



Global Infrastructure & Security Solutions

GISS – SATCOM Capabilities



www.giss.pl



R&D center of GISS
– opened March 2021



CNC machine park



Special construction zone



ESD premises

Satellite Communication – strategic since 2016



Manpack COBALT



**FlyAway
SMART**



**HUB
stations**



**SOTP (SNG) &
SOTM (COTM)**

SATCOM – SatPack Manpack Family

SatPack L-Band

Customized acc. to requirements of PL MoD program OPUNTIA

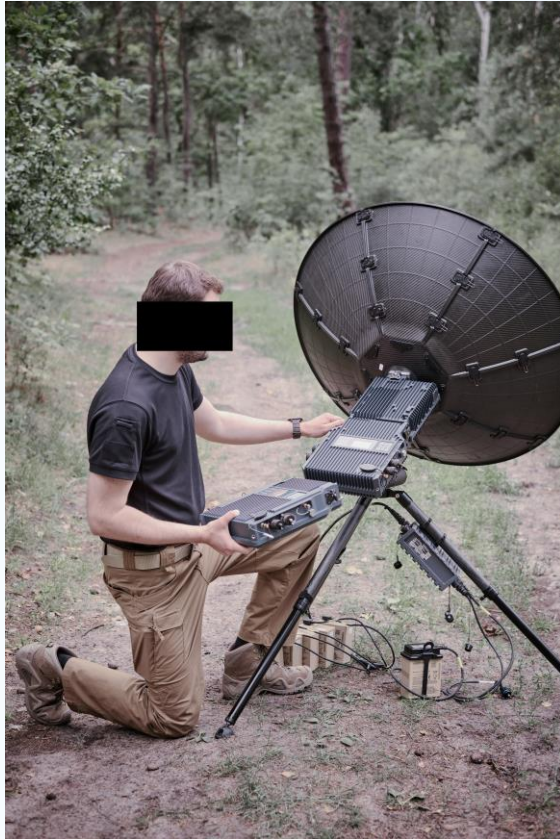


SatPack COBALT

Modular Manpack VSAT Terminal for the highest requirements



SatPack COBALT – Modular VSAT terminal - Concept



ONE TERMINAL FOR ALL YOUR NEEDS



SatPack COBALT – Modular Satellite Terminal



A fully modular Satellite Terminal that allows user to build configuration suited to requirements. Comprising of:

- ✓ **Tripod** Standard or specialized
Incorporated with adjustable balancing head
- ✓ **Reflector** Tri-Band 60/80/100/130cm
- ✓ **RF** X-Band, Ku-Band, Ka-Band, Low Ku-Band
10W, 20W, 40W Psat BUC (or customized)
- ✓ **Modem** Integrated (NDS SkyWan 5G, Teledyne Q-Lite, iDirect iQ200 or 950mp, Comtech SLM5650 & others)
- ✓ **Point Assist** Integrated
- ✓ **Power** AC, DC Battery, DC 12-36V

SatPack COBALT – ONYX - External modem connect

System topology:
Connect any satellite
modem, whether
ruggedized or not,
using only the L-Band
interface.



SatPack COBALT – Real Tactical Manpack VSAT



ONE BACKPACK



ONE CASE



GISS' SMART VSAT with ACU & Fiber Optics

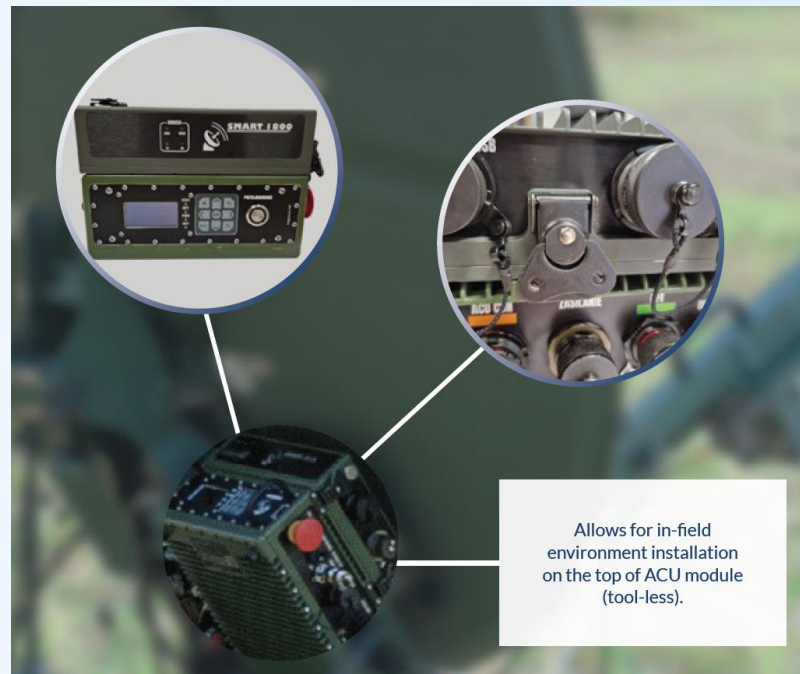
- ✓ Antennas: 1.2, 1.5, **1.8** and **2.4m**
- ✓ Motorized or manual antenna head
- ✓ C, X, Ku and Ka bands
- ✓ GISS' ACU with **fact and accurate antenna automatic pointing** on modem, beacon or DVB-S signal
- ✓ FO module – includes **L-band over fiber** which enables to move modem bank, electronic and personel **kilometers** from antenna
- ✓ Customization aviable



