

Precision on earth. Reliability in space. RUAG Space.

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Together
ahead. **RUAG**

RUAG Space – Precision on earth, Reliability in space



EUR **326** million
net sales in 2018

Products on **1'000**
payloads delivered to space

Preferred partner for
institutional & commercial
customers

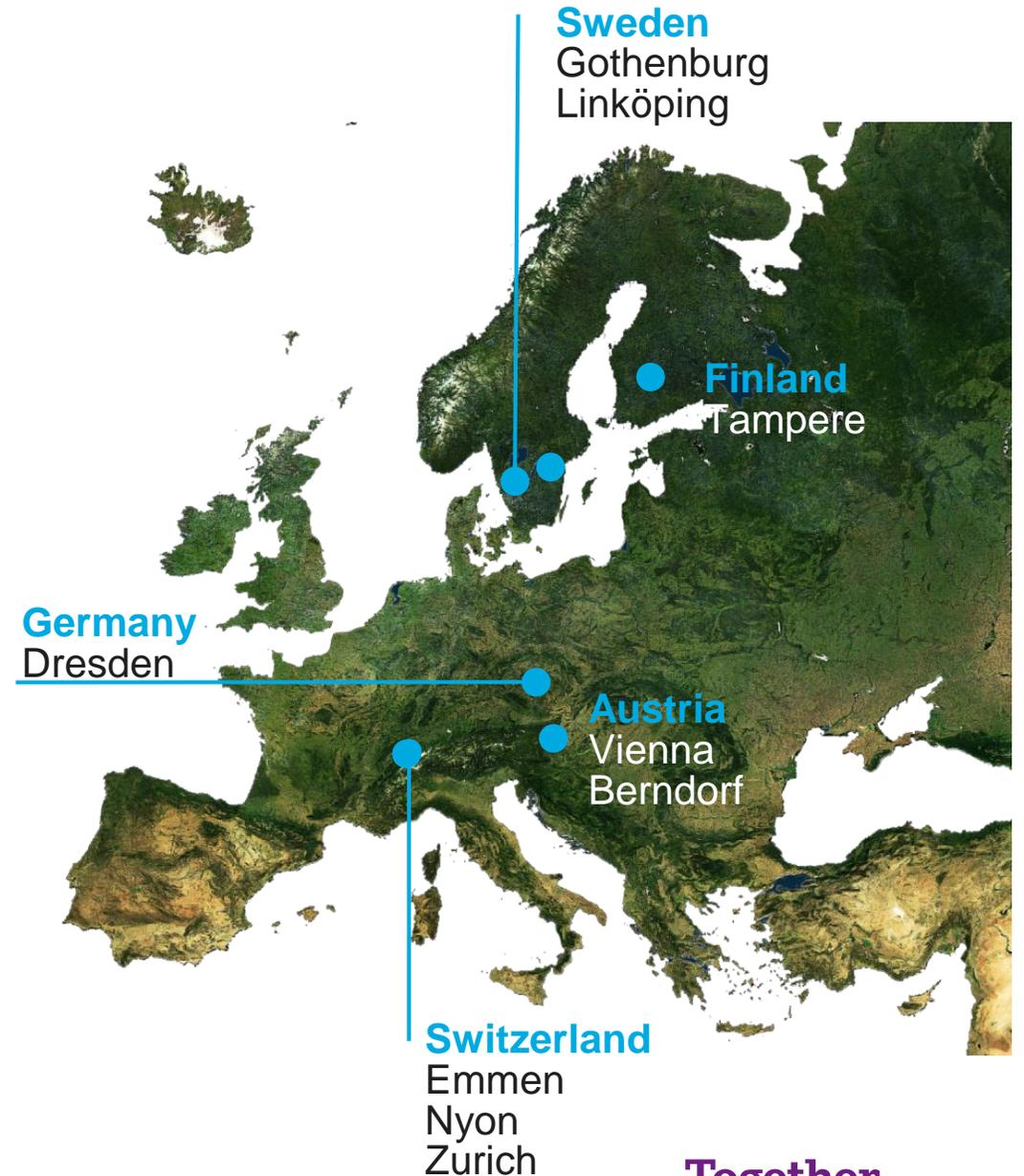
Leading independent
supplier for space
products

