

Large European Antenna (LEA)

Large Deployable Reflector Subsystem (LDRS) for Earth Observation, Telecommunication, Defence and Science

Driven by ESA technology & flight programs (e.g. the Copernicus CIMR Mission), HPS delivers as a consortium lead complete deployable antenna subsystems together with its main partner and subcontractor LSS for the reflector assembly. LEA key characteristics are:

- Scalability for 5 m - 20 m reflector diameter / arm length
- Frequency range from L-, S-, C-, X-, up to Ka-band.

LEA subsystems comprise:

- ▶ System Engineering and Accommodation
- ▶ Reflector Assembly
- ▶ Arm Assembly
- ▶ Deployment Electronics
- ▶ HDRMs
- ▶ Feeds
- ▶ Harness
- ▶ Thermal Hardware
- ▶ MGSE
- ▶ Zero-g Deployment Test
- ▶ Qualification.

WeLEA - the Consortium for the European Solution of LDRS



High Performance Space
Structure Systems GmbH



Large Space Structures



beyond gravity



etamax n
MEMBER OF PSI GROUP



Fine Wire Products



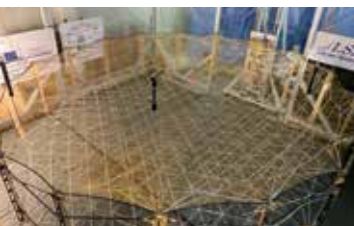
High Performance Textile Structures



High Performance Space
Structure Systems GmbH



The consortium "WeLEA" unites the know-how of our large European high-end industry.



Contact on behalf of WeLEA:

HPS GmbH
Hofmannstr. 25-27
81379 Munich, Germany

+49 89 45 20 576-0
@ LDRS@hps-gmbh.com
www.hps-gmbh.com



Homepage



Flyer

LEA Product Family in various configurations:

LEA-C4

LEA-X5

LEA-K8r

LEA-L12



LEA - C4

- 4.5 m aperture diameter
- C-band applications
- 0.7 mm RMS "as manufactured"
- 18 kg mass (reflector only)
- Metallic mesh
- Test campaign concluded in 2016
- Developed under ESA contract
- Prime contractor HPS, subcontractor LSS.

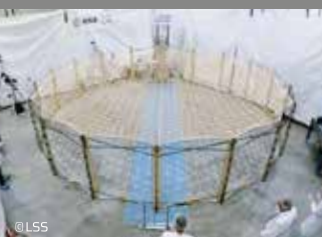
LEA - X5

- 5.1 m reflector, 5.6 m deployable arm
- X-band applications
- 0.4 mm RMS
- Subsystem mass (incl. Arm, HDRMs, Electronics, Harness, etc.): 91 kg
- Tungsten mesh by HPTex
- Test campaigns: 0-g deployment, vibration, thermal cycling, RF-test
- Developed under H2020 grant contract with the European Commission
- Consortium lead HPS, major partner LSS, other WeLEA consortium members and in cooperation with Airbus, OHB, TAS.



LEA - K8r

- 8 m reflector, 8 m deployable arm
- Rotating LDRS subsystem (8 RPM)
- Ka-band applications
- 0.3 mm RMS
- Subsystem mass (incl. Arm, HDRMs, Electronics, Harness, etc.): 140 kg
- Molybdenum mesh by HPTex
- Developed under ESA/EU Copernicus programme, CIMR mission
- Direct customer: Thales Alenia Space, Italy
- Prime contractor HPS, major partner & subcontractor LSS, and other WeLEA subcontractors.



LEA - L12

- 12 m aperture reflector, 13 m deployable arm
- L-band applications
- 1.1 mm RMS
- Subsystem mass (incl. Arm, HDRMs, Electronics, etc.): 216 kg
- Design under ESA contract
- Prime contractor HPS, major partner LSS, and other WeLEA subcontractors.

