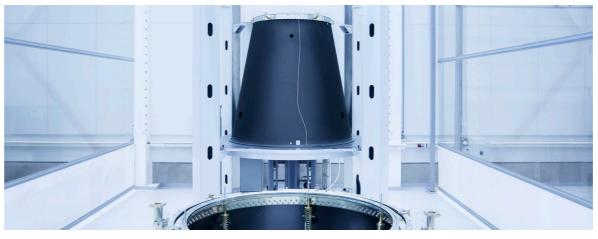
From our Electronics portfolio: **Antenna**



From our Spacecraft portfolio: **Thermal Insulation**





From our Launchers portfolio: **Payload Adapter**

RUAG Space

www.ruag.com/space info.space@ruag.com @RUAGSpace



Introducing RUAG Space

Together ahead. **RUAG**

RUAG Space. From ground to orbit.

RUAG Space is the partner of choice for commercial and institutional customers around the world - with a primary focus on Europe and the United States.

As a leading independent supplier to the space industry, RUAG Space has a comprehensive portfolio of electronic and mechanical products for launchers and satellites, while also offering the required integration and ground support.

Across its three dedicated product (Electronics, Spacecraft and aroups Launchers), RUAG Space sets benchmarks along the entire value chain, from design to delivery. RUAG is known for working closely with its customers through all stages of the partnership - engineering, manufacturing, testing and integration.

RUAG Space

Payload Fairings Payload Adapters &

Our Portfolio Highlights for Launcher Customers

Antennas

Separation Systems

Sounding Rocket Guidance

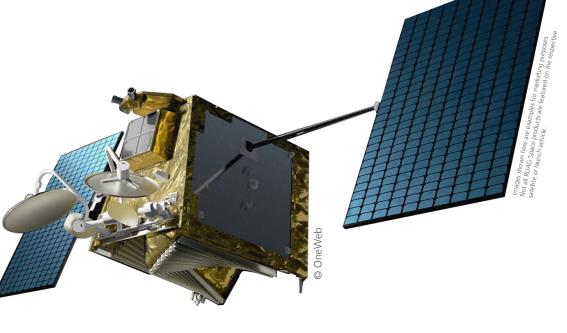
Interstage Adapters

Dispensers

"Our customers' success is our success. Therefore, we invest not only in research and development, but also in processes and infrastructure - for successful partnerships."

Peter Guggenbach, CEO RUAG Space





Satellite Structures

Drive Electronics Mechanisms

Onboard Computers

and cost efficiency.

Navigation Receivers

Antennas

Our Portfolio Highlights for Satellite Customers Sliprings

Thermal Insulation

Microwave

Mechanical Ground Support Equipment

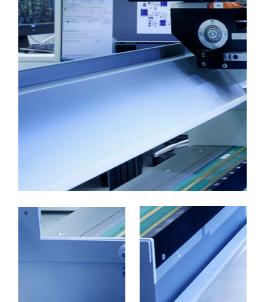
RUAG Space is a pioneer in the industry when it comes to process optimization and drives the application of advanced materials and commercial-off-the-shelf (COTS) throughout its various production lines. High standards for Operational Excellence

Electronics

High performance, maximum reliability, and a product range that meets the demands of today's space market, render RUAG the preferred partner for electronics on satellites and launchers.

> Whether it is a Constellation Single Board Computer, a full Data-Handling System, or powerful Interface Units, we can enable the "brain power" of your spacecraft or launch rocket. In the field of precise orbit determination (POD), RUAG Space is the market leader with products ranging from cost-effective solutions to full-blown GNSS (Global Navigation Satellite System) POD Receivers. We focus heavily on building cutting-edge Microwave products in all frequency bands for your telecom payload, such as analogue Receivers & Converters. Finally, satellite and launcher customers rely on antennas from RUAG Space.

> With our top-notch engineering teams in Europe and the United States, we drive industry progress in electronics. Our production facilities are capable of high-volume manufacturing, while we foster lean operations and automated processes to bring our customers to the forefront of the industry. We are your electronics partner when stepping into new space applications!





"Very committed supplier with excellent know-how and technical expertise, always a pleasure to work with."

Vahe Keresteciyan, Subcontracts Manager, MDA Satellite Systems

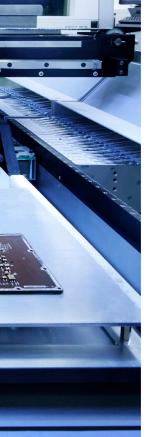




Most precise LEO navigation receiver on the market

RUAG Space is leading the market in the field of precise orbit determination (POD). Our POD Receivers can determine a satellite's position in orbit around the Earth to within a few centimeters. Our low earth orbit navigation receiver is the most precise receiver on the market. We also offer high-quality receivers for GEO.





