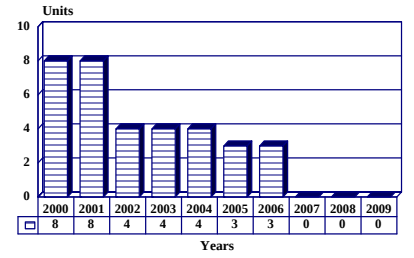
SUBTAS - Archived 12/2000

Outlook

- The SUBTAS is in production
- The German Navy was the first customer for the SUBTAS
- Germany is attempting to find additional customers for SUBTAS. Candidates include the Italy, the Netherlands and the United Kingdom
- Overall production volume for the SUBTAS is likely to be low, since the system is reusable



Orientation

Description. Unmanned underwater target vehicle.

Sponsor. The German Ministry of Defense, Berlin, Federal Republic of Germany.

Contractors. The SUBTAS was being developed by AlliedSignal ELAC Nautik Gmbh, Kiel, Germany. This facility was part of AlliedSignal Ocean Systems, which was purchased in 1997 by L-3 Communications.

Status. SUBTAS development completed, production commenced. Some preproduction units already delivered to German Navy.

Total Produced. Approximately 17 SUBTAS units had been completed or were in the process of being manufactured by the end of 1999.

Application. Small self-propelled underwater vehicle intended to simulate submarine signatures in anti-submarine warfare (ASW) training operations.

Price Range. No specific information is available concerning the per unit cost of the SUBTAS, although sources have said it could be in the area of $400,000 to $600,000.

Technical Data

Design Features. The SUBTAS uses the hull from the now obsolete AlliedSignal Mk 37 torpedo.

	Metric	US
Dimensions		
Length	5.2 meters	17.1 feet
Diameter	483 millimeters	19.03 inches
Performance		
Speed	6-13 knots	6-13 knots
Duration	2.5 hours	2.5 hours
Max Depth	300 meters	984 feet

Propulsion. The SUBTAS also uses the propulsion system from the Mk 37 torpedo. The old torpedo's silver-zinc (Ag/Zn) batteries have been replaced with nickel cadmium (Ni/Cd) to allow multiple recharging. The volume of the battery compartment has also been increased.

Control & Guidance. Prior to launching the system is preset with a run pattern.

Launcher Mode. The SUBTAS can be launched from various surface ships.

Recovery. Once the SUBTAS has completed its run, it can be recovered by the launch ship.

Warhead. The SUBTAS is not equipped with a warhead.

Variants/Upgrades

There are no specific variants of the SUBTAS other than the one now in development. For more information on the system, please see the pertinent entries in the **Program Review** section.

Program Review

Background. The SUBTAS is designed to simulate the acoustic signature of hostile submarines for use in anti-submarine warfare (ASW) training. The unit can operate in open ocean and replaces the need for an instrumented range.

Description. The SUBTAS uses the hull and propulsion system from the obsolete AlliedSignal Mk 37 torpedo. The Mk 37 has not been in production for a number of years, but remains in service with some navies in Asia and Latin America.

The SUBTAS is outfitted with three microprocess-orcontrolled main units that supervise the entire system. These units include:

- a navigation computer for guidance and control;
- a supervisor unit; and
- an acoustic computer.

The acoustic computer can operate in both passive and active modes and provides accurate signature simulations of submarines, torpedoes, dipping sonars and sonobuoys.

Operation. Prior to launching, the SUBTAS is preset with specified run patterns that mimic the behavior of submarines. Preset operational characteristics include:

- prerun parameters;
- run pattern;
- speed;
- depth limits;
- run time;
- acoustic mode/levels;
- carrier course/speed; and
- latitude/longitude.

The run pattern is monitored from the control ship.

The acoustic performance of SUBTAS, which is controlled by the acoustic computer, is achieved by sensors and underwater sound projectors located onboard the unit itself and within a 40-meter towed array. The towed array includes five sound projectors.

The sound projectors simulate a submarine's low-frequency propulsion noise and sonar echoes (5-60 kHz). Four hydrophones are mounted in the SUBTAS's head, with two more installed at the end of the array. The hydrophones located on the array provide a miss-distance indication system.

Funding

No specific information is available concerning funding for the SUBTAS program.

Recent Contracts

No information has been released concerning SUBTAS contract awards.

Timetable

Month	Year	Major Development
Early	1990s	Development under way
	1996-1997	Preproduction under way for the German Navy
	1997-1998	In service with German Navy
	1998-1999[(a)]	Full-scale production commenced

[(a)] estimate

Worldwide Distribution

Procurement of this system by overseas nations could occur but may be limited in overall scope since most countries in the NATO alliance already have or are manufacturing such target systems.

User Country(s). The **German Navy** will likely be first customer for the SUBTAS.

Forecast Rationale

German Navy uses the SUBTAS as its anti-submarine warfare training target. This reusable system is similar to the French CALAS, relieving the German Navy of the need to use submarines as aggressors during exercises.

The need for reusable ASW training systems is not widespread. This means the market for SUBTAS will probably be limited to meeting German Navy needs. Among those countries with such a requirement, it is often met by a locally produced system. Still, the possibility that one or two export orders could be placed does exist. The worldwide submarine fleet is continuing to grow, which could generate demand for reusable ASW training targets. If this system can offer an overall inexpensive alternative to using manned submarines as aggressors, L-3 Communications could find a market for SUBTAS among certain Latin American and Asian navies. In Europe, Italy and the Netherlands are potential candidates, as is the United Kingdom. However, the UK does have other options available to it and so far has announced no plans to procure SUBTAS.

Since the SUBTAS is reusable, the system's annual production volume will be much lower compared to expendable targets like the Mk 39 EMATT. Germany has not announced any SUBTAS procurement objective, but it could number somewhere between 20 and 35 units.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

			High Confidence Level				Good Confidence Level			Speculative			
Missile	(Engine)	thru 99	00	01	02	03	04	05	06	07	08	09	Total 00-09
L-3 COMMUNICATIONS													
SUBTAS	UNSPECIFIED	17	8	8	4	4	4	3	3	0	0	0	34
Total Production		17	8	8	4	4	4	3	3	0	0	0	34