

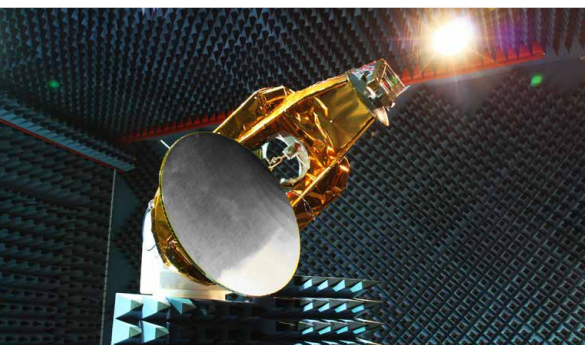
X-, K-, Ka-, Q/V- Band Antennas

for Satcom, Science and
Exploration Applications

HPS Germany is a „turnkey supplier“ for reflector antennas and performs all related tasks like design, analysis, manufacturing, testing and final verification. Our antenna subsystems include the reflector assembly, feed chain, hold-down-and-release-mechanism, deployment- and pointing-mechanism, thermal hardware. In case of request we deliver also just the antenna reflector assembly.

The HPS Group consists of:

- **HPS GmbH, Munich, Germany:**
Antennas, Large Deployable Reflector Subsystems, Deployable Deorbit Sails.
- **HPS S.R.L., Bucharest, Romania:**
Thermal Hardware, Secondary Structures, Antenna Components, MGSE.
- **HPtex, Münchberg, Germany:**
Metallic Meshes for reflective surfaces.



Contacts



Homepage

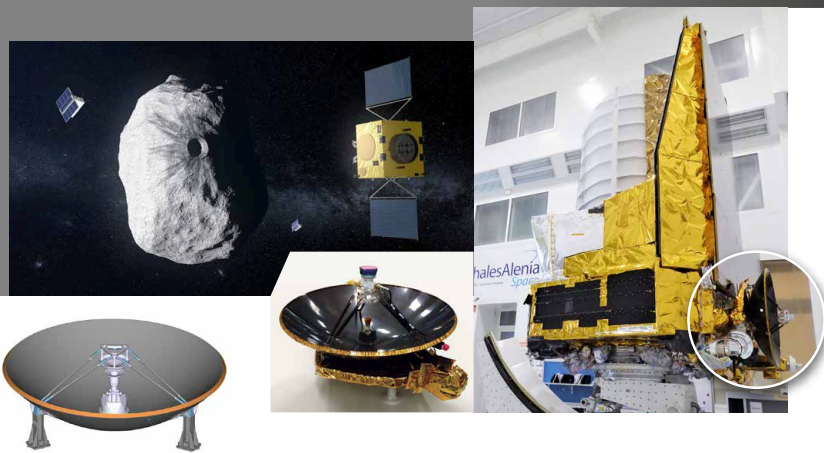


Flyer

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Solid Reflector Antennas in various configurations:



High-Gain Downlink Antennas

0.7 m Class ARA:

- Ka-Band
- High manufacturing accuracy: $15 \mu\text{m RMS}$
- Low in-orbit depointing $< \pm 0.005^\circ$
- Diameter: 0.7 m
- Delivery of three models in 2017, 2018, 2019
- Heritage: EUCLID (ESA-mission)

1.2 m Class Antenna:

- X-Band
- Diameter: 1.2m
- Mass: 8,4 kg
- Heritage: HERA (ESA Mission)

Side-Deployable Telecommunication Antennas

1.2 m Class Antenna:

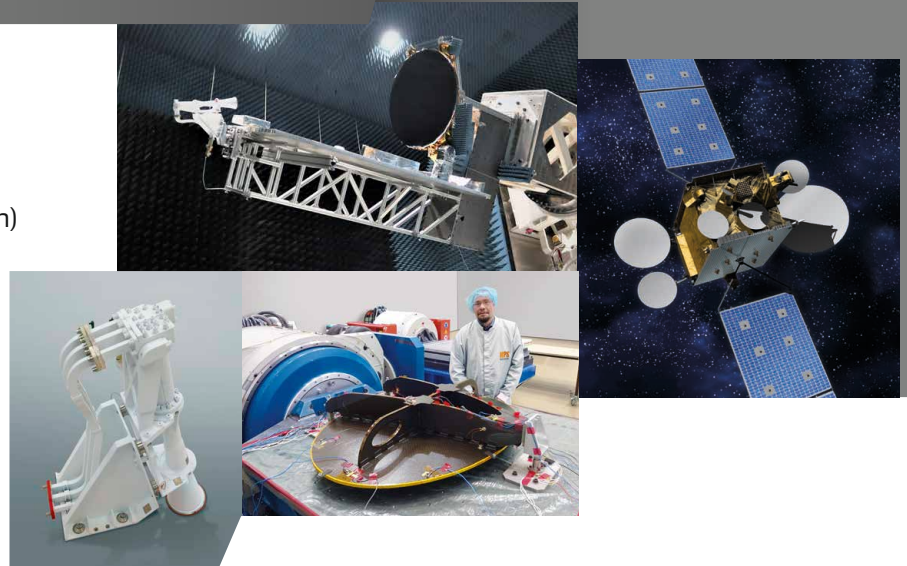
- Ka-Band
- In-orbit beam pointing error $< 0.006^\circ$
- In-orbit TED $< 0.017 \text{ mm RMS}$
- First eigenfrequency $> 140 \text{ Hz}$
- Heritage: Heinrich Hertz Satellite (DLR-Mission)

1.6 m Class Reflector:

- Ka-Band, Q/V-Band
- In-orbit beam pointing error $< 0.02^\circ$
- In-orbit TED $< 0.03 \text{ mm RMS}$
- First eigenfrequency $> 130 \text{ Hz}$

2.4 m Class Reflector:

- Ka-Band, Q/V-Band
- Very low mass, full CFRP-design



Top Deck Antennas

Feeder Link Example:

- Q/V-Band for telecom applications
- European coverage
- 8 gateways for nominal operations
- 2 gateways as diversity sites
- Scan losses $< 0.5 \text{ dB}$
- Main reflector diameter: 1.2 m
- First eigenfrequency $> 60 \text{ Hz}$

SAR Antennas

3.2 m Class Deployable:

- LEO-orbit
- Interferometric SAR system
- 2x Rx-antennas on deployable booms
- 2x Tx-antennas
- 35.0 - 75.0 GHz
- 3 hybrid multimatrix power amplifier networks
- Dual linear polarization

