



ANCS – The Naval Combat System of the German F125 A Class of its Own

ANCS

Surface Combatant
Systems



... a sound decision

 **ATLAS ELEKTRONIK**

Expanded Mission
Profile for Surface
Combatants of the
Next Generation



Military operations necessitate the capability for engaging hostile surface combatants, submarines, aircraft, missiles and torpedoes for self-protection as well as for task force protection. In addition, the core tasks of the navy in the 21st century include the safeguarding of shipping lanes in national and international waters, together with the support of military operations in crisis areas and war zones.

A traditional warship has to be transformed into a multi-role combat ship in order to meet the changing operational requirements and varied tasks associated with providing maritime security.

With the F125 class frigate, the German Navy has taken the step forward to a multi-role surface combatant. Besides its many new capabilities, the ANCS combat management system now also covers the expanded mission profile, such as the precise, selective and flexible engagement of enemy forces, tactical fire support from sea to land, support for special forces, the combating of asymmetric threats, as well as joint and multinational operations with prolonged availability in operational areas all over the world.



ATLAS Naval Combat System (ANCS) – The System for Frigates and Corvettes of the New Generation

ANCS was developed further for the F125 frigate to offer the entire spectrum of functionalities that are now in demand for the maritime task spectrum. This comprises the classic tasks, e.g. anti-air, anti-submarine, anti-surface and electronic warfare, as well as the newly evolved tasks such as asymmetric warfare, joint firing, and search & rescue. These functionalities have been realized in accordance with NATO standards and thus guarantee the required procedural interoperability with other NATO units.

Increased non-functional requirements for ANCS in respect of its robustness and availability, low maintenance effort, easy repairs, high level of automation, simplicity of operating workflow, and high redundancy all permit continuous deployment away from home ports for up to 24 months and a doubling of the sea operation time per year to 5,000 hours.

The data network allows operation of several logical networks for both classified and non-classified data at the same time on one cable. In addition, multiple information domains are supported, so that segregated information spaces, e.g. for NATO, special forces and NGOs, can be administered.

ANCS supports the crew with a simulation of the entire combat system, including all subsystems, in several simulation worlds that make it possible to simulate several ships at the same time, thus allowing the training of operational scenarios both with and against each other.

ANCS comprises a robust software core with few changeable components, augmented by expanded capabilities that can be added in a modular fashion. In this way, a special version of ANCS can be put together to meet the customers' needs and configured to suit the current operational spectrum of a ship class – specific and without risk.

