



# HENSOLDT Academy

Staying Professional - Training Catalogue

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Skill Levels for Modular Training Concept

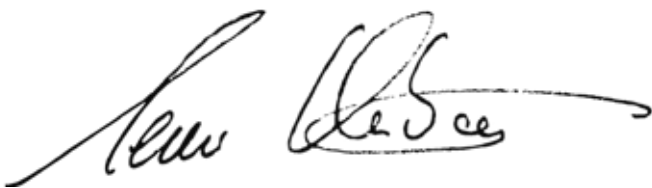
# Preamble

Every mission depends on high-performance equipment and staff competence. HENSOLDT Academy is your reliable partner to teach new skills and technologies, improving employee performance to operate and maintain your HENSOLDT products and systems in a safe and efficient way.

We provide target-group-oriented standard training courses for operators, maintainers/technicians and administrators, that can also be customized to your specific needs. Our Instructor-Led Learning portfolio has been systematically designed to support the operational efficiency and provide cost and time-efficient competence development - select the right one from our training building blocks.

We are looking forward to welcoming you soon at one of our trainings.

Sincerely,

A handwritten signature in black ink, appearing to read 'Temur Karbassioun', with a long horizontal flourish extending to the right.

Temur Karbassioun  
Head of HENSOLDT Services

# General Information

Here you can choose your desired training per category, skill level or product. Our trainings convey all important theoretical knowledge, but also include many practical exercises, increasingly within the more advanced courses. The standardized trainings shown in this overview can be adjusted to your needs on request.

For the best learning effect we generally suggest to perform the trainings at your facilities on your own equipment. Upon request we offer trainings at our facilities as well.

Our courses are planned on a basis of 8 training units (of 45 minutes each) per day, but can be adapted to your requirements. All training classes will be held in English. The training documentation will be provided in English only, unless requested otherwise.

In case an interpretation from English to another language is needed, the training duration may have to be adapted accordingly.

Each participant receives a training certificate.



## Our Contact

Do you have any questions, requests or suggestions regarding our trainings?

Please feel free to contact our training experts directly  
[academy@hensoldt.net](mailto:academy@hensoldt.net) / +49 731 392 3920

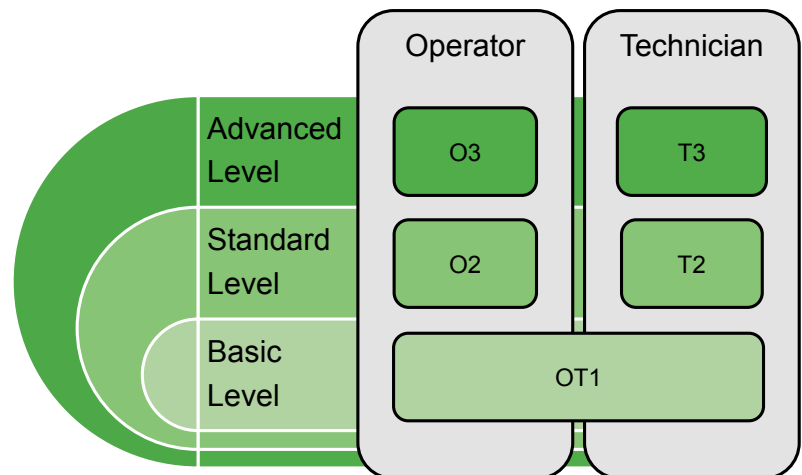
# Training Portfolio

## Technology Trainings

Our Technology Trainings are intended to convey an introduction to technologies or standards without focus on specific products, e. g. for air traffic surveillance. These classroom courses are designed for novices as well as for experienced staff, who wish to stay up-to-date on the latest developments in their areas of interest.

## Product Trainings

Our Product Trainings provide the essential knowledge along defined skill levels related to your HENSOLDT products and systems. We hereby differentiate three consecutive levels of knowledge for operators and technicians/maintainers. In advance to each training, we assess the participants' knowledge level based on the necessary preconditions for each skill level. Each training is followed by an assessment of the learning experience.



# Training Levels

## Basic Level

The Basic Level Trainings familiarize operators and technicians/maintainers with the equipment and provide a technical overview of the product and its structure, e.g. for Project Managers. This level is comparable to Organizational Level Maintenance (OLM) or Level 1 Maintenance trainings.

## Standard Level

To achieve the Standard Level, we enable participants to work without supervision in standard situations. We train technicians in maintenance tasks up to Line Replaceable Unit (LRU) replacement. This course is comparable to Intermediate Level Maintenance (ILM) or Level 2 Maintenance trainings.

Operators will learn to perform their standard assignments and to operate the product in full functional scope without higher-level assistance.

## Advanced Level

At the Advanced Level courses participants are trained to perform as full experts in their operational or technical area. The combination of in-depth knowledge and hands on experience allows the participants to provide technical supervision of Standard Level tasks.

The Advanced Maintainer Training includes the managing of tasks beyond standard maintenance and may require the use of special tools and test equipment.

This course is comparable to Depot Level Maintenance (DLM) or Level 3 Maintenance trainings.

The Advanced Operator Training is designed to provide capabilities in the area of system supervision as well as operational configuration and administration.

