



Press release  
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## Joint IMOTHEP / CAJU workshop on Hybrid Electric Propulsion

**In Brussels on 29 – 30 November 2023, the IMOTHEP project, an ambitious research initiative on hybrid electric propulsion funded by the European Commission under Horizon 2020, organized with Clean Aviation Joint Undertaking (CAJU) a Workshop on Hybrid Electric Propulsion (HEP).**

During these 2 days, around 60 invited participants from industry, research, CINEA (European Climate, Infrastructure and Environment Executive Agency), CAJU and EASA (European Union Aviation Safety Agency), covering 18 projects under H2020/Horizon Europe, and Clean Sky2/Clean aviation programs, shared the stakeholders' vision on HEP with a view to the elaboration of a sector-wide roadmap.

The 5 sessions of the event addressed successively electric systems, propulsion systems architectures, certification and aircraft concepts. Rich round tables discussions concluded the event by reviewing the perspectives and the development roadmap.

The workshop was a real opportunity to understand better the current landscape of technology developments for hybrid-electric and hydrogen solutions for aviation. Discussions highlighted short-range applications such as commuter and regional aircraft as the first target for hybridization in the next years. Electric systems and power electronics are already under development for the 800 V distribution that seems applicable for short-range aircraft. Yet, a significant maturation and demonstration effort is still required with regard to an entry into service in 2035, especially when targeting levels of power beyond 1 MW. Electrification based on batteries is probably the most accessible technology today, with fuel cells having more scaling up opportunity while requiring longer development. For any solution, the timelines are short and the ambition high for delivering impacts on aircraft emissions. Yet, micro-hybridization (at low electrical power) of large turbo-fans is another likely short-term application of the technology, as an enabler for higher by-pass ratios.

The coordinator of IMOTHEP, Philippe Novelli, from ONERA, declared: *“At the EASN conference last year, looking at the diversity of views on hybridization that were expressed, we thought with Jean-François Brouckaert from CAJU, that it would be a good idea to gather all European stakeholders in a same room to share their views and see whether there was some consensus on the potential use and benefit of hybridization for aviation, as well as on the challenges that need to be addressed for its development.”*



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ONERA is the French national laboratory for aeronautics and space R&T, staffed by 2000 people. Under the supervision of the French Ministry of Armed Forces, ONERA has an annual budget of 289 million euros (2023), over half of which comes from study, research and testing contracts. As the French expert in aerospace technologies, ONERA prepares tomorrow's defenses, meets the aerospace challenges of the future, and contributes to the competitiveness of the European aerospace industry. ONERA masters all the disciplines and technologies in its aerospace fields.

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