100%
mission
success

© image: ULA

RUAG Space on Earth

Close to our customers



RUAG Space Vision

Number one independent space product supplier



We are **independent** in terms of ownership and customer portfolio

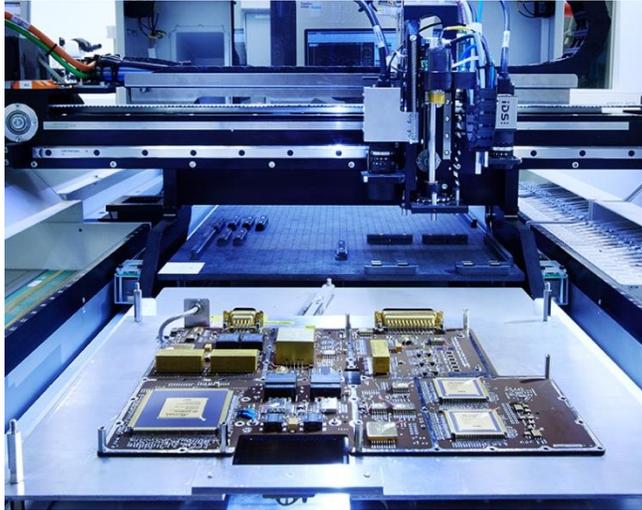
We are tuning our product portfolio in terms of enhanced **price and performance**

We are **No.1** in terms of market share and customer choice within our targeted product and market segments

We **leverage** institutional space technology investments into commercial market success

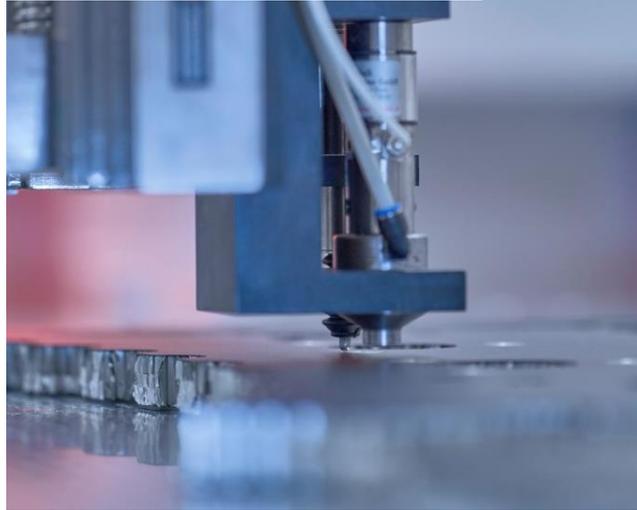
Market leading portfolio

Across three product groups



Electronics

- Satellite and Launcher Computers
- Navigation Receivers & Signal Processing
- Power & Drive Electronics
- Microwave for Telecom
- Antennas