GISS' SMART VSAT with ACU & Antenna Modem Module



Increased Mobility
No IDU required



Tactical C2 Post – extended network capabilities



TACNET
case systems

- ✓ Easy to move, fast set-up
- ✓ Local network through SATCOM and RF
- ✓ Powered from BB2590 batteries





PHOENIX Flat Panel Terminal

- ✓ Dedicated to use with GEO constellations, Ku band
- ✓ Modem embedded
- ✓ Intuitive antenna pointing support basing on modem signal or satellite's beacon signal
- ✓ Compact and low weight terminal
- ✓ Local GUI for terminal monitor and control

GISS – the newest development in SATCOM

SatPack AutoMate – modular motorized small terminal

- ✓ Multi band working options: X, Ku, Ka
- ✓ Multi modem options
- ✓ Dedicated to use with GEO, MEO and LEO constellations
- ✓ Easy to swap (tool-less) modules
- ✓ Build-in antenna pointing algorithm

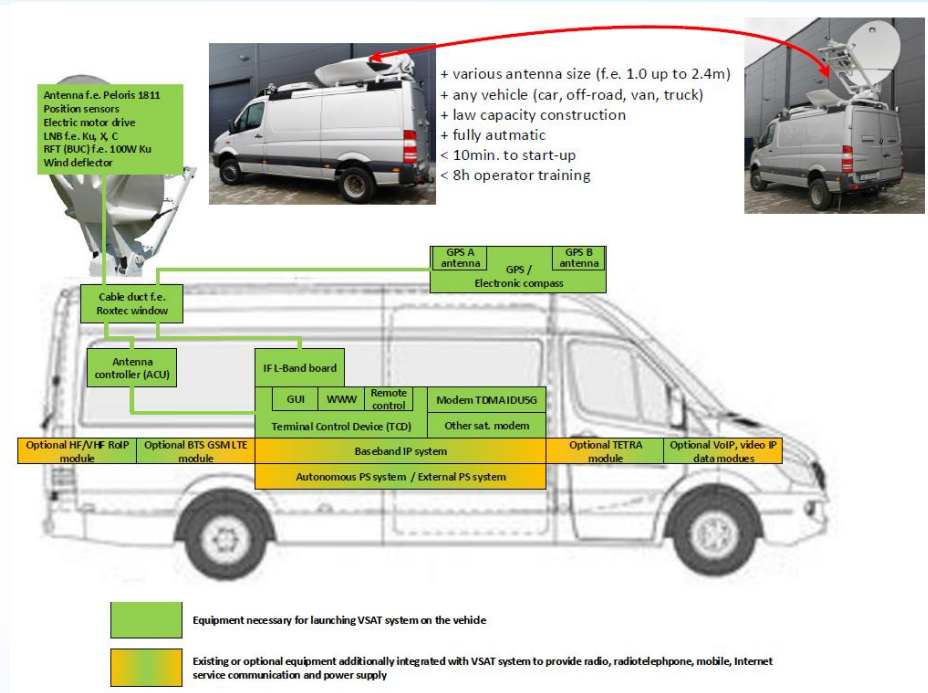


Vehicular Installations – SATCOM and C2

Turn-key desing and integration on selected platform



MERCEDES SPRINTER
Based OPERATION COMMAND CENTER



MERCEDES SPRINTER
Based SATCOM Platform

Ground Stations – heart of your network



Turn-key Ground Station construction

- ✓ Civil engineering, electric & telecommunication design
- ✓ Building permission procedures
- ✓ Civil works and installation
- ✓ Antenna installation

