



AVIBUS FUI Project

The **AVIBUS R&D project** (Drilling with Vibration Assistance by Piezoelectric Actuators) sustained by the PEGASE and VIAMECA clusters funded by the FUI8 (National French R&D Funding), aims at developing vibrating, active, auto-adaptive tool-holders for the drilling of various materials as well as the associated process.

The concerned tool-holders are mechatronic systems integrating a piezoactive actuator, sensors, as well as power supply, drivers & controllers and communication means.

The concerned materials are not-easy-to-drill ones, such as the multi-materials metal-composite sandwiches increasingly used in aero-structures parts but also the materials used in general mechanics like stainless steel. Two applications will be developed.

The low-power miniaturized application regards the drilling on robots, an operation dedicated to aero-structures assembly.

The high-power application relates to machining centres dedicated to drilling operations in various industrial fields (general mechanics, nuclear industry etc...)

Increasing the general performances of hard drilling operations, improving both the quality and the reliability of high-value-added critical operations represent the main objectives of such a project.

The AVIBUS project budget amounts to 1,9M€. Its duration will be of 42 months from August 1st, 2009.

The project is coordinated by CEDRAT TECHNOLOGIES, with the help of ENSAM for the machining process aspects. The partners of the project are CETIM, DUFIEUX Industrie, EADS Innovation Works, G2ELAB/UJF, RICHAUD and SECO-EPB.



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