# Technology Trainings





# IFF/SSR & Mode S Basics

Course ID: IFF-ModeS-000-02-TEC

Duration: 1 day  
Participants: max. 12  
Language: English

## Target Group

Project Managers, Engineers, Technicians, Operators and Employees working in the field of Radar technology and IFF/SSR

## Prerequisites

- Basic knowledge in Radar Technology

## Objectives

- State the basic techniques of Secondary Surveillance Radar (SSR)
- Recognise the problem of FRUIT and Garbling
- Consider the advantages of Mode S
- Differentiate between Modes S Acquisition and Lockout strategies
- Characterise the different Uplink and Downlink Formats

## Content

	Theoretical	Practical
Introduction to Mk X and sliding window principle	X	
Introduction Mode S and monopulse principle	X	
Advantages of Mode S compared to Mk X	X	
Interrogation and Reply signals	X	
Interrogator Code allocation	X	
Mode S Acquisition and Lockout strategies	X	
Combined operation of Mode S and Mk X	X	
Roll-Call scheduling and Power Management	X	
Uplink and Downlink Formats	X	
Introduction to ADS-B/Mode S Squitter	X	

# Mode S Clustering Basics

Course ID: Clustering-000-02-TEC

Duration: 1 day  
Participants: max. 12  
Language: English

## Target Group

Project Managers, Engineers, Technicians and Employees working in the field of Radar technology and IFF/SSR

## Prerequisites

- Basic knowledge in Radar Technology

## Objectives

- Consider the advantages of Mode S and Clustering
- Differentiate between Mode S Acquisition and Lockout strategies
- Explain the function of a Mode S Sensor network (Distributed and Central Cluster)
- Describe the Cluster Maps

## Content

	Theoretical	Practical
Mode S Basics	X	
Interrogator Code allocation	X	
Mode S Acquisition and Lockout	X	
Clustering Basics	X	
Advantages of Clustering	X	
Setup of Mode S Cluster	X	
Coverage Maps, Surveillance Maps and Lockout Maps	X	

# Mode 5 Basics

Course ID: Mode5-000-03-TEC

Duration: 1 day  
Participants: max. 12  
Language: English

Security Classification --- NATO RESTRICTED ---

## Target Group

Project Managers, Engineers, Technicians, Operators and Employees working in the field of Radar technology and IFF/SSR

## Prerequisites

- Participation on IFF/SSR & Mode S Basics Training
- Export License Agreement necessary
- Participants need HENSOLDT specific Security Clearance

## Objectives

- Recognise the problems of legacy IFF Modes
- Consider the advantages of Mode 5
- Characterise the difference between Mode 5 Format Numbers
- Describe the different Levels of Mode 5 implementation

## Content

	Theoretical	Practical
Introduction to Mode 5 Basics	X	
Comparison of Mode 5 and Mk XII	X	
Interrogation and Reply signals	X	
Transfer, encryption and decryption of data	X	
Operation with Mode 5	X	
Mode 5 Format Numbers	X	

# Product Trainings



# AMPS-M - Basic Training (OT1)

Course ID: AMPSM-000-01-OT1

Duration: 1 day  
Participants: max. 8  
Language: English

## Target Group

Operators, Pilots

## Prerequisites

- Basic knowledge in operation of the A/C equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the functional concept of the AMPS-M system
- Perform switch-on and simple functional checks
- Operate the AMPS-M on-aircraft
- Recognise and respond to threat warnings

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
AMPS-M General		
System Overview	X	
Theory of Operation	X	
Power-Up and Operation	X	
AMPS-M Equipment		
Missile Warning System and Inertial Attitude System	X	
Control and Display Unit and its Operation	X	
Countermeasure Dispensing System and Safety Switch	X	
Available Test Equipment and its Use	X	
AMPS-M System Operation		
AMPS-M Hands-On Training, On-Aircraft		X

# AMPS-M - Maintainer Training (T2)

Course ID: AMPSM-000-01-T2

Duration: 1 day  
Participants: max. 8  
Language: English

## Target Group

Maintenance Personnel (O-Level)

## Prerequisites

- Participation on AMPS-M - Basic Training (OT1)
- Practical experience in O-Level A/C maintenance

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the function of the AMPS-M O-Level test equipment
- Perform switch-on and system verification with Built In Test Equipment (BITE)
- Apply enhanced maintenance tasks with O-Level test equipment
- Exchange of Line Replaceable Units (LRUs)
- Upload/Download of mission data

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
AMPS-M O-Level Test Equipment		
General Maintenance and Cleaning	X	
Using the Built In Tests (P-BIT, C-BIT, I-BIT)	X	
MWS Test with UV-Stimulator "Baringa-5"	X	
CMDS Test with the "SBPA V2	X	
Exchange of Consumables and LRUs	X	
Upload/Download of Mission Data	X	
AMPS-M System Maintenance		
System Maintenance from Sensors to Countermeasure		X

# AMPS-M - Mission Planning Tool (MPT) Training (T3)

Course ID: AMPSM-000-02-T3

Duration: 1 day  
Participants: max. 6  
Language: English

## Target Group

Administrators, Mission-Planners

## Prerequisites

- Participation on AMPS-M - Basic Training (OT1) recommended
- General mission planning experience

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the SW-functions of the AMPS-M system
- Understand the MPT operating concept
- Use of countermeasure (CM) logic form, payload configuration and rules
- Upload/Download of data to/from the Control and Display Unit (CDU)

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MPT for AMPS-M SW Functions		
AMPS-M and the MPT	X	
MPT Installation/Uninstallation	X	
MPT Operating Concept	X	
CM Logic Form	X	
Payload Configuration and Rules	X	
MPT for AMPS-M Data Transfer		
Upload/Download of Mission Data to/from AMPS-M		X

# ASR - Basic Training (OT1)

Course ID: ASR-000-01-OT1

Duration: 1 day

Participants: max. 12

Language: English

## Target Group

Operators, Maintenance Personnel, and Higher Ranking Officers/Project Managers

## Prerequisites

- Basic knowledge in Radar Technology
- General technical understanding of electronic equipment

## Objectives

- Define the ASR System
- Use ASR IETM (technical documentation)
- State the signal processing
- Describe ASR Functions and modules
- Get familiar with the ASR operational modes
- Recognize functional checks and maintenance tasks

