



Integrated Logistic Support & Technical Service

Strong Support for
Long-Life Communication Equipment

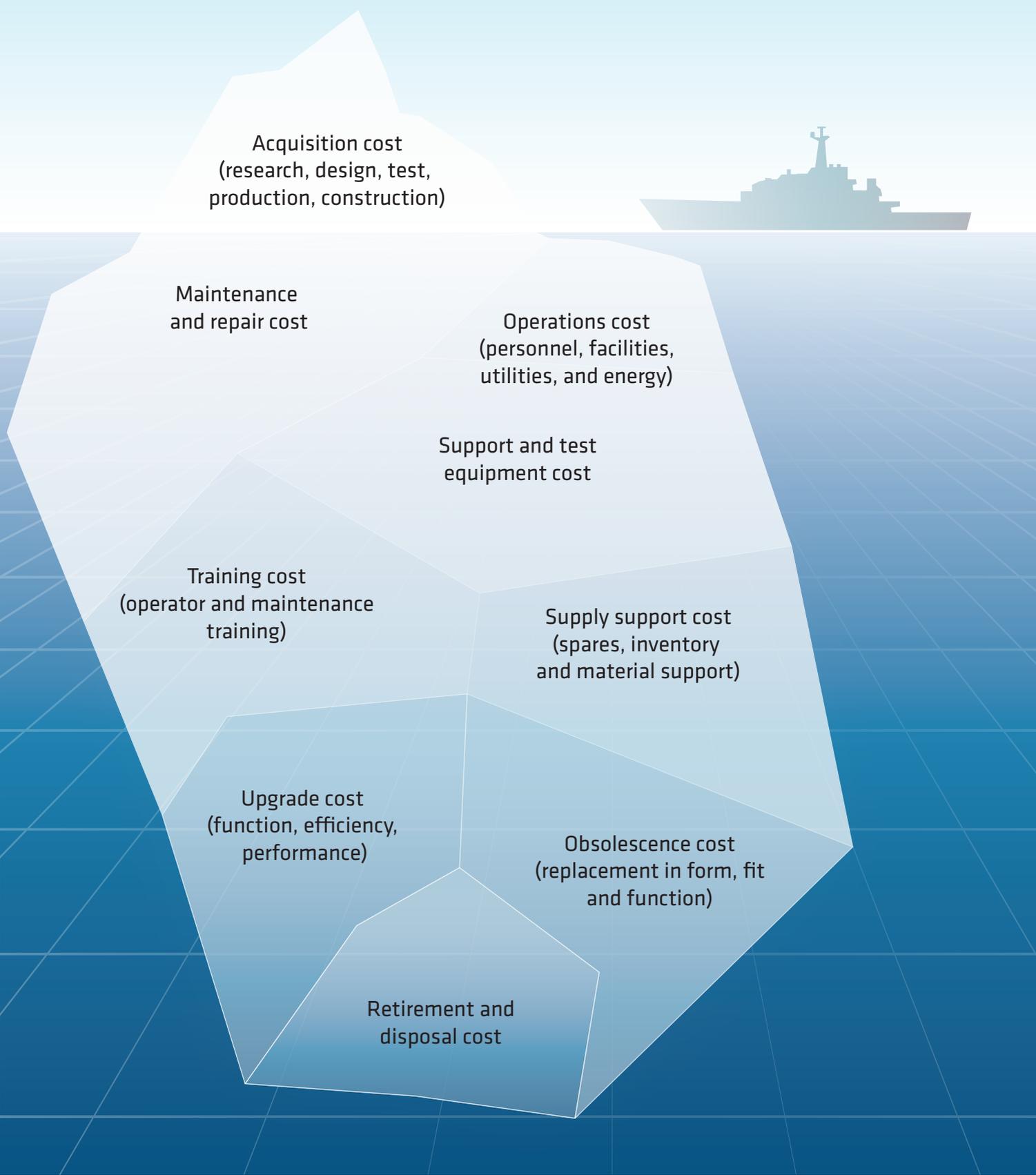
ILS/TS

Integrated Logistic Support
& Technical Service



Operability - Supportability - Reliability

Extensive life-cycle support strategies for your communication system



The diagram features a large iceberg floating in a blue ocean. The tip of the iceberg is above the water line, while the vast majority of the iceberg is submerged. The submerged portion is divided into several irregular, light-blue sections, each containing text describing a different cost category. In the background, a grey silhouette of a ship is visible on the horizon. The background has a subtle grid pattern.

Acquisition cost
(research, design, test,
production, construction)

Maintenance
and repair cost

Operations cost
(personnel, facilities,
utilities, and energy)

Support and test
equipment cost

Training cost
(operator and maintenance
training)

Supply support cost
(spares, inventory
and material support)

Upgrade cost
(function, efficiency,
performance)

Obsolescence cost
(replacement in form, fit
and function)

Retirement and
disposal cost

ILS & Technical Service by HMK

Enhanced effectivity, availability & supportability – anytime, anywhere

Modern ILS strategies can significantly reduce the life-cycle costs of your system by facilitating the creation of equipment that lasts longer and, at the same time, requires less support.

When supported by Hagenuk Marinekommunikation GmbH (HMK), customers benefit from many years of ILS experience. Naval clients all over the world can safely rely on tailor-made ILS and technical service concepts that address all relevant components of their systems in order to increase supportability and decrease whole life costs.

Military communication equipment is utilized to handle sensitive information in harsh environments. Needless to say, the materiel is most cost-effective when in optimal condition and capable of performing its tasks.

In order to ensure operational readiness as well as supportability and maintainability, HMK's ILS activities not only consider the acquisition phase, which is merely the tip of the iceberg, but cover the entire operating life of the equipment.

