



The  
**SA GROUP**



*Complete Turn-Key*

# **AVIONICS SOLUTIONS**

*for Civil and Military Aircraft, Helicopters and UAS*

# ABOUT THE SA GROUP

## Mission

We are providing complete turn-key solutions within avionics, electronics, training and interiors, for the international aviation and defense community. We focus on the niches where we can make a difference, and we always strive to deliver solutions rather than products. We build on partnerships expanding our capabilities and international presence, and we invest in the development of our company and employees, in order to continue to deliver value-adding solutions to our customers worldwide.

THE SA GROUP IS REPRESENTED IN **9** COUNTRIES, ON **14** LOCATIONS

MORE THAN **40** YEARS OF EXPERIENCE WITH AVIONICS SOLUTIONS

MRO CAPABILITY FOR MORE THAN **16.000** PART NUMBERS

MORE THAN **3.000** INSTALLATIONS PERFORMED

MORE THAN **1.000** CERTIFICATION PACKAGES AND STC'S DEVELOPED

WORK PERFORMED ON MORE THAN **250** DIFFERENT AIRCRAFT TYPES

MORE THAN **3.000** INSTALLATION KITS & LRU'S MANUFACTURED

TRAINING PROVIDED FOR MORE THAN **2.000** AVIATION PROFESSIONALS



## Vision

The SA Group is to become the best solution provider within the international aviation community, within the niches we operate. Preferred by partners, preferred by customers and preferred by employees.

## Our history

Scandinavian Avionics A/S (SA) was established in 1978 in Billund, Denmark with the objective to serve the civil aircraft industry within sales, installation and maintenance of avionics. Already after two successful years the first external division was opened in Oslo, Norway, and since then, SA has expanded into a larger organization, with 14 international divisions – The SA Group.

Today, 40+ years after the foundation, The SA Group is a highly experienced organization characterized by high quality products, services, worldwide support and a responsive, open-minded and professional attitude in all aspects of the business.



The SA Group HQ

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# THE SA GROUP OVERVIEW

The SA Group consists of 14 divisions located in Europe, the Middle East, India and Southeast Asia. The headquarters, which was established in 1978, is located in Billund, Denmark.



All products and services are based on relevant approvals from EASA, FAA and several local authorities.



## APPROVALS

- EASA Part-145
- EASA Part-147
- BCAA Part-145
- EASA Part-21J
- FAA Part-145
- GAR Part-145
- EASA Part-21G
- TCCA Part-145
- DOT RIN N083



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# BUSINESS AREAS OF THE SA GROUP

## Worldwide Service and Support

The customer base is geographically spread all over Europe, Africa, CIS, the Middle and Far East. All customers can benefit from the worldwide technical services on-site at the customer's location, available around the clock.

The worldwide services are carried out from our 14 SA divisions in Europe, the Middle East, India and Southeast Asia. The service centers are manned by well-trained staff and supported by the Original Equipment Manufacturers. All services are based on the required procedures, test equipment, tools and documentation.

Our technical services cover all areas from line service to complete turn-key solutions and are typically performed in close co-operation with the HQ competence center in Billund, Denmark, taking advantage of Group experience and local presence, providing immediate and qualified on-site system troubleshooting, repair and modifications as well as development of certifications (STC's) according to local, FAA or EASA requirements.

Technical and operational training (EASA Part-147) is provided on world wide basis.



**LOGISTICS & PARTS SERVICES**



**PRODUCT DEVELOPMENT**



**CONSULTANCY SERVICES**



**DESIGN, ENGINEERING & STC'S**



**PRODUCTION SERVICES**



**INSTALLATION SERVICES**



**AIRCRAFT INTERIORS**



**TRAINING SERVICES**



**MAINTENANCE - MRO SERVICES**

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# LOGISTICS & PARTS SERVICES

Our logistics system hold a large supplier network with more than 100 approved avionics manufacturers and suppliers. We can provide logistics support, exchange and outright sales for a significant range of avionics equipment, instruments and spare parts.

