



Space and Defence

Finnish Space Days 4. - 5.4.2019

◆ OEU448
315.5 kts 9662 ft

◆ IUO381
305.2 kts 8935 ft

◆ PWX
348.9 kts 9945 ft

◆ UYZ207
268.0 kts 9874 ft

◆ RTA880
290.7 kts 9412 ft

◆ VVW654
307.2 kts 9299 ft

◆ FME900
340.3 kts 10000 ft

◆ OMH772
302.9 kts 8094 ft



INDUSTRY SECTOR



DEFENCE SECTOR



SPACE SECTOR



Advanced electronics and systems

DA-Group is a provider of advanced electronics and high technology solutions and products. We serve industrial, defence and space sector customers on a global scale.

We are experts in RF, microwave and millimeter wave engineering. Our competence includes the embedded electronics, software solutions, FPGA designs, electronics and mechanics aspects to support full product development.

About DA-Group



DA-Design Oy was established in 1995 in Forssa. The company has grown into a consolidated corporation, DA-Group.

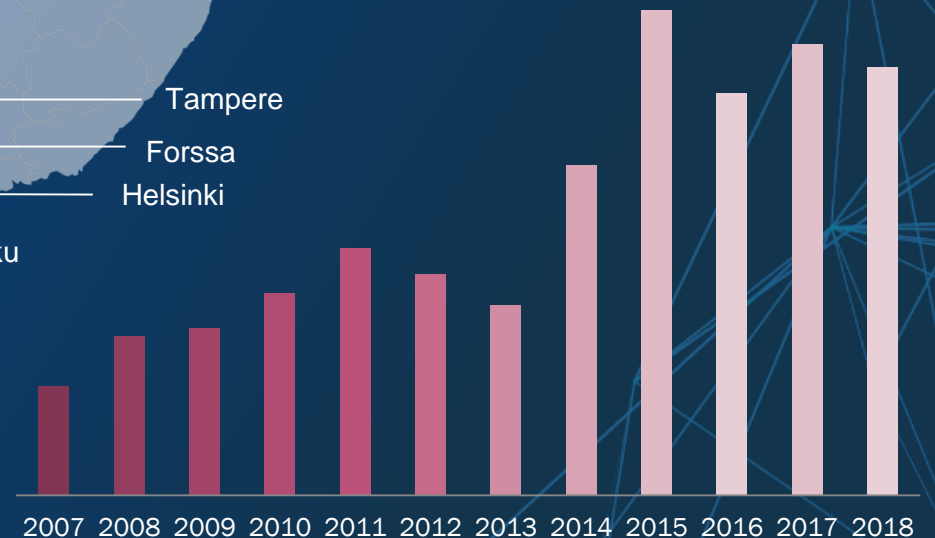
We help our customers to reach their goals with passion and innovative problem solving culture.



1995 Year of establishment 110+ Number of personnel

Turnover growth 2007 -

Tampere
Forssa
Helsinki
Turku



Quality and security



- ESA Procedures, Specifications and Standards (PSS) and European Cooperation for Space Standardization (ECSS) standards
- AQAP 2110:2015 ed. D, version 1
- ISO 9001:2015
- ISO 14001:2015
- ISO/IEC 17025
- Facility Security Clearance (FSC), EU SECRET
- Personnel Security Clearances (PSC)
- National Security Clearance, ST II (KATAKRI 2015)

The experienced provider for the entire process



DA-Group's services cover the entire process from development and research to product lifecycle services. Our customer's requirements are always at the core of every process.



