

# 11<sup>th</sup> SESAR Innovation Days



## X-TEAM D2D PROJECT: FIRST RESULTS

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## X-TEAM D2D IN BRIEF

X-TEAM D2D project aims at defining, developing and initially validating a Concept of Operations (ConOps) for a seamless integration of Air Traffic Management (ATM) and Air Transport into an overall intermodal network, including other available transportation modes (road, rail, water). This will contribute to significant enhancement in door-to-door connectivity, supporting to the ACARE SRIA FlightPath 2050 goal of enabling connection in up to 4 hours between any location in Europe. The project provides and validates a Concept of Operations (ConOps) for seamless door-to-door mobility in urban and suburban (up to regional and country-wide level) environment, targeting as scenario the connection of a metropolis with the surrounding area (up to country-wide level) and taking into account the transportation and passengers service scenarios envisaged for the next decades, according to baseline (2025), intermediate (2035) and final (2050) time horizons.

## PROJECT'S FIRST RESULTS

**Aim: to promote the role of aviation, especially ATM, in delivering a more seamless travel experience for citizens and reaching the goal of 4-hr door-to-door travel, in a sustainable way.**



**2025:** crucial to monitor and safeguard the effective use of existing urban infrastructure to better serve intermodal transportation development and design and certify vertiports (necessary for vehicle take-off and landing) that integrate positively with existing urban infrastructure. Also important: connection of hub airports with one or two regional airports; hub airport connection with the city by numerous modes; regional airports provision of access to one or two public transport services.



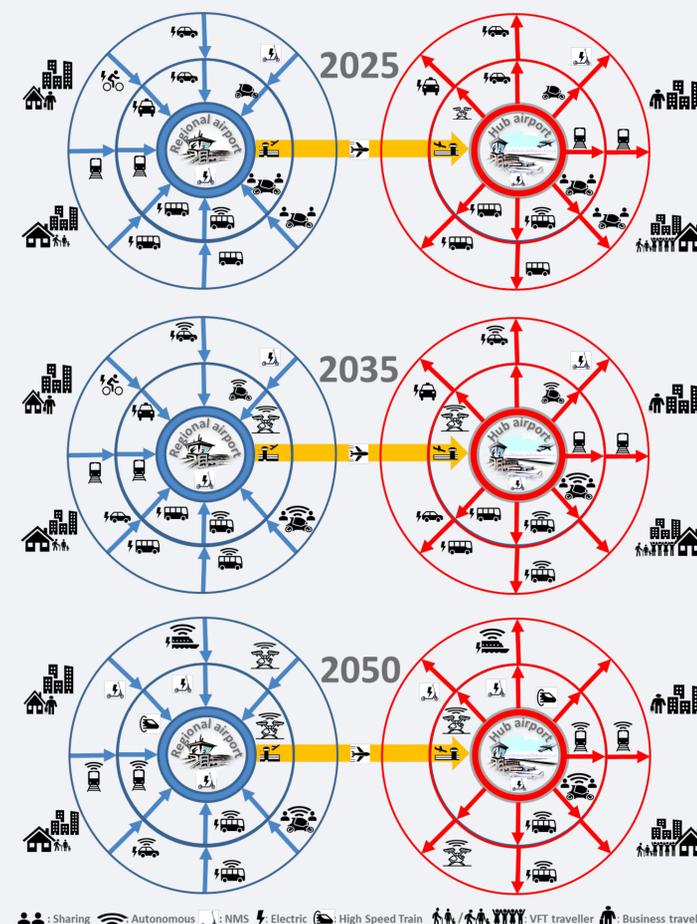
**2035:** very important to support a broader urban planning capability and create solutions to enhance the value of transport infrastructure and adapt its use for future mobility. Users' focus on personal needs as well as the impact on the environment. Assumptions: certain proportion of cars will be electric, driving performances will be highly automated, in urban areas car-sharing model will be dominating, UAM for passenger transport in experimental sites will be available in Europe, but no significant impact on mobility in metropolitan areas, hub airport will be connected with the city by numerous modes and regional airports will provide access to more than one public transport services.



**2050:** automation, electrification, connectivity, telematic services simplifying the relationships between means, users and surrounding. Rethinking of infrastructures required: digital solutions helping entities and operators to leverage the new technologies in managing future smart cities. Assumptions: all cars approved will be electric, mostly highly automated and autonomous; in urban areas, the car-sharing model will be dominating; short-range airlines connections operated by zero-emission aircraft will remain the air mode of transport to impact the efficiency of the transport system; UAM for passenger transport will be available in Europe; hub airports will be connected with the city by numerous collective, autonomous transport modes and regional airports will provide access to more than one collective autonomous transport services.



The X-TEAM D2D project is validating the overall ConOps (integration of infrastructures and of services) using a simulation framework where a passenger's D2D journey is simulated in the environment of a European urban area, considering the following parts: 1) travel from a passenger's home in a small town to a regional airport, 2) flight from a regional airport to a hub airport, and 3) travel from a hub airport to a passenger's destination in a medium-sized city.



The future of transport depends on the digital integration of personal passengers' preferences, such as convenience, ease, frequency and speed of service, as well as comprehensiveness and reliability.

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