## Supplier Network

The SA Group represents a wide range of the world's leading avionics manufacturers, including i.a.:



As an OEM approved dealer, The SA Group offers full support, traceability and warranty on all factory new OEM units. In addition, all serviceable and overhauled equipment is supplied with EASA Form 1 or/and FAA 8130-3 or other agreed civil or military release certificate as well as a high level of warranty support.

## Logistics Support

Due to an efficient logistic system centrally located in the headquarters of The SA Group, we are is able to offer all customers the ultimate equipment and support as quickly and efficiently as absolutely possible.





# DESIGN & ENGINEERING

The SA Group develops and designs complex structural and electrical complete turn-key avionics modifications for basically any application and is involved in complete aircraft nose to tail engineering programs. Providing all interfaces and interconnections for complete aircraft development programs, e.g.: 5-tube EFIS upgrade including engine interface for Part-25 aircraft, FMS solutions, ADS-B, special mission upgrades with special designed interface concepts, camera mountings, SLAR & FLIR installations, interface solutions, IFE concepts and designs, etc.

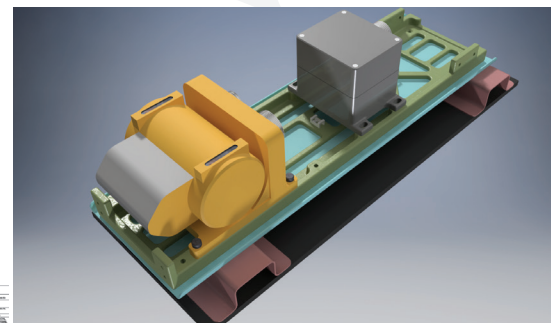
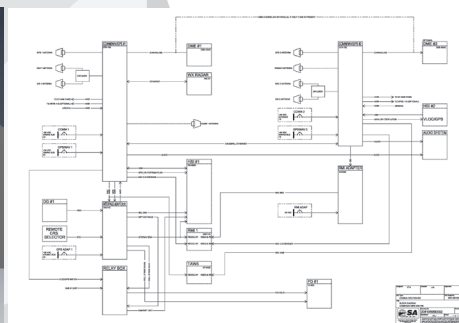
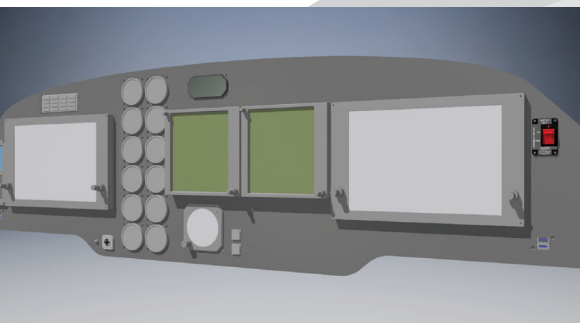
Scandinavian Avionics Design ApS (SA Design) & our Engineering Department develops various essential documents for certification of avionics modifications (as a basis for EASA, FAA, military or alternative authorities' approval), including:

- ▶ Technical Orders
- ▶ Certification Programs
- ▶ Cockpit Layouts
- ▶ Wiring Diagrams
- ▶ Structural Drawings
- ▶ Structural Strength Calculations
- ▶ Compliance Records
- ▶ Load Analysis
- ▶ Weight and Balance Calculations
- ▶ Ground and Flight Test Procedures
- ▶ Continuous Airworthiness
- ▶ Flight Manual Supplements
- ▶ EMI Assessments

All the above and other relevant documentation can be performed by The SA Group to certify and complete any modification of larger as well as smaller aircrafts and helicopters.

A skilled team of engineers are spread all over The SA Group locations around the world, and our engineers have extensive experience of 40 years+ within the avionics business. The SA Group continues to train and keep the staff up to date with the current requirements and knowledge on the latest equipment, avionics and concepts within the area of avionics and airborne electronics.

Our engineering team are ready to take on any avionics or aircraft electronics challenge.





# CERTIFICATION SERVICES

## EASA Part 21J Design Organization

Through the EASA Part 21J approved design organization, Scandinavian Avionics Design ApS (SA Design), offers development of Supplemental Type Certificates (STC) and minor changes to existing aircraft type certificates, covering any avionics or electrical modification of any aircraft or helicopter application.

