The Search and Rescue Information System (SARIS) version 4 is the latest generation of information technology for Search and Rescue (SAR), bringing together years of experience gained from world Coastguard Agencies with BMT’s expertise in marine environmental software systems.

SARIS is an integrated SAR planning tool incorporating both Search Area Determination (SAD) and Search Area Coverage (SAC).

**SARIS IMM**

New to SARIS 4 is the SARIS Incident Management module written to provide logging functionality for coastguards. Comprises General, SAR Incident, Pollution Incident, Transit and Watch Handover logs.

The primary planning requirement during a Search and Rescue (SAR) operation is knowledge of the likely search area in which targets may be found. The determination of search areas is not straightforward in an environment where the prevailing meteorology and oceanography complicates target trajectory.

As well as the ability to use pre-configured databases, SARIS can import gridded metocean data in the internationally recognised NetCDF data format. Automatic import of this type of data can dramatically increase the system’s accuracy and speed up model set-up times.

SARIS is typically supplied pre-configured with electronic charts but operators are able to import their own charts in S57/S63 format.

SARIS is used internationally, by Coastguards, Navies and Port Authorities, including:

- UK Maritime and Coastguard Agency
- Jersey Coastguard
- German Sea Rescue Service and German Navy
- Royal Navy
- US Air Force
- The Netherlands Coastguard
- Hellenic Coastguard (Greece)
- Danish Navy
- Greenland Navy
- Faeroes Pollution Department
- MRCC Hong Kong
- Ukrainian Navy
- Guernsey Harbour Authority
Search Area Determination

The SAD component of the system predicts the movement of a target under the combined action of winds, tides and tidal currents. Using the new Monte Carlo particle based methodology, the system establishes the most probable search area based on a range of probabilities, errors and statistical deviations. In addition, the existing three points models of datum point, datum line and backtrack search and rescue (SAR) planning methodologies are still available. SARIS has in-built databases of configuration parameters for rapid model set-up.

The features provided in the software are:

- Clear, step-by-step interface system allowing rapid set-up during emergency operations by all staff
- Database of target types
- Datum Point, Datum Line and Backtrack planning facilities
- Electronic charting
- Chart-based display of target trajectory and most probable search area
- Chart-based display of prevailing currents
- Results output to reports, external files and printers

Search and Rescue Planning

SARIS has been designed to operate anywhere in the world. Using in-built databases of oceanography (based on best available tidal and ocean current data) and electronic charts, SARIS can be applied by any search and rescue authority in the world.

Search Area Coverage

Once search areas have been established, SARIS provides the user with a suite of tools for configuring and deploying Search and Rescue Unit's (SRU's) in searching for the lost target(s). These advanced and easy to use graphical tools allow very rapid planning for best use of SAR resources.

These SAC tools include the search patterns:

- Creeping line ahead - Expanding square
- Parallel track - Sector search

SARIS seamlessly calculates on the fly, Probability of Detection (POD), track spacing, corrected sweep width, sub-area size etc.