





A-Class



B-Class



E-Class



G-Class



C-Class



CLA



GLA



GLC



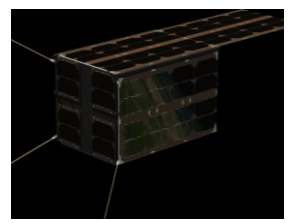
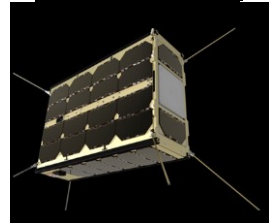
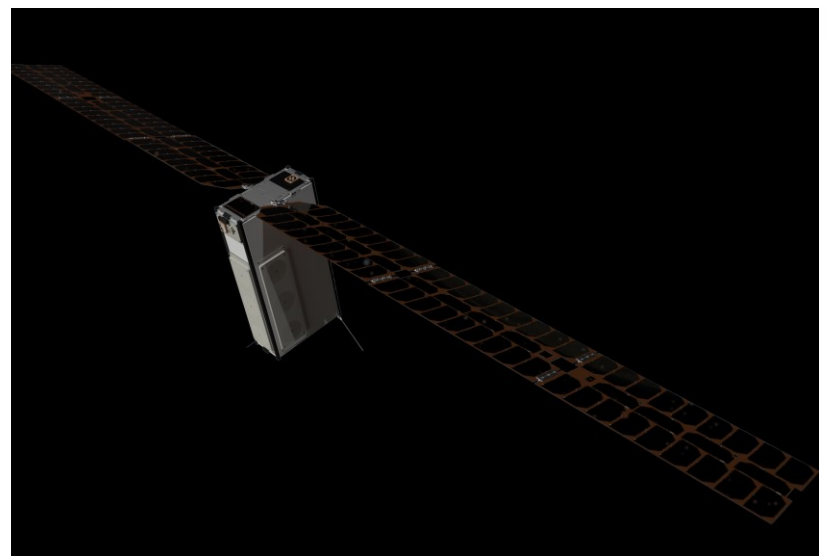
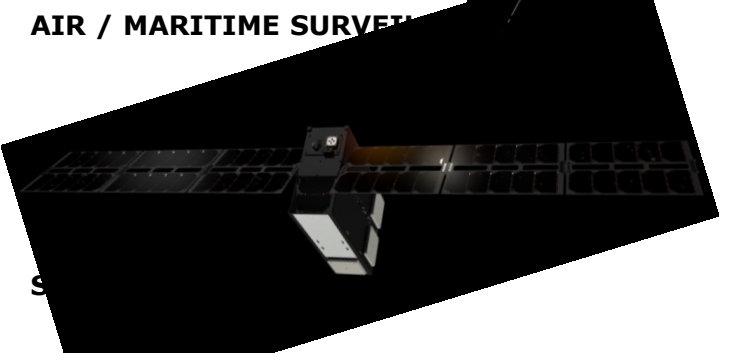
motorsport.com



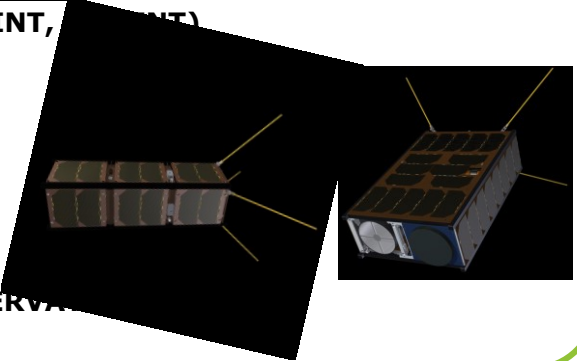
© Mercedes



AIR / MARITIME SURVEILLANCE



SIGINT (ELINT, COMINT)