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Radar Science Tutorial		
ASR System - Basics	X	
ASR Operation - Basics	X	
ASR System		
Brief Description of the System	X	
Technical System Design	X	
Operation	X	
Brief Checks and Maintenance	X	



# ASR - Operator Training (O2)

Course ID: ASR-000-01-O2

Duration: 10 days

Participants: max. 8

Language: English

## Target Group

Operators

## Prerequisites

- Participation on ASR - Basic Training (OT1)
- Practical experience in operation of radar systems / electronic equipment

## Objectives

- Describe the ASR System
- Apply the ASR IETM
- Describe the ASR TX/RX signal processing
- Explain the ASR Functions and modules
- Apply the ASR Operational modes
- Perform simple troubleshooting, functional checks and maintenance tasks

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
ASR Tutorial		
ASR System - Basics	X	X
ASR Operation - Basics	X	X
ASR System		
Brief Description of the System	X	X
Technical System Design	X	X
TX/RX signal processing	X	X
Operational Modes	X	X
Troubleshooting	X	X
Checks and Maintenance Tasks	X	X

# ASR - Maintainer Training (T2)

Course ID: ASR-000-01-T2

Duration: 10 days

Participants: max. 8

Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on ASR - Basic Training (OT1)
- Practical experience in maintenance and repair of electronic equipment

## Objectives

- Describe the ASR System
- Apply the ASR IETM
- Describe the ASR TX/RX signal processing
- Explain the ASR Functions and modules
- Apply the ASR Operational modes
- Perform simple functional checks and maintenance tasks
- Execute Line Replacable Unit (LRU) replacement lower level

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
ASR Tutorial		
ASR System - Basics	X	X
ASR Operation - Basics	X	X
ASR System		
Brief Description of the System	X	X
Technical System Design	X	X
TX/RX signal processing Operation	X	X
Troubleshooting	X	X
Basic Maintenance	X	X

# ASR - Advanced Operator Training (O3)

Course ID: ASR-000-01-O3

Duration: 5 days  
Participants: max. 6  
Language: English

## Target Group

Operators, Administrators

## Prerequisites

- Participation on ASR - Operator Training (O2)
- Intermediate knowledge on ASR Systems

## Objectives

- Explain the ASR System
- Use the ASR IETM
- Execute ASR Administration Role
- Use and check the ASR Software and Structure
- Perform ASR Performance optimization and calibration
- Apply simple Software checks and maintenance tasks

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
ASR Tutorial		
ASR System - Advanced	X	X
ASR Operation - Advanced	X	X
ASR System		
Description of the System	X	X
Technical System Design	X	X
Software Structure	X	X
Performance Optimization	X	X
SW Checks and Maintenance	X	X

# ASR - Advanced Maintainer Training (T3)

Course ID: ASR-000-01-T3

Duration: 5 days  
Participants: max. 6  
Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on ASR - Maintainer Training (T2)
- Advanced practical experience in maintenance of radar systems

## Objectives

- Check and apply ASR parameterization
- Get familiar with and perform ASR performance optimization
- Execute functional checking of hardware and software
- Perform advanced fault isolation using BITE and other equipment control functions
- Apply preventive and corrective maintenance exceeding Level 2 Maintenance, e.g. Antenna-system and sensor etc.
- Perform replacement of components exceeding Level 2 Maintenance

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
ASR Tutorial		
ASR System - Advanced	X	X
ASR Operation - Advanced	X	X
ASR System		
Brief Description of the System	X	X
Software Structure	X	X
Advanced Troubleshooting	X	X
Advanced Checks and Maintenance	X	X
Replacement of Components	X	X

# Crypto Simulator - Basic Training (OT1)

Course ID: CryptoSim-000-01-OT1

Duration: 1 day

Participants: max. 12

Language: English

Note: Mode 4 and Mode 5 transmission license needed

Security Classification --- NATO RESTRICTED ---

## Target Group

Operators, Maintenance Personnel

## Prerequisites

- Basic knowledge in Radar Technology
- General technical understanding of electronic equipment
- Practical experience in operation of MSSR 2000 I/ID, LTR 400-CG and ROSA
- Export License Agreement necessary
- Participants need HENSOLDT specific Security Clearance

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Identify the main characteristics of Mode 5
- Name the basic techniques and major functional concept of the Crypto Simulator
- Perform basic settings for tests
- Operate the Crypto Simulator

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Radar Science Tutorial		
Important topics of Mode 5	X	
Crypto Simulator		
Brief Description of the Crypto Simulator	X	
- Crypto Hardware	X	
- Control Application	X	
- Settings for Test	X	
Operation		X

# LTR 400 - Basic Training (OT1)

Course ID: LTR400-000-01-OT1

Duration: 1 day

Participants: max. 8

Language: English

Note: Corresponding Crypto Computer for LTR 400 and BTI 1000 need to be provided by customer.

Security Classification --- NATO RESTRICTED ---

## Target Group

Operators, Maintenance Personnel and Higher Ranking Officers/Project Managers

## Prerequisites

- Basic knowledge in Radar Technology
- Export License Agreement necessary
- Participants need HENSOLDT specific Security Clearance

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Identify the main characteristics of SSR/IFF, Mode S and Mode 5 technology
- Name the basic structure and major functional concept of the LTR 400
- Have basic Knowledge about the installation of the LTR 400
- Perform simple functional checks

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Radar Science Tutorial		
SSR/IFF - Basics	X	
Mode S - Basics	X	
Mode 5 - Main Topics	X	
LTR 400		
Description of the System / Technical System Design	X	
Functions of the System / Failure Detection	X	X
Installation Information	X	
Crypto use in connection with LTR 400	X	X
Capabilities of LTR 400		X

# LTR 400 and CADU/5 - Operator Training (O2)

Course ID: LTR400-000-01-O2

Duration: 1 day

Participants: max. 8

Language: English

Note: Training normally runs together with LTR 400 - Basic Training (OT1).

