

Sviluppi tecnologici per missioni istituzionali: sistemi propulsivi ad hoc e loro applicabilità in altre tipologie di missione. Come massimizzare l'investimento di R&D in ambito propulsivo.

- Roma, 04/07/2024, L'Impegno Italiano nel Settore dei CubeSat: Tecnologie e Missioni Future – Seconda Edizione -

- Small satellites market and their propulsive demand
- T4i unique value proposition
- Institutional support
- Cold gas missions and applications
- REGULUS-50-I2 ASI and ESA/ASI missions and applications
- ALPHARD programs and applications
- KUMA and TEIDE programs and applications
- Subsystems missions and applications
- Lessons learnt

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Data from Euroconsult "Prospects for the Small Satellite Market" report, 9th edition



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COVERAGE OF 360° MANOUVERABILITY NEEDS



Electric propulsion



Cold gas propulsion



Chemical propulsion



Combined propulsion

INSTITUTIONAL SUPPORT

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Design systems that answer to the needs of both institutional and commercial platform manufacturers, to optimize developments both in economic and temporal terms.

COLD GAS MISSIONS



6 D.o.F. COLD GAS PROPULSION SYSTEMS

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- TRL 8
- Biphasic Propellant
- 2.5U, 450 Ns
- 6 D.o.F.

- TRL 8
- Biphasic Propellant
- 0.5U, 50 Ns
- 6 D.o.F. with 2 identical modules

APPLICATIONS: COLLISION AVOIDANCE, ATTITUDE CONTROL, RW DE-SATURATION, PROXIMITY NAVIGATION, AND DECOMMISSIONING.

How our cold gas projects learn from each other and keep on improving for future missions.

- Know-how for a solid miniaturized design
- Consolidated range of suppliers
- Greater efficiency in the supply chain management
- PA/QA steps to reduce the incurrence of NCs and optimize the time
- Testing plan and procedures to ensure system performance



REGULUS-50-I2 MISSIONS

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ASI Alcor mission led by Officina Stellare. REGULUS-50-12 Large for station keeping operations in VLEO for an EO 16U CubeSat. IOD mission of REGULUS-50-I2 Small within D-Orbit ION platform. Funded by ASI through GSTP Fly program. ESA mission led by PoliMi. REGULUS-50-I2 Medium for a 12U CubeSat to perform chasing and close inspection of a debris orbiting the Earth. ESA mission led by PoliMi. REGULUS-50-I2 Medium for orbit reaching and constellation maintenance of two SAR 12U CubeSats.

ALPHARD PROGRAMS



KUMA AND TEIDE PROGRAMS

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SUBSYSTEM MISSIONS

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I2 Small.

LESSONS LEARNT

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AND DO YOU HAVE OTHER LESSONS LEARNT?

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