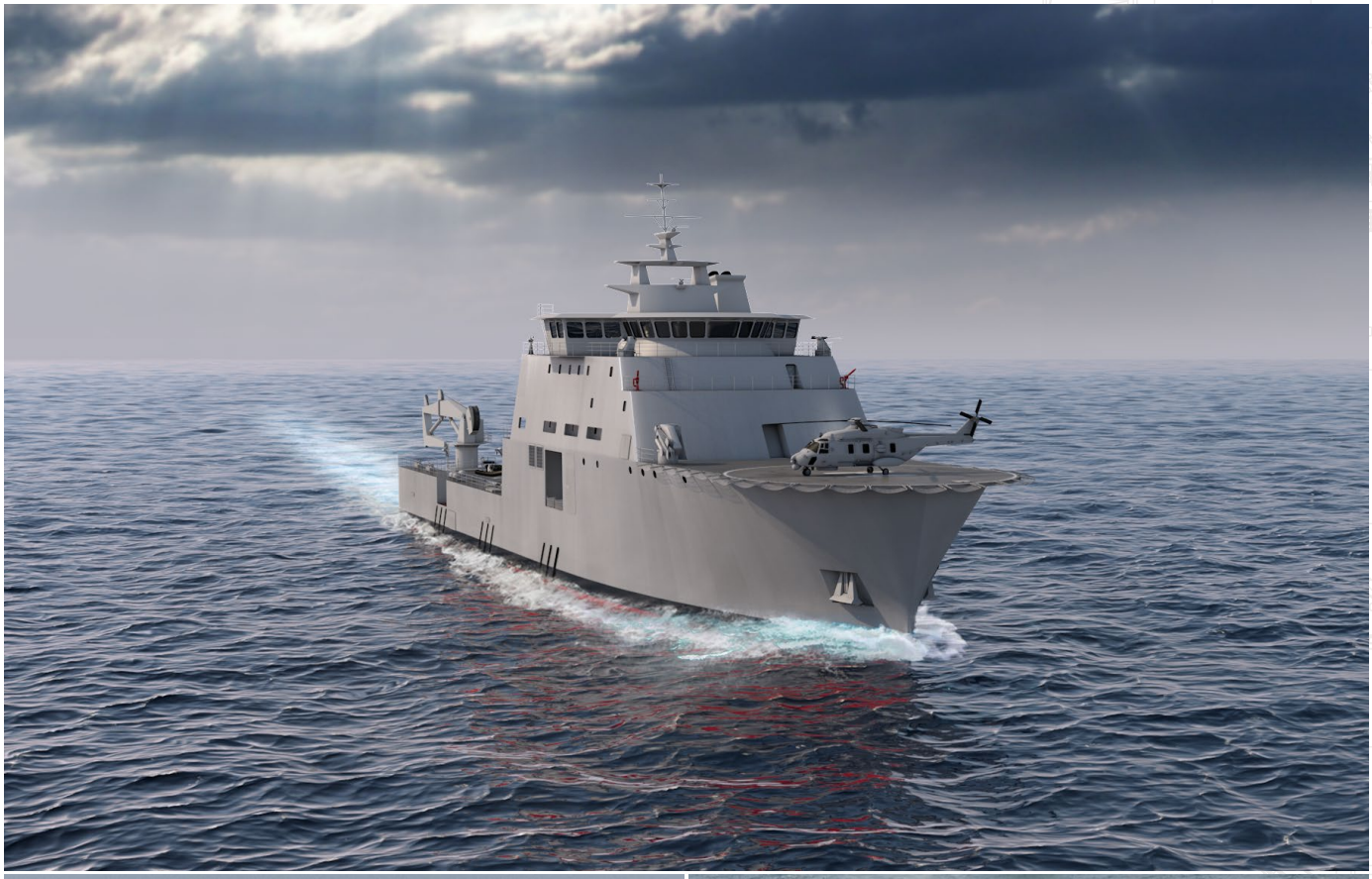
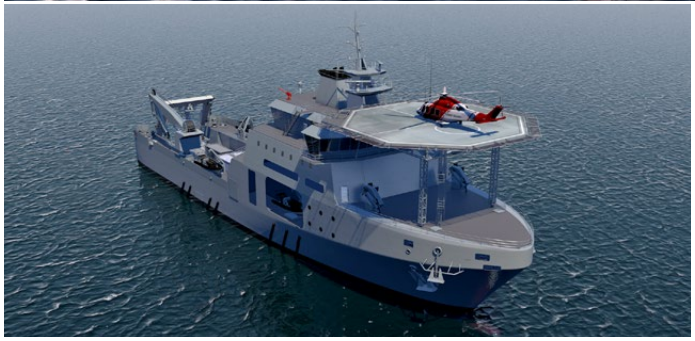
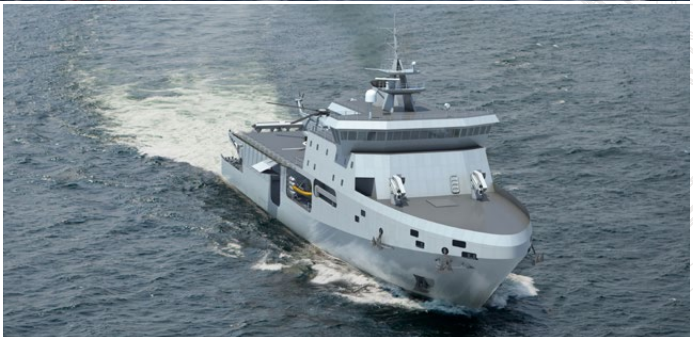
SALVAS®

A range of naval support ship designs providing utility and flexibility







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Introduction

SALVAS®, BMT's utility auxiliary ship design, represents a family of multi-role vessels offering flexible configurations to perform a variety of maritime non-combat, military operations.