Note: Corresponding Crypto Computer for LTR 400 and BTI 1000 need to be provided by customer.

Security Classification --- NATO RESTRICTED ---

## Target Group

Operators

## Prerequisites

- Participation on LTR 400 - Basic Training (OT1)
- Practical experience in operation of radar systems / electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Name the basic techniques and major functional concept of the LTR 400 and CADU/5
- Operate LTR 400 and CADU/5 (including crypto computer)
- Perform simple functional checks

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
LTR 400 + CADU/5		
Description of the System / Technical System Design	X	
Functions of the System	X	X
Operation, Settings and Adjustments	X	X
Failure Detection / BITE Functionality	X	X

# MILDS AN/AAR-60 - Operator Training (O2)

Course ID: MILDS-000-01-O2

Duration: 1 day

Participants: max. 8

Language: English

Note: Training includes MILDS - Basic Training (OT1)

## Target Group

Operators, Pilots

## Prerequisites

- Practical experience in operation of the A/C equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the functional concept of the MILDS system
- Perform switch-on and simple functional checks
- Perform system check with UV-stimulator
- Operate the MILDS on-aircraft

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MILDS General		
Electronic Warfare Suite (EWS) General	X	
System Overview	X	
Theory of Operation	X	
Power-Up and Built in Test (BIT)	X	
Maintenance and Cleaning	X	
System Check with UV-Stimulator "Baringa-5"	X	
MILDS System Operation		
MILDS Hands-On Training, On-Aircraft		X



# MILDS AN/AAR-60 - Maintainer Training (T2)

Course ID: MILDS-000-01-T2

Duration: 1 day

Participants: max. 8

Language: English

Note: Training includes MILDS - Basic Training (OT1)

## Target Group

Maintenance Personnel (O-Level)

## Prerequisites

- Practical experience in maintenance of A/C equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the functional concept of the MILDS system
- Understand the Interfaces of MILDS
- Perform switch-on and Built-In Test (BIT)
- Perform inspection and cleaning
- Perform confidence check with O-Level test equipment
- Exchange of Line Replaceable Units (LRUs)

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MILDS General		
Electronic Warfare Suite (EWS) General	X	
System Overview and Theory of Operation	X	
MILDS Interfaces	X	
Power-Up and Built in Test (BIT)	X	
O-Level Maintenance	X	
System Check with BIT- and UV-Stimulator "Baringa-5"	X	
Exchange of LRUs	X	
MILDS System Operation		
MILDS Hands-On Training, On-Aircraft		X

# MILDS F AN/AAR-60 (V) 2 - Operator Training (O2)

Course ID: MILDSF-000-01-O2

Duration: 1 day

Participants: max. 8

Language: English

Note: Training includes MILDS F - Basic Training (OT1)

## Target Group

Operators

## Prerequisites

- Practical experience in operation of the A/C equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the functional concept of the MILDS F system
- Perform switch-on and simple functional checks
- Operate the MILDS F on-aircraft

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MILDS F General		
Electronic Warfare Suite (EWS) General	X	
System Overview and Theory of Operation	X	
Operation, Built in Test (BIT) and Maintenance Concept	X	
Purpose and Handling of the Data Download and Software Upload Tool (DDSUT)	X	
System Check with BIT- and UV-Stimulator "Baringa-5"	X	
Exchange of LRUs	X	
MILDS F System Operation		
MILDS F Hands-On Training, On-Aircraft		X

# MILDS F AN/AAR-60 (V) 2 - Maintainer Training (T2)

Course ID: MILDSF-000-01-T2

Duration: 1 day

Participants: max. 8

Language: English

Note: Training includes MILDS F - Basic Training (OT1)

## Target Group

Maintenance Personnel (O-Level)

## Prerequisites

- Practical experience in maintenance of A/C equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the functional concept of the MILDS F system
- Understand the Interfaces of MILDS F
- Understand the Data Download and Software Upload Tool (DDSUT)
- Perform switch-on and Built-In Test (BIT)
- Perform inspection and cleaning
- Perform confidence check with O-Level test equipment
- Exchange of Line Replaceable Units (LRUs)

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MILDS F General		
Electronic Warfare Suite (EWS) General	X	
System Overview and Theory of Operation	X	
MILDS F Interfaces	X	
Use of the Data Download and Software Upload Tool	X	
System Switch-on and Operation	X	
System Check with BIT- and UV-Stimulator "Baringa-5"	X	
Exchange of LRUs	X	
MILDS F System Operation		
MILDS F Hands-On Training, On-Aircraft		X

# MSSR 2000 I/ID - Basic Training (OT1)

Course ID: MSSR2000-000-02-OT1

Duration: 1 day  
Participants: max. 12  
Language: English

## Target Group

Operators, Maintenance Personnel and Higher Ranking Officers/Project Managers

## Prerequisites

- Basic knowledge in Radar Technology
- General technical understanding of electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Identify the main characteristics of SSR/IFF and Mode S technology
- Name the basic techniques and major functional concept of the MSSR
- Perform simple functional checks and maintenance tasks
- Operate the MSSR in local control

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Radar Science Tutorial		
SSR/IFF - Basics	X	
Mode S - Basics	X	
MSSR 2000 I/ID		
Brief Description of the System	X	
Technical System Design	X	
BITE - Built In Test Equipment		X
Front Panel Operation		X