Spacecraft

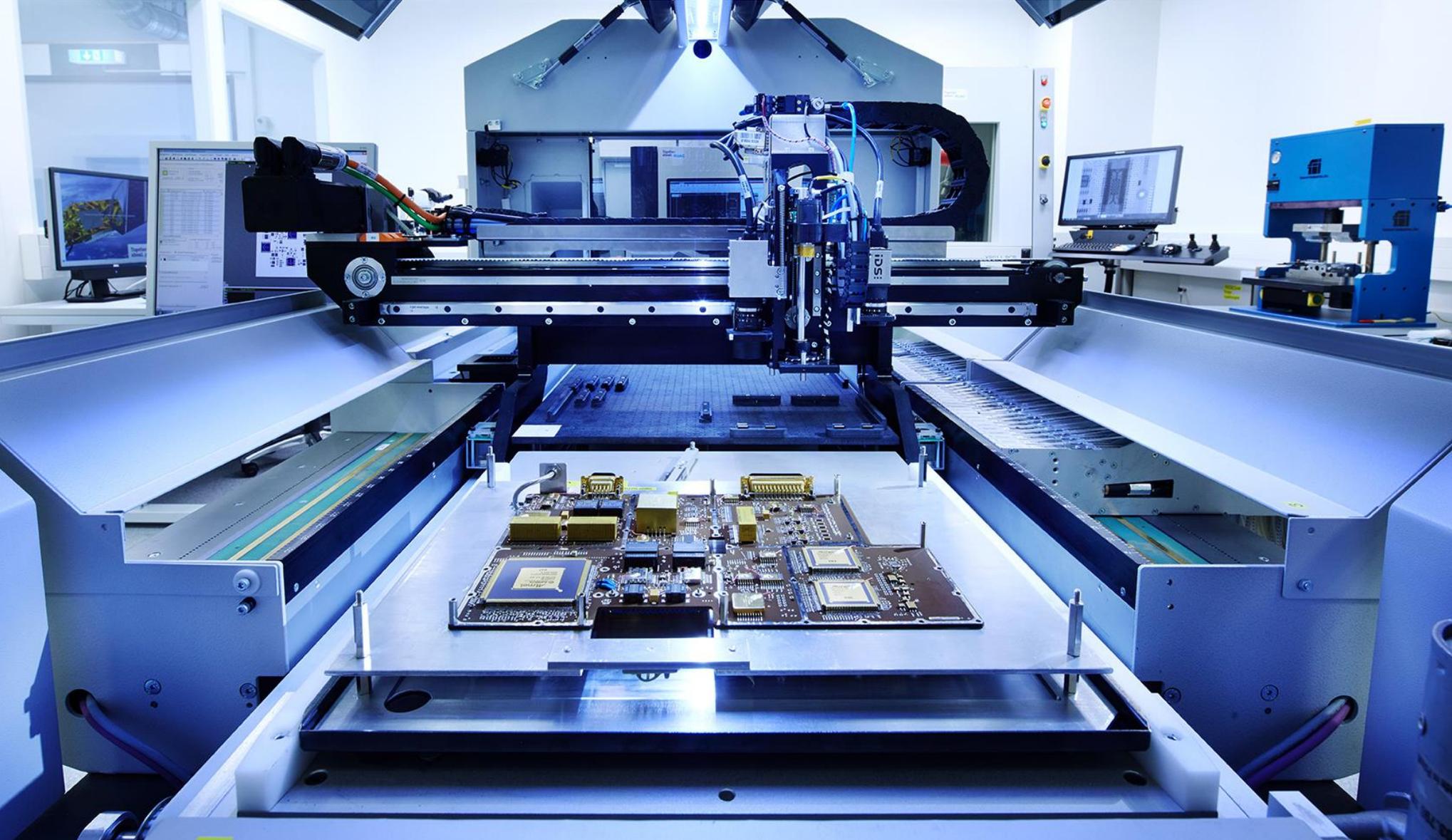
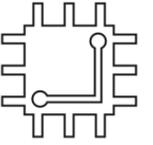
- Satellite Structures
- Satellite Mechanisms
- Mechanical Ground Support Equipment
- Thermal Systems
- Slip rings



Launchers

- Launcher Fairings and Structures
- Adapters, Separation Systems, Dispensers
- Sounding Rocket Guidance Systems