From the beginning of a project, our ILS department cooperates closely with the system engineering, e.g. by providing vital information such as reliability, availability, maintainability and testability data (RAMT) compiled in a comprehensive logistic support analysis (LSA).

In addition to early implementation of RAMT information, our ILS and technical services supports your system by the following activities and features:

- Technical user documentation, e.g. system, operator and maintainer manuals, online help files and illustrated spare part catalogues (ISPC)
- Interactive electronic technical publications (IETP) acc. to ASD S1000D as well as materiel management acc. to ASD S2000M

- Spare part support and maintenance concepts
- Special tools, support and test equipment
- Obsolescence management, e.g. monitoring of discontinued parts and last-time buys
- Configuration management for hardware, software and services as well as related documentation
- Installation and setting-to-work, maintenance and repair services
- Customer trainings, e.g. operational/intermediate/depot level (OLM/ILM/DLM) and train-the-trainer
- Transportation, storage and disposal concepts

Over the last four decades, HMK has delivered more than 550 integrated communication systems to nearly 30 navies all over the world.

We understand our customers' demand for operational readiness and availability on the one hand, as well as affordability on the other.

For this reason, we aim for close cooperation and intensive dialogue with our clients, in order to determine the best ILS strategies and technical service concepts to make state-of-the-art communication equipment even better.

Your system could be next - talk with us!

ILS and Technical Services by HMK

Covering the core logistic elements.

This brochure provides you with an overview of the main features of HMK's comprehensive Integrated Logistic Support and Technical Services. Depending on the complexity of your system or equipment, we are able to customize our services to meet your individual requirements.

