



# DEFENCE SERVICES

Go further with DA-Group in defence collaboration



# The agile high technology partner for your defence business

DA-Group is the forerunner in the fields of innovative systems and equipment solutions, software, electronics and mechanics as well as RF, microwave and millimeter wave technology.

We have been the trusted partner for the defence forces, defence and security industry in Finland and internationally for over 15 years. Privately owned and established in 1995, DA-Group has grown into a consolidated corporation with several subsidiaries. Our top professionals and the state-of-the-art facilities enable the wide range of services, from development and engineering, testing and validation to manufacturing and product lifecycle management services.

## QUALITY AND SECURITY

- AQAP 2110 Ed. D, ISO 9001:2015
- ISO 14001:2015 and ISO 17025
- Facility Security Clearance (FSC), EU SECRET
- Personnel Security Clearances
- ESA PSS and ECSS standards
- Safety Integrity Level (SIL) and ATEX compliance
- Accredited full-compliance testing laboratory

In addition, we offer program management, project management as well as integration and validation services.

Our aim is to establish long-term, mutually beneficial partnerships locally in Finland as well as globally. We are the expert partner for collaboration and industrial participation, according to the required scope.

## OUR FOCUS

- Underwater solutions and systems
- Target detection systems
- EW testing devices
- Synthetic Aperture Radar (SAR) subsystems and microwave components
- Radar components, testers and radar jammers
- RF solutions, sensors and switches
- Space solutions, e.g. Low Noise Amplifiers (LNAs), High Power Amplifiers and Active calibration loads for radiometers (CALLOAD)

## Defence and security sector



DARAD - EW SYSTEM TESTER

For military platforms' EW self-protection systems, DA-Group offers an EW testing device, **DARAD**. It is an innovated 3-in-1 handheld testing device to test the platform's EW system sensors, such as radar warning receiver (RWR), laser warning receiver (LWR) and missile warning receiver (MWS). The device is user programmable and emits wide-band RF, three wavelength IR and solar blind UV to emulate threats.

**STALO – frequency synthesizer** is used as a precision frequency generation subsystem of radar systems and communications systems. It is used in fixed, airborne and mobile SATCOM, wireless communications, VSAT, radar and instrumentation solutions. STALO is a signal source designed to deliver high performance in a compact package.



TARGET DETECTION SYSTEM

DA-Group has developed and manufactured one of the most modern **target detection system (TDS)**. The key component, the target detection device (TDD), is an intelligent, user programmable mine fuze system for moored and seabed mines, enabling users to develop algorithms and parameters for various target detections. The TDS is also the perfect solution for modernizing out-of-date naval mines.



STALO – FREQUENCY SYNTHESIZER

## DA-Group in nutshell

Today, DA-Group employs over 100 professionals. The parent company, DA-Design Oy, was established in 1995 and has grown into a consolidated corporation. DA-Group is a privately owned Finnish SME company.

1995  
Year of establishment

100+  
Number of personnel

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 embedded software solutions, FPGA designs, electronics, mechanics and RF, microwave and millimeter wave engineering. Our service portfolio covers the turnkey solutions: from R&T, product development and engineering, testing and validation, manufacturing to product lifecycle management.

DA-Group's subsidiary, Surma Ltd, is the leading provider of comprehensive navy combat survivability solutions. We offer survivability management services, systems, software tools and education internationally for navies, shipyards and other stakeholders in the field. Our offering consists of susceptibility and vulnerability analysis services, management of electromagnetic environment, as well as variety of design support, research and development.

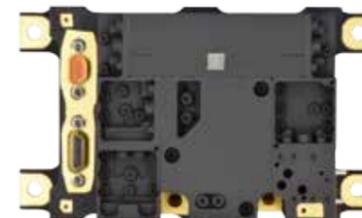
## Space sector

DA-Group operates as a subcontractor for major space companies and ESA. We deliver systems, subsystems and equipment, including all phases of development design, manufacturing and testing, for both spaceflight and ground based applications, in-house. This work is supported by continuous research and technology development.

DA-Group maintains a strong prototype, in-house design and build philosophy, enabling us to provide many complex and unique space subsystems.

### METOP-SG SATELLITE

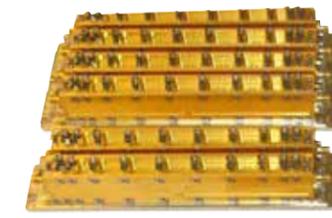
89 GHz radiometric receiver for two instruments: microwave sounder (MWS) and microwave imager (MWI).



MetOp SG is an ESA/EUMETSAT program for meteorological use, including optical and microwave instruments in six satellites and two different satellite types. Launches will take place in 2021 - 2036.

### SENTINEL-1

Satellites A, B, C and D (ESA/EU): Radar systems for 3D Radar imaging.



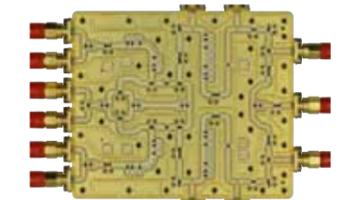
Design and delivery by DA-Group: Synthetic Aperture Radar (SAR) payload, including Mission Dependent Filter Equipment, RF Distribution Network, SES RF Harness and Transmit Gain Unit.

### NG SAR SATELLITE

State-of-the-art radar calibration subsystem for 3D radar imaging.

### RF SWITCH UNIT FOR SAR CALIBRATION

Mixed technology with MMIC and SMT components for best performance.



## MODERN FACILITIES

- Headquartered in Forssa and offices in Tampere and Turku
- Secured 25.000 m<sup>2</sup> building with 260.000 m<sup>2</sup> land area
- Clean room for space qualified production and testing
- Precision mechanics shop
- Manufacturing spaces, including ESD production areas
- Testing laboratories (e.g. accredited full-compliance EMC chambers)



## Our services

1 DEVELOPMENT AND ENGINEERING

2 TESTING AND VALIDATION

3 MANUFACTURING

4 LIFECYCLE SERVICES

The logo for DA Group features the letters 'DA' in a large, white, stylized font. The 'D' is a simple block letter, while the 'A' is more complex, with a thin, curved line extending from its top right corner. Below 'DA', the word 'GROUP' is written in a smaller, white, all-caps, sans-serif font with wide letter spacing.

# DA GROUP

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We are experts in embedded software solutions, FPGA designs, electronics, mechanics and RF, microwave and millimeter wave engineering. Our service portfolio covers the turnkey solutions: from R&T, product development and engineering, testing and validation, manufacturing to product lifecycle management.

DA-Group excels in quality and security, having the required certificates for industrial, defence and space qualified projects. The company has the Facility Security Clearance (FSC).

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