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HEXAFLY-INT Project: Design of a High Speed Flight Experiment

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Abstract : Thanks to a coordinated funding by the European Space Agency (ESA) and the European Commission (EC) within the 7th framework program, the High-Speed Experimental Fly Vehicles – International (HEXAFLY-INT) project is aimed at the flight validation of hypersonics technologies enabling future trans-atmospheric flights. The project, which is currently involving partners from Europe, Russian Federation and Australia operating under ESA/ESTEC coordination, will achieve the goal of designing, manufacturing, assembling and flight testing an unpowered high speed vehicle in a glider configuration by 2018. The main technical challenges of the project are specifically related to the design of the vehicle gliding configuration and to the complexity of integrating breakthrough technologies with standard aeronautical technologies, e.g. high temperature protection system and airframe cold structures. Also, the sonic boom impact, which is one of the environmental challenges of the high speed flight, will be assessed. This paper provides a comprehensive and detailed update on all the current projects activities carried out to date on both the vehicle and mission design.

Keywords : design, flight testing, HEXAFLY-INT, hypersonics
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