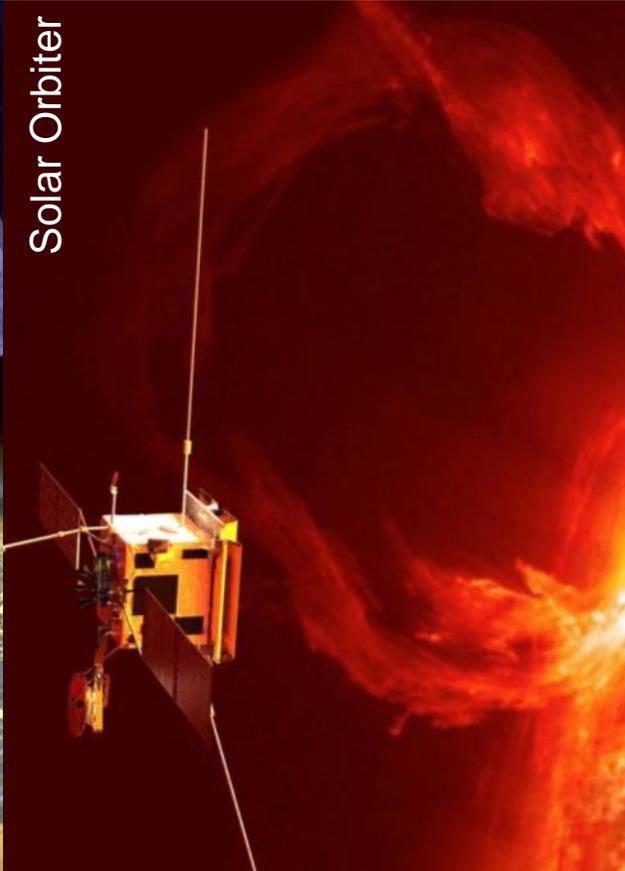
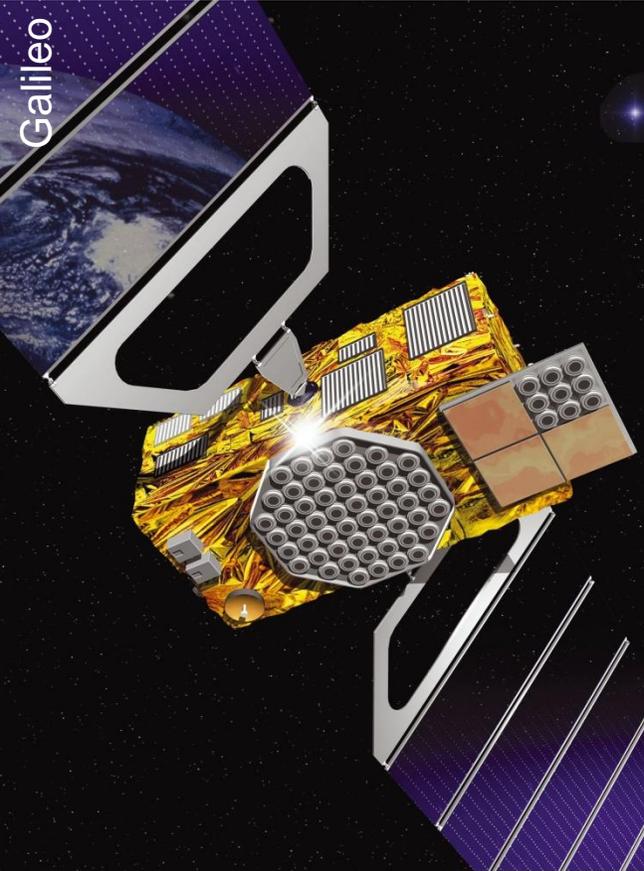
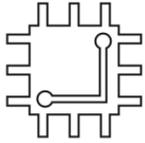
Electronics