# MSSR 2000 I/ID - Operator Training (O2)

Course ID: MSSR2000-000-02-O2

Duration: 1 day  
Participants: max. 8  
Language: English

## Target Group

Operators

## Prerequisites

- Participation on MSSR 2000 I/ID - Basic Training (OT1)
- Practical experience in operation of radar systems/electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Operate the MSSR in local control
- Perform the System Configuration Backup procedure
- Identify and apply the Interrogator Program structure (MIPs)
- Operate the MSSR via graphical user interface of the ROSA-SW

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MSSR 2000 I/ID		
Front Panel Operation	X	X
Save System Configurations	X	X
MIP - Mode Interlace Pattern	X	
ROSA-SW		
Standard Operation	X	
Menu Guidance / Graphical User Interface		X

# MSSR 2000 I/ID - Maintainer Training (T2)

Course ID: MSSR2000-000-02-T2

Duration: 3 days  
Participants: max. 8  
Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on MSSR 2000 I/ID - Basic Training (OT1)
- Experience in maintenance and repair of electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Identify the main interfaces
- Apply the detailed functional concept of the MSSR
- Describe the procedure of functional checks and maintenance tasks
- Operate the MSSR in local control
- Execute Backup and Reload of System Configurations
- Perform maintenance tasks after failure detection including Line Replaceable Unit (LRU) replacement
- Perform standard calibration procedures via local control and ROSA-SW

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MSSR 2000 I /ID		
External Interfaces Overview	X	
Technical System Design	X	
BITE - Built In Test Equipment	X	
BITE - Failure Examples	X	
Front Panel Operation	X	X
Saving and Loading of System Configurations	X	X
Failure Detection / BITE Functionality		X
LRU - Replacement Interrogator		X
Standard Calibration Procedure	X	X
ROSA-SW		
Maintenance Functions	X	X

# MSSR 2000 I/ID - Advanced Operator Training (O3)

Course ID: MSSR2000-000-02-O3

Duration: 1 day  
Participants: max. 6  
Language: English

## Target Group

Operators, Administrators

## Prerequisites

- Participation on MSSR 2000 I/ID - Operator Training (O2)

## Objectives

- Take account of possible hazards and safety instructions
- Identify the administrator operator settings in general
- Perform the software installation of ROSA
- Set up the software configuration of ROSA
- Identify the ASTERIX / ROSA data formats
- Identify and set up the display configuration
- Identify license and assign access rights
- Handle log directories and files
- Change system configurations via system control and monitoring
- Apply the token handling
- Identify and perform the detailed save and load procedure of system configuration via ROSA

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
ROSA-SW		
Administrator Operator	X	
Software Installation / Initial Procedure / Software Conf. (rosa.ini)		X
ASTERIX in conjunction with ROSA Data Formats		X
Display Configuration / License and Access Rights		X
Log Directories and Files		X
System Control and Monitoring / Token Handling		X
Saving and Loading of System Configuration (Cfgset)		X

# MSSR 2000 I/ID - Advanced Maintainer Training (T3)

Course ID: MSSR2000-000-02-T3

Duration: 3 days  
Participants: max. 6  
Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on MSSR 2000 I/ID - Maintainer Training (T2)
- Advanced practical experience in maintenance of radar systems and electronic equipment

## Objectives

- Take account of possible hazards and safety instructions
- Apply enhanced calibration and maintenance tasks
- Adjust the MSSR in standard situations
- Operate, control and monitor the enhanced calibration and maintenance procedures via ROSA-SW

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
MSSR 2000 I/ID		
Advanced Calibration Procedure	X	
MP-Cal (RTC / FFM)		X
North Alignment (FFM / ADS-B)		X
Power and VSWR Measurement		X
VSWR Threshold Adjustment		X
Parameterization and Exercises (BITE + GTC)		X
Reset to Initial State / Functional Check		X
ROSA-SW		
Maintenance Functions in Detail		X



# Spexer 2000 - Basic Training (OT1)

Course ID: SPEXER2000-000-01-OT1

Duration: 1 day  
Participants: max. 12  
Language: English

## Target Group

Operators, Maintenance Personnel

## Prerequisites

- Basic knowledge in Radar Technology
- General technical understanding of electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the Radar technology basics required to operate the Spexer 2000 System
- Get familiar with the technical design and the basic signal flow
- Perform assembly and disassembly of the system
- Get basic knowledge on the operating HMI

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Radar Science Tutorial		
Radar Basics	X	
Pulse Doppler Basics	X	
Spexer 2000		
Brief Description of the System	X	
Technical System Design	X	
Introduction to HMI		X
Introduction to assembly of the system		X

# Spexer 2000 - Operator Training (O2)

Course ID: SPEXER2000-000-01-O2

Duration: 4 days  
Participants: max. 8  
Language: English

## Target Group

Operators

## Prerequisites

- Participation on Spexer 2000 - Basic Training (OT1)
- Practical experience in operation of radar systems / electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the operating modes in the SDIS HMI
- Perform all Setting to work activities
- Operate the Spexer 2000 System on different live scenarios
- Optimise the system settings for each scenario

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Description of the Operating Modes in SDIS	X	
Spexer 2000 Operation - Setting to Work		
Find Optimum Location for Mobile Systems	X	
North Alignment	X	
Setting to Work		X
Validation of Radar Picture		X
Spexer 2000 Operation		
Operate the Spexer 2000 System on a live scenario		X
Impact of setting different operation modes		X
Impact of setting different radar parameters (e.g. CFAR, Range Gate etc.)		X

# Spexer 2000 - Maintainer Training (T2)

Course ID: SPEXER2000-000-01-T2

Duration: 3 days  
Participants: max. 8  
Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on Spexer 2000 - Basic Training (OT1)
- Practical experience in maintenance and repair of electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Understand the system design
- Perform fault isolation and detect defect Line Replaceable Units (LRUs)
- Remove/Install LRUs