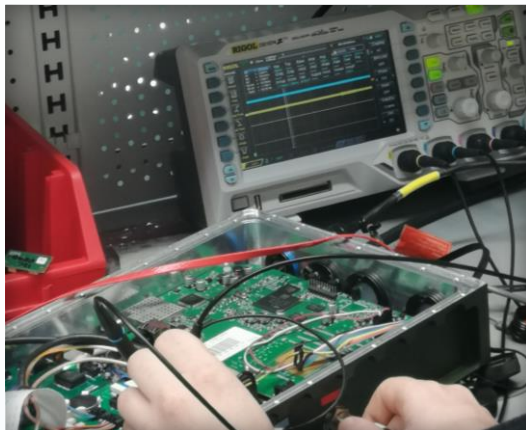
- ✓ Network configuration

- ✓ Support and maintenance

SATCOM – customer support

- ✓ **Terminal desing** according to particular requirements
- ✓ **Terminal testing** for the operation with particular, required satellite operator

- ✓ **Advising** during network desing stage
- ✓ **Training**
- ✓ **Technical support**





EUROPEAN PROTECTED WAVEFORM Consortium

(Program: EDF-2021-SPACE-D-EPW)



Co-funded by
the European Union

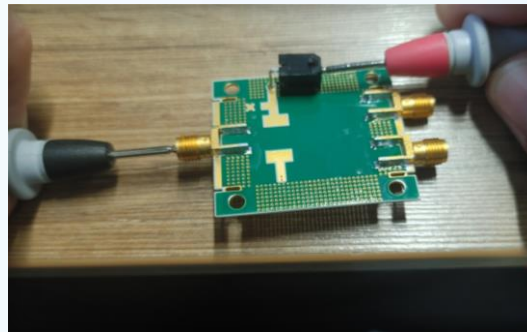


Quality assurance

Pre-production testing



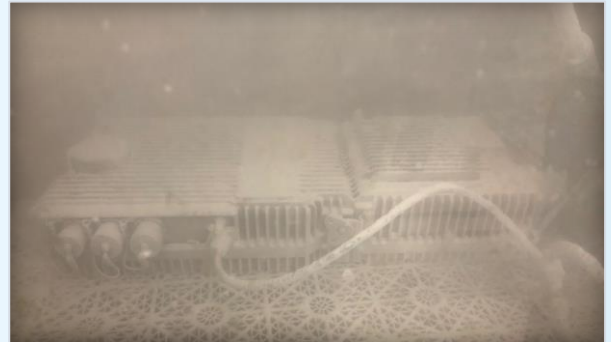
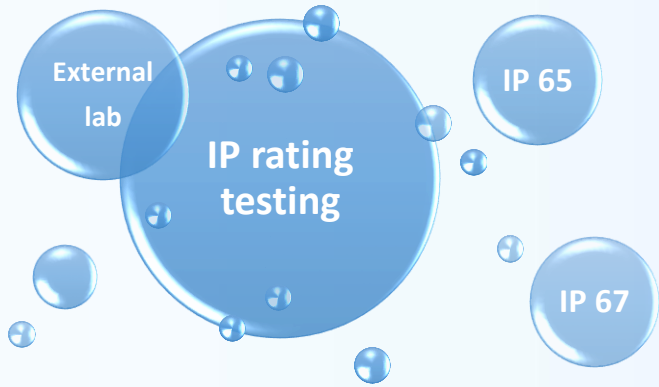
Post-production testing