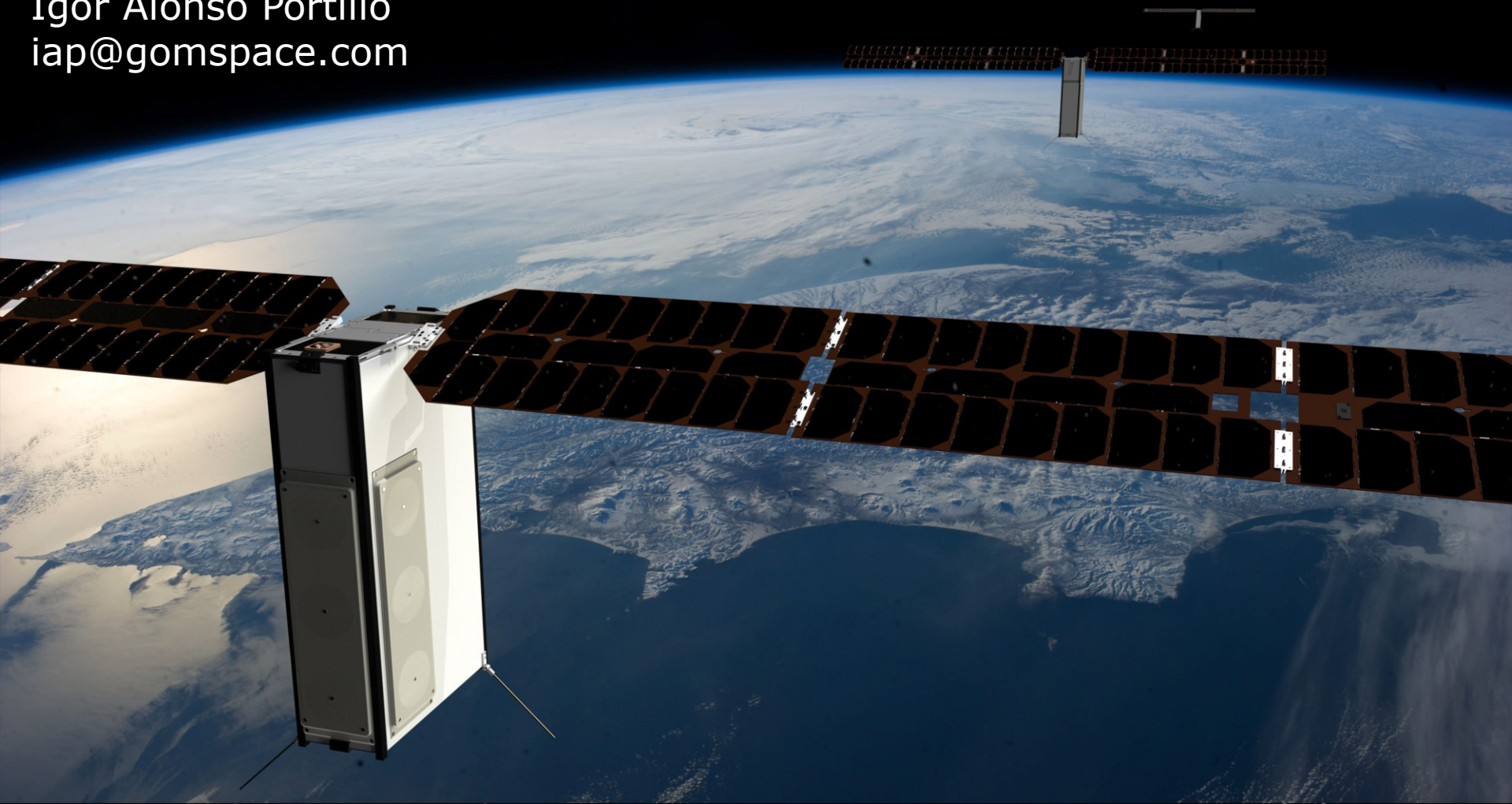


EARTH OBSERVATION



European R&D on Advanced Nanosatellite Technology

Igor Alonso Portillo
iap@gomspace.com



- Leader provider of nanosatellite based solutions
- What do we offer?
 - SUBSYSTEMS
 - PLATFORMS
 - FULL SATELLITES
 - CONSTELLATION MANAGEMENT
 - TURN-KEY SOLUTIONS
 - SERVICES
- 200+ employees