Electronic Warfare

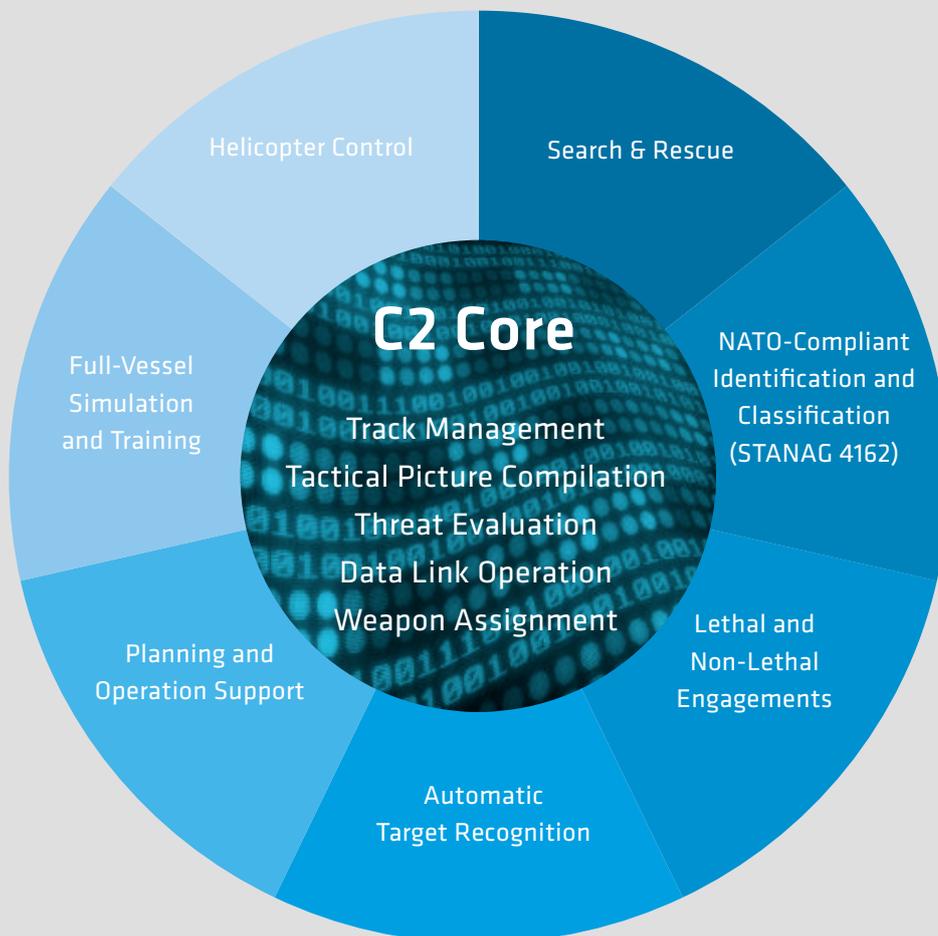
Asymmetric Warfare

Anti-Air Warfare

Anti-Submarine Warfare

Anti-Surface Warfare

Naval Gunfire Support/Joint Firing



Key Features



MODERN AND PROVEN CMS

- Compliant to NATO standards
- Germany is parent navy
- In use for OPV, FAC, corvettes and frigates

SCALABLE AND MODULAR DESIGN

- Model-driven software architecture
- Interfaces for mission modules
- Free to interface any subsystem

USER-CENTRIC HUMAN MACHINE INTERFACE

- Role-based virtual desktops
- Ergonomic design
- Context-sensitive menus and data
- User interface independent of operational software

EASY TO LEARN, OPE

Thanks to the expanded mission profile, the requirement for a high level of automation and, in particular, through the new operating concept developed jointly with the German Navy, ANCS has been given many sophisticated capabilities that combine to make it a unique combat management system:



ADVANCED SYSTEM FUNCTIONS

- Asymmetric warfare
- Joint Firing
- Supports CTG / Special Forces
- Full-Vessel simulation & training
- NATO-Compliant identification and classification (STANAG 4162)

INTERFACE TO MULTI-LINK SYSTEM ADLIS

- Link 22
- Link 16 and JREAP-C
- Link 11
- SIMPLE
- ADLIS Link A
- National Links

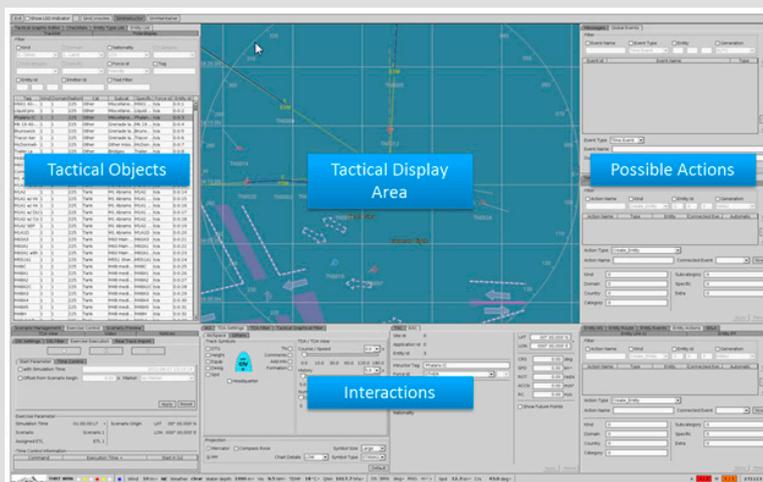
INTEGRATED AND SECURE DATA NETWORK

- Fully redundant
- Supports multiple information domains
- Red/red and red/black separation

The ANCS User Interface – Simple and Rapid Operability through a User-Centric Approach

The operation of the Combat System is very much dependent on the User Interface of the combat management system. ATLAS has designed the ANCS user interface together with operators of the German Navy based on a 'user centric' approach.

