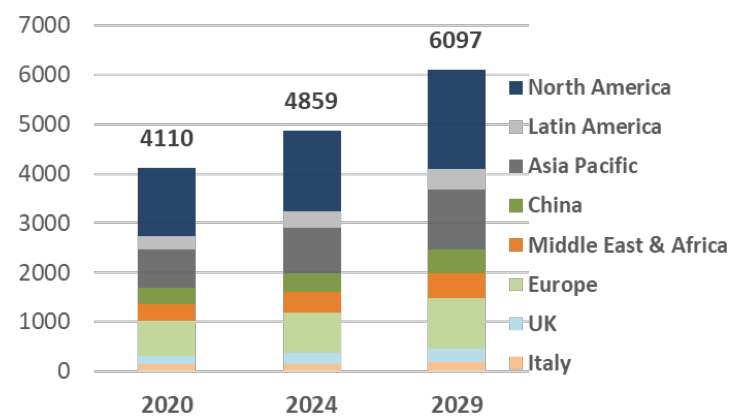
The ATC/ATM Worldwide Market in the 2020-2029 period is valued around 50B€ with a CAGR of 4,5%.

The second largest spender region in the world is Asia Pacific which, China incl., amounts around 13B€ (27% market share) characterized by the fastest growing rate of 5%, mainly driven by Asian Pacific countries (CAGR of 5,3%), slowed down by China “moderate” growth of 4,4%.

2020-2029 ATC/ATM Total Market by Segment
(50 B€ - CAGR 4,5%)



2020-2029 ATC/ATM Total Market by Region
(50 B€ - CAGR 4,5%)





The ASEAN Forecast Before COVID-19

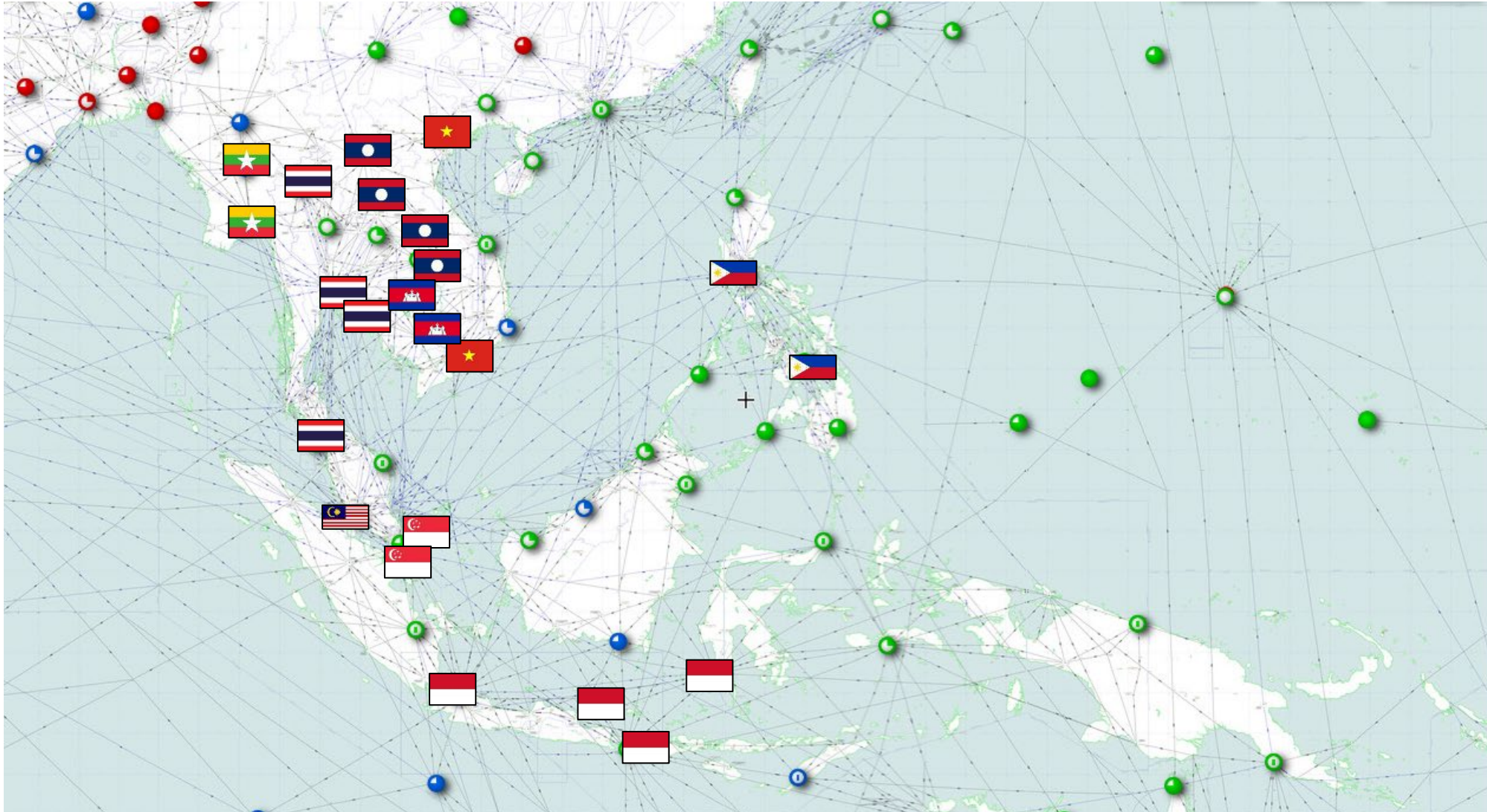
Seamless ASEAN Sky: One Sky for “One Vision, One Identity, One Community”