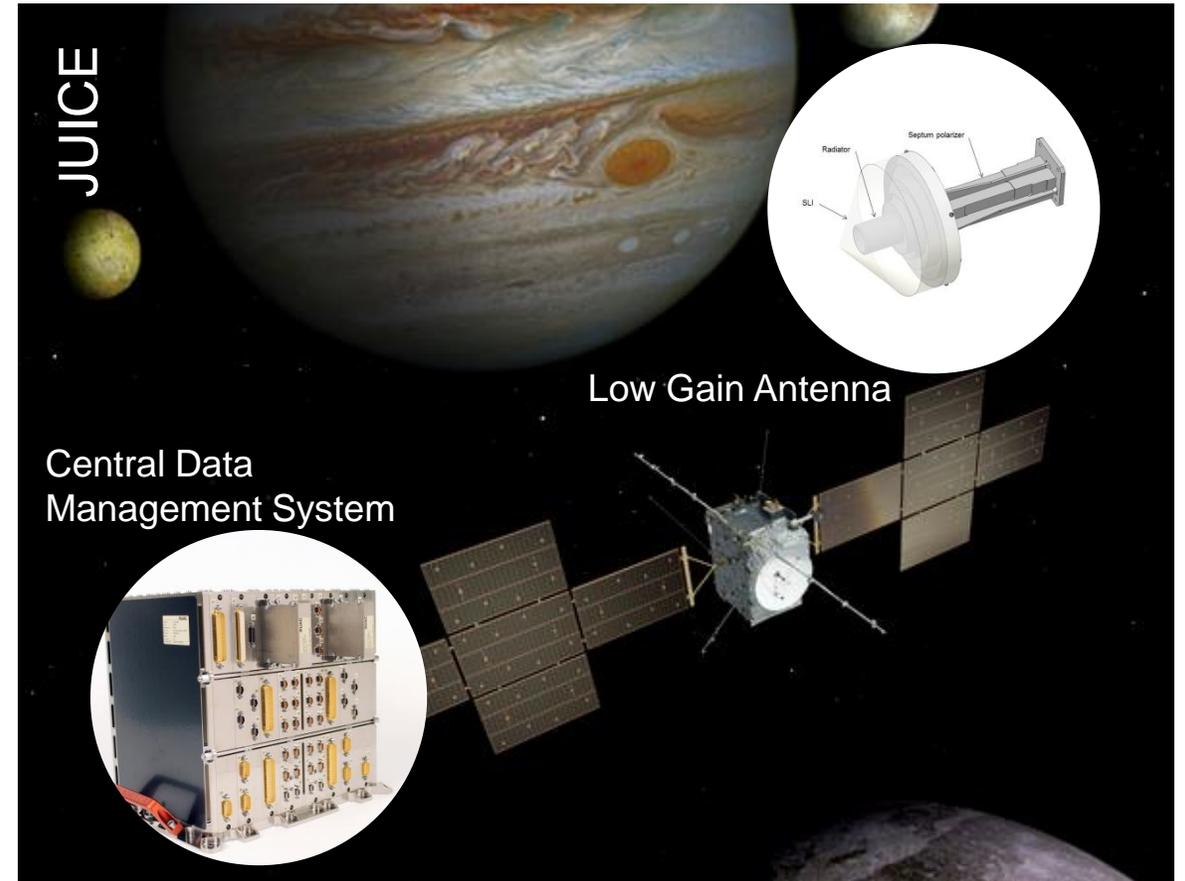
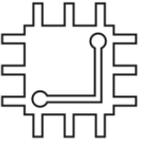
Together
ahead. **RUAG**

Major European programs rely on RUAG Space products

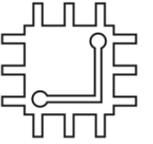
Earth Observation, Weather, Navigation, Security & Science



New endeavours in 2018



RUAG Space explores the universe



Earth Observation
MetOp SG, MTG, MSG,
Sentinel 1-6, FLEX, SMOS,
Jason 1-3, Aeolus, Pleiades,
Komsat, SaraH and OptSat

Navigation
Galileo, Giove

Mars and beyond
Rosetta, Mars Express, Venus
Express, ExoMars Trace Gas
Orbiter & Rover, Solar Orbiter,
JUICE