Technical Publications

- Operator and maintenance documentation
- System documentation
- Illustrated spare parts catalogue (2D or 3D)

Logistic Support Analysis (LSA)

- Spare part supply and distribution
- Support and test equipment supply
- Maintenance concept + logistic breakdown structure
- Life cycle costing analysis
- Functional / dysfunctional report
- Maintainability report
- Reliability report
- Testability report
- Availability report
- Packaging, handling, storage and transport report

Configuration Management

- Configuration management plan
- Database for hard- and software information
- Logistic data package files
- Amendment control

Obsolescence Management

- Monitoring and reporting
- Last-time buys

Customer Trainings

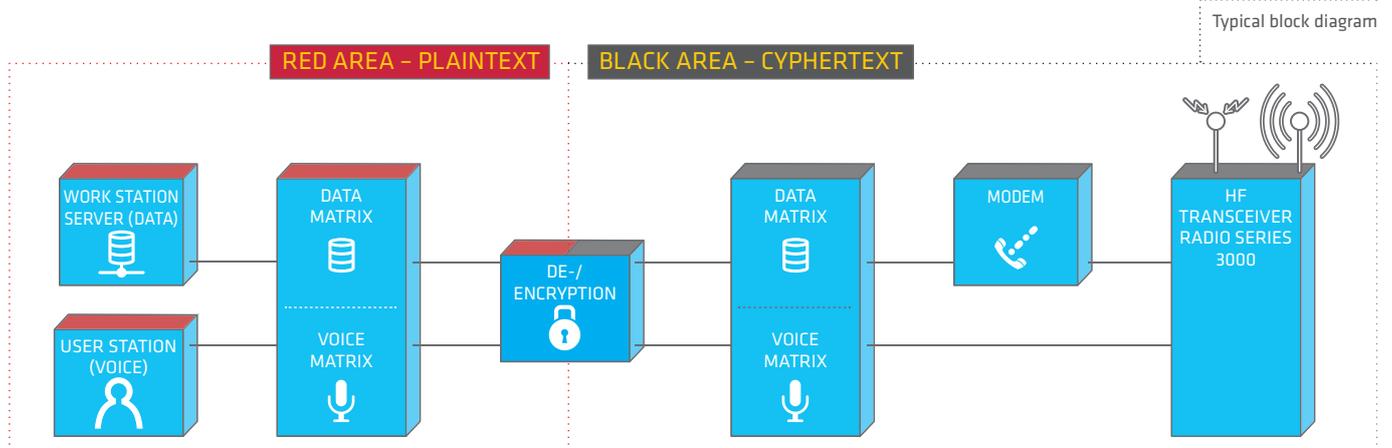
- Operator and on the job course
- Maintainer courses (operator, on board and depot level)
- Instructor course

Technical Services

- Self-servicing contracts
 - Product- and software support
 - Information and updates via FTP database
 - Online helpdesk or support hotline
 - Worldwide technical installation and assistance
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Technical User Documentation

Precise, concise & standardized.



HMK's technical user documentation complies with the applicable national and international standards, e.g. machinery directive 2006/42/EC, EN 82079 or EN ISO 12100.

OPERATOR AND MAINTAINER MANUALS

All equipment comes with standardized user-friendly operator and maintainer manuals, which provide you with detailed information and instructions for safe operation as well as proper maintenance and repair.

MAIN CONTENTS

- Technical descriptions
- Safety instructions
- Transport and storage data
- Technical data
- Installation and setting-to-work procedures
- Operation instructions
- Maintenance instructions
- Mechanical construction and part lists



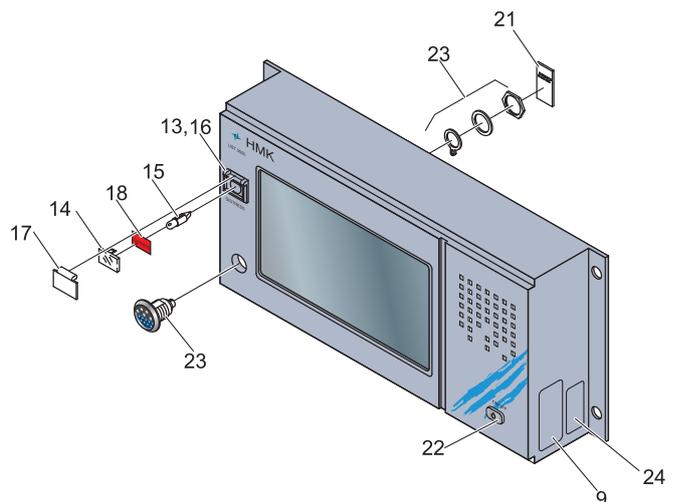
Equipment manual (interactive PDF)