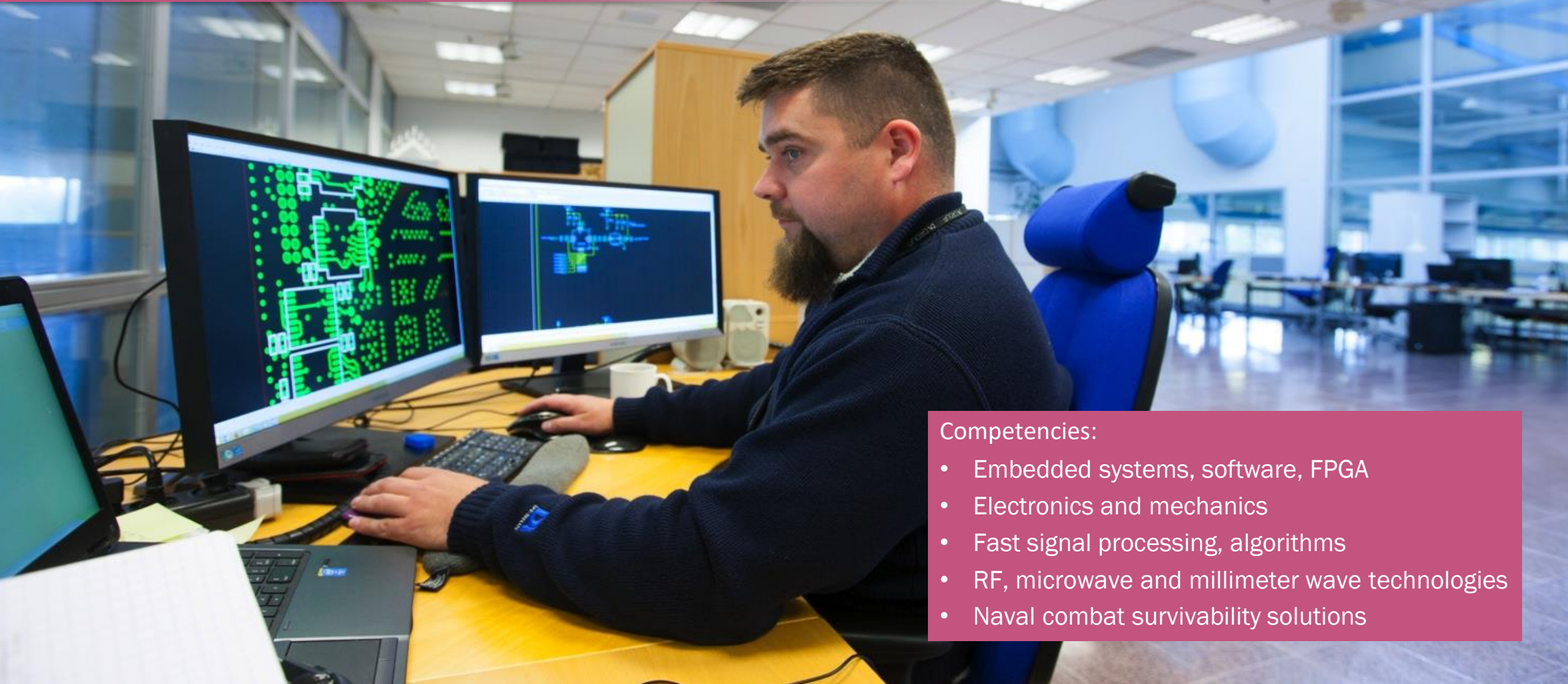
We offer development and design work resulting in a comprehensive and optimized solution to meet the customer demand.

We ensure the product's performance and validation of its features and functions with comprehensive type tests.

We provide manufacturing and assembly of systems, electronic equipment as well as production of precision mechanics.

We take care of the product's lifecycle management, which increases flexibility to the distribution process and improves customer satisfaction.