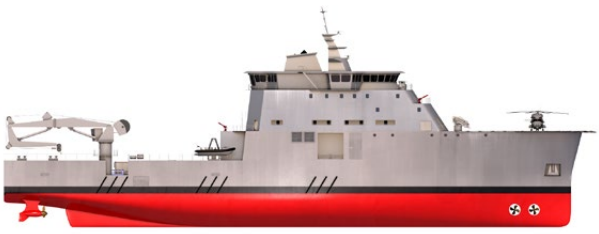
A cost-effective solution to evolving naval requirements, SALVAS® is designed with commercial equipment but incorporates essential naval standards to provide interoperability and survivability for operations in a low (to moderate) military threat environment. BMT can tailor the design to a client navy's mission-specific requirements, offering either a flexible multi-role workhorse or a customised role-specific ship.

The design offers a large working deck and reconfigurable mission compartments, systems, facilities and supporting accommodation for embarked mission teams. This allows the embarkation of specific mission and role equipment, logistic transport or multiple boat launch and recovery, providing the designs with the ability to perform a range of naval support tasking.

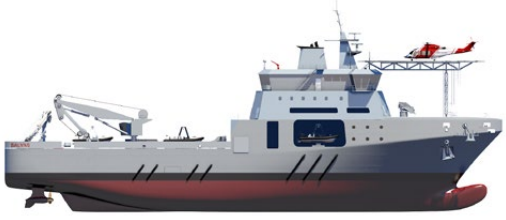
Provided with a podded propulsion system and dynamic positioning capability to support operations requiring station keeping, including operation of underwater equipment, vehicles and rescue vehicles and to maintain station on other ships or surfaced submarines.

The large open working deck with service connections provides the flexibility to embark mission related equipments, modular systems, or cargo to fulfil a wide range of roles. A large deck crane provides loading and unloading and subsea recovery. The design can be provided with a moonpool and overhead launch and recovery systems (LARS), a stern ramp/elevator, stern A-frame, and boat or submersible garages for crewed and uncrewed vehicles.

Designed to IACS Classification Society Rules, including Dynamic Positioning notation DP2, and either IMO or naval auxiliary ship stability standards. The design also offers compliance to either SOLAS or Naval Ship Code regulations. SALVAS® offers the flexibility, cost effective commercial equipment combined with dedicated naval design features including self defence systems, replenishment at sea and aviation.



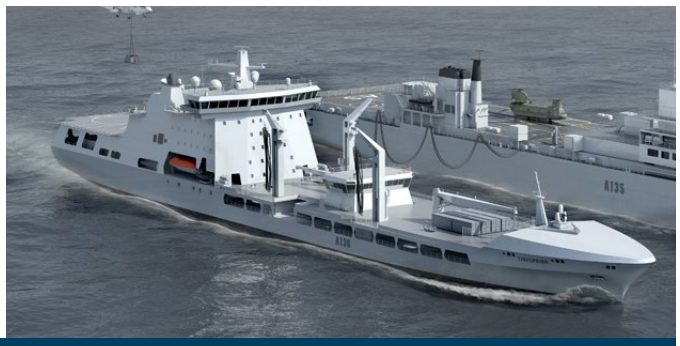
SALVAS® 100 Hydrographic and Littoral Focused ship.



SALVAS® 90 Utility Support and Logistic ship.

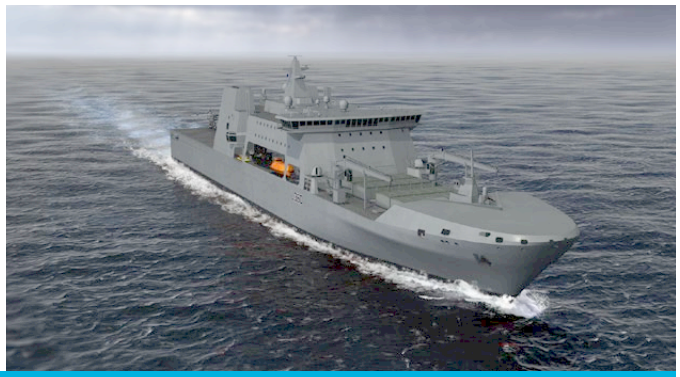
Our auxiliary ship design range

Drawing on BMT's extensive experience in the design of auxiliary and amphibious platforms, the SALVAS® family has been developed to offer a cost effective solution for fleet support, search and rescue missions and underwater operations. SALVAS® includes a large working deck that can be configured for different operations, used for embarked mission systems and modules or for cargo.