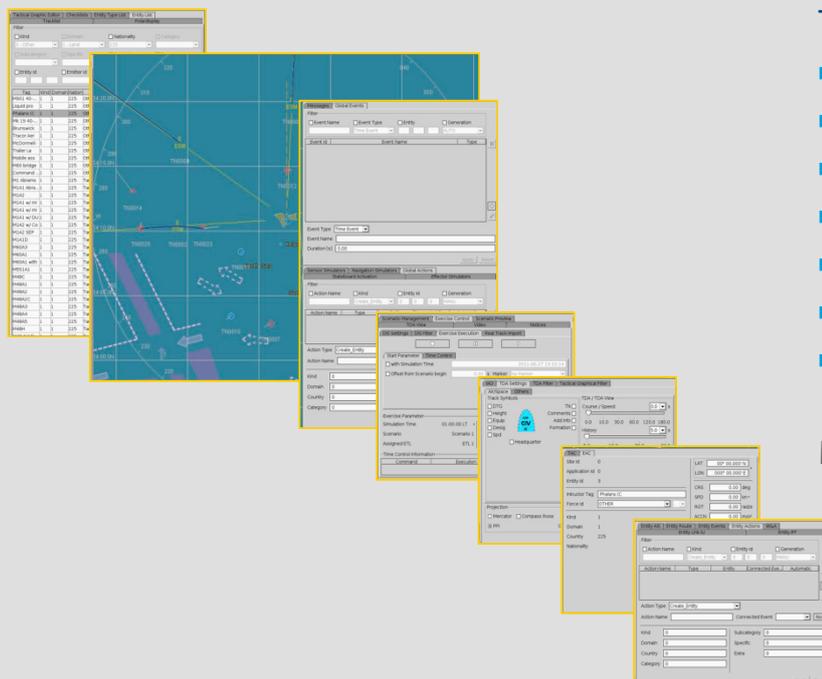
Limited human resources and space within the Combat Information Centre and redundancy requirements do not permit the usage of dedicated consoles to support operation of integrated sub-systems and related tactical functions. Instead ANCS uses Multi-Function Consoles capable of running the user interface of any implemented tactical function. Therefore all subsystems are able to be controlled from any of the consoles.



To provide optimum support for the duties of the operator, the information content of the user interface is adapted to fit the specific role of the operator. The layout of the display always follows the same system. Here too, the interface exhibits a modular structure.

Type of Desktops:

- Pre-Defined
- Customer designed



Type of Fragments:

- Remote HMI
- Navigation
- Link Communication
- Sensors
- Tactical
- Track Management
- ...

More than 200 different fragments are available

The ANCS User Interface - Perfect Match for Each Role

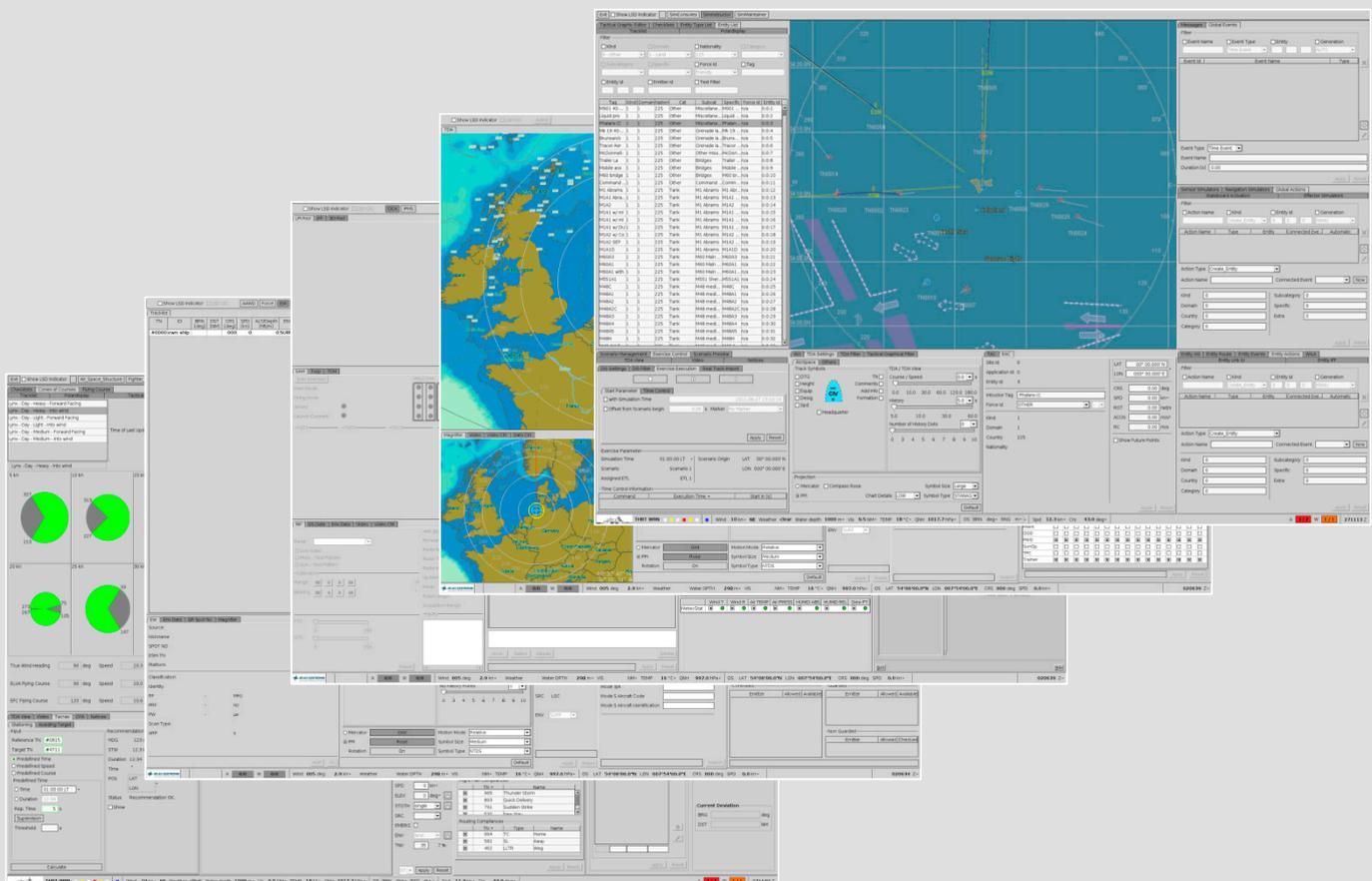
Information elements, whether already available or newly customized, can be combined to suit the customer's requirements and role definition, and then fitted into the framework. Thanks to the systematic structure of the user interface, an operator can easily switch between different roles.