- Air traffic in ASEAN is projected to increase by 6.5% annually from 2013-2032, fuelled in part by the implementation of the ASEAN Single Aviation Market (ASAM) in December 2015
- At this rate of growth, air traffic within ASEAN will triple to more than 20,000 flights a day by the year 2033
- The ASEAN aviation sector currently supports close to 12 million jobs and contributes US\$144.4 billion to the ASEAN economy every year. With the corresponding growth in air traffic over the next 20 years, IATA (International Air Transportation Association) projects a doubling to US\$298 billion annually over the same period
- *If no improvements are made to the current ATM system in ASEAN to support the expansion in air traffic, economic gains will be curtailed as aviation infrastructure and facilities are already stretched to the limit in many parts of the region. IATA estimates that inaction on the part of States and Air Navigation Service Providers (ANSP) will cost ASEAN as much as 9 million jobs and US\$ 105.7 billion annually*

Source: ASEAN ATM Master Plan 2018

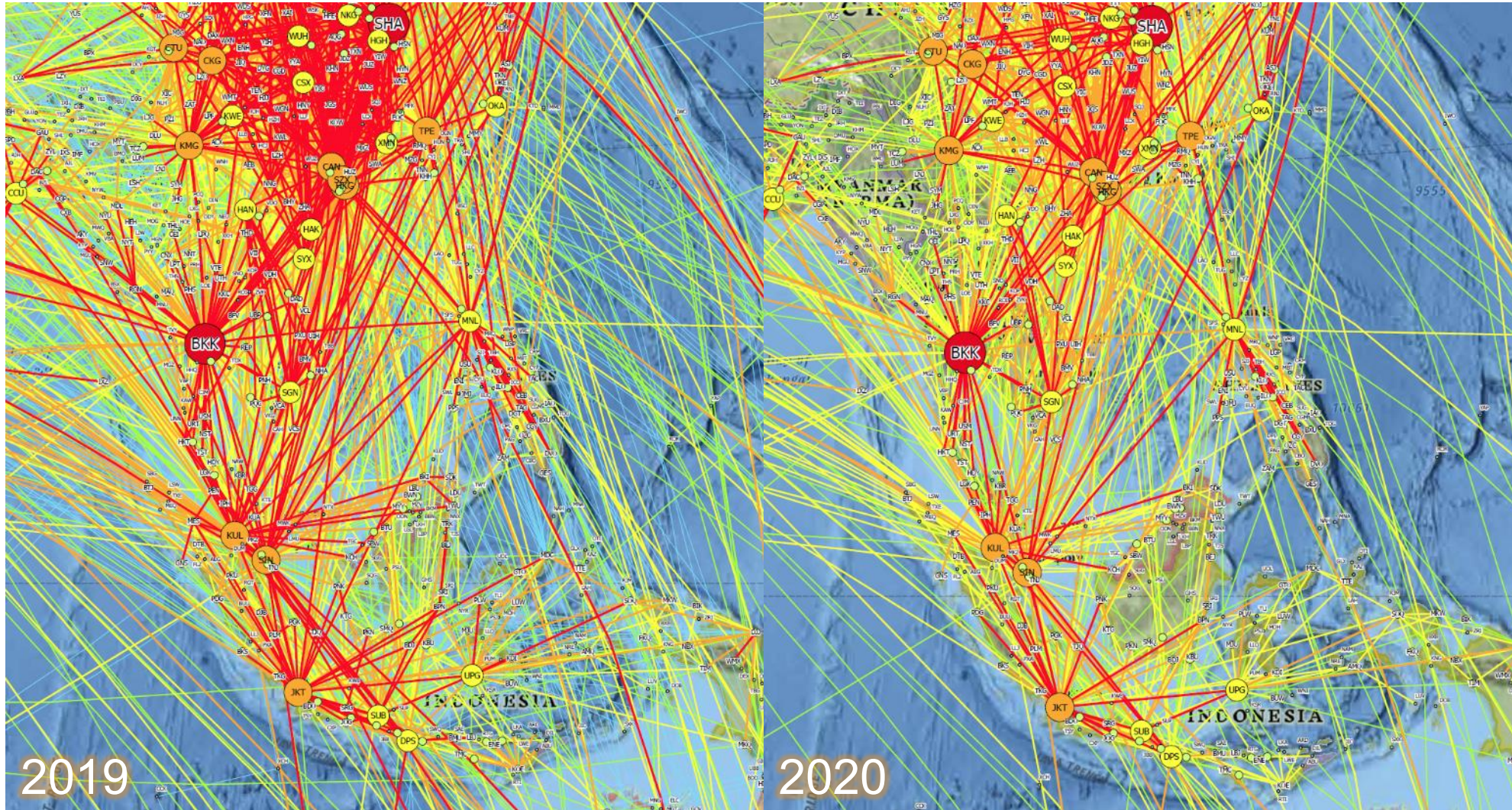


Major Airports to Seamless ATM in ASEAN Region





Impact of COVID-19 on Air Traffic Flows



International Civil Aviation Organization (ICAO) traffic data with the most updated data show a reduction to **50%** as a consequence of the COVID-19

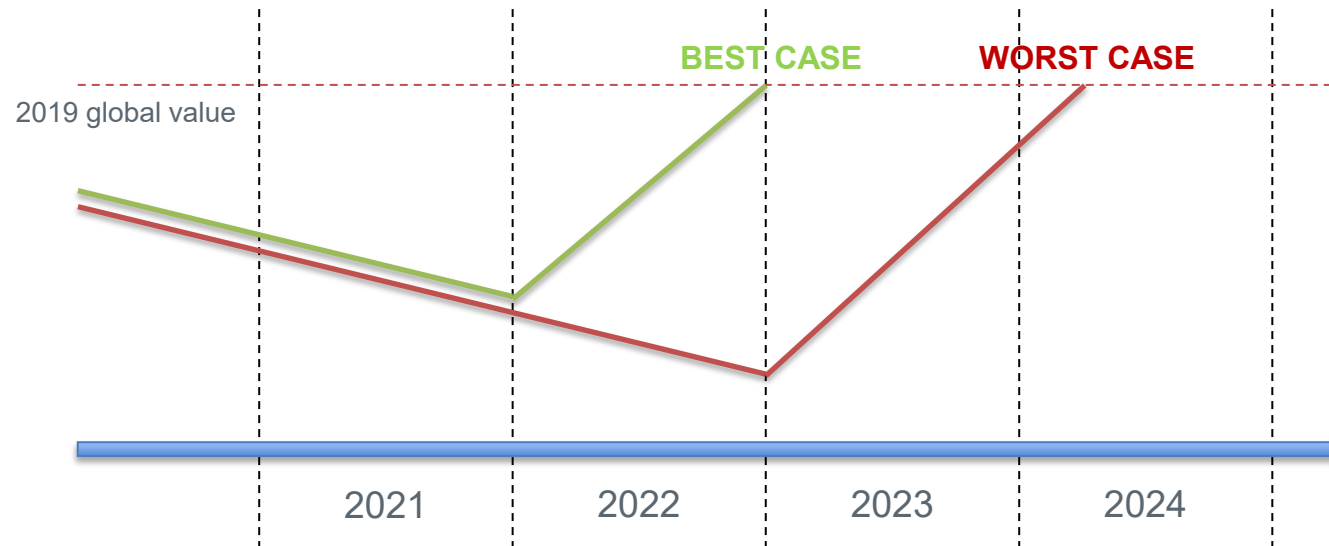
- ASEAN Region:
- Passenger Demand -42% to -52%
 - Revenue Impact -114 to -8,289 US\$ million

