

# DAMAGER

## PRESS RELEASE - PROJECT KICK-OFF

On 20th January, the DAMAGER project (stuDY of Additive ManuFActuring for low-cost, low-observable, hiGHlydeployable, expendable/atritable tuRbojet engines) was officially launched with its Kick-Off Meeting (KOM), hosted by COMOTI in Bucharest, marking the formal start of project execution under the European Defence Fund (EDF).

DAMAGER is coordinated by **HIT09** and brings together a European consortium including **Ergon Research**, **COMOTI**, **AENIUM** and **Lithoz**, consolidating complementary expertise across design, advanced manufacturing and propulsion technologies to maximize industrial impact and downstream exploitation potential.

The initiative will run for 48 months with a total budget of €3,994,444.98, reinforcing the EU's strategic objectives on technological readiness, industrial scalability, and capability development.

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Funded by  
the European Union

This project has received funding from the European Defence Fund (EDF) under Grant Agreement No. 101224541. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union (EU) or European Defence Agency (EDA). Neither the European Union nor the granting authority can be held responsible for them.

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## SHORT DESCRIPTION OF THE PROJECT:

The project is aimed at validating and de-risking some fundamental technological bricks for the rapid deployment of turbojet-propelled small to medium size, expendable uncrewed aerial vehicles (UAV).

Key to reducing the cost and time of manufacturing and deployment of large numbers of UAVs is the development of a low-cost yet high-performance, scalable propulsion system that can be manufactured rapidly in large quantities. Turbojet engines are the ideal candidates, due to their high specific thrust and ease of integration into multiple platforms. Several enabling technologies for highly efficient and low-cost small turbojet engines will be investigated.

## CONSORTIUM PARTNERS

**HIT09** (Coordinator) is an Italian SME created in 2010 as a spin-off company from the University of Padova, which offers specialised engineering and consultancy services in Aerospace&Defence.

Main competencies are in the field of design optimisation, numerical simulations and code development with a focus in aircraft propulsion systems design and propulsion/airframe integration.

In addition, HIT09 is dedicated to design, prototyping and testing of small propulsors for UAV and/or ultra-light aircrafts.

HIT09 members combine decades of expertise in various fields of mechanical and aerospace engineering, ranging from design of propulsion systems, computational analyses and experimental measurements, to the design and realization of complex systems that have been also tested in flight.

HIT09 is deeply involved in EU-funded research projects in aeronautics (15+) mainly devoted to aircraft and propulsion design optimisation and complex fluid-dynamic numerical simulations including testing in wind tunnels. Currently coordinator of two EDF projects.



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**ERGON RESEARCH** was founded in 2008 and nominated spin-off of the University of Florence in 2012. It is specialized in technology transfer from the research world to the industry, working in the fields of combustion, energy, fluid dynamics, turbomachinery and thermal management. Ergon Research counts about 35 people, many of them with a PhD. The mission is to innovate products by exploiting CFD simulations, 1D tools and experimental tests. The company and its members have large experience in regional, national and European funded R&D programmes (FP7, Horizon Europe, Clean Sky 2, Clean Aviation, FF4EuroHPC, EuroHPC and European Defence Fund).

**COMOTI** operates at the forefront of aerospace, energy, environment and defense technologies. Its core activities span advanced research, engineering design, manufacturing, testing and technological transfer for aircraft and industrial gas turbines, high-speed rotating machinery and propulsion systems. COMOTI is deeply involved in European aviation and space programs, contributing to low-noise, low-emission engines, satellite propulsion, launch systems and additive manufacturing technologies. In the energy sector, the institute develops gas turbines, compressors, cogeneration solutions and equipment for natural gas and renewable energy applications. Complementing these efforts, COMOTI delivers expertise in environmental protection, noise and vibration reduction, and defense-related propulsion and maintenance systems.

**AENIUM** is a Spanish additive manufacturing and materials engineering SME, established in 2018 and headquartered in the Boecillo Technology Park (Valladolid). The company delivers end-to-end industrialisation of high-value metal components through qualified laser-based additive manufacturing, supported by advanced alloy and powder engineering, process and inspection procedure development, and in-house post-processing, metrology, and testing for final part qualification and certification. AENIUM serves demanding sectors including space hardware, defence, energy and industrial applications, leveraging vertically integrated capabilities and international partnerships to support OEM programmes from concept design to serial production readiness.

**LITHOZ** is a R&D driven SME which develops and distributes AM systems for ceramic materials on the basis of the patented Lithography-based Ceramic Manufacturing (LCM)-technology. This technology is capable of structuring a broad range of photopolymers, including ceramic filled resins. Lithoz covers the whole process chain from the material development over the material processing to the development of the hard- and software, making them to a strong partner for R&D projects. Lithoz is continuously developing their LCM process and is building up a unique know-how in this field through continuous innovation and development. Lithoz currently employs 40 researchers working on the development of the machine, photopolymerizable resins, ceramics, software and application technology.



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