aicq
Associazione Italiana Cultura Qualità
Settore Aerospace

aicq
Associazione Italiana Cultura Qualità
Piemontese

Politecnico di Torino

Terzo convegno Nazionale
QUALITÀ NELL'AEROSPACE

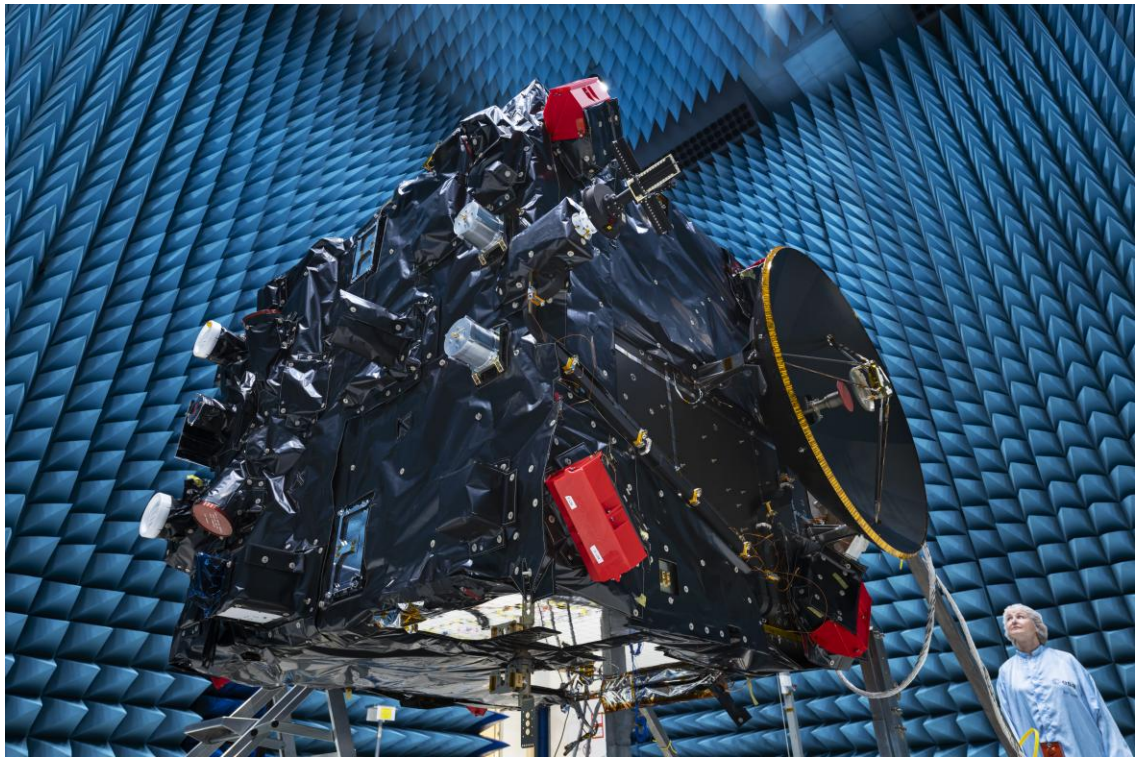
Sfide, Risultati e Opportunità
della Qualità nella Space Economy

COMBINING OLD SPACE WITH NEW SPACE

Heli Greus
HERA and RAMSES Product Assurance and Safety Manager

11-12 NOVEMBRE 2026 TORINO

HERA is ESA's first asteroid mission carrying 2 CubeSats on-board.
Contract awarded to OHB Bremen
From contract signature 4 years time to complete S/C.
Launched 7 October 2024 with SpaceX Falcon 9
First Images of Dimorphos 25 November



Max Alexander/ESA

HERA has been built according to ECSS standards

The 2 CubeSats were build following industrial standards.

HERA System requirements defined 5 years of lifetime for any item on board.

CubeSat's lifetime is normally much shorter.

How to make sure that CubeSat's will survive the cruise face to the asteroid and is still operational?