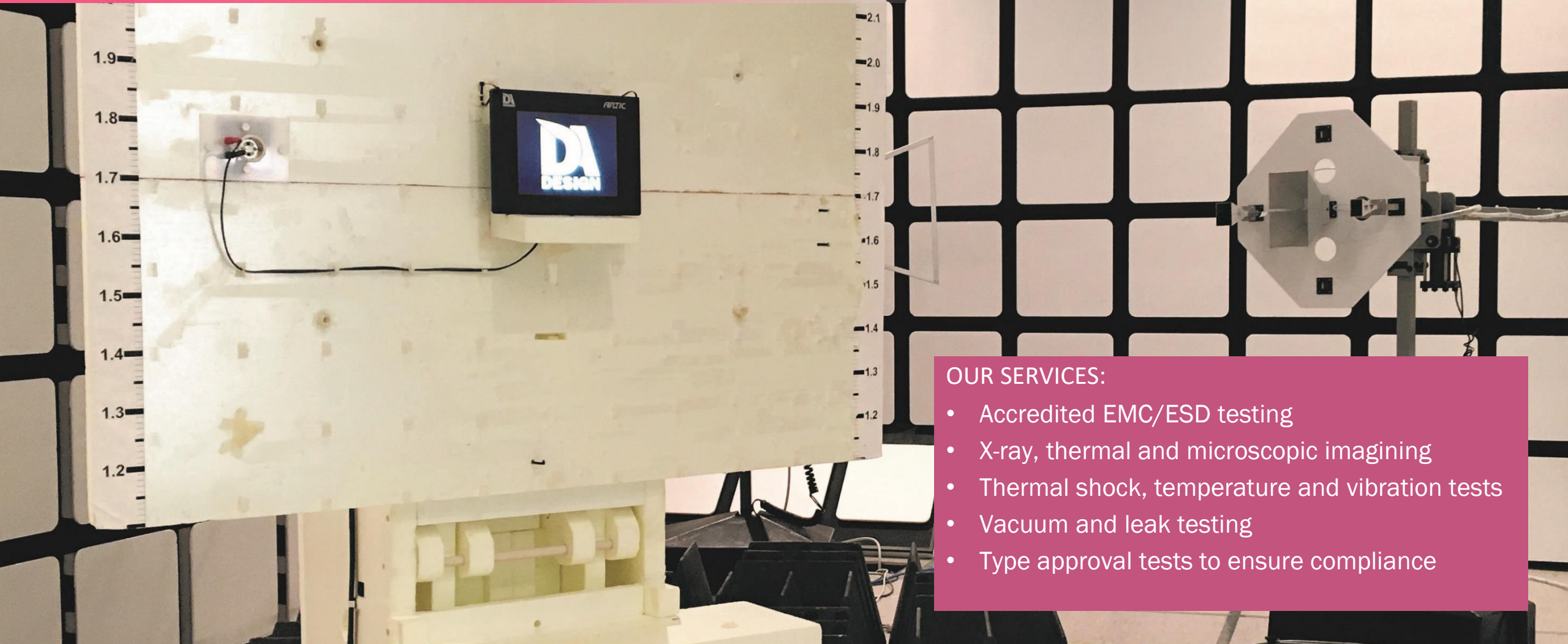
Design and development



Competencies:

- Embedded systems, software, FPGA
- Electronics and mechanics
- Fast signal processing, algorithms
- RF, microwave and millimeter wave technologies
- Naval combat survivability solutions

Testing and validation



OUR SERVICES:

- Accredited EMC/ESD testing
- X-ray, thermal and microscopic imaging
- Thermal shock, temperature and vibration tests
- Vacuum and leak testing
- Type approval tests to ensure compliance

Manufacturing



OUR SERVICES:

- Equipment and PCB assembly
- SMT assembly
- Customized prototype production
- Clean room, chip bonding
- Precision mechanics
- Automatic and manual high precision machine tools