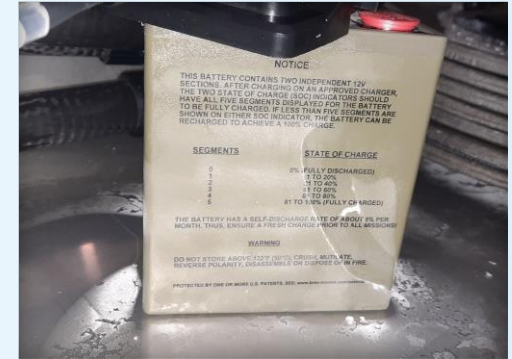
Functional testing



Quality assurance - environmental



Quality assurance - environmental



Quality assurance - EMC

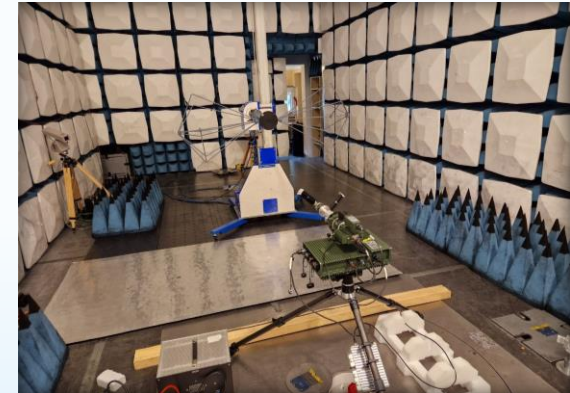
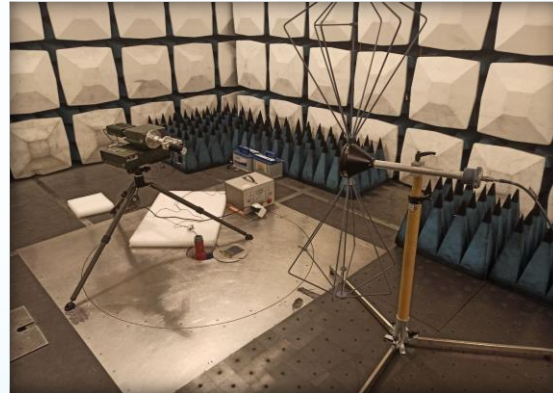
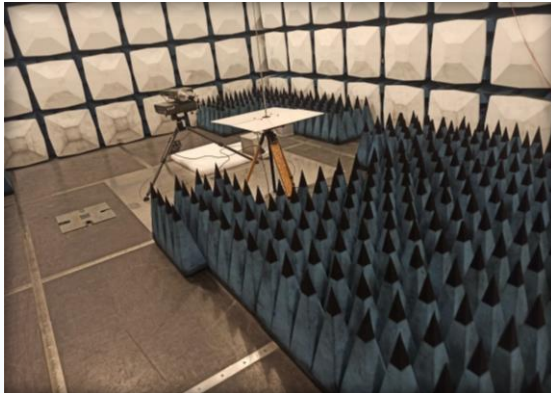
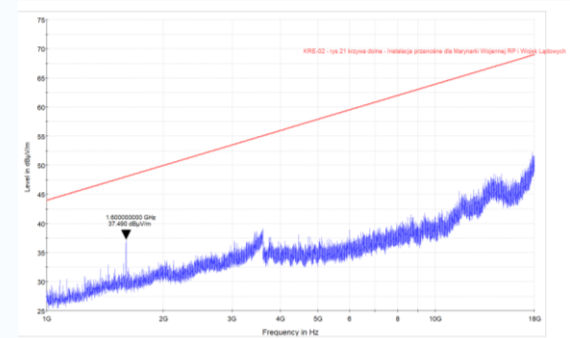
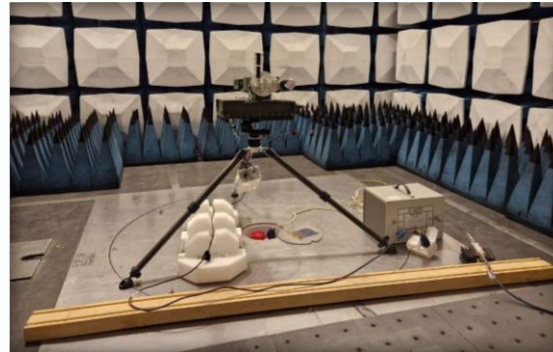
Emission

- ✓ Conducted
- ✓ Radiated

Susceptibility

- ✓ Conducted
- ✓ Radiated

MIL-STD-461



Additional areas of activities



➤ PARTS
PRODUCTION



➤ ATM






➤ TRAINING FACILITIES

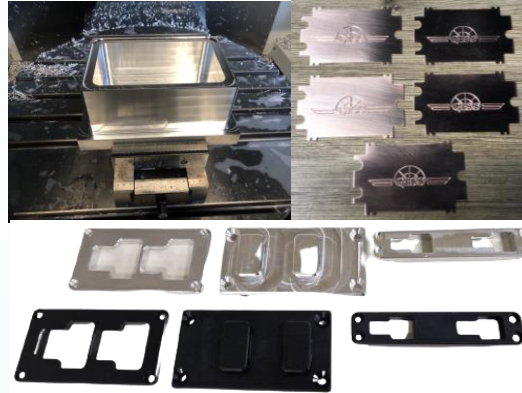
In-house and commercial production services