Earth Missions

Lunar

Telecom
Hotbird, Hispasat, EDRS-C,
Electra, Artemis, Iridium Next

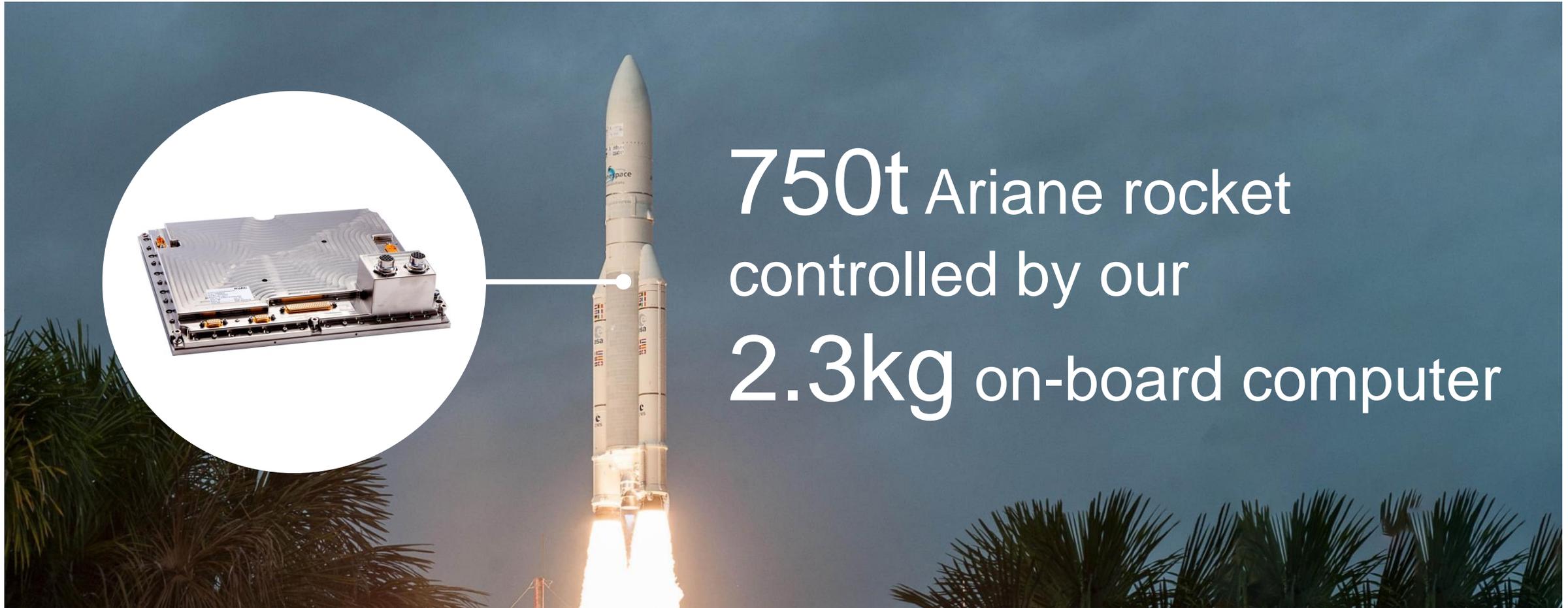
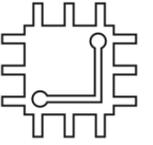
Lunar
SMART-1,
Kari Lunar

