

ADM 2024 – PROPOSAL OF SPECIAL SESSION

TITLE: Design Methods for Mobility

BACKGROUND AND MOTIVATION: According to the EC *“The way we live and travel is changing. At the same time our transport system needs to adapt to global realities such as climate change and digitalization*.”* In this context, the Design and Methods for Industrial Engineering Technologies play a crucial role in achieving impactful objectives in terms of digitalization and ways of representing and interacting with 3D products, autonomous and connected systems, both in manufacturing and in operational environments, and constantly monitored lifecycle management data. Hence, interfacing humans and machines so that operations as geometric modelling of sustainable structures or collaborative co-creation of products and systems happen in an environment that is fully inclusive and respectful of citizens and workers and actually favors the evolution of the human role in the society of the future is of utmost importance. The Special Session in **Design Methods for Mobility** aims to focus on research activities in Aviation, Automotive and Maritime modes with the aim of setting a unique place for collecting results and for supporting the identification of the main research trends of Design and Methods in such fields.

Topics in this session may include the followings:

AUTOMOTIVE ENGINEERING

1. Human Centred Design in Automotive Industry;
2. Human Machine Interfaces in Automotive Industry;
3. XR-based Methods for Design Review in Automotive Industry;
4. Design Methods for Humans and Automation in Automotive Industry;
5. Visualization and Interaction with Digital Twins in Road Transport;
6. Virtual Prototyping in Vehicles and Plant Design;

NAUTICAL, NAVAL and MARINE ENGINEERING

7. Human Centred Design Marine Industry;
8. Human Machine Interfaces Nautical and Naval Industry;
9. XR-based Methods for Design Review in nautical engineering;
10. XR-based Methods in Naval engineering for Design Review, Quality Control of Assembly plans and digital mock-ups
11. Integrated Ship Design;
12. Visualization and Interaction with Digital Twins in Nautical and Naval engineering;
13. Virtual Prototyping in Nautical and Naval Vehicles Design;
14. Model Based Systems Engineering Approach for Ship Design;

AEROSPACE ENGINEERING

15. Human Centred Design and Human Machine Interfaces in Aerospace;
16. Design Methods for AAM (Advanced Air Mobility) and UAM (Urban Air Mobility);
17. XR-based Methods in Aerospace Industry;

18. Design Methods for Humans and Automation in Aerospace Industry;
19. Visualization and Interaction with Digital Twins in Aerospace;
20. Virtual Prototyping in Vehicles Design;

Invited talks will be organised.

Francesco Leali

Giovanni Berselli

Antonio Mancuso

Domenico Marzullo

Alfredo Liverani

Francesca De Crescenzo