

Foreseeing the next generation of Aircraft

HYBRID APPROACH USING LATTICE-BOLTZMANN, EXPERIMENTS AND MODELLING TO OPTIMIZE FLUID/STRUCTURE INTERACTIONS



15

PARTNERS



6

COUNTRIES



4

YEARS



01/01/24
31/12/27



4.8M€

BUDGET

Objectives

- **To capture** the essential fluid-structure interaction phenomena occurring in realistic aeronautical conditions.
- **To simulate** the aeroelasticity and related noise emissions thanks to high-fidelity and high-performance Lattice Boltzmann Method frameworks.
- **To increase** the use and access of high-scalable high-performance computing frameworks for industrial fluid-structure interaction applications.
- **To control** the aeroacoustics and aeroelastic instabilities originating from fluid-structure interaction using multi-fidelity optimization.

Impact



Scientific

Breakthrough hybrid numerical/experimental approach to advance research in aeronautics.



Economic

Maintain EU global competitiveness in aeronautics industry through the development of state-of-the-art numerical tools for testing and certification.



Environmental

Quieter and smarter air transport (lower fuel consumption, reduced noise and sustainable airframe structures).



Societal

Reduced noise and air pollution in and around airports will contribute to improve the lives of millions of EU citizens.



Contact

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Our partners

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