

FUTPRINT50

Future Propulsion & Integration: towards a hybrid-electric 50-seat regional aircraft



“Filling in the hybrid-electric flight plan towards 2040”

“One step closer to a sustainable & green aviation through disruptive innovation & international collaboration”

About the project

FUTPRINT50 is an EU funded collaborative research project set out to identify and develop technologies and configurations that will accelerate the entry-into-service of a commercial hybrid-electric aircraft in a class of up to 50 seats by 2035/40.

With a strong focus on the deep decarbonisation of aviation, FUTPRINT50 researchers aim to develop promising modelling and simulation tools, innovative aircraft electrification technologies and a common roadmap for technology and regulation for this class of hybrid-electric aircraft.

FUTPRINT50 focuses on energy storage, energy recovery and the thermal management of hybrid systems.

Besides lower CO₂ aviation footprint, FUTPRINT50 aims also to minimize propeller noise emissions. A new type of hybrid-electric 50-seat class aircraft being more fuel and noise efficient than current regional aircrafts could contribute to open up new point-to-point connections between smaller cities at lower infrastructure costs than rail or road transportation.

Objectives

- Providing an open reference for a 50-seat hybrid-electric aircraft configuration, including top level aircraft requirements, mission specifications and figures of merit.
- Development of innovative models, methodologies, open datasets & tools for evaluating the feasibility & multifidelity trade-offs of architectures & key technologies.
- Development of a publicly available Common Research Model for Electrified Aircraft & Propulsion for the universal integration, benchmarking & assessment of future technologies, architectures, designs, models & policies.

- Development of energy storage models & pack solutions suitable for hybrid-electric regional flight up to TRL3.
- Development of propulsion related energy harvesting technologies up to TRL 4 and thermal management integration solutions and models up to TRL 3/4;
- Development of roadmaps for technology and regulation for a hybrid-electric regional aircraft and for future European demonstrators in this market segment.

2020

2040

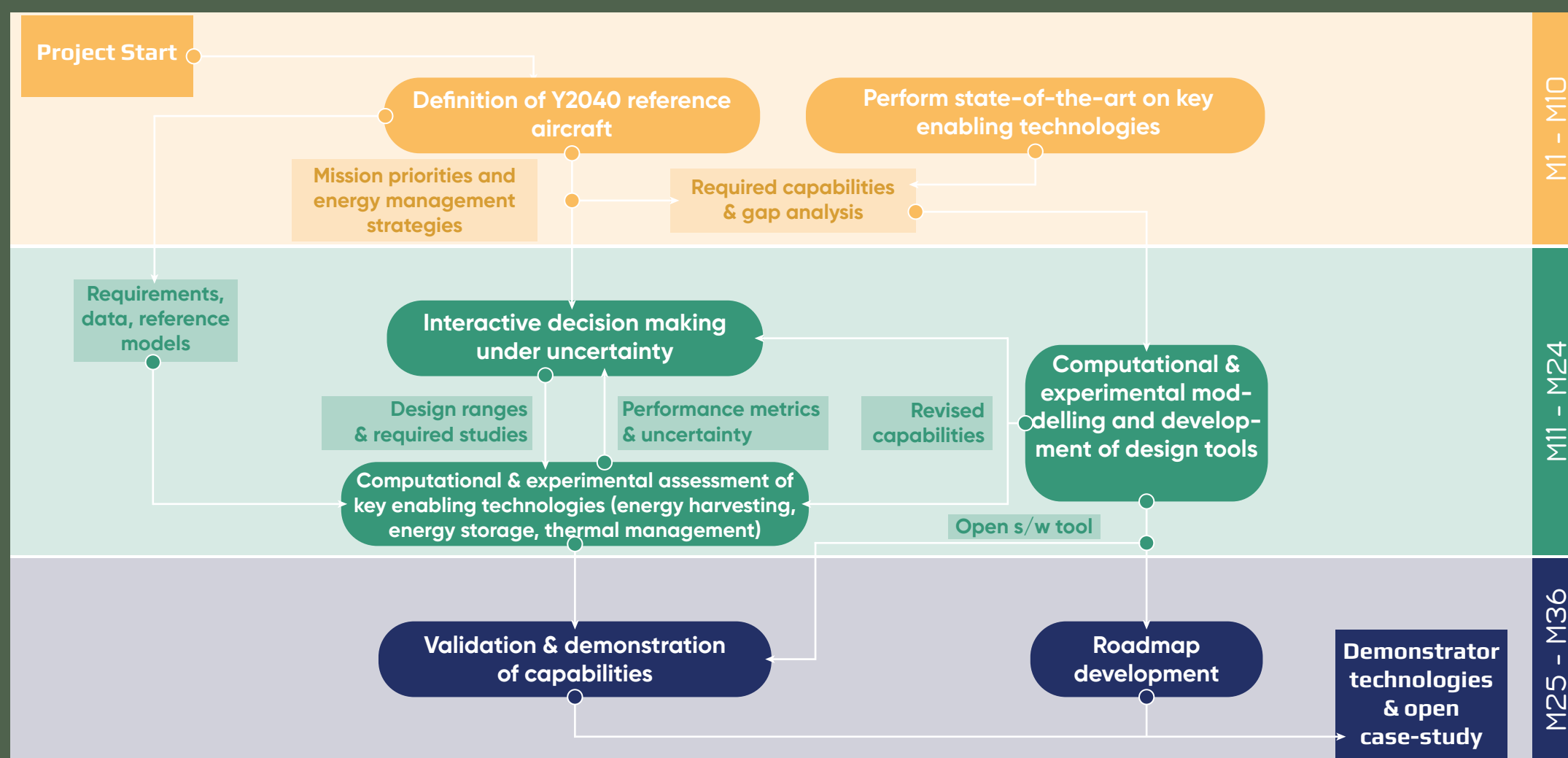
FUTPRINT50 Academy: empowering the next generation of innovators with new skills