Over the years, SA Design has developed more than 1000 STCs and certification packages, for a wide range of avionics system modifications in a wide range of aircraft types.

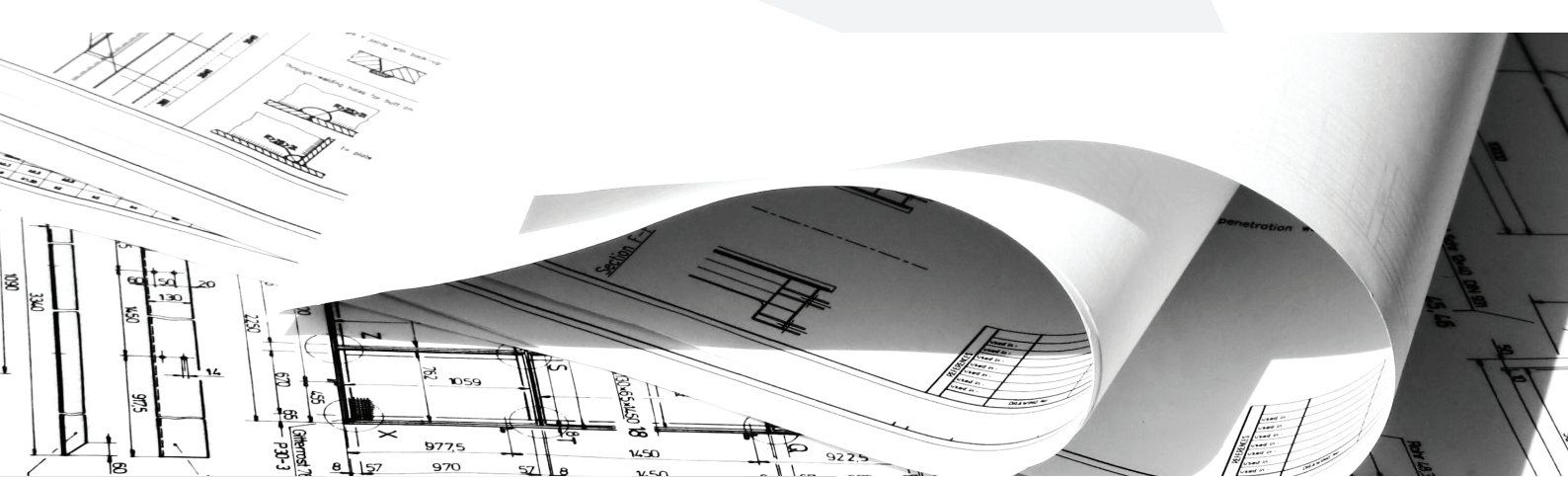
SA Design also provides certification packages that comply with a wide range of other military and civil regulations and requirements, customized to the specific rules and regulations in any specific area.

## STC Development

STC's are developed for any type of avionics system upgrade as part of a complete turn-key solution. This including parts supply, installation and training or as a single project for other qualified modification centers with relevant installation capability and approvals.

In addition to avionics systems upgrades, SA Design offers certification of structural upgrades and interior modifications, performed by The SA Group and/or selected partners.

New certification packages are being developed every month and SA Design supports any type of avionics upgrade or interior modifications for any type of aircraft as specified and agreed with the customers.