Start from beginning → difference on requirements

ECSS

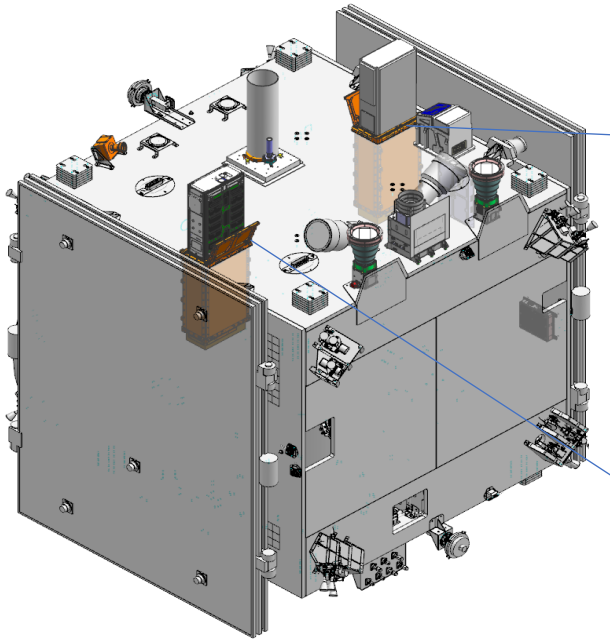


Image: Getty Images

Industrial requirements

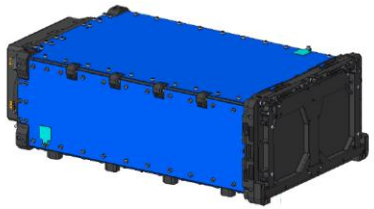


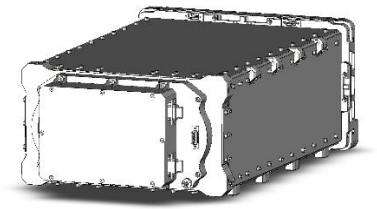
Image: AI modified from Getty Images



ISIS

Deep Space Deployer I



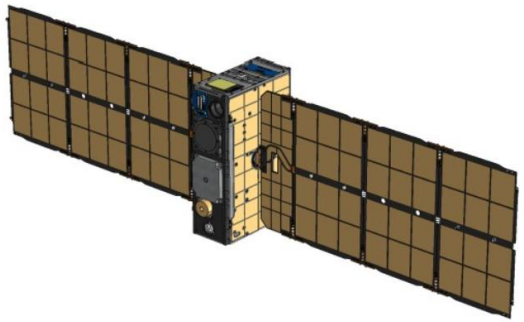


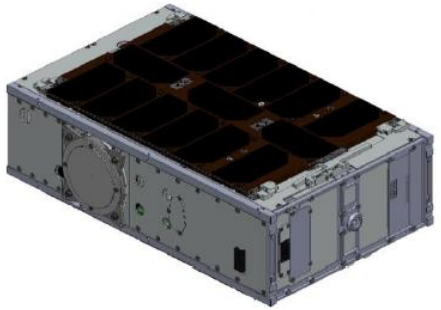
Deep Space Deployer II

Tyvak International
A Terran Orbital Corporation

Milani Cubesat

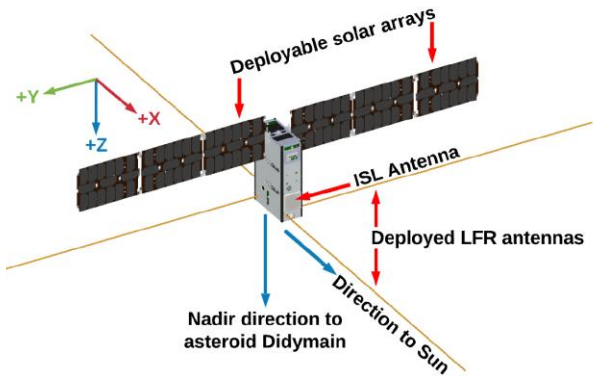






Juventas Cubesat

GOMSPACE

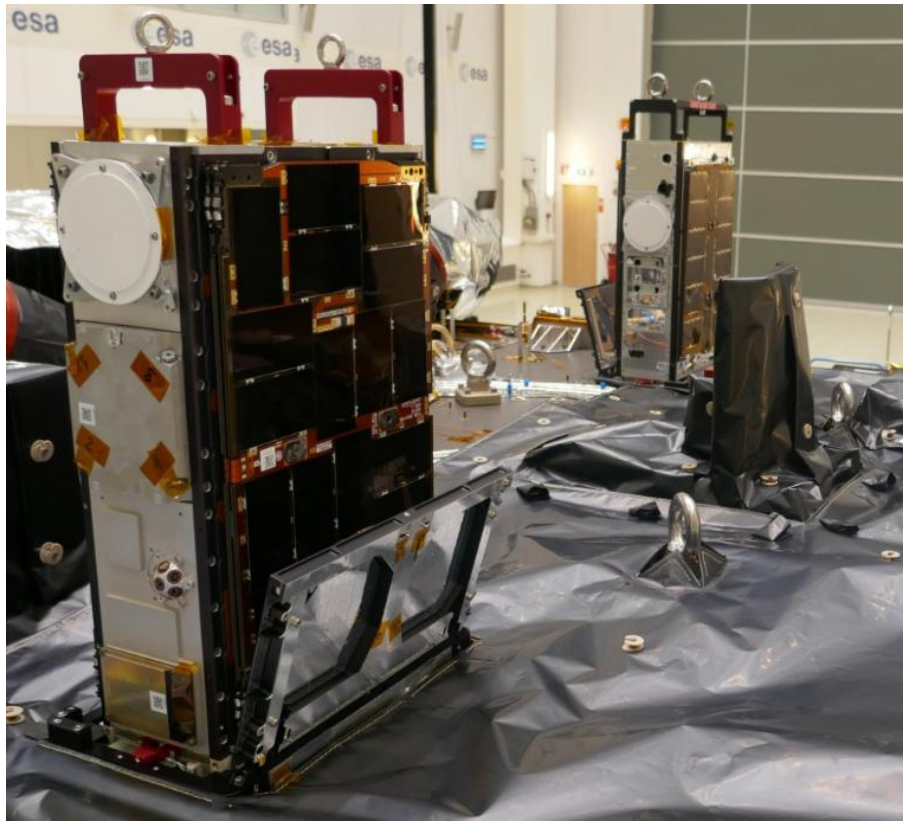


Complex thermal and mechanical environment

→Need for Structural and Thermal Interface Module of the CubeSat