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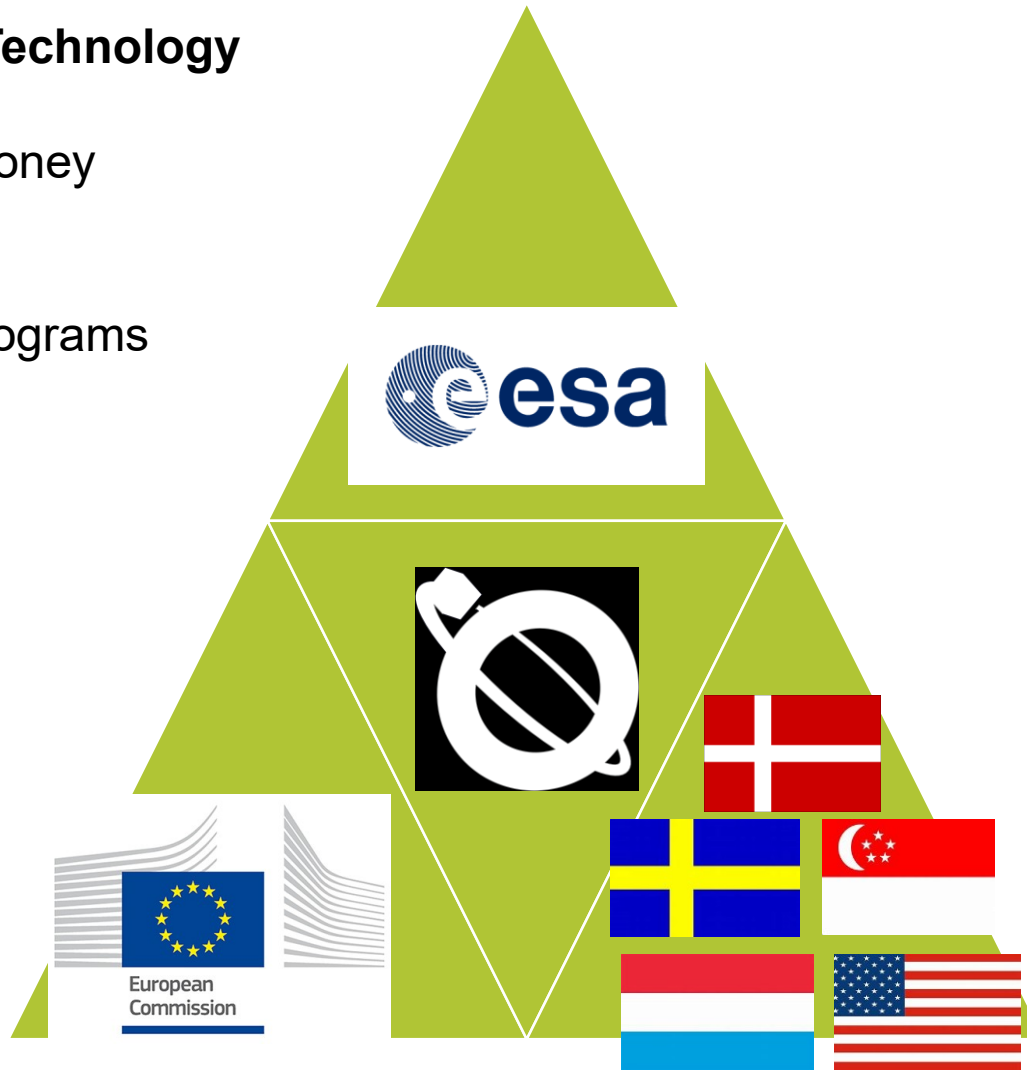
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ASIA
SUBSIDIARY
GomSpace ASIA Pte Ltd
Singapore - Asia