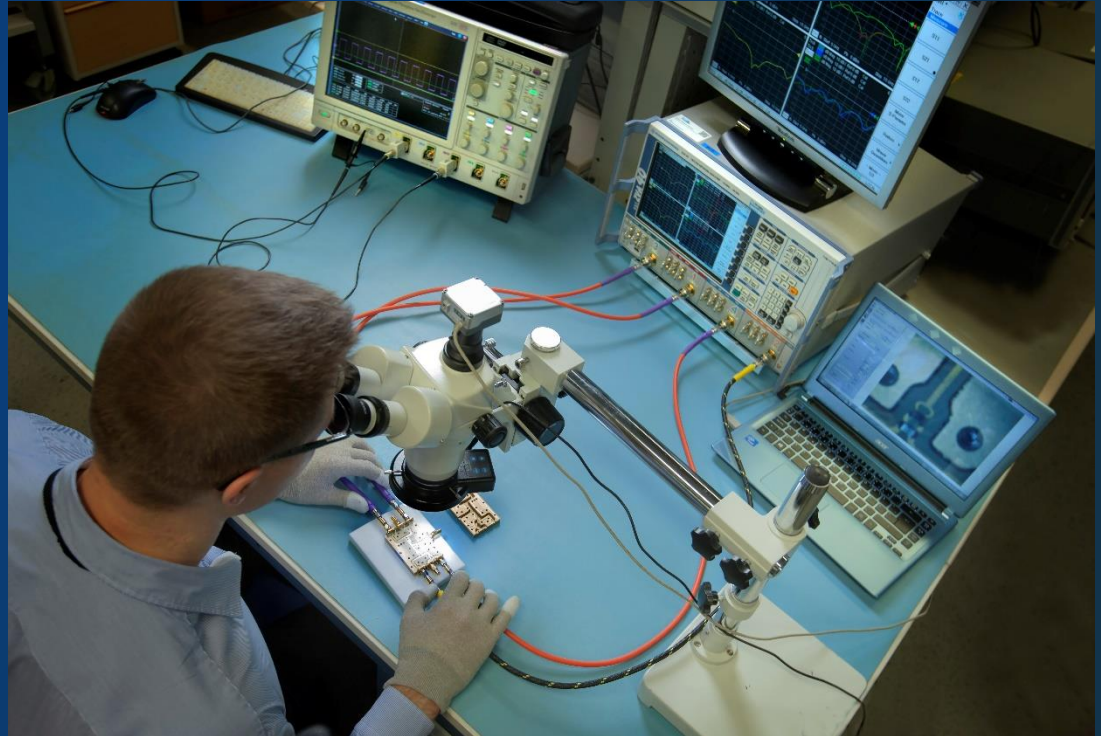
DA
GROUP

RF-, microwave and
millimeter wave capabilities

RF, microwave and millimeter wave engineering



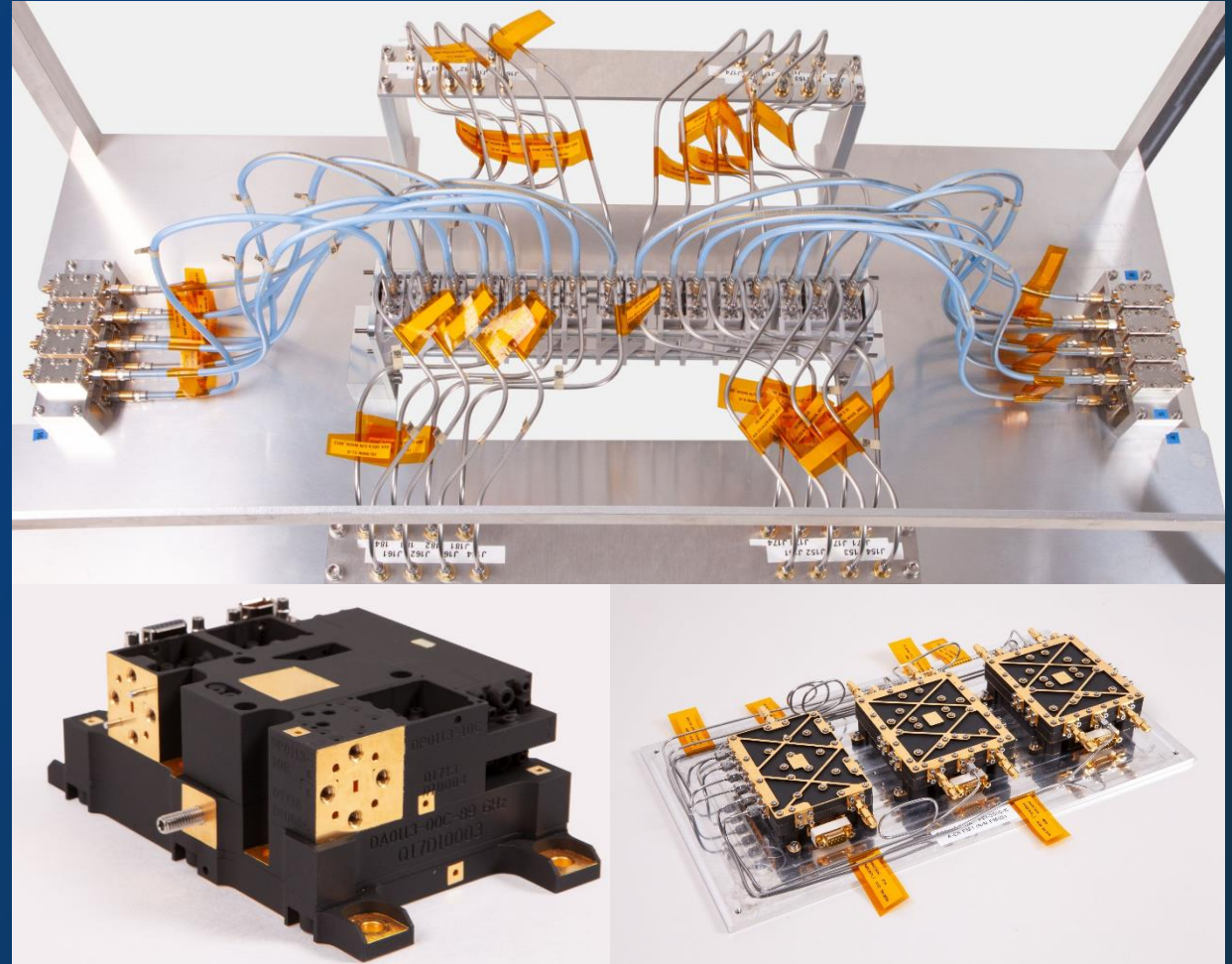
- DA-Group is the most advanced RF solutions provider in Finland
- State-of-the-art RF performance: designed, manufactured and verified by DA-Group
- Strong participation in SAR radars
- Excellent understanding on the radar phenomena
- Ultimate RF verification capability. Produced own measurement systems beyond nominal measurement equipment.