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Description of the Spexer 2000 System	X	
LRU Maintenance		
External Interfaces Overview	X	
Technical System Design	X	
LRU - Replacement		X
BITE - Built In Test Equipment		X
LRU Failure Detection and Rectification		X
LRU Error Messages and Examples		X
LRU Failure Detection / BITE Functionality		X
Commissioning of the system		X

# Spexer 2000 - Advanced Maintainer Training (T3)

Course ID: SPEXER2000-000-01-T3

Duration: 3 days  
Participants: max. 6  
Language: English

## Target Group

Maintenance Personnel (D-Level)

## Prerequisites

- Participation on Spexer 2000 - Maintainer Training (T2)
- Advanced practical experience in maintenance of radar systems and electronic equipment

## Objectives

- Take account of possible hazards, safety instructions and name the provided technical documentation
- Installation and Update of the SDIS software
- Perform advanced troubleshooting
- Remove/Install Shop Replaceable Units (SRUs)

## Content

General Information	Theoretical	Practical
Introduction / Documentation / Safety Instructions	X	
Advanced Troubleshooting and SDIS Administration		
Advanced Troubleshooting		X
SDIS Installation		X
SDIS Updates		X
SRU Maintenance		
SRU Replacement (RAP Part)		X
SRU Replacement (RF Part)		X
SRU Failure Detection and Rectification		X
SRU Error Messages and Examples		X
SRU Failure Detection / BITE Functionality		X

# TRML-3D - Basic Training (OT1)

Course ID: TRML3D-000-01-OT1

Duration: 3 days  
Participants: max. 12  
Language: English

## Target Group

Operators, Maintenance Personnel and Higher Ranking Officers/Project Managers

## Prerequisites

- Basic knowledge in Radar Technology
- General technical understanding of electronic equipment

## Objectives

- Name the operational capabilities of the TRML-3D
- Describe the TRML-3D specific characteristics
- Understand the specific TRML-3D Radar characteristic
- Identify and locate the components of the TRML-3D at segment level
- Get familiar with the technical design and the basic signal flow
- Consider the infrastructural requirements
- Take account to the maintenance and spare part concept
- Understand the basic function of the HMI

## Content

General Information	Theoretical	Practical
Introduction	X	
System Overview	X	
Safety Instructions	X	
Radar Science Tutorial		
Radar Basics	X	
Pulse Doppler Basics	X	
TRML-3D		
Brief Description of the Radar System	X	
Basic System Design	X	
Basic System Operation	X	
Initial Error Handling (Executing BITE)	X	
Introduction to Operating the Radar system	X	
Initial Maintenance topics	X	
System Introduction Practice (depends on system availability)		X

# TRML-3D - Operator Training (O2)

Course ID: TRML3D-000-01-O2

Duration: 10 days

Participants: max. 8

Language: English

## Target Group

Operators

## Prerequisites

- Participation on TRML-3D - Basic Training (OT1)
- Practical experience in operation of radar systems / electronic equipment

## Objectives

- Take account of safety regulations for operation of the TRML-3D
- Perform System Deployment and Dismantling
- Perform start-up and shut-down of the TRML-3D
- Operate the TRML-3D via the integrated Graphical User Interface
- Operate the IFF system
- Identify and describe faults
- Perform emergency Dismantling

## Content

General Information	Theoretical	Practical
Introduction	X	
Safety Instructions	X	
Technical Documentation	X	
TRML-3D		
System Deployment and Dismantling	X	X
System Operation (including IFF operation)	X	X
BIT (Built In Test) based fault diagnostics	X	X
Emergency Dismantling	X	X

# TRML-3D - Maintainer Training (T2)

Course ID: TRML3D-000-01-T2

Duration: 12 days

Participants: max. 8

Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on TRML-3D - Basic Training (OT1)
- Participation on MSSR 2000 I/ID - Maintainer Training (T2)
- Practical experience in maintenance and repair of electronic equipment

## Objectives

- Take account of safety regulations for operation/maintenance of the TRML-3D
- Explain the detailed system design of the TRML-3D
- Perform system Deployment and Dismantling
- Perform start-up and shut-down of the TRML-3D
- Consider dependencies between the TRML-3D and its infrastructure
- Identify and describe faults, using the technical documentation
- Perform scheduled and corrective maintenance at O-Level and I-Level

## Content

General Information	Theoretical	Practical
Introduction	X	
Safety Instructions	X	
System Interfaces	X	
Technical Documentation	X	
TRML-3D		
Advanced System Design	X	
System Deployment and Dismantling	X	X
Maintenance & Spare Parts Concept	X	
BIT-based Diagnostics and Troubleshooting	X	X
Scheduled Maintenance at O-Level and I-Level	X	X
Corrective Maintenance at O-Level and I-Level	X	X
Practical exercises at the system		X

# TRS-3D - Basic Training (OT1)

Course ID: TRS3D-000-01-OT1

Duration: 3 days  
Participants: max. 12  
Language: English

## Target Group

Operators, Maintenance Personnel and Higher Ranking Officers/Project Managers

## Prerequisites

- Basic knowledge in Radar Technology
- General technical understanding of electronic equipment

## Objectives

- Name the operational capabilities of the TRS-3D
- Describe the TRS-3D specific characteristics
- Understand the specific TRS-3D Radar characteristic
- Identify and locate the components of the TRS-3D at segment level
- Get familiar with the technical design and the basic signal flow
- Take account of maintenance and spare part concept