Source: ICAO



The Market After COVID-19

- **COVID-19** impact on air traffic control will result in **market contraction** starting from the second half of 2020:
 - **Best case** the market decrease will continue for all 2021 to start the recovery in 2022, with return to 2019 global value in **2022**
 - **Worst case**, market decrease will continue until the end of 2022 to start the recovery in 2023 with return to 2019 global value in early **2024**





References for ATM Development in ASEAN Region



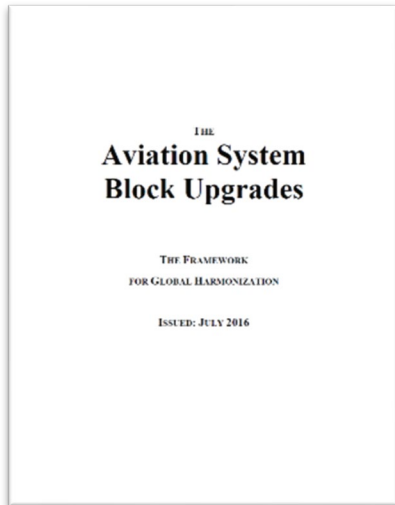
«The ASEAN ATM Master Plan provides a framework for a transition to a Seamless ATM environment, in order to meet future performance requirements»



Leonardo References for ATM Development Worldwide

LeadInSky Leonardo ATM System

ICAO ASBU



Rome Area Control Centre



ANSPs (Specific Customer) Requirements

European ATM Master Plan 2020
Single European Sky
ATM Research (SESAR)



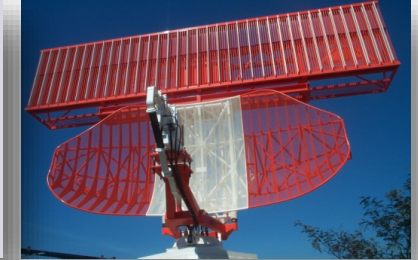
Leonardo is member and one of the main contributors of the SESAR Joint Undertaking



Leonardo ATM Products Portfolio

Air Traffic Surveillance

A wide range of products covering Primary and Secondary Radars (fixed and mobile), Surface Movement Radar, ADS-B, Multilateration (for en-route, approach and airport)



Reliable, expandable and integrated command and control system with state-of-art functionalities, covering all phases of flight. Backup, Disaster & Recovery and Simulator for training complete the offer

Air Traffic Management

Navigation Aids and Weather Radar

Complete line of ground-based radio navigation and landing aids including DVOR, DME and ILS. Design, manufacture and installation of weather radar sensors and systems.



Ground to air voice and data communication systems, including VDL2 and AeroMACS

Communication

Security by design assured on all the products and services for cyber prevention and analysis provided by state-of-art Security Operational Center (SOC)



Cyber ATM

UTM



Unmanned Traffic Management (UTM) for surveillance of U-Space with new technology and traffic management concept

