

Defence Communications Systems

SAROMS **SUPPORT TO SEARCH & RESCUE CO-ORDINATION**

SAROMS (SAR Operation Management System) is a Search & Rescue (SAR) operations management and co-ordination system which supports operational personnel during all the intervention phases needed to meet a SAR request. These encompass information collection; automatic probabilistic SAR area computation; graphical aided standard search patterns computation; rescue assets planning; and operations co-ordination and monitoring.

INFORMATION ACQUISITION

When the SAR organization is activated, SAROMS immediately defines the area in which to conduct SAR operations. It uses all collected information such as:

- Flight plans
- Radar tracks
- Last known position
- Sight reports
- Emergency beacons
- Communications (phone, e-mail)
- Meteorological info
- Vectorial Maps
- Route hypotheses.

Employing a 3D/2D geographical area representation, operators can easily define appropriate course of actions.

AUTOMATIC PROBABILISTIC SAR AREA COMPUTATION

At the planning stage, SAROMS's algorithms assess the SAR area to look for survivors with the highest accuracy.

GRAPHICAL AIDED STANDARD SEARCH PATTERNS COMPUTATION

Operators use SAROMS's built-in features to define best SAR research pattern, taking into account terrain orography, vegetation, surface features and manmade features. A variety of different SAR patterns, such as expanded square, sectors and parallel, are supported.

RESCUE ASSETS PLANNING

SAROMS manages the rescue units' deployment, generating search plans within the identified areas. In line with its role as a SAR support system, SAROMS carries out a set of functions that generate operational orders for all search units during the planning phase.

OPERATIONS CO-ORDINATION AND MONITORING

The operations co-ordination and monitoring capability supports the implementation of searches on the basis of planned activities. By using a variety of different communications links, rescue crews interact with SAROMS. They both receive planned mission data and send their current operational status. SAROMS uses updates for synoptical real-time representation of actual operations.

HARDWARE CHARACTERISTICS

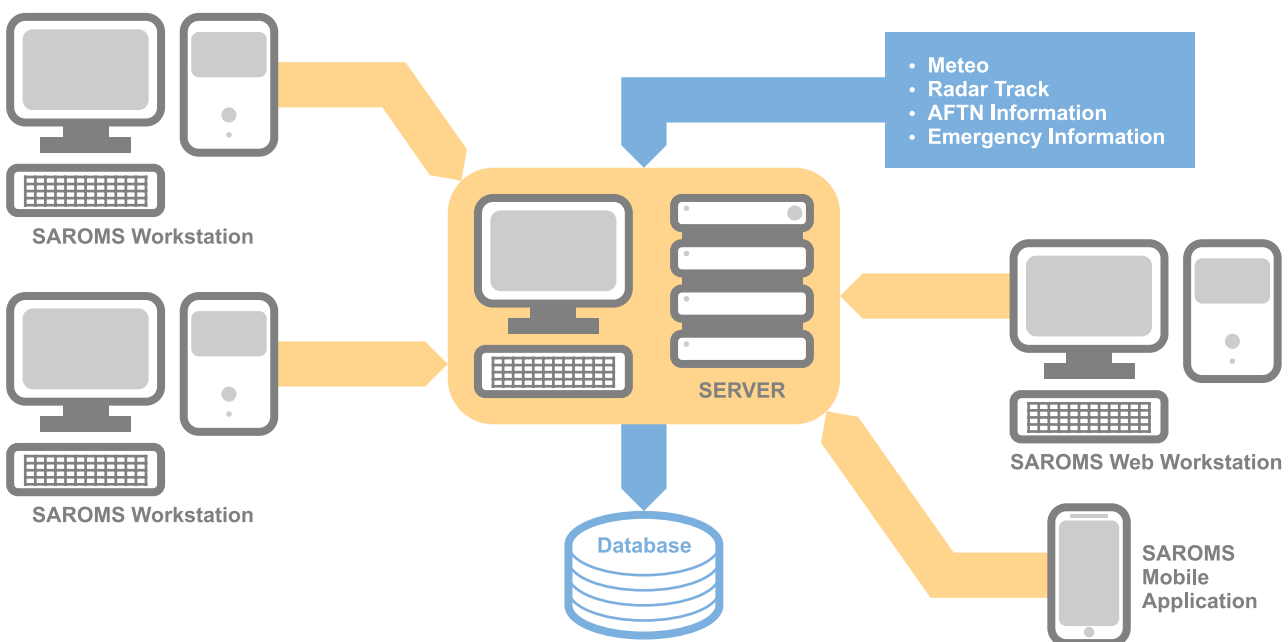
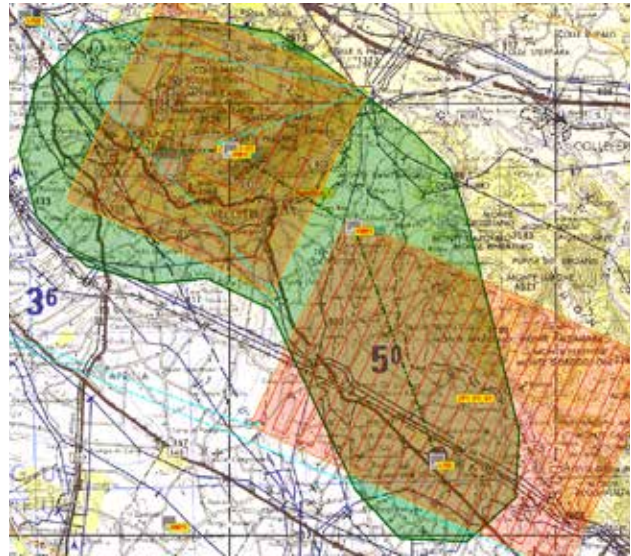
SAROMS is based on a client-server architecture. Its standard configuration includes:

- Sever computer
- A typical client configuration based on state-of-the-art workstation with two monitors in order to increase operator's ergonomics
- As a transportable system, SAROMS can be configured to meet the specific need of the operational context
- Web application is available in order to push or display SAR operation information
- Smartphone or tablet applications can send/receive information directly from the field of operation

SYSTEM ARCHITECTURE

SAROMS meets the main objectives needed to support SAR activities, through:

- Automation – the collection and automatic storage of all data useful for defining research zones
- Ergonomic efficiency – a user-friendly presentation of information (through cartography, satellite images and maps) in modes and performances suitable for the required operational needs
- Integrated technology – state-of-the-art communications (Internet, LTE, Satellite) and information systems implement processing algorithms, increasing intervention efficiency



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