## Content

General Information	Theoretical	Practical
Introduction	X	
System Overview	X	
Safety Instructions	X	
Radar Science Tutorial		
Radar Basics	X	
Pulse Doppler Basics	X	
TRS-3D		
Brief Description of the Radar System	X	
Basic System Design	X	
Basic System Operation	X	
Initial Error Handling (Executing BITE)	X	
Introduction to Operating the Radar system	X	
Initial Maintenance topics	X	
System Introduction Practice (depends on system availability)		X



# TRS-3D - Operator Training (O2)

Course ID: TRS3D-000-01-O2

Duration: 5 days  
Participants: max. 8  
Language: English

## Target Group

Operators

## Prerequisites

- Participation on TRS-3D - Basic Training (OT1)
- Practical experience in operation of radar systems / electronic equipment

## Objectives

- Take account of safety regulations for operation of the TRS-3D
- Perform start-up and shut-down of the TRS-3D
- Operate the TRS-3D
- Gain knowledge of TRS-3D Radar characteristics
- Identify and describe faults

## Content

General Information	Theoretical	Practical
Introduction	X	
Safety Instructions	X	
Technical Documentation	X	
TRS-3D		
System Operation	X	X
BIT (Built In Test) based fault diagnostics	X	X
Practical exercises at the system		X

# TRS-3D - Maintainer Training (T2)

Course ID: TRS3D-000-01-T2

Duration: 7 days  
Participants: max. 8  
Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on TRS-3D - Basic Training (OT1)
- Practical experience in maintenance and repair of electronic equipment

## Objectives

- Take account of safety regulations for operation/maintenance of the TRS-3D
- Explain the detailed system design of the TRS-3D
- Perform start-up and shut-down of the TRS-3D
- Consider dependencies between the TRS-3D and its infrastructure
- Identify and describe faults, using the technical documentation
- Perform scheduled and corrective maintenance at O-Level and I-Level

## Content

General Information	Theoretical	Practical
Introduction	X	
Safety Instructions	X	
System Interfaces	X	
Technical Documentation	X	
TRS-3D		
Advanced System Design	X	
Maintenance & Spare Parts Concept	X	X
BIT-based Diagnostics and Troubleshooting	X	
Scheduled Maintenance at O-Level and I-Level	X	X
Corrective Maintenance at O-Level and I-Level	X	X
Practical exercises at the system		X

# TRS-4D - Basic Training (OT1)

Course ID: TRS4D-000-01-OT1

Duration: 2 days  
Participants: max. 12  
Language: English

## Target Group

Operators, Maintenance Personnel and Higher Ranking Officers/Project Managers

## Prerequisites

- Basic knowledge in Radar Technology
- General technical understanding of electronic equipment

## Objectives

- Name the operational capabilities of the TRS-4D
- Describe the TRS-4D specific characteristics
- Identify and locate the components of the TRS-4D at segment level
- Consider the infrastructural requirements
- Demonstrate awareness of the available supporting services

## Content

General Information	Theoretical	Practical
Introduction	X	
System Overview	X	
Radar Science Tutorial		
Radar Basics	X	
TRS-4D Characteristics	X	
TRS-4D		
Basic System Design	X	
Basic System Operation	X	
Introduction to BIT (Built In Test) Concept	X	
Introduction to Maintenance & Spare Parts Concept	X	
Introduction to the TRS-4D System		X

# TRS-4D - Operator Training (O2)

Course ID: TRS4D-000-01-O2

Duration: 3 days  
Participants: max. 8  
Language: English

## Target Group

Operators

## Prerequisites

- Participation on TRS-4D - Basic Training (OT1)
- Practical experience in operation of radar systems / electronic equipment

## Objectives

- Take account of safety regulations for operation of the TRS-4D
- Perform start-up and shut-down of the TRS-4D
- Operate the TRS-4D via the integrated Graphical User Interface
- Identify and describe faults

## Content

General Information	Theoretical	Practical
Introduction	X	
Safety Instructions	X	
Technical Documentation	X	
TRS-4D		
System Operation	X	X
BIT (Built In Test) Concept	X	X

# TRS-4D - Maintainer Training (T2)

Course ID: TRS4D-000-01-T2

Duration: 8 days  
Participants: max. 8  
Language: English

## Target Group

Maintenance Personnel

## Prerequisites

- Participation on TRS-4D - Basic Training (OT1)
- Practical experience in maintenance and repair of electronic equipment

## Objectives

- Take account of safety regulations for operation/maintenance of the TRS-4D
- Explain the detailed system design of the TRS-4D
- Consider dependencies between the TRS-4D and its infrastructure
- Perform start-up and shut-down of the TRS-4D
- Identify and describe faults, using the technical documentation
- Perform scheduled and corrective maintenance at O-Level and I-Level

## Content

General Information	Theoretical	Practical
Introduction	X	
Safety Instructions	X	
System Interfaces	X	
Technical Documentation	X	
TRS-4D		
System Design	X	
Basic System Operation	X	X
Maintenance & Spare Parts Concept	X	
BIT-based Diagnostics and Troubleshooting	X	X
Scheduled Maintenance at O-Level and I-Level	X	X
Corrective Maintenance at O-Level and I-Level	X	X

# TRS-4D - Advanced Maintainer Training (T3)

Course ID: TRS4D-000-01-T3

Duration: 5 days  
Participants: max. 6  
Language: English

## Target Group

Maintenance Personnel (D-Level)

## Prerequisites

- Participation on TRS-4D - Maintainer Training (T2)
- Advanced practical experience in maintenance and repair of radar systems

## Objectives

- Identify faults, using OEM documentation
- Perform scheduled and corrective maintenance at I-Level and D-Level