SYSTEM MANUALS

Our comprehensive system manuals describe the equipment and the respective maintenance procedures on a system level. They also include parts and components not covered by separate equipment manuals, e.g. mains distributions or distribution boxes. In addition, our system manuals provide system cable diagrams as well as rack wiring lists. Various illustrations help you to understand the functional abilities of the system.

ILLUSTRATED SPARE PART CATALOGUES (ISPC)

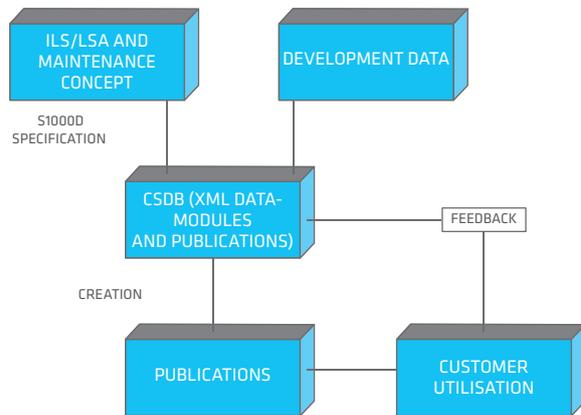
The system's illustrated spare part catalogue is the main source of information for your maintenance and repair personnel when it comes to localising and identifying spare parts. ISPCs can be provided for all our systems and equipment. They depict the system/equipment in 2-D or 3-D figures incl. a breakdown structure of all replaceable items.



Interactive Electronic Technical Publications (IETP) Single source publishing for multiple output formats.



S1000D DIAGRAM



INTERACTIVE ELECTRONIC TECHNICAL PUBLICATIONS (IETP)

The ASD Spec. S1000D is an internationally accepted XML standard for the production of technical publications for military and civil equipment.

All information is contained in non-redundant data modules acc. to the system's breakdown structure. The data modules are stored and managed in a common source database (CSDB) which allows production of platform-independent multiple output formats such as IETP browser, html, eBook, ePub, pdf or paper.

All data modules and illustrations are reusable and hold a large amount of metadata, e.g. detailed maintenance planning information incl. required personnel/tools/spare parts, NATO stock numbers (NSN) as well as order and purchase information.

The ASD Spec. S2000M covers all activities for military materiel management. It provides the rules for the exchange of typical logistical data between the supplier and the military client, e.g. initial provisioning list, NSN and part numbers, price and invoice information as well as spare parts and materials.

S1000D and S2000M underly the same rules for model identification coding and illustrations. Furthermore, the S1000D data modules provide basic S2000M information.

MAIN FEATURES AND BENEFITS OF IETP

- Planning, management, production, exchange, distribution and use of technical information and material data in a neutral and modular form
- Adoption of continuous acquisition and life-cycle support standard (CALs) to support your system's life-cycle
- Common source database (S1000D) for single source publishing of multiple output forms
- Prevention of redundant information due to uniquely coded data modules and illustrations
- Reduction of maintenance costs for technical information



Ruggedized tablet PC with IETP browser

Logistics Support Analysis (LSA) and Obsolescence Management (OM)

Defining supportability

The logistic support analysis (LSA) is the individual foundation of the ILS strategies for a particular system or equipment. Based on a wide range of scientific calculations, statistics, studies and analyses generated and performed during the design process, the LSA identifies and preplans the mutually beneficial support requirements and helps increasing the overall support efficiency.

