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CNES-ONERA cooperation in full swing

Building on their historic partnership in space research, CNES and ONERA, the French aeronautics, space and defence research laboratory, are joining forces to address new challenges in the field of launchers and satellites. The cooperation agreement signed in 2015 has moved collaboration between the two agencies up a gear, with 10 programmes of shared interest now underway, seven for launchers and three for orbital systems. This joint research effort is set to continue in 2016 and beyond, covering in-depth studies for reusable launch vehicles and new research into orbital systems, including exchanges of personnel to encourage cross-fertilization.

Research and innovation are the keys to keeping the French and European space industry competitive and evolving its offering to meet new market requirements. CNES and ONERA are pivotal players supporting industry's efforts towards this goal, in particular to develop reliable and competitive launchers:

- The seven launcher programmes of shared interest encompass cryogenic liquid propulsion and solid propulsion (understanding and controlling thrust oscillations), green propellant, launcher control systems, digital simulation of launcher jet noise, and tools to aid selection, design and sizing of composite structures.
- The three orbital systems programmes of shared interest are seeking to optimize system performance while better controlling their operating environment. Work is focusing on aerothermodynamics and debris re-entry issues, agile and flexible orbital and robotic system control concepts, and electromagnetic radiofrequency propagation.

Preliminary studies engaged in 2015 on reusable launchers are also advancing well and cooperation in this area will be stepped up with the signature of a new programme of shared interest this year.

A meeting of the Steering Committee with both agencies' presidents recently reviewed the progress of all of these initiatives, as well as the status of CNES's forthcoming Microscope satellite to be launched in April, for which ONERA is the Principal Investigator and prime contractor for the science mission centre.

CNES contacts

Pascale Bresson
Julien Watelet

Tel. +33 (0)1 44 76 75 39
Tel. +33 (0)1 44 76 78 37

pascale.bresson@cnes.fr
julien.watelet@cnes.fr

cnes.fr/presse

ONERA contact

Camille Blossé

Tel. +33 (0)1 80 38 68 54

camille.blosse@onera.fr

onera.fr/espace-presse