Science
PLATO, BepiColombo,
Herschel, Planck, Gaia, Euclid

Mars and beyond

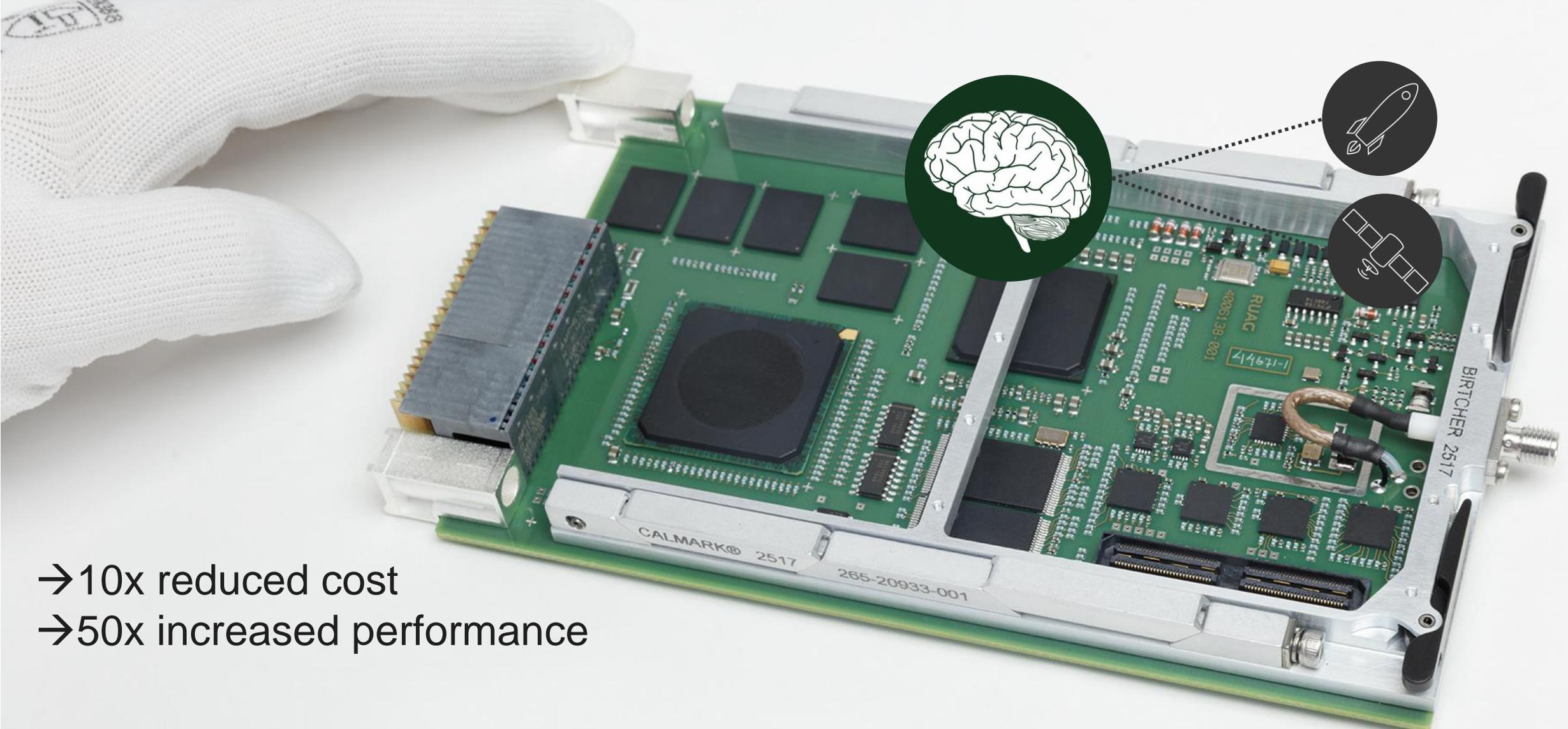
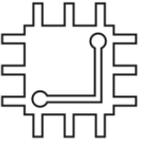
Space Transportation
Ariane 1-5, Vega, ATV, ERA