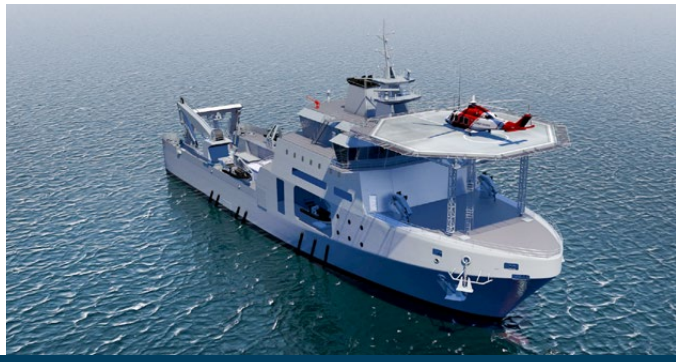
AEGIR®Replenishment Ship

Logistics and replenishment at sea for fuel or fuel, stores & munitions at sea. In service with the UK RFA & Royal Norwegian Navy.



ELLIDA® Logistics Ship

Transport of vehicles and stores, amphibious operations and medical support.



SALVAS® Utility Auxiliary

Repair & salvage, diving & submarine rescue, hydrographic, intelligence gathering, coastguard, policing and logistics.

Functions include:

- Deployment of submarine rescue system
- Supporting deployed forces including the maintenance of naval surface vessels and submarines
- Providing assistance to damaged vessels, towing and salvage operations
- Maritime search and rescue
- Logistics, re-supply and humanitarian assistance
- Hydrographic, oceanography and intelligence gathering
- Support to littoral operations and special forces
- Ordnance disposal
- Research and training

The Utility Auxiliary – A multi-role or specialist vessel

Submarine Rescue

SALVAS® can be employed in the role of submarine rescue MOSHIP with the embarkation of suitable mission equipment and a rescue vehicle. This may be provided either as an embarked modular system with some built-in capabilities or as a dedicated variant designed specifically to operate solely as a Submarine Mothership (MOSHIP).

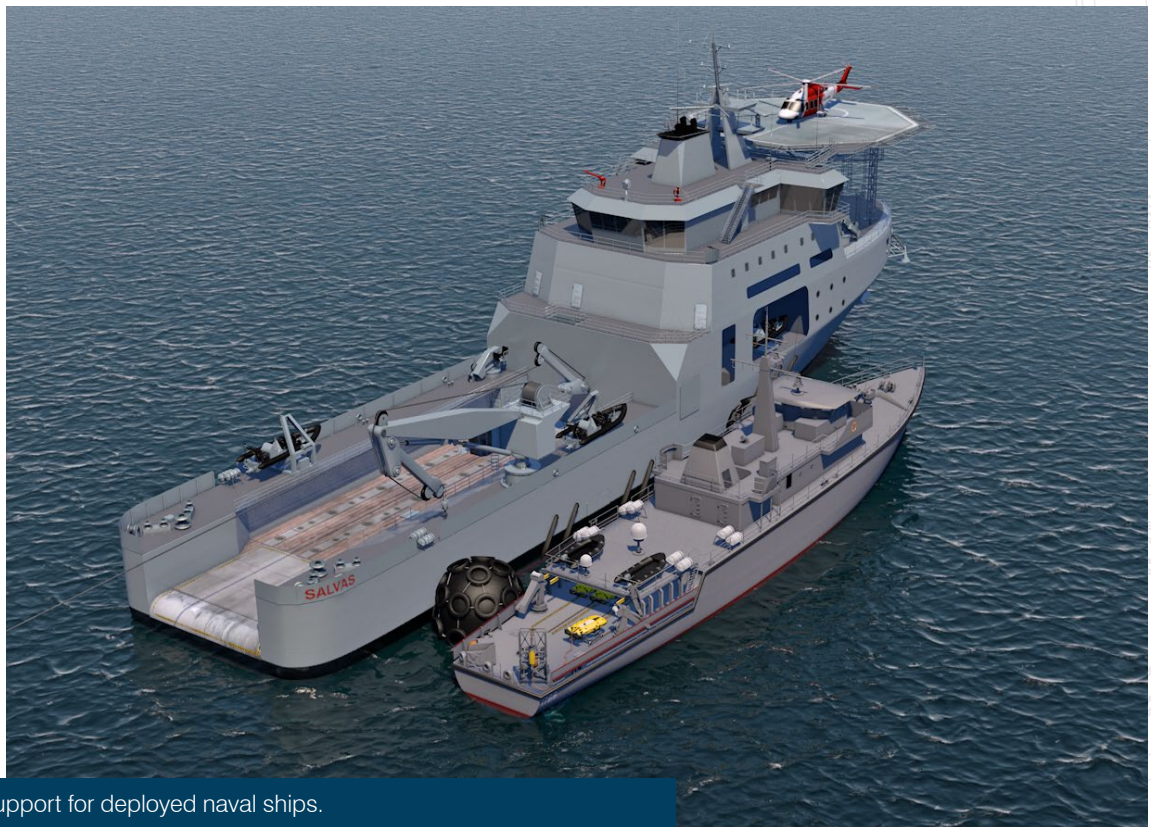
Maintenance and Repair

SALVAS® can be employed to provide forward deployed maintenance and repair for warships and submarines, performed either when alongside in a port facility, providing national and secure capabilities which are not present in the port facilities or alternatively at a secure anchorage with SALVAS® providing afloat support.

