

Advantage by corporate organisation and structure:

ETMS Corporate Advantage



The Company

ET Marinesysteme is a joint venture of ATLAS ELEKTRONIK—a company that includes the naval division of EADS Germany since January 2007—and THALES, founded in 2001 by EADS and THALES to improve the success of the programmes EADS and THALES jointly work at.

As a management company ETMS has access to and coordinates all the resources necessary to manage large naval system programmes, backed up by the knowledge and strength of two worldwide well known players in the defence

market. ETMS combines the power of ATLAS ELEKTRONIK and THALES with the flexibility of a management company based on highly qualified and motivated engineers as well as on a very modern company infrastructure.

ETMS is strictly orientated to the requirements of its customers, working out best solutions within budget for them.

ETMS is located at the North Sea coast in the city of Wilhelmshaven – the main base of the German Navy.

Advantage

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ETMS combines the power of ATLAS ELEKTRONIK and THALES with the flexibility of a management company.

ETMS is backed up by the knowledge and strength of two worldwide well known players in the defence market.

ETMS is supported by highly qualified and motivated engineers and by a very modern company infrastructure.

ETMS is strictly orientated to the requirements of its customers, working out best solutions within budget and time for them.

ETMS ensures a high level of quality.



CMS

Combat Management System

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Advantage
by concept

Combat Management System

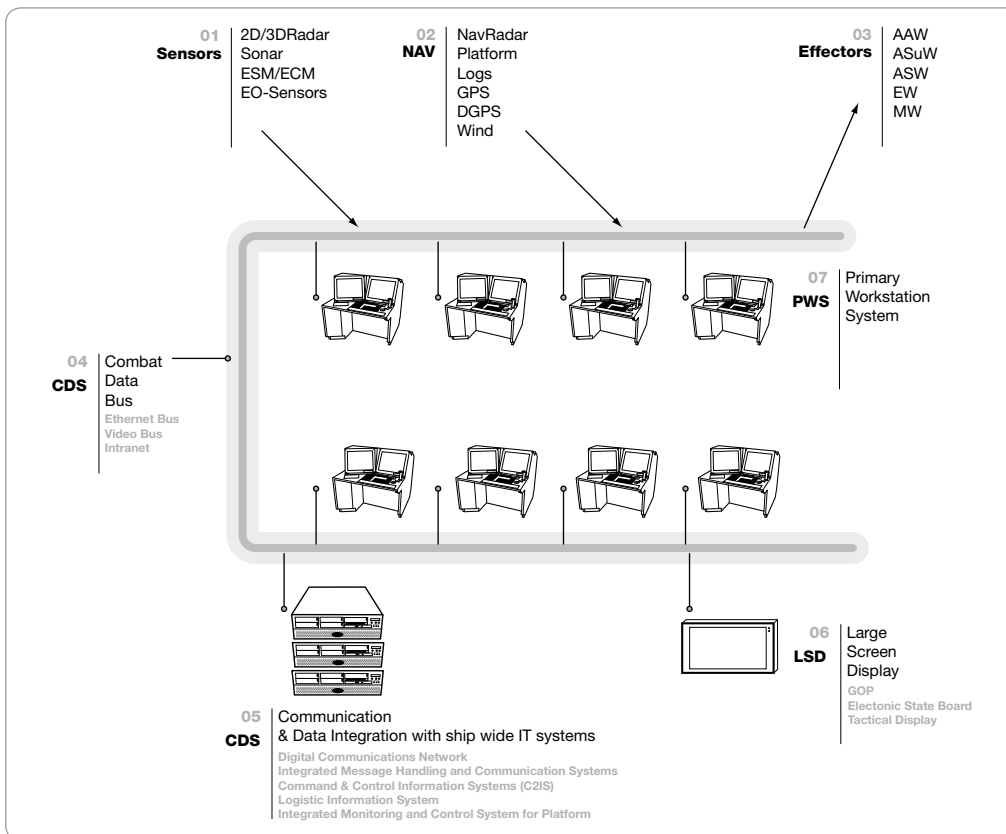
CMS Overview.