Warfare Areas:

- AAW Anti Air Warfare
- ASuW Anti Surface Warfare
- ASW Anti-Submarine Warfare
- EW Electronic Warfare
- ASymW Asymmetric Warfare

Example Operator Roles :

- AAW Officer
- ASW Officer
- EW Officer
- Tactical Picture Compilation
- Helo Control
- Link Control



References

ATLAS has a proud history of combat management implementations for various surface combatants. In combination with our experienced combat system integrators ATLAS is able to provide sound combat systems for the German Navy and for export customers.

2004 SACHSEN CLASS
FRIGATE



GERMANY



2005 HAMINA CLASS
FAST ATTACK CRAFT



FINLAND



2005 KEDAH CLASS
OPV



MALAYSIA



2006 PATTANI CLASS
OPV



THAILAND



2007 HÄMEENMAA CLASS
MINE LAYER



FINLAND



2008 BRAUNSCHWEIG CLASS
CORVETTE



GERMANY



2014 TURVA CLASS
OPV



FINLAND



2015 MEKO 200
FRIGATE



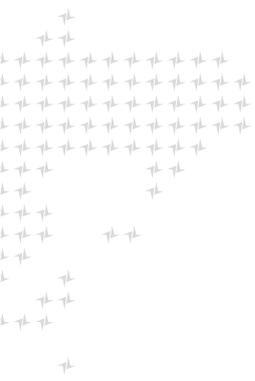
UNDISCLOSED

2016 BADEN-WÜRTTEMBERG CLASS
FRIGATE



GERMANY





ATLAS SERVICES. Naval Support – Worldwide. We Make Sure Your Systems Run Smoothly.



In the maritime sector, our customers play an essential role in securing the safety of the world's nations. ATLAS SERVICES provides the necessary logistical support. We ensure that our customers have the needed flexibility, combat effectiveness and operational readiness. Quality and reliability form the foundation of our corporate philosophy. Our wide-ranging service spectrum is designed this way. Our customers deserve nothing less.

ATLAS SERVICES means much more than just the delivery of spare parts, maintenance of products, or training in the use of our systems. ATLAS SERVICES offers a comprehensive and independent package that is available at any time and any place. In close cooperation with our clients, we put together the most suitable service concept, providing the basis on which we intensively support our components and systems over the entire life-cycle. What is more, we also offer this complete support for the products of other manufacturers – a process with which we are most familiar in our role as system integrator.

Technical Engineering

From the straightforward software update, through wide-ranging technical support in the upgrade of your ships, and up to the complete retrofitting of your systems – all of these tasks comprise a vital part of our technical competence. We will find a solution for each of your requirements.

Professional Support

Exceptional challenges, such as technical analyses, the execution of studies, as well as all other supporting technical services up to operational models for entire platforms, are fulfilled by our specialists with the very highest level of competence.

Product Support

Complex military systems, whether supplied by ATLAS ELEKTRONIK or other manufacturers, require sophisticated logistical support – during both the development and the in-service phases. ATLAS SERVICES is your competent and reliable point of contact.

Advanced Training

Knowledge is power. Training courses reflecting the state of the art are a core element of our customer care. To match the constant professional development of our service staff, we offer tailor-made training solutions for your personnel: face-to-face trainings, computer based trainings, simulation applications, and much more besides.

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