SALVAS® variants equipped for this role would be able to provide support services to vessels alongside including overside services, workshop and repair facilities and heavy lifting capability.

Key characteristics include:

- Large 41m long working deck for embarking a rescue submersible and supporting modules.
- Stern A frame and deck crane of up to 35 tonnes capacity.
- Diving centre, Surface Supplied Breathing Air Apparatus, decompression facilities and a medical complex.
- Sensors and communications, including Multi and Single Beam Echo sounders, underwater communications and High Precision Acoustic Positioning (HiPAP).



SALVAS® provides support for deployed naval ships.

The Utility Auxiliary – A multi-role or specialist vessel continued

Damage Control, Salvage and Towing

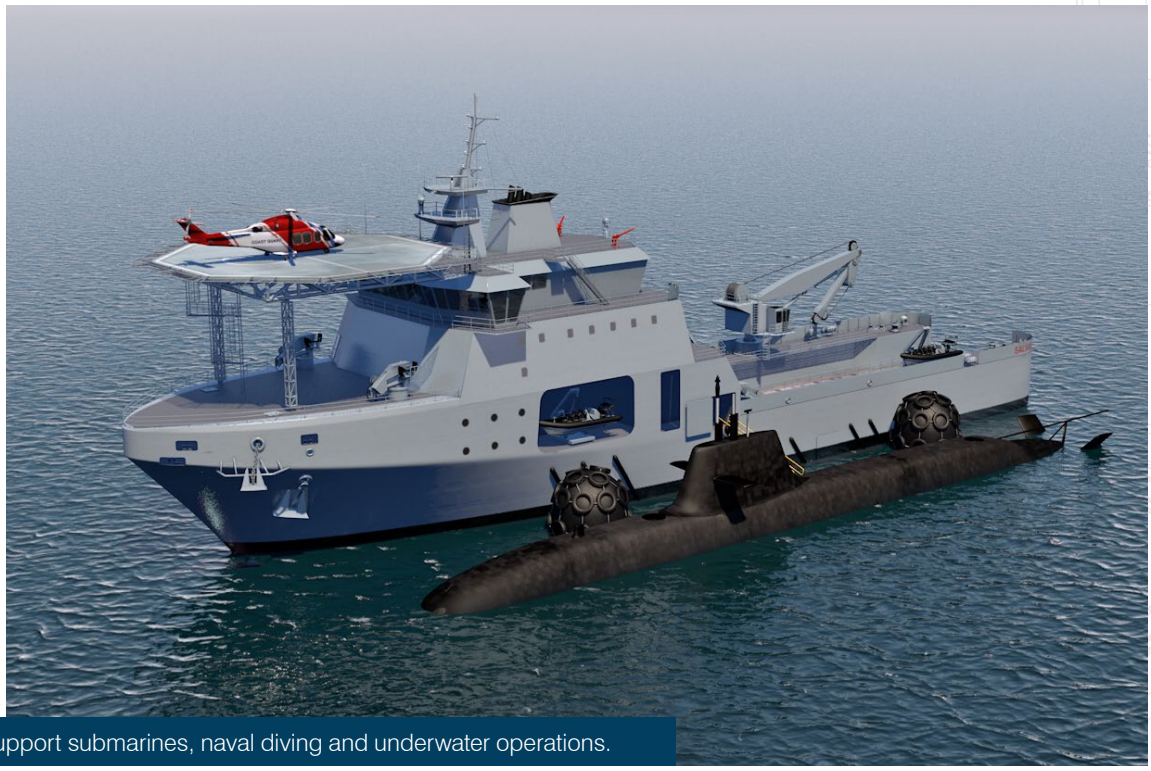
SALVAS® would be able to provide support to a stricken vessel including providing standoff firefighting and additional pumping capacity as well as a bollard pull towing capability to act as an emergency Towing Vessel (ETV). In support of underwater salvage operations, SALVAS® would be able to:

- Conduct underwater search utilising onboard, remote or autonomous deployed sensors to search, locate and identify underwater objects.
- Conduct wreck surveys using onboard or off board sensors.
- Conduct deep diving salvage operations.
- Recover and salvage objects using ROVs and deck crane (up to 50 tonnes lift on SALVAS® 100).

Search and Rescue

SALVAS® would be able to conduct search and rescue operations in support of civilian authorities or military operations and would also be able to provide On Scene Commander and command and control (C2) for multi-unit SAR operations. Tasks would include:

- Search, detect and identify contacts.
- Support Air Search, including provision of Helicopter Inflight Refuelling.
- Launch and Recover rescue craft.
- Provide triage and immediate lifesaving medical support.
- Casualty evacuation.



