

## Choose DA-Group for your space projects

- / RF design, including strong mm-wave technology know how
- / Precision machining: 1.5 µm tolerance capability
- / Verification system development
- / TVAC down to 4 K temperature
- / Manufacturing process knowledge – ECSS
- / Space quality electronics design and component quality knowledge
- / Fully equipped clean room
- / Automatic wire bonding station
- / Accredited EMC testing facilities

We are the smart partner for space and defence organizations. Contact us!



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## TURNING TECHNICAL PROBLEMS INTO SIMPLE EVERYDAY SOLUTIONS

DA-Group is a provider of advanced electronics and high technology solutions and products. We serve industrial, defence and space industry customers on a global scale. We are experts in RF, microwave and millimeter wave engineering, embedded software solutions, FPGA designs, electronics and mechanics.

DA-Group offers a complete range of services from research, product development and design, testing and manufacturing to product lifecycle management. We deliver systems, subsystems and equipment, including all phases of development design, manufacturing and testing, for both spaceflight and ground based applications, in-house.

Our operations are based on a customer-oriented approach and proactive problem solving. We turn challenging technical problems into functional solutions and products.

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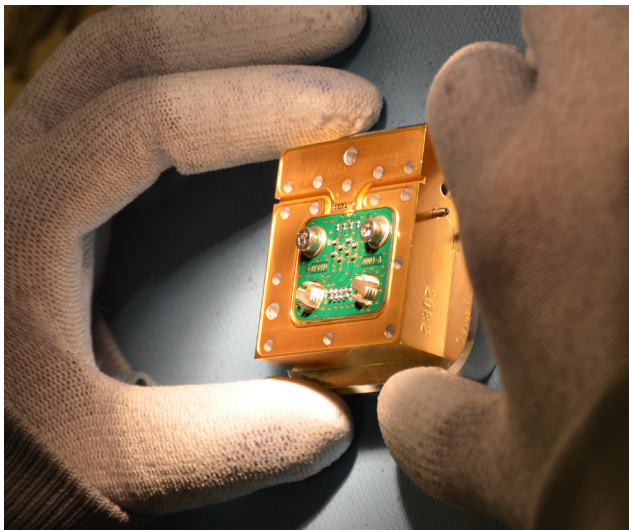
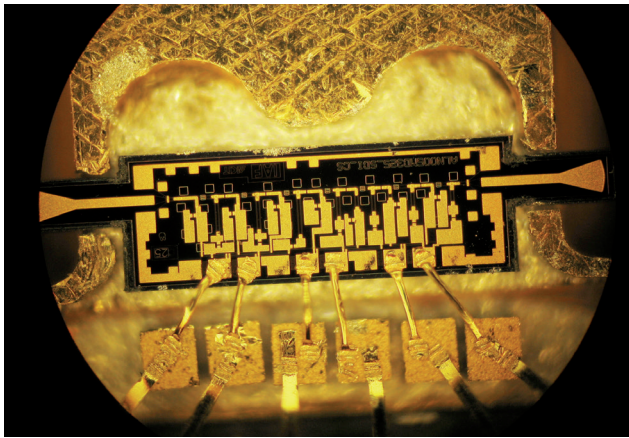
[www.da-group.com](http://www.da-group.com)



SPACE TECHNOLOGY

## RF-SOLUTIONS

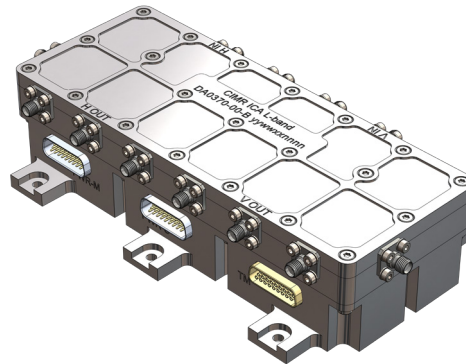
- / DA-Group is the most advanced RF solutions provider in Finland
- / State-of-the-art RF performance: designed, manufactured and verified by DA-Group
- / Strong participation in SAR radars
- / Excellent understanding on the radar phenomena
- / Ultimate RF verification capability. Produced own measurement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



## COPERNICUS IMAGING MICROWAVE RADIOMETER

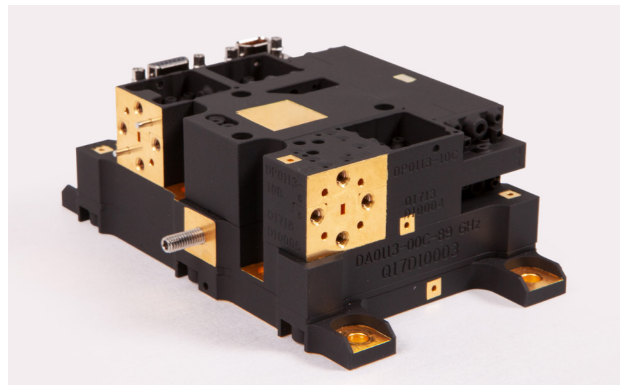
The Copernicus Imaging Microwave Radiometer (CIMR) is an Earth observation mission in the framework EU funded ESA's Copernicus program.

- / DA-Group will provide Instrument Calibration Assemblies (ICA) for L- and C-Band radiometers. Several years of the development work on a stable radiometer electrical calibration is finally leading to the calibration assembly being installed on a satellite. The electrical calibration can replace the mechanical scanning and simplify the calibration sequence in a radiometer instrument. In addition DA-Group has also been selected to design and build the CIMR L-Band receiver, which up-converts the input signal to the IF-band of the instrument.



## ESA METOP-SG

- / 89 GHz radiometer for MWS and MWI instruments



## ARCTIC WEATHER SATELLITE

The Arctic Weather Satellite (AWS) mission consists of a constellation of small, polar-orbiting satellites. They are all equipped with one instrument, which is a 19-channel microwave radiometer. The satellites will provide a constant flow of atmospheric temperature and humidity data from around the Earth. This makes very short-range weather forecasting possible in the Arctic.

- / DA-Group is providing the 54 and 325 GHz radiometric receiver back-ends and the local oscillator (LO) synthesizer assembly for the AWS mission.



## EISCAT 3D RADAR

The EISCAT 3D is upper atmosphere and space weather surveillance system. Each field will consist of up to 10,000 crossed dipole antenna elements arranged in number hexagons in a honeycomb-structure. One of the sites will transmit radio waves at 233 MHz with a powerful 5 MW transmitter, and all five sites will have sensitive receivers to measure the returned radio signals.

- / DA-Group is a supplier of transmitters and receivers (up to 40 000 receivers).