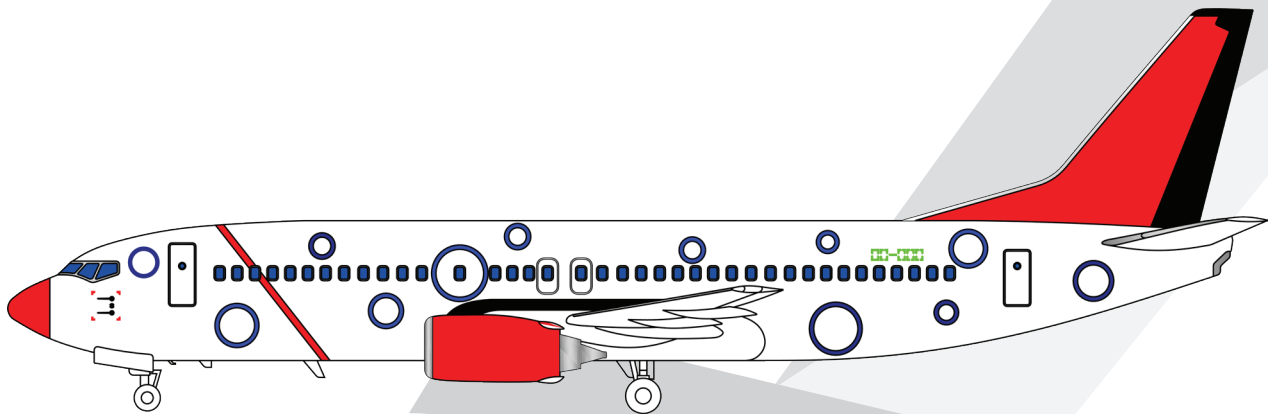
# CSD COMPETENCE CENTER

## Aircraft interior & exterior modifications and changes – Cabin Safety Design

To be able to focus 100% on CSD related programs and customers, we have a dedicated CSD Competence Center located in Austria.

We develop customized solutions for our customers in any scale. We are always in close collaboration with SA Design, and due to The SA Group capabilities ensuring not only a short TAT but also a smooth communication and solution.

- ▶ Executive/Business Jet Cabin Refurbishment
- ▶ Customized Cabin Layouts
- ▶ Aircraft Paint Finish, Livery Changes, Placards
- ▶ LOPA Changes on Commercial Airliners
- ▶ Cargo Modifications
- ▶ Documentation Changes
- ▶ Flight Test Support







# AIRCRAFT INTERIORS

## Complete Turn-Key Aircraft Interior Solutions

In perfect symmetry with the rest of our capabilities within The SA Group we are EASA Part-145 / -21J / -21G approved and provide complete nose to tail programs. Therefore, in short - we support your needs from initial design to execution and finalization.



### Interior Refurbishments

- New Carpentry
- Seat Upholstery
- Side panel and sealing refurbishments
- Veneer work on galley and cabinets

**EASA Part  
-145 / -21J / -21G**



### Cabin Care

- Maintenance & Renovation
- Cabin Crew Courses
- Cleaning of aircraft interior

**Non EASA Part  
-145 / -21J / -21G**



### Products

- Cleaning kits for VIP aircraft
- Customized beds and accessories for VIP aircraft sleeping conversions
- Customized pillows, blankets, towels etc.
- Bags and pouches for bed linnens etc.

**Non EASA Part  
-145 / -21J / -21G**



**CLASSIC TRIM**  
*Aircraft Interiors*





# PRODUCT DEVELOPMENT

## Customized Avionics and Electronic Products

In order to ease the operation of certain applications for the operator and to simplify certification aspects, particularly for the aviation industry with very stringent certification requirements, Scandinavian Avionics A/S and Scandinavian Avionics AB, – members of The SA Group, provides in-house development of intelligent and cost-effective customized avionics and aircraft electronics devices and concepts.

The customized products are designed to meet a certain demand or niche within the field of electronics, primarily aimed at the aviation industry. However, Scandinavian Avionics A/S and Scandinavian Avionics AB also offers development programs for land mobile and maritime applications.

Staffed by a number of highly experienced engineers, the product development division has the advantage of the experience within both operational, installation and certification aspects and consequently is able to avoid potential obstacles at an early stage in a development program.



Collision Avoidance,  
Tracking & ID (CATI) System



Navigation  
Guidance System, NGS1011



Electronic Flight Bag (EFB) Solution:  
Tablets (Windows or iOS), DIC-600,  
CWAP, Tablet Control panel with  
or without WiFi, CDSS, CCSS and ERC-400



Based on customer feedback, Scandinavian Avionics A/S and Scandinavian Avionics AB continuously identifies areas with great potential for new products that can ease operational, installation and/or certification aspects of certain applications. Over the years, Scandinavian Avionics A/S and Scandinavian Avionics AB has developed a number of intelligent products, including fleet management systems, ground radios for control towers, control units for sliding carpet systems, navigator guidance systems for boats, a future proof Electronic Flight Bag (EFB) solution and the latest product in line – a Collision Avoidance, Tracking and ID (CATI) system for UAVs and other aircraft.