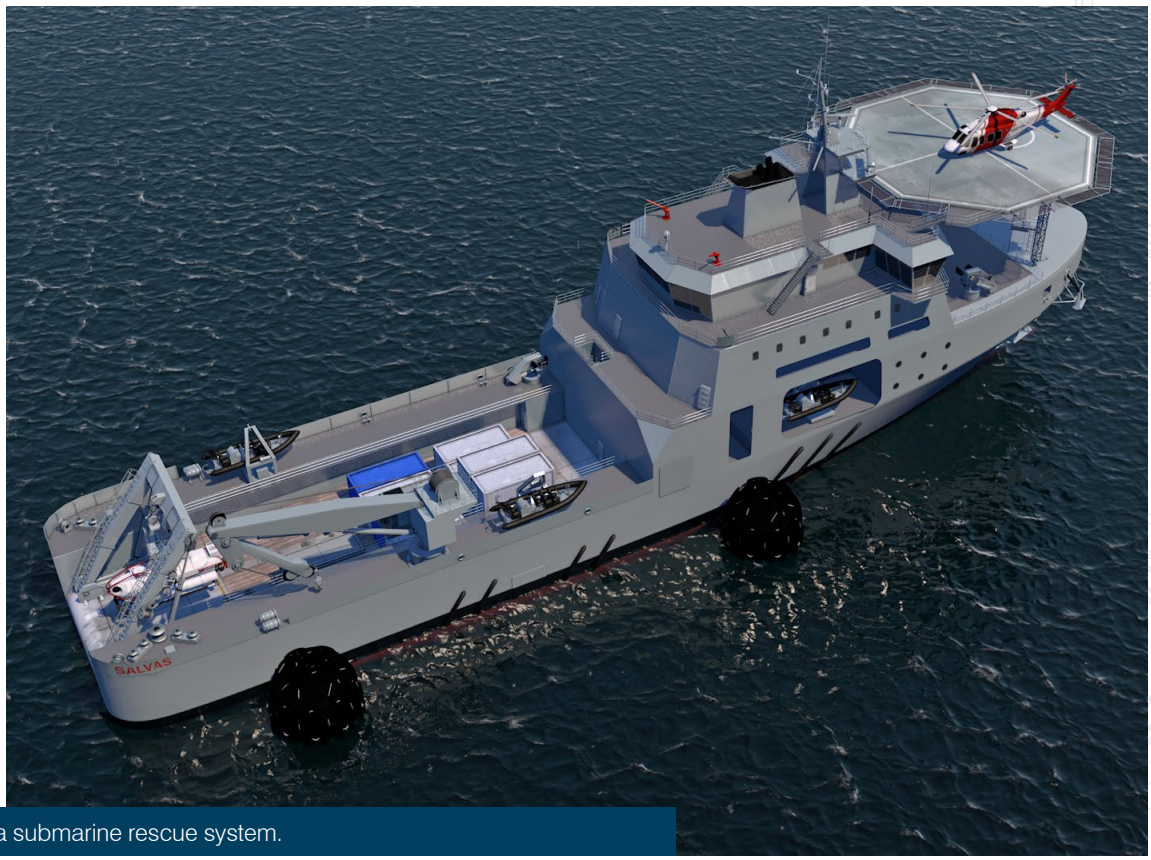
SALVAS® provides support submarines, naval diving and underwater operations.

The Utility Auxiliary – A multi-role or specialist vessel continued

HADR / Logistic Re-supply

With a capability to embark a wide range of items to the open working deck, SALVAS® would be well suited to support operations such as Humanitarian and Disaster Relief (HADR) or for use as a general logistics vessel, conducting unit and base resupply. With a large capacity deck crane, SALVAS® can self-load / unload cargo or mission modules from the working deck as well as providing support from ship systems to shore.

	Salvas 90
Length	94m
Beam	19.6m
Displacement, fully loaded	5,500 tonnes
Draught, fully loaded	5.5m
Working Deck Payload	160 tonnes
Working Deck Area	~500m^2
Accommodation	80 - 100
Service Speed	18kts
Typical Range, 14kts	4,500 nm



SALVAS® deploying a submarine rescue system.

Hydrography and Littoral Focused Capabilities

Hydrographic, Oceanographic

SALVAS® can be configured to allow the conduct of hydrographic and oceanographic operations, using on and off board systems and additional mission fit equipment's.