LOGISTIC SUPPORT ANALYSIS (LSA)

Our tailored LSA efforts follow a systematic approach to calculate the future demand for resources required to maintain availability over your equipment's life-cycle.

Based on the early implementation of RAMT data, the LSA will influence the design process already at its beginning and, thereby, help to prevent high costs for maintenance and repair in the future.

Due to its capability to identify the most critical system parts with respect to system operation and support, LSA data can also be incorporated in a quality management system.

MAIN LSA TASKS

- Maximising effectiveness while minimizing total life-cycle costs (life-cycle cost analysis)
- Identification and definition of support planning and management requirements
- Identification of major cost drivers and risks
- Development of alternative support solutions and definition of optimum solution by trade-off analyses
- Identification of required resources for implementation of chosen support solution
- Validation of adopted support solution, once the equipment enters service

OBSOLESCENCE MANAGEMENT (OM)

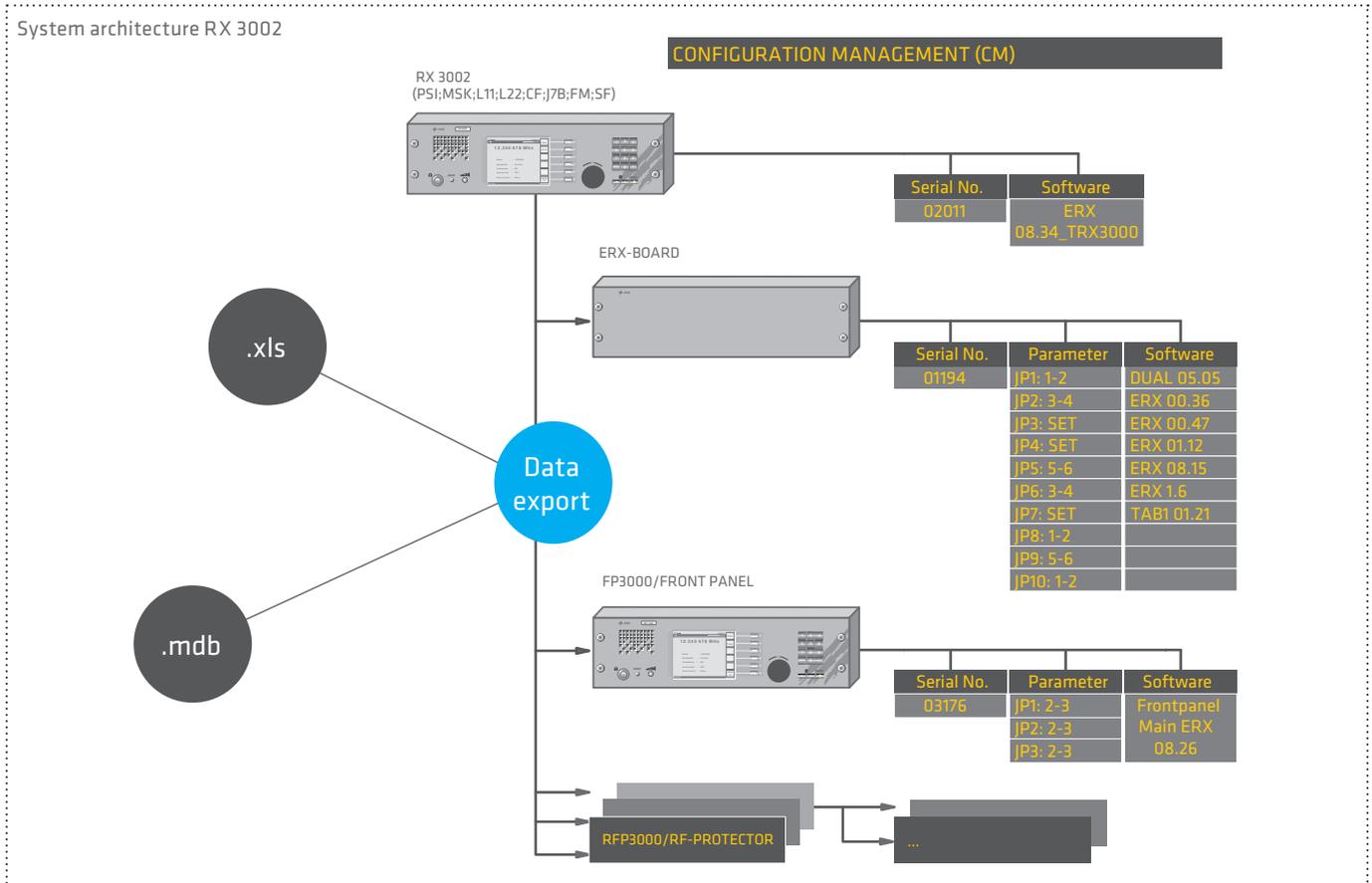
All electronic devices are subject to the product life-cycle. As an integral part of the project's LSA, HMK's approach towards the inevitable risks of negative financial/operational impact due to diminishing manufacturing sources and/or material shortages (DMSMS) consists of processes, methods and procedures which ensure that your system/equipment can be adequately maintained and supported through its life-cycle.