Allowed early detection of any interface issues.

Representative of the flight model of the CubeSat allowing dry-run of the AIT activities prior flight model insertion

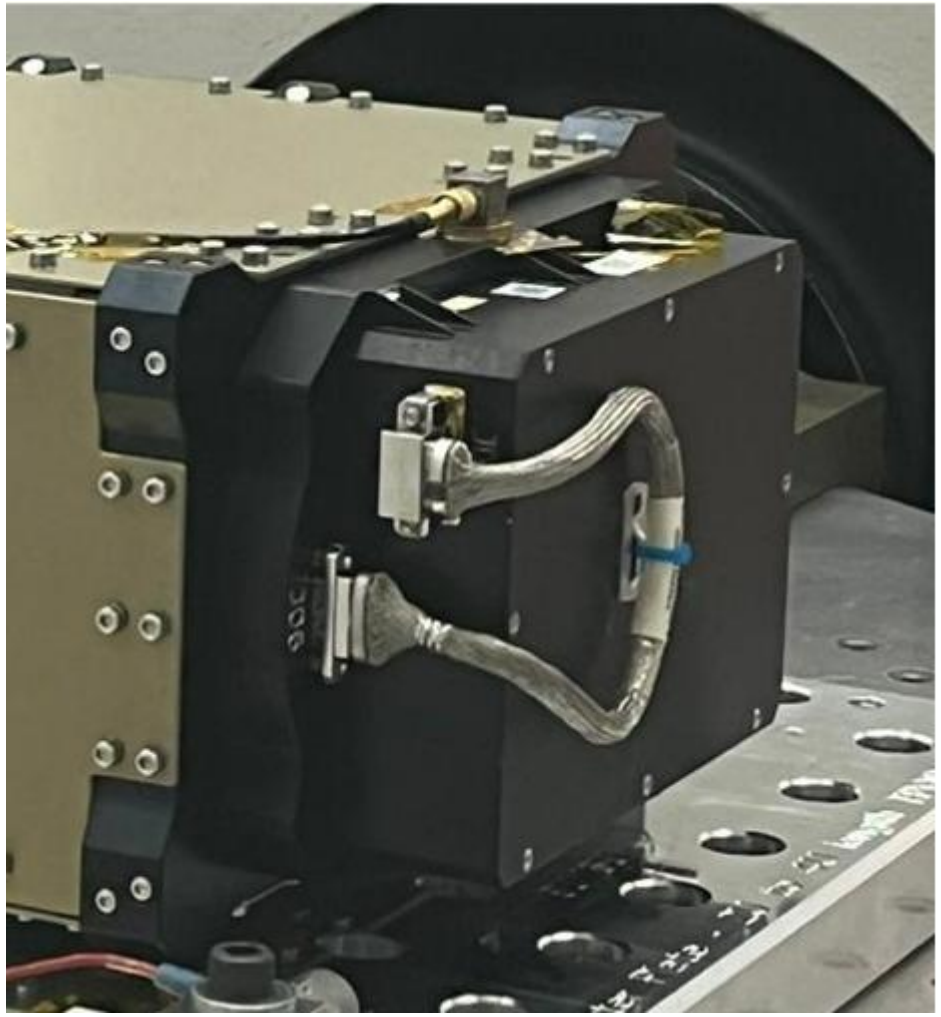


Failure propagation from CubeSats to HERA

→Need for Life Support Interface board

Preventing failure propagation from CubeSat to HERA

Allowing monitoring of the status of the CubeSat during the cruise phase



HERA/CubeSats Current status

HERA on track for releasing the first images on 25 November 2026.

CubeSats health has been checked several times and all well.

CubeSats release mid-January and beginning of February 2027.

THANK YOU FOR YOUR ATTENTION !