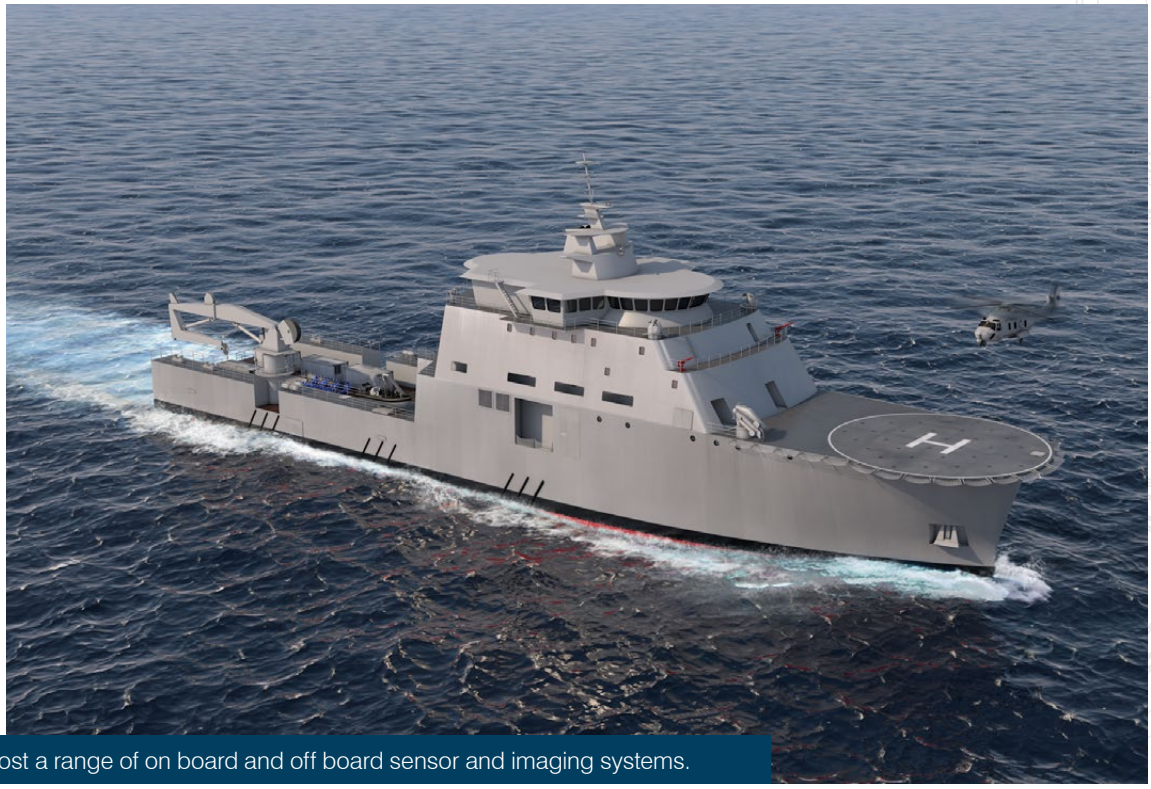
To enable the conduct of hydrographic and salvage operations, SALVAS® is provided with a Multi Beam Echo Sounder (MBES) and the hullform has been developed for minimising the flow noise over the array. A Single Beam Echo Sounder is also provided for additional / revisionary modes. Provision has been made for the embarkation of a modular towed sonar and / or side scan system, based on a TEU module.

A ROV hangar and LARS system is provided for a Class 2 ROV and facilities are provided for the stowage, preparation, and control of AUV's and UUV's, which can be launched by either the deck crane or from mission boats. A moonpool supports a wet bell diving system or discrete deployment of underwater vehicles.

When required, a survey boat may be embarked on the working deck providing inshore / shallow water capabilities.

Intelligence, Surveillance and Reconnaissance

SALVAS® supports the creation of an intelligence picture using a range of above and below water sensors, including off board systems, to gather data, process and provide to other parties. In particular it can support the security of underwater infrastructure and provide, gather and assessment intelligence to support maritime forces and intercept and track surface vessels and submarine.



SALVAS® is able to host a range of on board and off board sensor and imaging systems.

Hydrography and Littoral Focused Capabilities continued

Maritime Security and Support to SF

As a naval platform, SALVAS® can support the security of national waters providing a constabulary presence and with its ability to support and deploy multiple boats and air assets it can support wider security and policing operations using manned and unmanned assets.

SALVAS® can be deployed to provide a secure forward base for the embarked force to conduct a range of intervention, peace support or support to civilian authority operations.

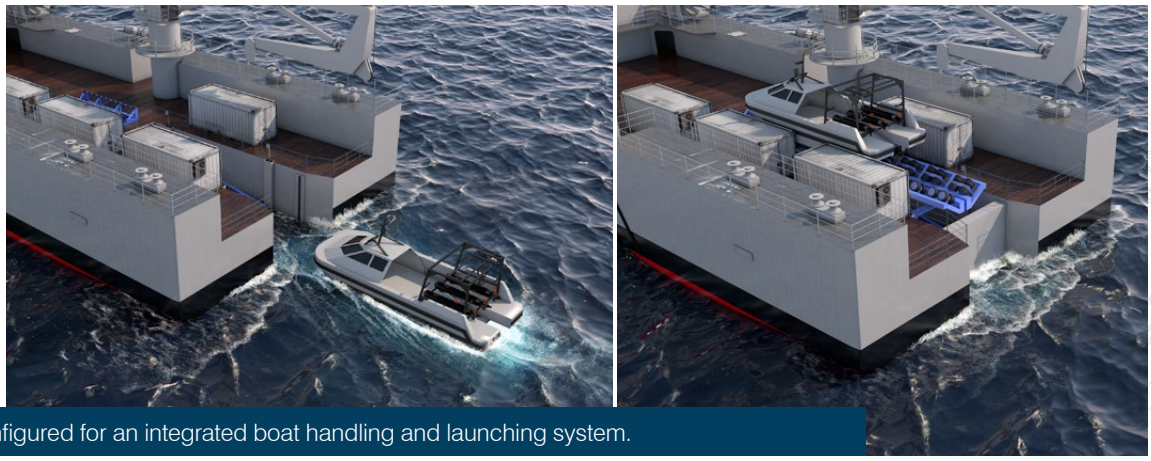
Able to support a small detachment of Embarked Land Forces or Special Forces (typically 40 to 50), providing lodgement and the ability to deploy by sea or air to conduct operations.