The SA Group is constantly working on new products and ideas based on customer feedback in order to meet general and specific requirements. The SA Group want to offer the market intelligent products that minimize certification costs and optimize efficiency.





# PRODUCTION SERVICES

Scandinavian Avionics Production A/S - Part of The SA Group, holds the EASA Part 21G Production Organization Approval.

## Two Approvals in Perfect Symmetry

With the EASA Part 21G Production Approval, we are able to manufacture/produce electronic components and complete kits, including electrical and structural parts. All production is performed according to approved data, delivered by either Scandinavian Avionics Design (EASA Part 21J approved) or 3<sup>rd</sup> party certification organizations.

For kit manufacturing we use our in-house laser wire marking machine with wire loom high voltage testing capability. Manufacturing of complete wire looms is one of our specialties. We also produce various mechanical and structural parts for our installation kits, examples are tablet holders and constant friction mounts for EFB applications, antenna doublers, racks and shelves for various upgrade applications.

As we hold both the EASA Part 21J Design approval and the 21G Production Approval, we can provide our customers with complete production capability from the design phase to serial production of electrical and mechanical parts and kits according to customer requirements.



## Quality is Key

As approved manufacturer of airworthy products we have demonstrated to live up to the highest standards in the aviation industry. We approve and monitor our suppliers, and have full traceability of all parts and materials supplied.

All parts and kits are produced according to approved data, and is delivered with an EASA Form 1.



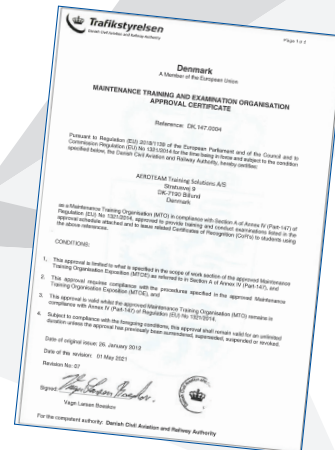


# COMPLETE TURN-KEY TRAINING SOLUTIONS

AEROTEAM Training Solutions offers complete turn-key training solutions, aimed at the aviation industry as a whole. Besides offering a wide range of high quality training courses in many areas of the aviation environment, we are providing a complete solution taking care of competence control, scheduling, consultancy, coordination and execution of the entire training scheme for your organization, leaving your key personnel focussed on their primary tasks. All training courses can be performed at any of The SA Group facilities, or at the customer's facility if more convenient.

At AEROTEAM Training Solutions training is not just a tickmark to satisfy the authorities. We focus on high quality, interactive classroom training with the student and learning objectives as the sole purpose. We pride ourselves in involving the student, and facilitating an environment where there is space for sharing experiences and having an entertaining learning experience.

On the following pages you can see more information on the training subjects: Competency Control, Customized Training Courses, Operational Training, Technical Training and EASA Part-147 Training.



**AEROTEAM**  
Training Solutions



AEROTEAM Training Solutions | Part of The SA Group

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# CONSULTANCY SERVICES

It can be hard to navigate in the complex world of avionics and related regulations. Based on an extensive knowledge and experience, The SA Group offers highly qualified consultancy services with the purpose to guide customers through the complex dynamics of avionics and electronics related projects to enable them to make the most competent, future-proof and cost-effective decisions as possible. The SA Group provides its consultancy services to many different customer types in many different types of constellations.

## Aircraft Operator Consultancy

For any aircraft operator it can be challenging to keep up to date with current regulative, airworthiness and/or operational requirements in the ever changing EASA environment. The SA Group is working with mandates every day and is able to assist with an overview of the operator's current aircraft status and to provide a report and propose a solution which will secure the operation of the aircraft now and in the years to come.

## Aircraft OEM Consultancy

As a link between the aircraft OEM and the avionics OEMs, The SA Group offers consultancy services including guidance about any avionics related issues, such as certification, operational considerations, maintenance and future-proofing of the avionics systems in the aircraft. This is an efficient and cost-effective solution for any aircraft OEM, who requires avionics support by experienced and knowledgeable specialists around the clock.

