

Deux nouveaux projets européens

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ARTEM

Aircraft noise Reduction Technologies and related Environmental iMpacT

With ARTEM (Aircraft noise Reduction Technologies and related Environmental iMpacT), seven EREA members and strategic partners have teamed up with leading European universities and major entities of the European aerospace industry in order to address the technology challenges raised in the call MG-1-2-2017 “Reducing aviation noise”. ARTEM aims at the maturing of promising novel concepts and methods which are directly coupled to new low noise and disruptive 2035 and 2050 aircraft configurations. A core topic of ARTEM is the development of innovative technologies for the reduction of aircraft noise at the source. The approach chosen moves beyond the reduction of isolated sources as pure fan or landing gear noise and addresses the interaction of various components and sources - which often contributes significantly to the overall noise emission of the aircraft. Secondly, ARTEM addresses innovative concepts for the efficient damping of engine noise and other sources by the investigation of dissipative surface materials and liners. The chosen technology concepts offer the chance to overcome shortcomings (as the narrow band absorption peak or poor low-frequency performance) of current devices. The tasks proposed will mature, and subsequently down select these technologies by comparative testing in a single relevant test setup. Furthermore, noise shielding potential for future aircraft configurations will be investigated. The noise reduction technologies will be coupled to the modelling of future aircraft configurations as the blended wing body (BWB) and other innovative concepts with integrated engines and distributed electrical propulsion. The impact of those new configurations with low noise technology will be assessed in several ways including industry tools, airport scenario predictions, and auralization. Thereby, ARTEM constitutes a holistic approach for noise reduction for future aircrafts and provides enablers for the expected further increase of air traffic.

ANIMA

Aviation Noise Impact Management through novel Approaches

Aircraft noise continues to cause adverse effects on quality of life and public health in airports' neighbourhood. To address this challenge and ensure airports will have the capability to respond to the growing traffic demand, ANIMA aims to develop new methodologies and tools to manage and mitigate the impact of aviation noise, improving the quality of life near airports while facilitating airports growth and competitiveness of the EU aviation sector within the environmental limits, also considering 24/7 operations. Hence, ANIMA carries out critical review and assessment of noise impacts and existing management practices to establish best practices' guidelines for an effective management of annoyance beyond ICAO Balanced Approach (WP2); develops a better understanding to address community annoyance, sleep disturbance and improve quality of life through pilot studies and surveys, assessing new methodologies reducing annoyance, testing novel and cost-effective solutions for land-use planning, using

also mobile applications, the whole to derive new indicators (WP3); develops a 24/7 Noise Management Toolset to empower non-specialists with decision support capability and a 24/7 Design Toolset for researchers (WP4); tests and validates with end-users (airports and community) an “Aviation noise community platform”, gathering tools and best practices, facilitating consensus building and engaging communities in the mitigation process, ensuring exploitation of the results (WP5); supports the coordination of national and EU research activities, establishing a common strategic research roadmap for aviation noise reduction through the involvement of a pan-European network of experts and project leaders, also addressing international collaboration opportunities (WP6). ANIMA, a 4-year cost-effective project (