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Ministero
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Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA

MOST
CENTRO NAZIONALE PER LA MOBILITÀ SOSTENIBILE

**26/07/2023 – Presentazione bandi a cascata
Spoke 1 Air Mobility**

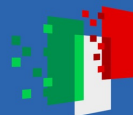
Giorgio Guglieri (giorgio.guglieri@polito.it)

***CN 0000023 – Centro Nazionale per la Mobilità Sostenibile
PNRR M2C4 – Inv. 1.4***

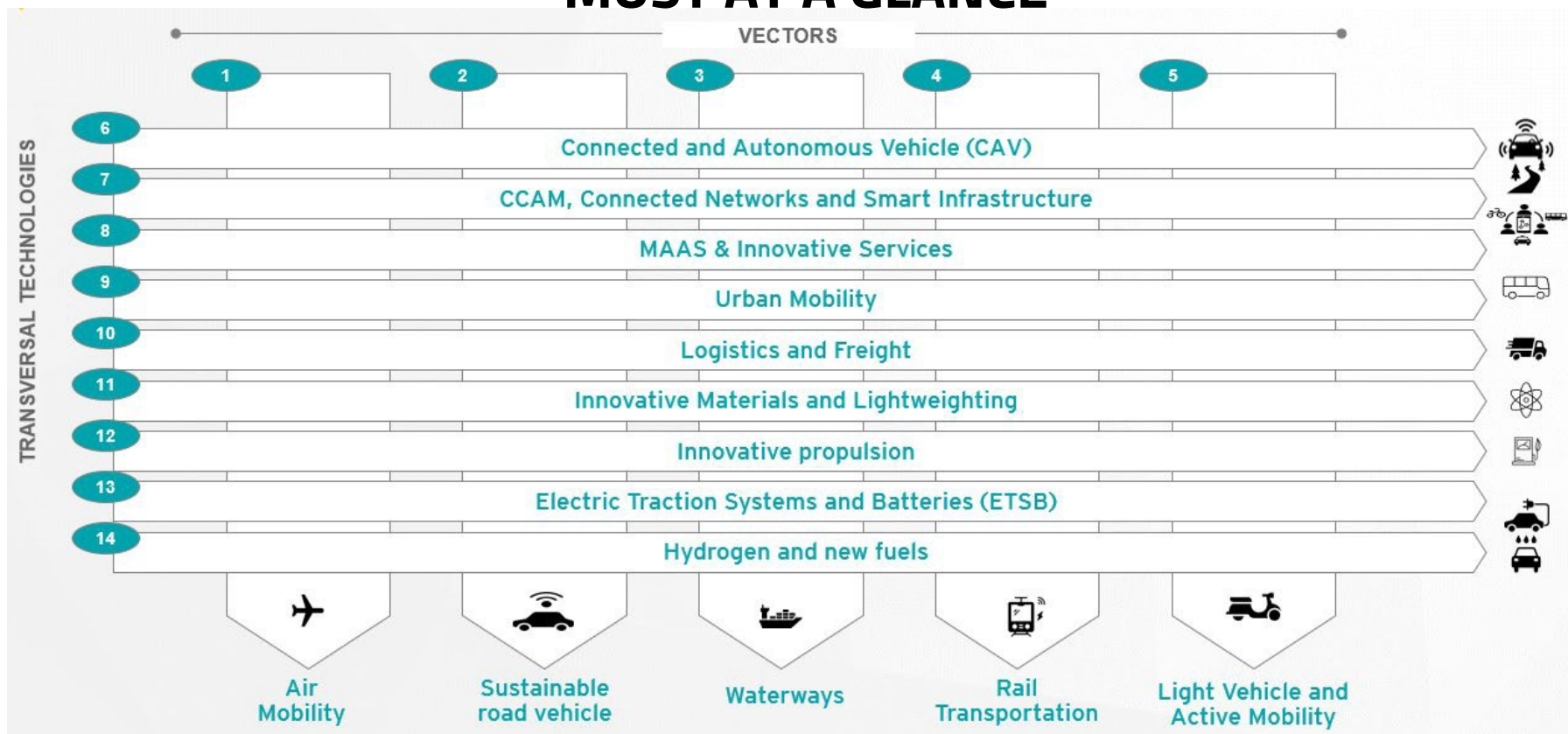


Politecnico
di Torino





MOST AT A GLANCE

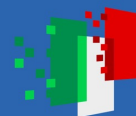




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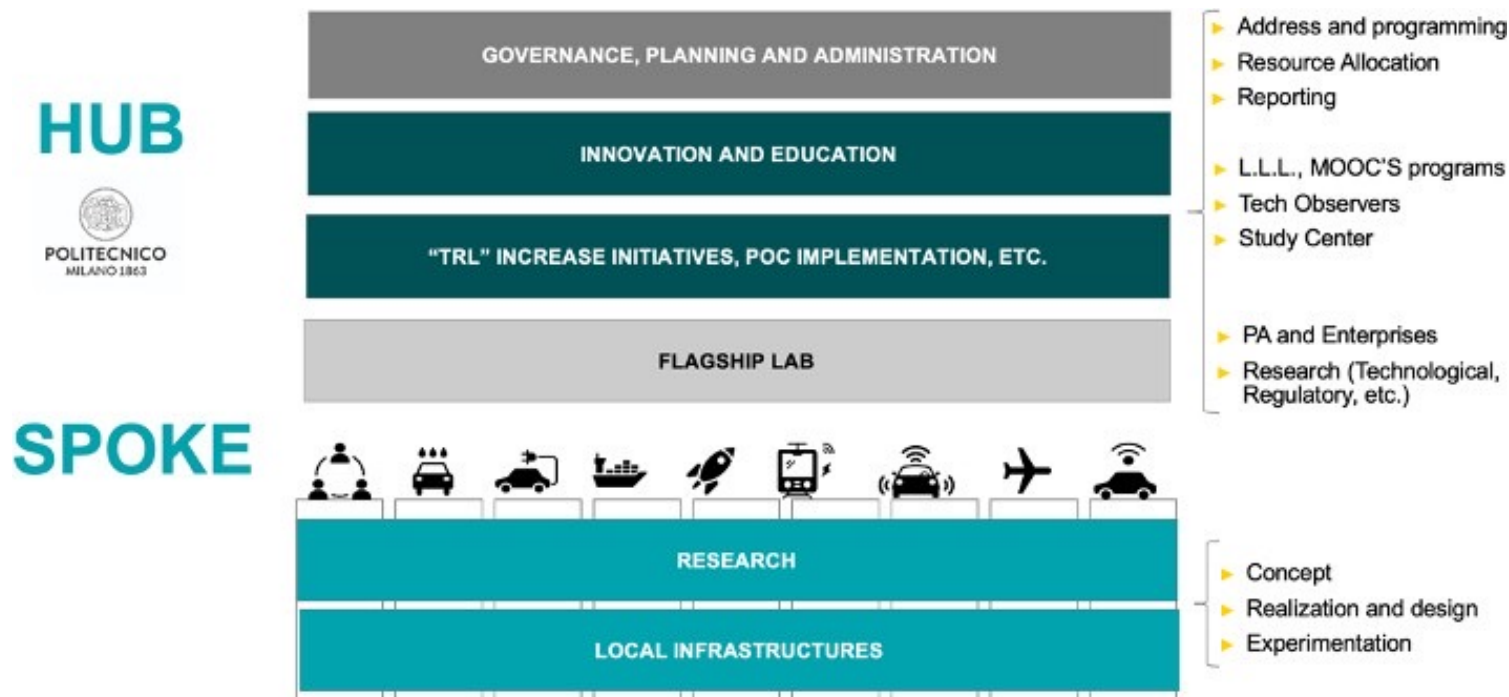
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GOVERNANCE MODEL





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Spoke 1: actions and objectives