## Military and Government Consultancy

Based on local presence with significant insight into the defense industries and in-depth knowledge about government and defense requirements in many countries in Europe, CIS, Africa and the Middle- and Far East, The SA Group offers a range of consultancy services to support avionics and electronics manufacturer's response to international tenders for defense and government projects, including:

- Market Intelligence
- Operational Requirements
- Project Management
- Bid Preparation
- Industrial Co-operation
- System Procurement
- Field Trials
- Project Marketing
- Offset Support

In addition, The SA Group has skilled personnel to support the customer (Government, Air Force, Army, Marine etc.), with exploring possibilities of various offset arrangements.

The above mentioned constellations are just a few examples of the consultancy capabilities offered by The SA Group. Basically, The SA Group offers consultancy services for any type of avionics and electronics requirements in any type of constellation.





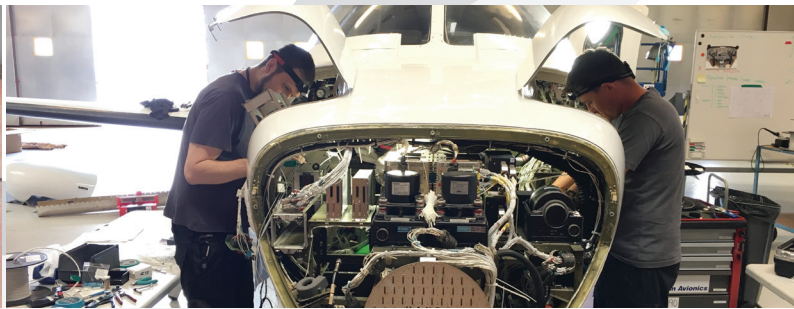
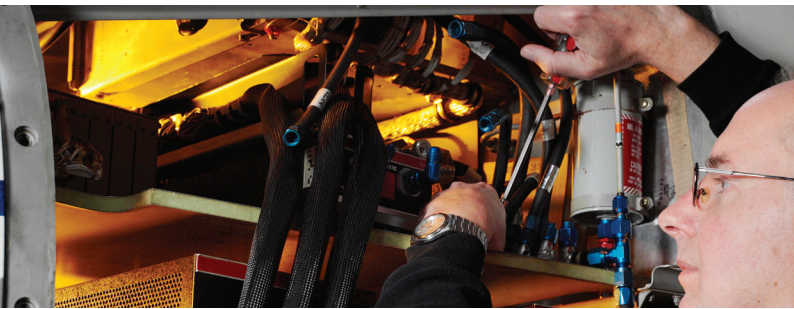
# INSTALLATION SERVICES

## Any avionics application for any aircraft type

The SA Group holds more than four decades of experience in performing avionics modifications, on a wide range of civilian and military fixed- and rotor wing aircraft platforms and UAV's. Based on our EASA-, TCAA & FAA Part 145 approved maintenance organization approvals, we work on any electrical or avionics related systems flying, and our installation capability ranges from simple tasks through to complete EFIS and special mission upgrades. The SA Group is a recognized service center for the majority of the leading avionics manufacturers, and our offerings include i.e.:

- ADS-B Solutions
- Flight Management Systems
- Safety Service Systems
- Autopilot Systems
- Inflight Connectivity (Satcom)
- Radio Communication Systems
- Recorder Systems
- Satellite Positioning & Navigation Systems
- Satellite Communication Systems
- Search & Rescue Applications
- Surveillance Systems
- Special Mission Systems
- EFIS Systems

...and much more.



## Quality is key

The highly experienced technical staff perform all installations, with the highest quality by means of serious craftsmanship, high quality materials as well as air and ground testing with dedicated flight test engineers and recognized test equipment.

All installation projects are performed efficiently with a fast turn-around-time in one of our hangar facilities or via field service teams around the world, in collaboration with customers and partners.