GOMX FLIGHT DEMONSTRATION PROGRAMS

MISSION	OBJECTIVES	STATUS / RESULTS
	<ul style="list-style-type: none"> • 2U platform • 1st gen. ADS-B receiver 	<ul style="list-style-type: none"> • Launched in 2013 • Successful payload • Platform still in operation
	<ul style="list-style-type: none"> • 2U platform, new avionics • Aero brake payload • Quantum mechanics payload 	<ul style="list-style-type: none"> • Launch failure in 2014 • Recovered fully functional after launch explosion
	<ul style="list-style-type: none"> • 3U platform • 2nd gen. ADS-B receiver • Software Defined Radio • 3MBit/s X-band downlink • Robust ADCS capability 	<ul style="list-style-type: none"> • Launched in 2015 • All mission objectives successfully met • Payload functions extended through in-orbit upgrade • Entered in 2016 (12 month+from ISS)
	<ul style="list-style-type: none"> • 2 x 6U platform • AIS, ADS-B tracking • Visual & hyperspectral camera • Cross linking • Enhanced ADCS capabilities • Propulsion for station keeping 	<ul style="list-style-type: none"> • Launched in February 2018 • Successfully in-orbit commissioned

Research & Technology

- Own GS money
- EC H2020
- ESA
- National programs



RACE (ESA)

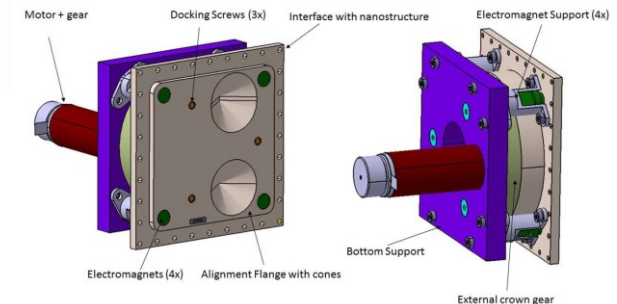
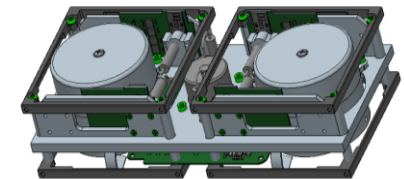
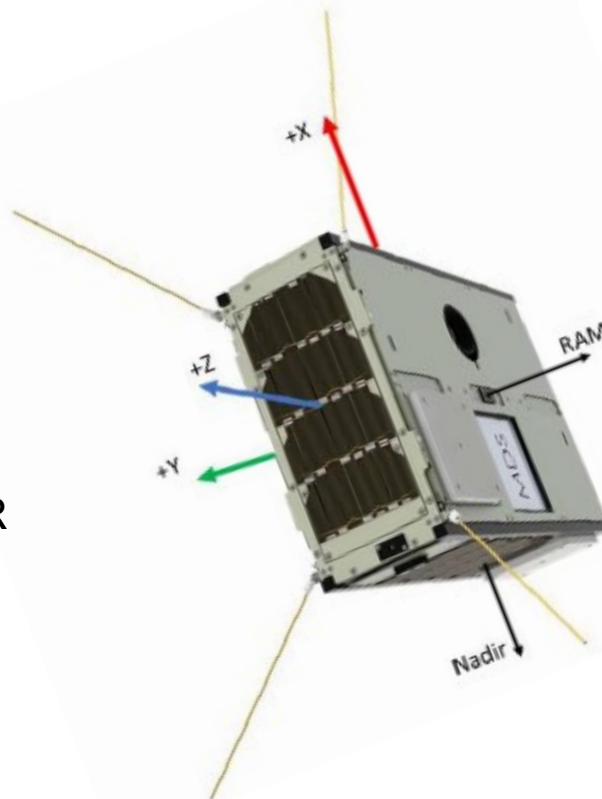
RACE will be a pioneer project developing technologies required for close proximity operations up to rendezvous and automatic docking of nanosatellites in orbit.

- Spacecraft technologies
- GNC technologies
- Automatic operations
- Communications

BUDGET (GS) > 400kEUR

PARTNERS >

GomSpace
GMV
Almatech
Micos



DISCOVERER (H2020)

Operating satellites at lower altitudes allows them to be smaller, less massive and less expensive whilst achieving the same or even better resolution and data products than current platforms.

