

# INTERNATIONAL CONFERENCE

# Skyward Bound: Innovating the FUTURE OF AVIATION

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# Latest research highlighting the socio-economic benefits of air connectivity

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# Digitalization & efficiency

- Digitalization increases efficiency, and therefore is a powerful tool to reduce emissions.
- Three examples:
  1. Improvement in Air Traffic Management.
  2. Informed choice for passengers.
  3. Efficiencies: direct routes, inter-modality, load factor...

# Air Traffic Management

- Improvement in ATM can generate significant reduction in emissions:
  - 9.3% less CO<sub>2</sub> per flight if SES ATM Master Plan completed by 2050.
    - Shorter TAXI phase (-10% of total reductions), dynamic routes for CLIM and DESCENT (-25%), FRA & Trajectory-based Operational concept (digital exchange of data), (-65%).  
European Aviation Environmental Report
  - Cross-border Free Route Airspace (FRA) expected to reduce 94,000 tonnes per year in Borealis 9 MS by 2026.  
[https://borealis.aero/media/2-pager\\_march2023.pdf](https://borealis.aero/media/2-pager_march2023.pdf)
  - Congestion, strikes, delays, etc. increase emissions.
- BUT, no effective environment KPI in SES, lack of ambition in SES2+, slow implementation of SES Master Plan...

# Informed choices thanks to digitalization...

- Obligation on airlines to display emissions when acquiring flights...
  - EASA Environmental Labelling Scheme in 2025.
- Display in Global Distributions Systems (Amadeus, Sabre), potential obligation in MDMS.
  - Ranking of flights not only according to pricing but also to emissions in GDSs.

# A new transport map for Europe

- Modal shift incentives, not prohibitions:
  - The Spanish vs. The French model in shift to rail.
- Digital platforms to promote full exploitation of multimodality:
  - Flight + rail: Increase catching areas for hubs.
  - Flight + rail for shorter/more direct flights (LC/REG + HSR). -66% emissions  
([https://www.sesarju.eu/sites/default/files/documents/sid/2023/Papers/SIDs\\_2023\\_paper\\_43%20final.pdf](https://www.sesarju.eu/sites/default/files/documents/sid/2023/Papers/SIDs_2023_paper_43%20final.pdf))
  - Requirements:
    - Interoperability at airports (rail station in airports in TEN-T).
    - Better coordination of services (schedules, interlining, trip continuation, passenger rights).
    - More info at the digital layer.

# Thank you!

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