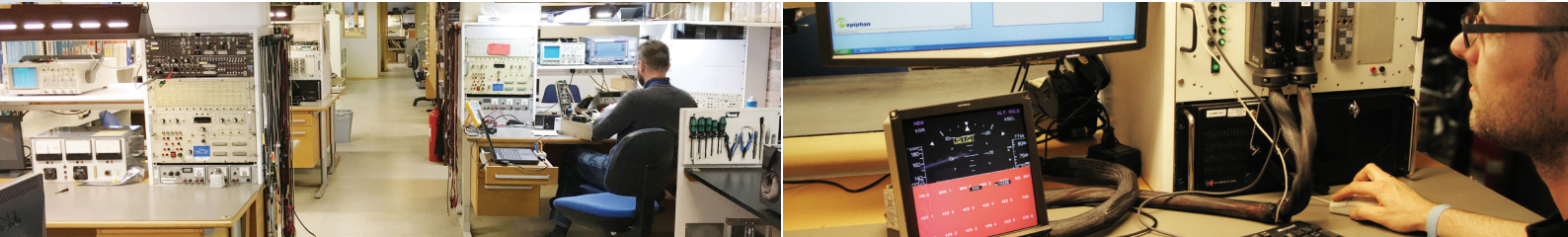


# MAINTENANCE – MRO SERVICES

Since the founding of The SA Group, avionics maintenance, repair and overhaul (MRO) has been a key part of the business. With highly skilled technical staff and workshops in Denmark, Sweden, Norway, India and Malaysia, The SA Group offers a broad line of maintenance services, including:

- Equipment repair and overhaul
- EASA, FAA and TCCA triple release capability
- Equipment rental and exchange
- 24 hour worldwide AOG support

Based on EASA-, FAA- and TCCA Part 145 and a variety of other local maintenance approvals, as well as 40+ years of experience with avionics maintenance, The SA Group supports more than 16.000 part numbers from most of the leading avionics manufacturers in the world. Maintenance services are provided locally via the different SA Group members' facilities.



## Repair and Overhaul

The SA Group holds an extensive in-house repair and overhaul capability based on repair center agreements with several world-known avionics brands including: BendixKing, Honeywell, Collins Aerospace, Garmin, Universal Avionics, BOSE, Orolia, Thommen and Telephonics just to mention some examples. This means that The SA Group is fully supported by the OEMs with all the latest knowledge, spare parts and documentation in order to carry out high quality repairs and overhauls for the benefit of the customer. In addition, external repair and overhaul capability is available with fast turn-around-times through The SA Group logistics support system.

As basis for qualified and effective system testing and troubleshooting, The SA Group has invested heavily in state-of-the-art test equipment, including automatic test equipment for e.g. EFIS and FMS, and our well trained technical staff are experienced with avionics systems and aircraft interfaces, testing and optimization. Furthermore, all testing and troubleshooting is performed in accordance with OEM specifications, ensuring the best possible diagnosing as specified by the equipment and/or aircraft manufacturers.

## Rental & Exchange

In order to handle or avoid aircraft on ground (AOG) situations, The SA Group offers rental or exchange units 24 hours a day, 7 days a week.





# THE SA GROUP APPROVALS

## Quality & Approvals

The SA Group is continually and proactively working with quality assurance to ensure that all technical activity is performed in accordance with relevant specifications, documentation and regulations laid down by customers and relevant authorities.

## The SA Group currently holds the following approvals:

- EASA Part 145 Maintenance Organization Approval
- EASA Part 21J Design Organization Approval
- EASA Part 21G Production Organization Approval
- EASA Part 147 Training Organization Approval
- FAA Part 145 Maintenance Organization Approval
- TCCA Part 145 Maintenance Organization Approval
- BCAA Part 145 Maintenance Organization Approval
- GAR Part 145 Maintenance Organization Approval
- DOT RIN N083 Hydrostatic Cylinder Requalification Approval

Furthermore, AQAP regulations are considered as background for modification, repair and other technical activities mainly in the military area in order to obtain required approvals and ensure the highest external and internal quality standards.

In order to fulfill the SA policy of being a flexible, competent and reliable source of products and services, the ISO system is respected for all relevant activities in order to maximize effectiveness and customer satisfaction.







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