With the optional inclusion of an integrated stern slipway and boat handling system, SALVAS® can embark multiple boats on the working deck, typically littoral craft of up to 12m length with the potential for at least five boats. The deck crane also offers a launch and recovery capability including for small submersibles. Airborne deployment would be by a non-organic helicopter using the Flight Deck which can accommodate a range of standard naval helicopter types.

Support to MCM and Ordnance Disposal

In support of mine countermeasures and Explosive Ordnance Disposal (EOD) SALVAS® would be able to provide MCM Tasking Authority, Command / Control of MCM forces, planning and support to detached units operating crewed boats and autonomous vehicles conducting MCM and EOD.

When conducting MCM, SALVAS® would be able to deploy, support and command MCM boats and autonomous MCM vehicles to support post conflict mine clearance activities. It would also be able to host and support mine clearance diver operating from detached boats.



SALVAS® can be configured for an integrated boat handling and launching system.

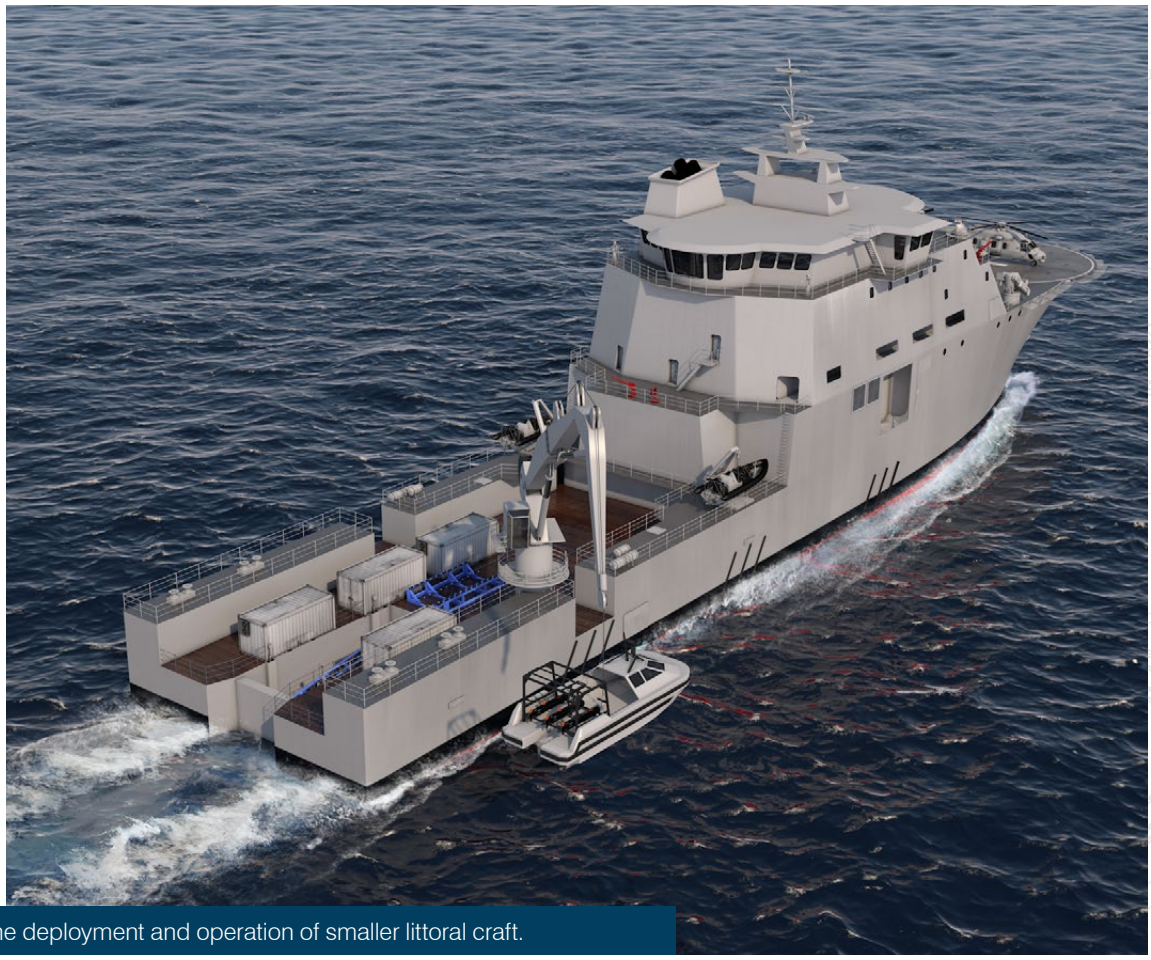
Hydrography and Littoral Focused Capabilities continued