## Content

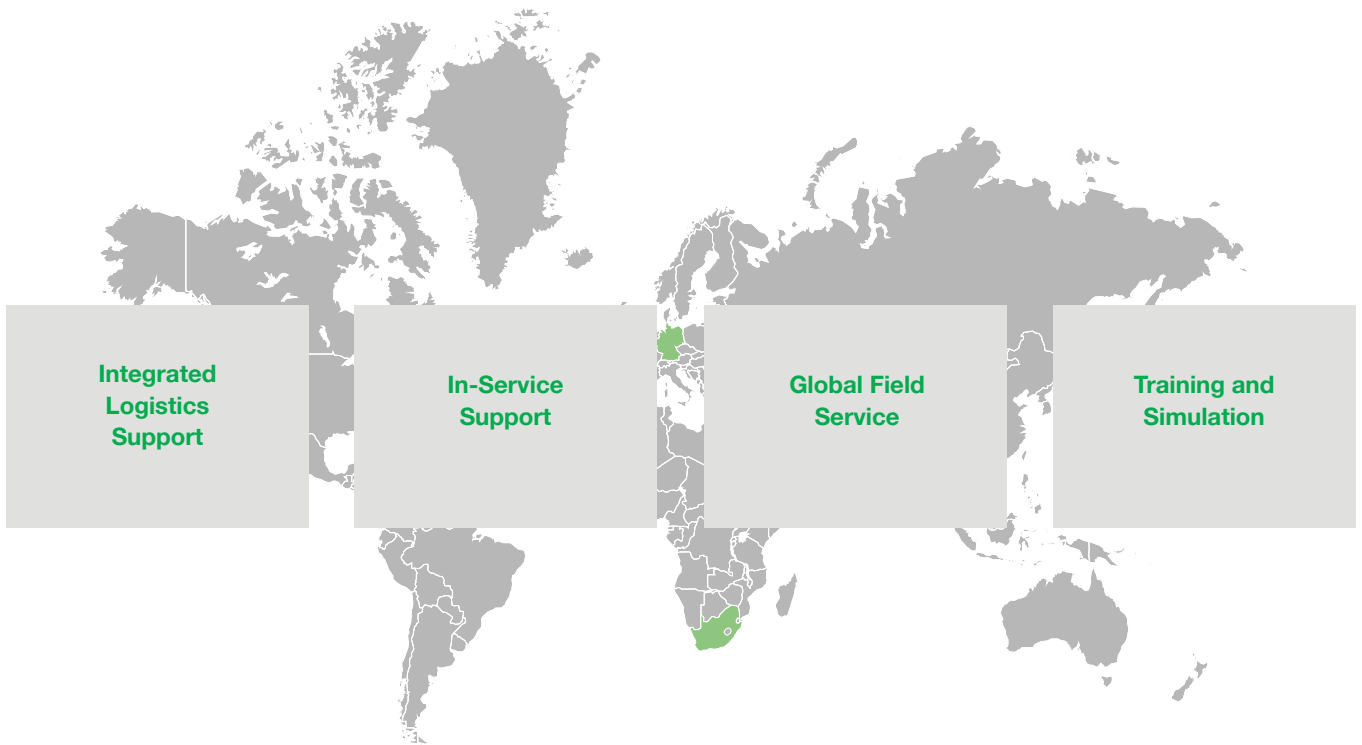
General Information	Theoretical	Practical
Introduction	X	
Safety Instructions	X	
Handling of OEM Documentation	X	X
TRS-4D		
Removal and Installation of the Front-End Segment		X
Replacement of Hoses		X
Replacement of the Rotary Joint		X
Repair/Replacement of the Water/ Water Heat Exchanger		X

# Skill Levels for Modular Training Concept

Skill Level	Description and Objectives
Advanced Technician Level (T3)	<ul style="list-style-type: none"><li>• Able to support colleagues</li><li>• Solves complex problems</li><li>• Can work on problems unknown before assignment</li><li>• Adjust product/system configuration in standard situations</li><li>• Recovers SW and execute SW updates (patches)</li><li>• Operate special tools and test equipment</li></ul>
Standard Technician Level (T2)	<ul style="list-style-type: none"><li>• Able to work without assistance</li><li>• Problem is clear before assignment</li><li>• Execute trouble shooting on standard issues</li><li>• Perform standard preventive maintenance</li><li>• Perform replacement of Line Replaceable Units (LRUs)</li><li>• Operate standard tools and test equipment</li></ul>
Advanced Operator Level (O3)	<ul style="list-style-type: none"><li>• Able to support colleagues</li><li>• Perform backup recovery of operational data</li><li>• Maintain and adjust (optimize) special environmental data sets (e.g. system environment, interfaces)</li><li>• Assign and administer user access, rights and roles</li></ul>
Standard Operator Level (O2)	<ul style="list-style-type: none"><li>• Able to work without assistance</li><li>• Operate the product in full functional scope</li><li>• Operate product via standard GUI</li><li>• Maintain standard environmental data sets (e.g. weather, coordinates, blanking)</li><li>• Perform backup of operational data</li></ul>
Basic Level (OT1)	<ul style="list-style-type: none"><li>• Name the basic techniques and major functional concepts of the product</li><li>• Operate the product in standard mode</li><li>• Perform simple functional checks and maintenance tasks</li><li>• Issue failure / Incident reports</li><li>• Explain product structure and identification scheme</li><li>• Take account of possible hazards, safety instructions and measures</li><li>• Use technical documentation properly</li><li>• Understand and apply proper security measures (including denial)</li></ul>

# HENSOLDT Services

## Our World Wide Core Activities



# 100 YEARS

## Servicing 500+ Customers Worldwide

More than 100 years of creativity and innovation under one roof. Successor to Zeiss, Dornier, Telefunken, MBB, Aerospatiale, EADS, Airbus Defence and Space. HENSOLDT has the experience, the technology and the partners that are needed to comply with the complex and demanding requirements.