RF components



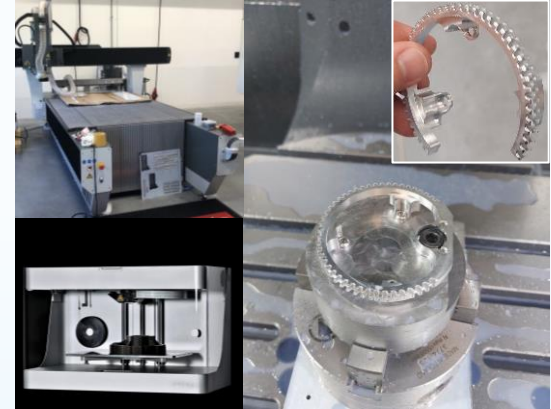
-  OMTs and HUBs
-  Adapters
-  Waveguides




Chassis and enclosures



-  Chassis for GISS products
-  Shielding
-  Mounting elements

Commercial production services



-  CNC machining
-  3D printing
-  High precision elements



NIKON SLM 280 2.0 3D Printer

- **Rapid prototyping:** We enable our clients to move agilely from concept to physical prototypes, significantly reducing the time to market for new products.
- **Unit and small-batch production:** Thanks to the flexibility of 3D printing technology, we can complete orders for single items and small series, adapting to the specific needs of our customers.
- **Creating complex geometries:** 3D metal printing enables the production of elements with complex shapes that would be difficult or impossible to produce using traditional methods.

Air Traffic Management

- ✓ **Radars - PSR, MSSR** (5 completed – 3 in progress) - PANSA
- ✓ **MLAT / WAM Systems** (Chopin Warsaw Airport) - PANSA
- ✓ **ILS** (6 in Poland, several in Africa, S. America)
- ✓ **WAM/ADS-B** for West Poland area – PANSA
- ✓ **Services, Integration and Maintenance**
- ✓ **TWR Simulators** (2 in Air Force Academy)



phot. M. Serafin/LAW

Shooting training facilities

✓ Killing House type facilities:

- 5 – PL SOF
- 1 – Army of Finland

✓ Container based training facility for Central AT

Bureau of PL Police

✓ Container based training facility for PL Border

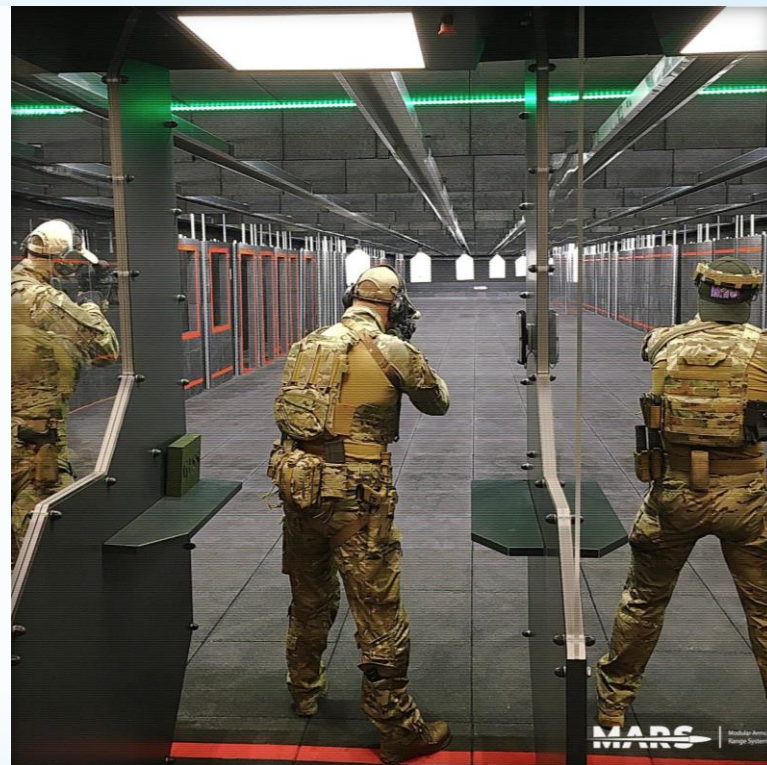
Guard (in progres)



MARS

Modular Advanced
Armored Range System

phot. GISS – AT Police Bureau Warsaw





Global Infrastructure & Security Solutions

Thank you

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