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DAPHNE: MORPH TO SURVIVE WITH AN INNOVATIVE DESIGN APPROACH

Abstract

It is thanks to a collaboration between University of Naples Federico II and Campania Aerospace District that DAPHNE mission has started. The 42-student team, currently working on the concurrent design of the platform, has been provided since the beginning of the project with an innovative educational approach by merging Aerospace Engineering and Management backgrounds, by following ECSS standards since team organization and by continuously discussing technicalities with a board of stakeholders.

The objective of the mission is three-fold: IOD for testing of specific material, i.e. metallic foam and regolith, for shielding application, IOT based on LoRaWan protocol with specific focus on distributed low-cost ground segment and ION for atmosphere studies. DAPHNE aims to demonstrate the feasibility of a low-cost, sustainable, multimission 3U CubeSat: different payloads for different stages of the CubeSat's life prove how a platform has the capability to morph to survive, exactly as the homonymous Nymph does.