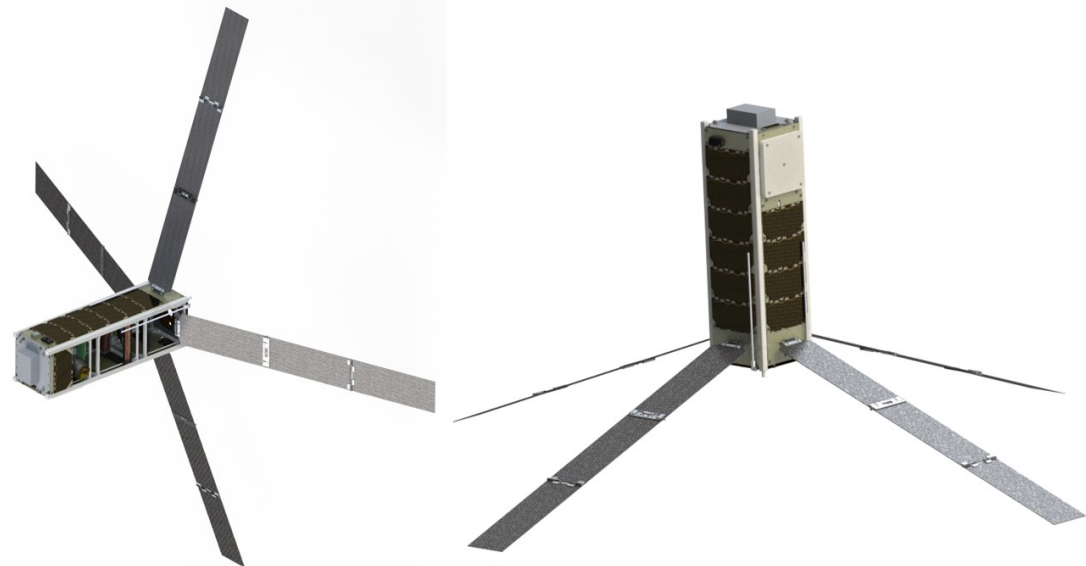


DISCOVERER envisions a radical redesign of Earth observation platforms for sustained operation at significantly lower altitudes than the current state-of-the-art and overcomes these challenges.

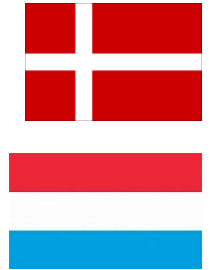
BUDGET (GS) > 620kEUR

PARTNERS >

THE UNIVERSITY OF MANCHESTER (UNIMAN)
DEIMOS CASTILLA LA MANCHA SL (Deimos)
GOMSPACE APS (GS) A/S
UNIVERSITÄT STUTTGART (USTUTT)
UNIVERSITAT POLITECNICA DE CATALUNYA (UPC)
UNIVERSITY COLLEGE LONDON (UCL)
THE TECH TOYBOX, INC. (TTB)
EUROCONSULT SA (EConsult)
Concentris Research Management GmbH (concentris)



MEGAMAN (INNOVATIONS FONDEN DANMARK)



Focusing on the (O&M) challenge of Mega Constellations (MCs).

Where traditional satellite networks are limited in the number of Operations and Management satellites and services, MCs may consist of thousands of inter-connected satellites with short lifetime. This demands a stronger O&M framework than what exists today. We see a strong opportunity to bridge the gap quickly by leveraging and transferring concepts from terrestrial mobile to MCs O&M.

BUDGET (GS)> 560kEUR

PARTNERS>

GomSpace
2Operate
Aarhus University



A collection of puzzle pieces on a green background. The pieces are arranged in a grid-like pattern, with some missing. The pieces contain images of space-related scenes: a satellite in orbit, a rocket launch, and a view of Earth from space. The overall theme is space exploration and technology.

TAKE AWAYS

- Constellations are coming
- Spacecraft platforms will be commoditized
- New technologies are needed
- R&D is a **MUST**
- Public financing vehicles exist – go hunt for them !!



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