MAIN OM TASKS

- Long-range DMSMS risk management and planning
- Identification of actual and potential cases of obsolescence (critical parts and components)
- Monitoring and reporting of discontinued parts and components
- Avoidance of cost-intensive re-designs
- Life-time buys
- Last-time buys

Configuration Management (CM)

Keeping track of your equipment



CONFIGURATION MANAGEMENT

As an integral part of the system's engineering process, HMK's configuration management provides effective control of system information and system changes. It equally covers hardware, software, services as well as the related documentation.

Like all other ILS-related processes, CM is applied over the system life-cycle and, thus, secures permanent integrity of your system.

MAIN DISCIPLINES

- CM planning
- Configuration identification
- Configuration control
- Configuration status accounting
- Configuration verification and audit

Customer Trainings

Face-to-face support

HMK's close cooperation and intensive dialogue with international clients does not end with the delivery of turn-key communication systems. Our comprehensive customer trainings are one of the core elements of our continuous life-cycle support and we take particular pride in them.

Our experienced and highly-skilled instructors provide customized in-depth information on how to safely operate and maintain your equipment. This includes failure localisation and interpretation by means of built-in test equipment, component replacement, software updates and more.

All trainings are computer-aided and can be held on-site or in our training facilities.

Even after the training, our instructors will gladly provide you with additional information to strengthen the trainees' knowledge and increase the training benefits even further.

TRAINING MODULES

- Radio operator and on-the-job courses
- System administrator
- Maintainer
 - Organisational level maintenance (OLM)
 - Intermediate level maintenance (ILM)
 - Depot level maintenance (DLM)
- Familiarisation trainings
- Instructor and train-the-trainer courses
- Refresher courses



Technical Services

Maintaining good communication

HMK's Technical Service department collaborates closely with clients and 3rd party service partners all over the world to ensure full performance and 24/7 availability of your equipment.

Based on a coordinated service concept, we provide our customers with the technical support they need for their specific system.

From installation and setting to work via general maintenance, update and repair services to retrofit solutions and complete system modernisation or replacement - you always can rely on our professional expertise and long experience.

OVERVIEW OF TECHNICAL SERVICES

- Installation of equipment and systems
- Setting-to-work
- Acceptance testing (factory, harbour, sea)
- Onboard technical instructions/training
- Customer support during/after warranty
- Software updates
- Maintenance and repair service (inhouse/onboard)
- Quick reaction support
- Close partnership with local service providers
- EMI studies
- Close cooperation with shipyards



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ILS / TS

Integrated Logistics
Support & Technical
Services



Hagenuk Marinekommunikation

A company of the ATLAS ELEKTRONIK Group