

HPS Group Structures & Thermal Control for Space Applications

In the industrial space world the **subsystems specialist HPS GmbH, Germany**, keeps its own position right in the middle between the many small and the few large enterprises:

- self reliant and managed by owners
- strongly growing
- internationally present.

The **portfolio of HPS Group** offered to institutional and commercial customers from international space community is:

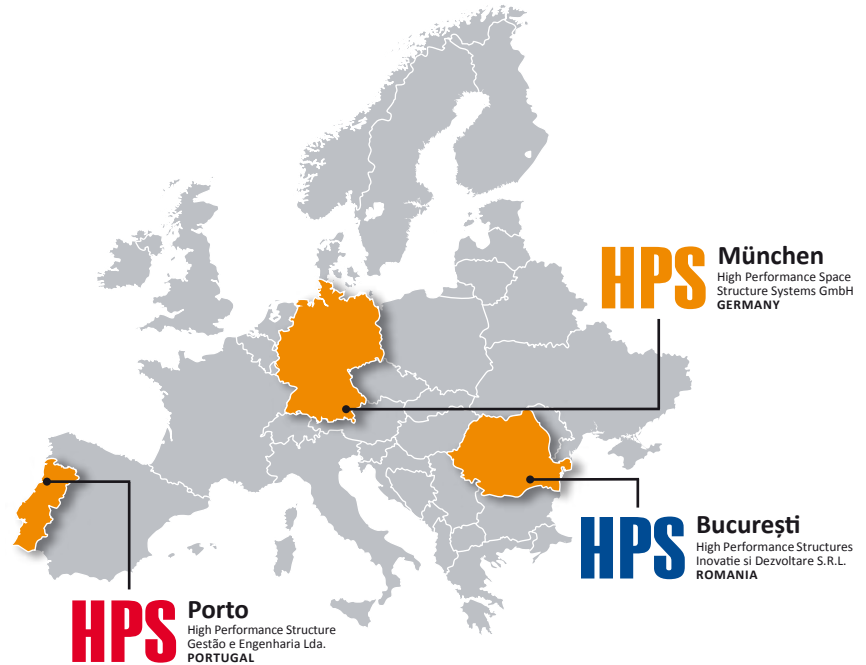
- reflector antennas
- deployable structures
- lightweight CFRP structures
- MGSE
- thermal hardware, MLI
- new materials
- engineering and integration services.

The **capacities of the HPS Group** are solidly rooted on four foundations:

- 1) acknowledged experts for project management, engineering, material science, MAIT and quality control,
- 2) highly modern offices and extreme computing capacities & associated software,
- 3) company-owned infrastructure for manufacturing, assembly and integration, including class 1,000/ISO6 cleanroom and 600sqm integration hall,
- 4) a large network of European partner companies for special developments, production of all kinds of mechanical parts, material- & subsystem-tests.


Depending on the customer's technology needs, **any HPS site may act as contractor**. Large subsystem contracts are managed by the German site with specialized, high quality & cost efficient contributions from the sites in Portugal and Romania.


Currently HPS's flight hardware is **onboard 12 ESA- & German missions**, such as AlphaSat, ExoMars, MTG, EUCLID, JUICE, eROSITA, CHEOPS, Heinrich Hertz.




Product	HPS-D	HPS-PT	HPS-RO
Reflector Antenna Subsystems	●	○	○
Lightweight Portable Ground Antennas	●	○	○
Navigation Antennas	●	○	–
Lightweight Structure Assemblies	●	●	●
Composite Structure Assemblies	●	●	–
Metal Parts Design and/or Manufacturing	○	●	●
Optical Structure Assemblies	●	○	○
CFRP Electronic Housings	●	●	–
Large Deployable Reflectors/Antennas	●	○	○
Deployable Booms	●	○	○
Deployable Masts	–	●	–
Deployable Sail Subsystems	●	○	○
Thermal Hardware Subsystems	●	●	○
Multilayer Insulation MLI	●	●	–
Radiators	●	○	○
Ablators Engineering and Machining	●	●	–
MGSE	●	●	●
Engineering & Assembly Services	●	●	●

Site Contacts

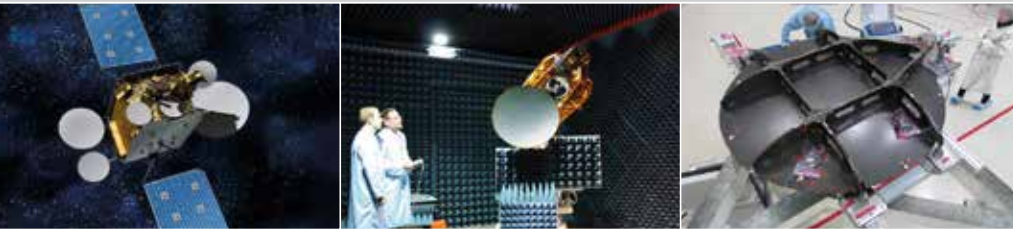
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Main Product Portfolio

Antenna Subsystems



- Ka-Band Antennas (Telecom/Science)
- Q/V-Band Feeder Link Antennas
- Dual Gridded Reflectors
- Radar Reflector Antennas
- Navigation Antennas
- Mobile Ground Antennas

Multilayer Insulation, Radiators, Thermal Hardware



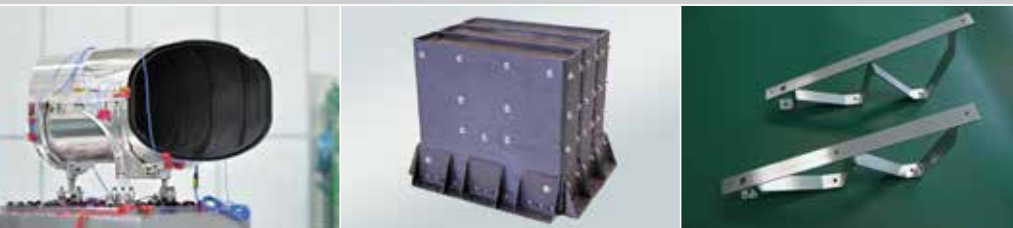
- Scientific Instrument MLI
- High Temperature MLI
- Optical Camera Equipment MLI
- Satellite MLI
- Metal & CFRP Radiators
- Ablators for Re-entry Missions

Deployable Structures



- Large Deployable Antennas
- Deployable Reflectors
- Deployable Sail/Boom Subsystems
- Deployable Masts
- Foldable Booms
- Deployable Structures

Lightweight Structures



- Instrument Structures
- CFRP Electronic Boxes
- Secondary Structures and Parts
- Composite Structures
- Nanotube Reinforced Materials
- Radiation Shielding Equipment

Mechanical Ground Support Equipment



- Vertical Integration Stand
- Support Structures
- Lifting & Hoisting Devices
- Alignment Trolleys
- Multi Purpose Adapters
- Transport Containers