The engineers of the future are given the opportunity to perform BSc/MSc/PhD theses on key topics identified within the project under the supervision of university professors and the mentoring of FUTPRINT50 partners. Interaction with FUTPRINT50 researchers and industry experts, knowledge exchange will be achieved via conferences, seminars and workshops.

International cooperation for greener aviation: Joining forces for a global impact

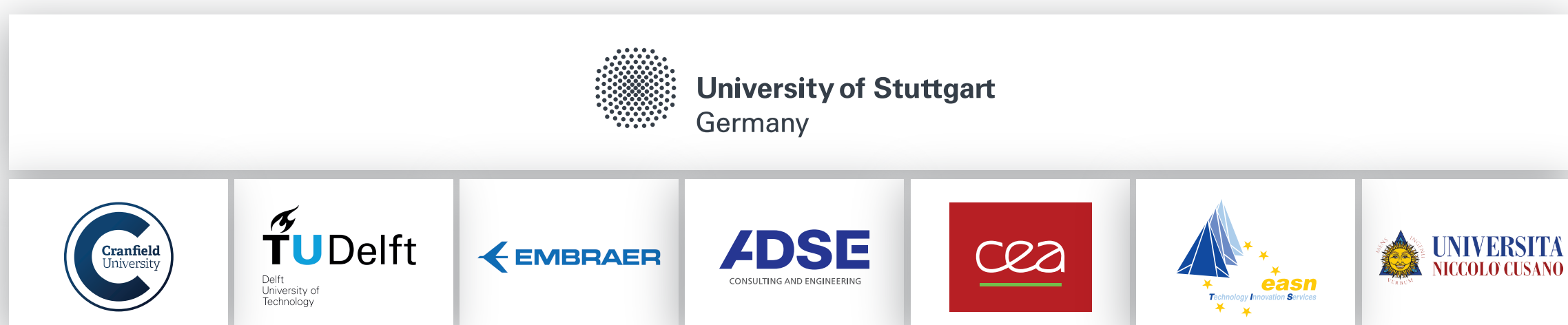


Methodology



More than 2% of CO₂ global emissions come from Aviation. EC has set a target of making aviation climate neutral by 2050.

FUTPRINT50 Team



Connect with FUTPRINT50



futprint50.eu



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