The CMS is based on the proven **SEWACO FD** concept, which is used aboard more than 65 vessels by 12 nations. Evolving from the German F124 and K130 programmes, current technology is incorporated into a modern CMS. The CMS controls all sensors and weapons. It

provides a tactical picture compilation based on sensor information and information received by the communication and link system. It is able to compute the threat evaluation and engagement plans based on rule sets generated by tactical and operational needs.

Functionality

- Surveillance, reconnaissance, observation and monitoring
- Support for naval force protection
- Support for engagement of enemy naval forces and pirates, including land attack capabilities
- Support for Search And Rescue (SAR) operations
- Performing of Functional Chains
- Detection
- Display of the tactical picture



Advantage by concept:

Tactical Data Compilation & Rule Based Decision Support



The tactical picture is built up by symbols (tactical entities) using:

- Sensor Data Fusion
- Rate Aided Manual Tracking
- Track Management and investigation of track behaviour for generating predefined alerts.
- Sensor Control
- Investigation of track behaviour in relation to tactical figures (e.g. track in area supervision) and generates predefined alerts.

Doctrine Support

Dependent on rules or predefined configurations the CMS supports the decision making process. Threat evaluations, based on real-time target

behaviour and non-real-time data (e.g. intelligence) recognize potential targets and order them in a ranking list.

Every target is checked against the different weapon systems to figure out the kill probability. Based upon these results and the current Rules of Engagement the CMS generates recommendations for the CIC team.

Doctrines, predefined rule sets, enable a high degree of procedure automation for epitomised operator support.

The doctrines support the partially automatic execution of operating sequences (e.g. Self-Defence ASMD Reactions).

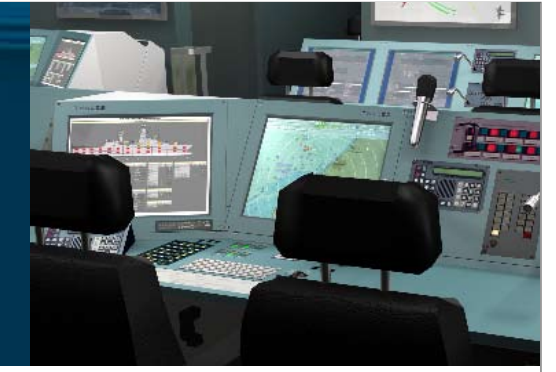
Combat System Data Network

The Combat System Data Network (CSDN) is the medium for exchange of time critical data (Real Time/RT) and non time critical data (Non Real Time/NRT) between the components of the CMS. Subsystem with their native data are adapted to the specific CMS format by Bus Interface Units (BIU). The BIU concept enables integration of a high variety of sensors and weapons with a small impact on CMS (low risk integration).

Advantage by design:

Ergonomics & User Efficiency

Daylight CIC with ergonomic display configuration reducing operator strain.



Day Light CIC

K130 is the first German programme where in the CIC no darkening is required. With respect to lighting the CIC is operated under regular office conditions. This becomes an advantage in reducing eyestrain and exhaustion of the CIC team.

The context-sensitive, task-specific configurable GUI (Graphical User Interface) complements the list of user-centric improvements.



Flexible integration of various sensors and effectors via BIUs.

Conclusion

- Proven Combat System concept with growth potential
- Highly integrated Sensors and Effectors
- Highly integrated with ship wide IT systems (a. o. Platform, Logistics, Internet)
- Automatically controlled Weapons Engagement
- Mission Planning System with Capability of Building Doctrines for typical scenarios
- Enabled for Net Centric Warfare
- Prepared for Collaboration at Sea
- Use of Open Standards Technology and COTS
- CMS Infrastructure (HW & SW) based on the **SEWACO FD** family of THALES (used in more than 65 vessels in 12 nations)
- Human Computer Interaction Design separately adaptable
- Up and down scalable for different needs due to distributed computing power by the **SEWACO-FD** concept
- High flexibility of subsystems' interfacing by connection via Bus interface Units