SPOKE-WIDE



LOCAL



Avio Aero
A GE Aviation Business

ThalesAlenia
A Thales / Finmeccanica Component Space

leoresi
group

accenture

LEONARDO

Posteitaliane



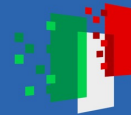
Missione 4 – Istruzione e Ricerca



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GOALS OF THE PROJECT



- **INCREASED RANGE FOR DRONES USED FOR MIDDLE MILE DELIVERY:** hybridization of existing platforms
- **DEMONSTRATE FULLY ELECTRIC PROPULSION ON A GENERAL AVIATION AIRCRAFT**
- **CONCEPTUAL DESIGN OF A HYBRID 50pax REGIONAL AIRCRAFT**



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WP BREAKDOWN (1/2)

WP1: Sustainable design and social acceptance for urban air mobility with demonstrator



OBJECTIVES

The research will focus on the methodologies to evaluate and minimize the impact of AAM on the urban environment as required by the SRIA Agenda

METHOD

New technologies for social acceptance; sustainable infrastructural environment, and new business and circular economy models enabling the transition.

WP3: Enabling technologies for next generation air mobility with demonstrator



OBJECTIVES

Development of data-based strategies for next generation air-mobility, encompassing solutions for infrastructure, operations and performance.

METHOD

Use of Virtual Reality for VTOL operations; AI-based design of innovative solutions.

WP2: Disruptive technologies for electric and hybrid propulsion aircraft with demonstrator



OBJECTIVES

Demonstrate innovative technologies for electric and hybrid propulsion system and evaluate their impact at aircraft level.

METHOD

Data-driven based optimization and analysis of the aircraft performance and the thermal management system.

WP4: Scalable, Safe and Silent next generation aircraft with demonstrator



OBJECTIVES

Development of data-based strategies for next generation air-mobility, encompassing solutions for infrastructure, operations and performance.

METHOD

Use of Virtual Reality. AI-based design. The activities of this WP will converge in the development of at least two Spoke-wide Demonstrators





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WP BREAKDOWN (2/2)

WP5: Multidisciplinary design optimization and innovative solutions for next generation green aircraft with demonstrator



OBJECTIVES

Develop computer aided design and analysis methodologies for innovative propulsion systems and advanced air mobility. Innovate the risk analysis tools to account for the operations of AAM vehicles in several scenarios.

METHOD

Digital twin of aircraft subsystems for their analysis and integration. Advanced simulation systems and models for innovative propulsion. The activities of this WP will converge in the development of at least two Spoke-wide Demonstrators

WP 7-T Digital twins and threads: a new paradigm for aircraft design and maintenance with demonstrator



OBJECTIVES

Develop the capabilities of digital twins and threads aimed at aircraft design and maintenance.

METHOD

Development of digital twins models of the innovative propulsion system, aircraft design and maintenance. strong interaction between high-fidelity simulations, reduced-order models and data-driven approaches in a multi-disciplinary framework.

WP 6-T A challenge for aviation: business models for electric aircraft and digital innovation with demonstrator



OBJECTIVES

To identify market opportunities for the introduction of electrical aircrafts, and to identify and test digital innovation at airports to enhance passenger service and improve the goods flows.

METHOD

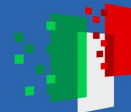
Market forecasting, Economic and environmental assessment, Passengers behavior in airports
The activities of this WP will converge in the development of at least two Spoke-wide Demonstrators



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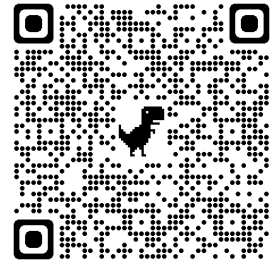


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OPEN CALLS

- **Total funding: € 1.998.714**
- **Climate constraint >36% of the action**
- **Digital constraint >15% of the action**
- **Topics covered in the open calls: See “Allegato 3” of the call**



SAVE THE DATE!

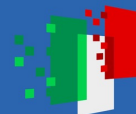
Azione	Data
Apertura della Cascade Call	25 Luglio 2023
Cut off	31 Ottobre 2023
Valutazione delle proposte	26 Luglio - 30 Novembre 2023
Inizio delle attività finanziate	1 Gennaio 2024



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