Steering to Success



750t Ariane rocket
controlled by our
2.3kg on-board computer

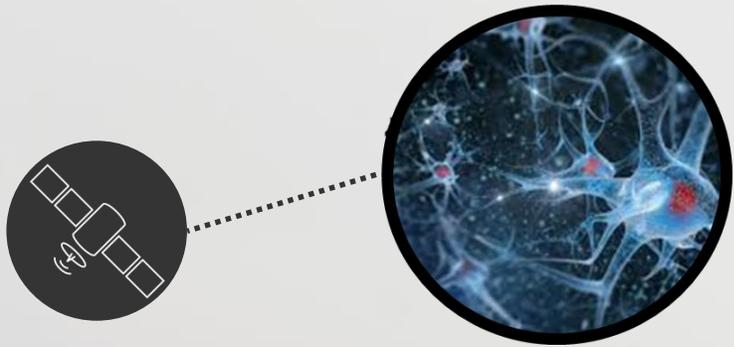
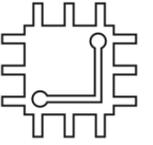
Wish for a brain that is 50x more powerful? Constellation computer even including navigation



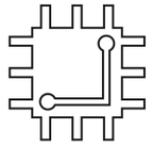
- 10x reduced cost
- 50x increased performance

Nervous system sensing the payload as well as the space craft

Constellation interface unit



- Competitive price
- Heritage from high reliability ESA missions



Electronics

The product portfolio



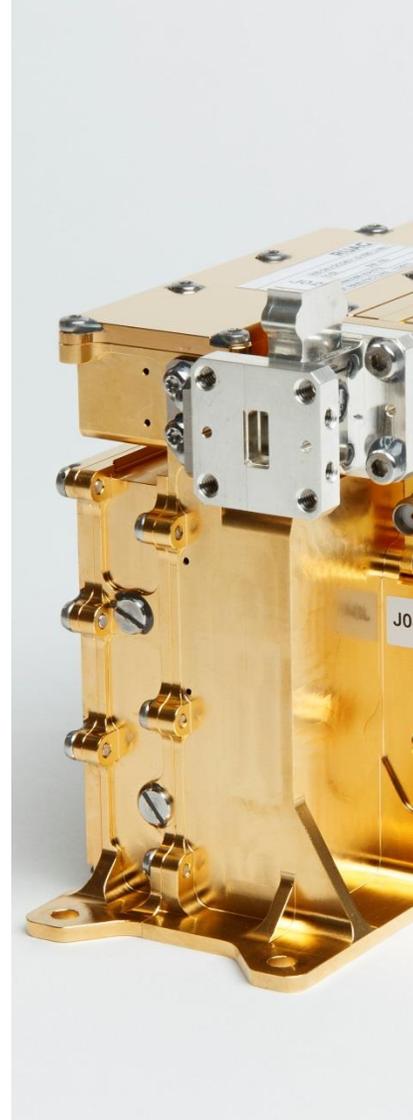
Satellite and
Launcher Computers



Navigation
Receivers & Signal
Processing



Power & Drive
Electronics



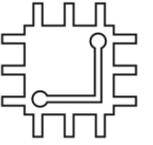
Microwave for
Telecom



Antennas

We have Space for you: from Traditional Space to New Space

100% success rate with RUAG Space



Who we are:

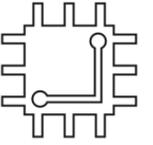
- Number One independent space product supplier
- Globally active with presence in USA and Europe
- Flexible high volume electronics production
- Certified processes for high-reliability electronics
- 40 years of experience in space



What we offer:

- Customer value through world-class operational excellence
- Product development matching market needs
- Competitive prices through qualified products and building blocks

RUAG Space Production Services



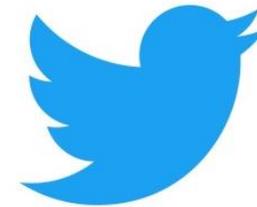
- Parts procurement unit assembly, electrical and environmental testing
- Failure, material and constructional analysis
- Efficient logistics and planning keeps track of work-orders, materials and components with full traceability

A true one-stop-shop for design, production & test services



- Excellent track record of deliveries on time, on quality, on performance and on cost. Wide range of applications such as space, defence, med-tech, automotive, energy etc.
- Flexible volume from prototyping to 20,000 boards and 1,000 units per year
- Excellent quality in every process is part of our business

**We listen to make it right.
We stay to make it real.
A promise you can trust.**



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