Space projects: DA-Group delivers systems, subsystems and equipment (design-to-manufacturing in-house) for spaceflight for ESA and major space companies.

Current space activities

- NGSAR and KOMPSAT-6 SAR parts for next generation SAR imaginary
- Sentinel-1 satellites A, B, C & D as part of the Copernicus program (ESA/EU): TGU, MD FE, RFDN and SES RF Harness
- ICEYE SAR sub-contractor
- MetOp-SG programme:
Radiometric 89 GHz receiver





Cleanroom

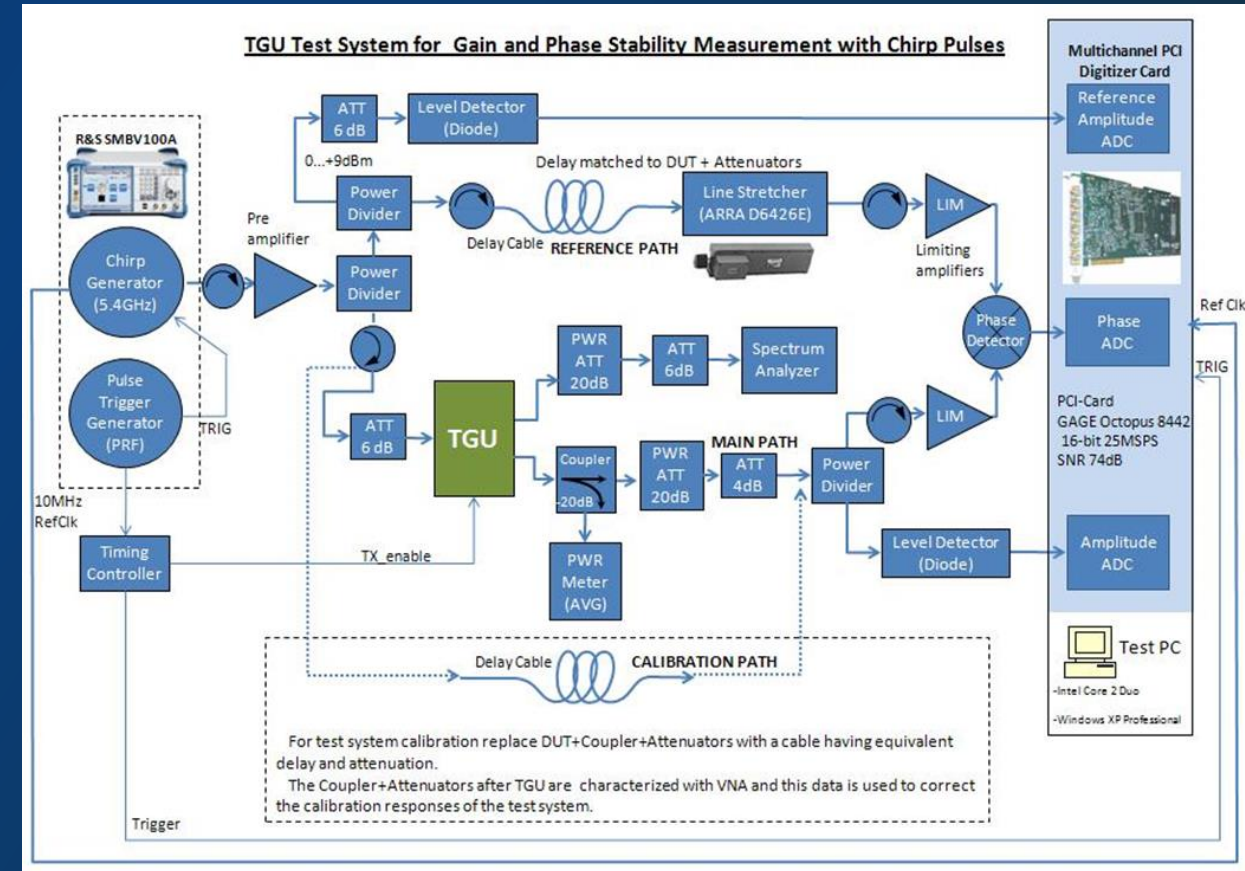
Heritage space projects



Satellite	Subsystem	FM Delivery
Sentinel-1 A & B	TGU, MDFE, RFDN, SES RF Harness	2011-2012
Terra-SAR-X, TanDEM-X, PAZ	SAR Leaf amplifier assemblies	2005-2012
Planck	77 GHz Receiver	2005
SMOS	Calibration subsystems	2005
Odin	118 GHz Receiver	2001
Huygens	Radar altimeters	1997
	Several technology development projects	Since 1996

Test systems

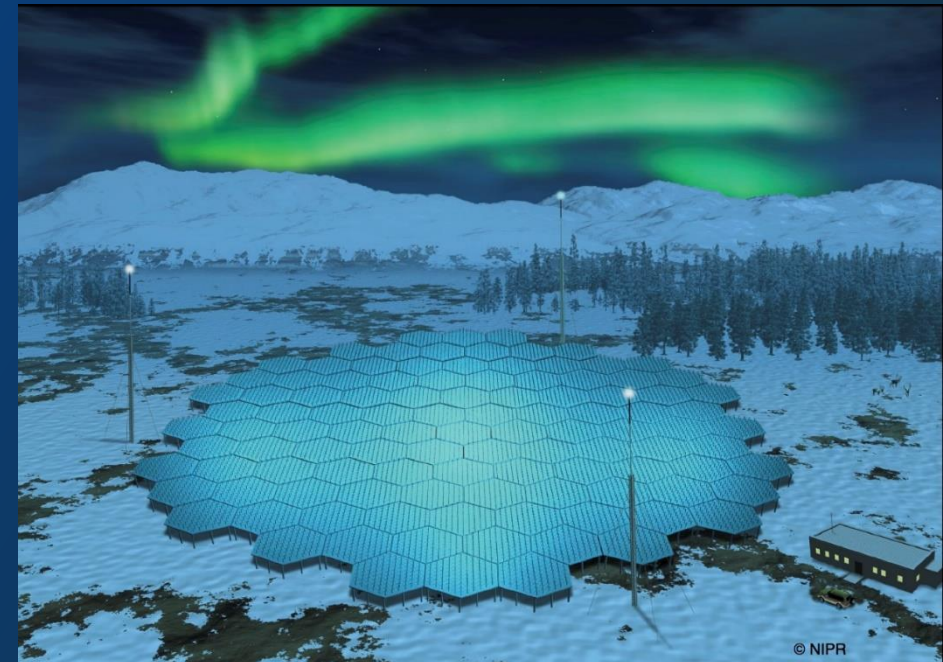
- Understanding of the test and test cases
- Used the buses that are used in the satellites
- Built several test systems for Payloads and Mil/Commercial equipment
- Built Test systems for SAR and Radiometers



Case: EISCAT 3D - the new Arctic radar for space weather research



- EISCAT builds a new, advanced, ground-based space research facility called EISCAT 3D.
- DA-Group to deliver First Stage Receiver Unit and Sub-Array Transmitter System.
- Delivery includes 40 thousand receive channels and total 5MW transmit power.
- EISCAT Scientific Association's mission is to provide scientists with access to incoherent scatter radar facilities of the highest technical standard. Today, EISCAT operates three world-class radars of the ten incoherent scatter radars in the world.





Safety and improved performance for
defence and security industry

Underwater solutions

Target Detection System

Electronic mine fuze devices



A new era in Naval Technology

DA-Group and Surma join forces

YOUR PARTNER IN SURVIVABILITY

[SURMA]

Electronic Warfare (EW) testing device for platform's self-protection: radar, laser and missile



Antenna positioning system

AZELi – all-weather intelligent network system



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ADVANCED ELECTRONICS AND SYSTEMS



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