Action Speed Tactical Trainer (ASTT)

10,000 training hours per year* efficient sailing, flying, driving and weapon engagement

Generals

In 1995 and 1998 THALES has created and delivered the first generation of Action Speed Tactical Trainers (ASTT) for the German Navy. Since this time those trainers are the working horses for basic and advanced procedural training and as well as staff-officers training during the National and International General/Admiral Staff Course at the German Staff College (Hamburg). The ASTTs are also used for strategic mission preparation and concept evaluation & development (CD&E) for the German Armed Forces.

In 2005 the second generation of ASTT were developed and delivered to the German Armed Forces. This successful cooperation proves the long-term partnership approach of Thales.

Currently the third generation is available. Due to close cooperation with our German Armed Forces and international partners we improve continuously our product. So that the ASTT is ready for the traditional warfare areas and new challenges of the 21st century.

Training fields in Navies and joint Armed Forces

<table>
<thead>
<tr>
<th>Trainees</th>
<th>Level</th>
<th>Training Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator</td>
<td>Junior / Senior</td>
<td>Basic procedures</td>
</tr>
<tr>
<td>CIC-Team</td>
<td>Junior / Senior</td>
<td>Advanced procedures Teamwork and Leadership</td>
</tr>
<tr>
<td>Command Team</td>
<td>Senior</td>
<td>Advanced procedures Teamwork and leadership</td>
</tr>
<tr>
<td>Flotilla Staff</td>
<td>Senior</td>
<td>Advanced procedures Teamwork and leadership Concept development &amp; evaluation (CD&amp;E) Mission preparation</td>
</tr>
</tbody>
</table>

Main characteristics

- Reasonable and efficient training due three parallel and different games
- High scalability and free configuration for number and purpose of trainee multi function consoles
- Flexible and extendable database
- Easy to integrate electronic charts and to adapt 3D geography
- Games:
  - trainees vs. trainees
  - trainees vs. instructors
  - trainees vs. trainees in simulation network
- Control own, enemy and neutral forces
- Damage assessment
- Record and replay of games
- Interfere voice communication
- Tactical Data Link function
- HLA/DIS connection to simulation networks and Fleet Synthetic Training (FST)
- Hardware (client/server architecture based on commercial of the shelf – COTS)
Technical Aspects

Games
Up to 3 different and parallel

Platforms
Up to 40 independent trainee controlled with up to 20 Multifunction Consoles

Trainee Workstation
Up to 480 Multifunction Consoles

Software

Operating System
Open standard system (LINUX)

Human machine interface (HMI)
English-language, generic and based on JAVA

2011: Dual-language (English / French or Italian or Arab or etc.)

Database
High performance ORACLE Database Units
Up to 1000 different types

Sea: ships, boats, submarines, merchant ships, speedboats, ….

Air: airplanes, helicopter, …

Land: tanks, infantry, vans, lorries, …

Sensors
Up to 2.000 different types

Weapon
Up to 900 different types

Decoys
Up to 200 different types

Connectivity
Via HLA/DIS/Tactical Data Link to simulators and real platforms

Models and Simulators

Environmental influences
Radar und Sonar Detection Ranges, Movements, Radio Communication

Communication
On board and external Communication (including interferences)

Weapon
Hit probability and damage (including missile search windows, missile & torpedo programming, etc.)

Radar-Detection
1.000 different models

Passiv-Sonar-Detection
50 underwater acoustic models

ASTT-Version:

<table>
<thead>
<tr>
<th>Starter</th>
<th>Class-room for up to 8 trainees</th>
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</thead>
<tbody>
<tr>
<td>Beginner</td>
<td>ASTT up to 12 trainees</td>
</tr>
<tr>
<td>Midsize</td>
<td>ASTT up to 20 trainees</td>
</tr>
<tr>
<td>Enterprise</td>
<td>ASTT 2x Midsized connected HLA/DIS/Link</td>
</tr>
</tbody>
</table>

In Order to provide effective Staff training the ASTT-Version can be enhanced with strategic training components

Training Objectives

Junior / senior Operators
Sensors, weapons, navigation, stationing, Helicopter / Combat Aircraft Control

Duty
Anti Air Warfare

Commanders in Warfare Areas
Anti Submarine Warfare

Anti Surface Warfare

Joint-Fire support

Amphibious Warfare

Mine Counter Measures

Electronic Warfare

Search-and-Rescue Procedures

Commanding Officers
Rules of Maneuvering within military formations, stationing

CIC- and Command Teams
Collaboration, team-training and leadership skills

Staff- & Flotilla Staffs
Disposition of forces, collaboration, team-training and leadership skills

Fleet legal advisor
Rules of engagement, decision making process

Think Tanks
Procedural training and concept development & evaluation

NGOs and GOs
Collaboration of NGOs and GOs with Navies and joint Armed Forces

*Example of a midsized ASTT Version 2010:

5 Training Rooms for 50 trainees including auditorium, instructor area, preparation room and server room

* a conservative example from one of our customer:

50 trainees are trained in 50 weeks/year with 8h/ day

= 10.000 training hours/year

THALES

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