Spacecraft

Whether the satellite is used for telecommunications in GEO orbit, constellations in LEO orbit, or on a scientific mission, our clients trust us to equip their spacecraft with tailored individual products or serial volumes.

Our Spacecraft Structures, made of metal, composite or hybrid technology, are manufactured with a high degree of automation to lower cost, provide fast time to market and enable mass production for constellation programs. RUAG Space also provides Spacecraft Mechanisms for pointing solar arrays, thrusters, antennas and instruments into the right direction, in extreme conditions, with utmost precision. We also specialize in the design and production of Sliprings; and our market leading Multi-Layer Insulation protects your spacecraft from extreme heat or cold. Need to safely transport your satellites from assembly line to launch sites? We do that as well, with tailor-made Container Solutions that can be designed to your specifications and needs, whether for individual satellites or for large quantities. Additionally, we offer integration of your spacecraft upon launch site arrival, with the use of our Dispenser, for both Separations Systems and Adapters.

RUAG Space was acknowledged "for its open and pragmatic approach to design, manufacture and qualification" in the Structures & Materials category.

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Airbus Defence and Space on the occasion of the Airbus Supplier Conference 2017

High Speed Space

Our Automated Potting Machine (APM) rapidly positions inserts filled with adhesive into the satellite structure's sandwich panels. This technology can dramatically reduce the production time from 30 minutes per insert, to a speedy 90 seconds, enabling mass production for constellations.

Launchers

Supplying key products to the world's launcher customers, we contribute to raising spacefaring to the next level and making access to space more affordable.

> How do you find that balance of product reliability and mission assurance, at the speed of the new space world? RUAG Space does it by adapting its product lines to meet market needs, increasing process efficiency, and by helping space transportation become more affordable. We contribute to the success of your launches - with market leading expertise in engineering and manufacturing of composite structures. For years, our Payload Fairings, Interstage Adapters, Dispensers, Payload Adapters, and Separation Systems have been the first choice among launch service providers. We have been the proud supplier of payload fairings on every Ariane rocket since its first launch in 1979, and have provided composite structures on all Atlas rockets in the United States. Also in the field of sounding rockets, RUAG's guidance systems are the solution of choice for both NASA and ESA missions.

Our portfolio of products will deliver innovation to the next generations of large and small launch vehicles, bringing confidence and experience to existing, and new space supply chains. RUAG's experienced teams respond to the changes in the industry, to help customers meet their competitive requirements - all while remaining focused on 100% mission success.

"RUAG Space has been a strong partner on our Atlas program for more than a decade, and now we look forward to continuing our collaboration on our new Vulcan Centaur rocket as we transform the future of launch to make space more affordable and accessible."

Mark Peller, Vice President of Major Development, United Launch Alliance



RUAG Space on Earth

All about people



"Our team is characterized by a strong technical competence, but also a down-to-earth mindset. It's not about prestige, it's about partnership."

Peerawan Wiwattananon, System Engineer



Oskar Björfeldt, AIT Engineer





"The joy of discovery, that's what drives us. And that's what results in progress for our industry."

Felix Gäde, Project Manager



"We have a collaborative

This is what leads to the

very best results."

Finance and HR Manager

Sanna Kilpeläinen,



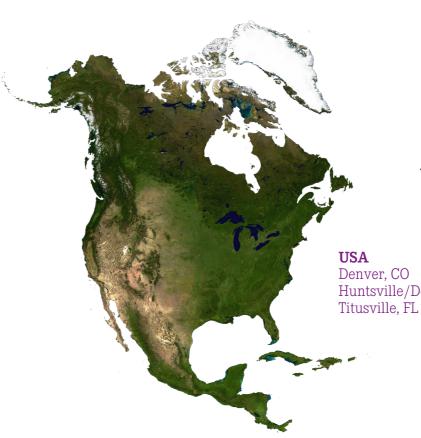
"Our success results not only from maximum focus on quality, but also from the ability to be as fast and flexible as our customers need us to be."

Natascha Tomek, Marketing & Sales Assistant



"We are prepared to pursue even the most ambitious initiatives. That's the visionary element I enjoy about working at RUAG Space."

Rob Snead, Senior Procurement Specialist RUAG Space employs approximately 1,300 personnel at locations across six countries in Europe and the United States. It is headquartered in Switzerland and belongs to the international technology group RUAG. The vision of the RUAG Space team is to be the leading independent supplier of space products in the world, as a result of the company's strong focus on customer needs and a market-oriented product portfolio.





Finland Tampere

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Austria Vienna Berndorf

Germany Dresden

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