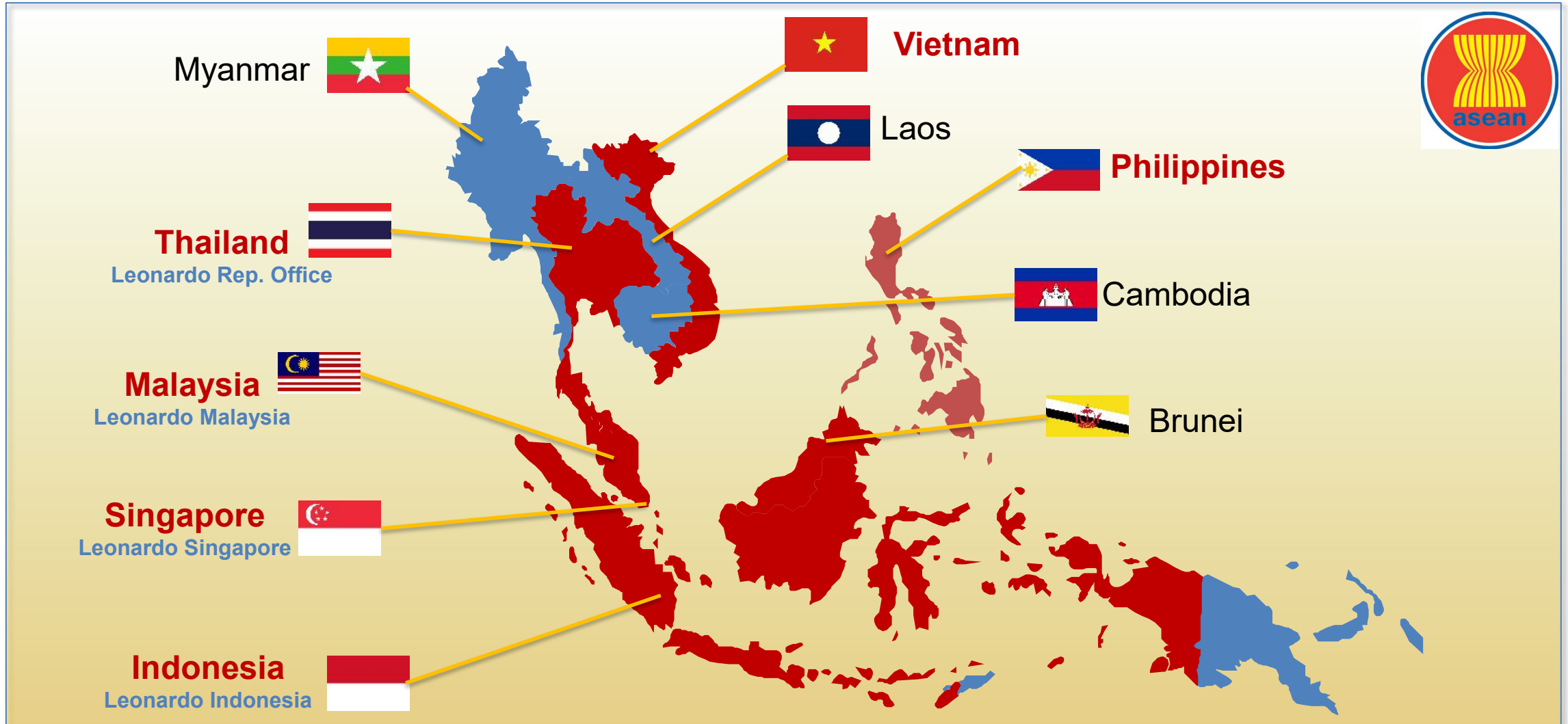
Remote Tower

Aerodrome Air Traffic Service (ATS) from a remote location





Leonardo ATM in Presence ASEAN Countries

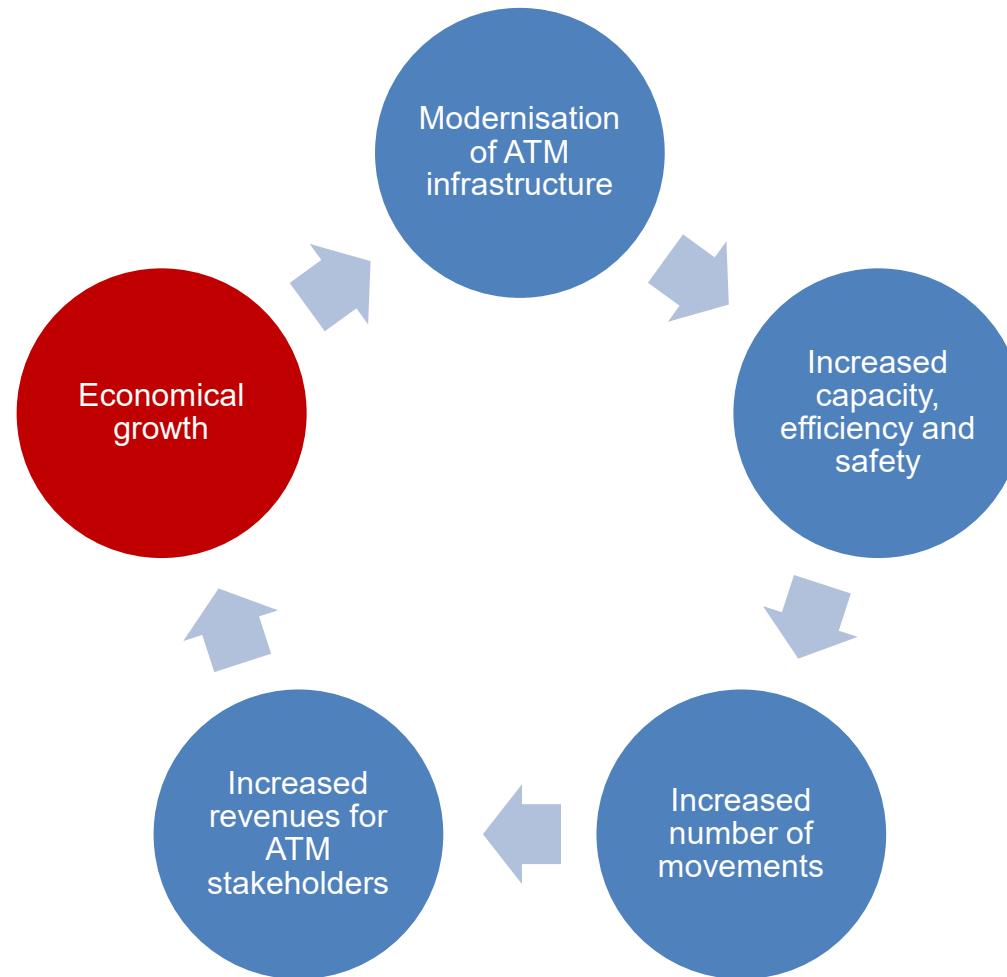




Seamless ATM Environment Enables the Economical Growth

Harmonised development of ATM in ASEAN countries will lead to a Seamless ATM, that will:

- eliminate bottlenecks in the traffic flows
- increase safety in any area of the ASEAN region
- increase traffic flows, increasing revenues for all ATM stakeholders (service providers, airlines, airports, etc.)
- contribute to economical development of the region allowing a more efficient and economic way to interconnect countries





Industry Contribution to ASEAN Development and Innovation

Industry can have different roles in ASEAN ATM Domain development:

- **Solutions provider partnership:** collaboration with different organisations (e.g. Airport Operators, Regional Airlines) for the modernisation of ATM Systems will enhance the quality of Air Traffic Management, increasing:
 - *Capacity:* more traffic in the same airspace volume
 - *Safety:* more traffic can be managed with an increased level of safety
 - *Efficiency:* a more efficient way to manage the traffic flows will reduce CO₂ emission, will save fuel and time
- **Technological Partner of Local Industries:** partnership with local companies brings the following benefits:
 - it increases the level of local technology and reduces the cost of services, increasing the efficiency and the quality of products and support (e.g. sensors component through share of technology)
 - it increases the scope of work for the local industry through the acquisition of ready local content (e.g. specialised sub-assembling and 24/7 services)
 - it aligns the knowledge of the industry with the skills and education of local bodies (e.g. Universities, ANSPs, etc.) in R&D programs for innovation in ATM (as the Unmanned Traffic Management – UTM programs)
- **Support to Regulators and Service Providers:** the Industry collaboration facilitates the definition of implementation and deployment roadmaps for new solutions in ATM domain (as in SESAR). Leonardo, in collaboration with the Italian Air Navigation Service Provider, and Eurocontrol, the agency of European ANSPs, can also help ASEAN service providers in the implementation of new procedures supported by more advanced systems and in the transition to new systems



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FOR YOUR ATTENTION

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