Research and Training

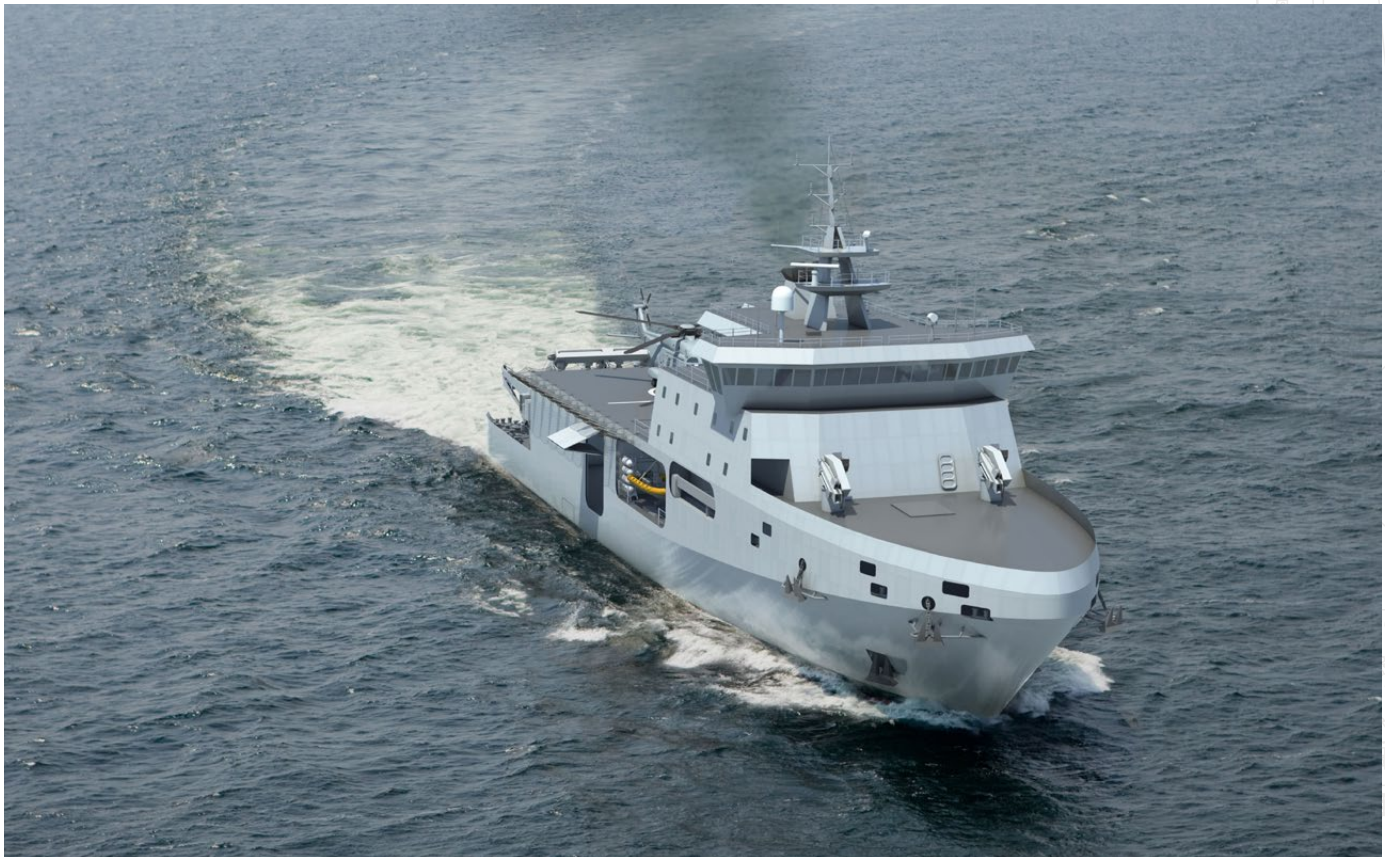
SALVAS® would be able to provide a platform for supporting naval research and trials, utilising the working deck to embark trials equipment as necessary. This may include TEU containers, modular offices and support spaces and additional personnel.

SALVAS® can also provide a training platform, utilising additional spaces embarked on to the working deck to provide classrooms or specific training equipment. This could include basic sea training and navigation training.

	Salvas 100
Length	111m
Beam	21m
Displacement, fully loaded	8,900 tonnes
Draught, fully loaded	6.4m
Working Deck Payload	62 tonnes
Working Deck Area	590m^2
Accommodation	120
Service Speed	16kts
Typical Range, 14kts	6,000 nm



SALVAS® supports the deployment and operation of smaller littoral craft.



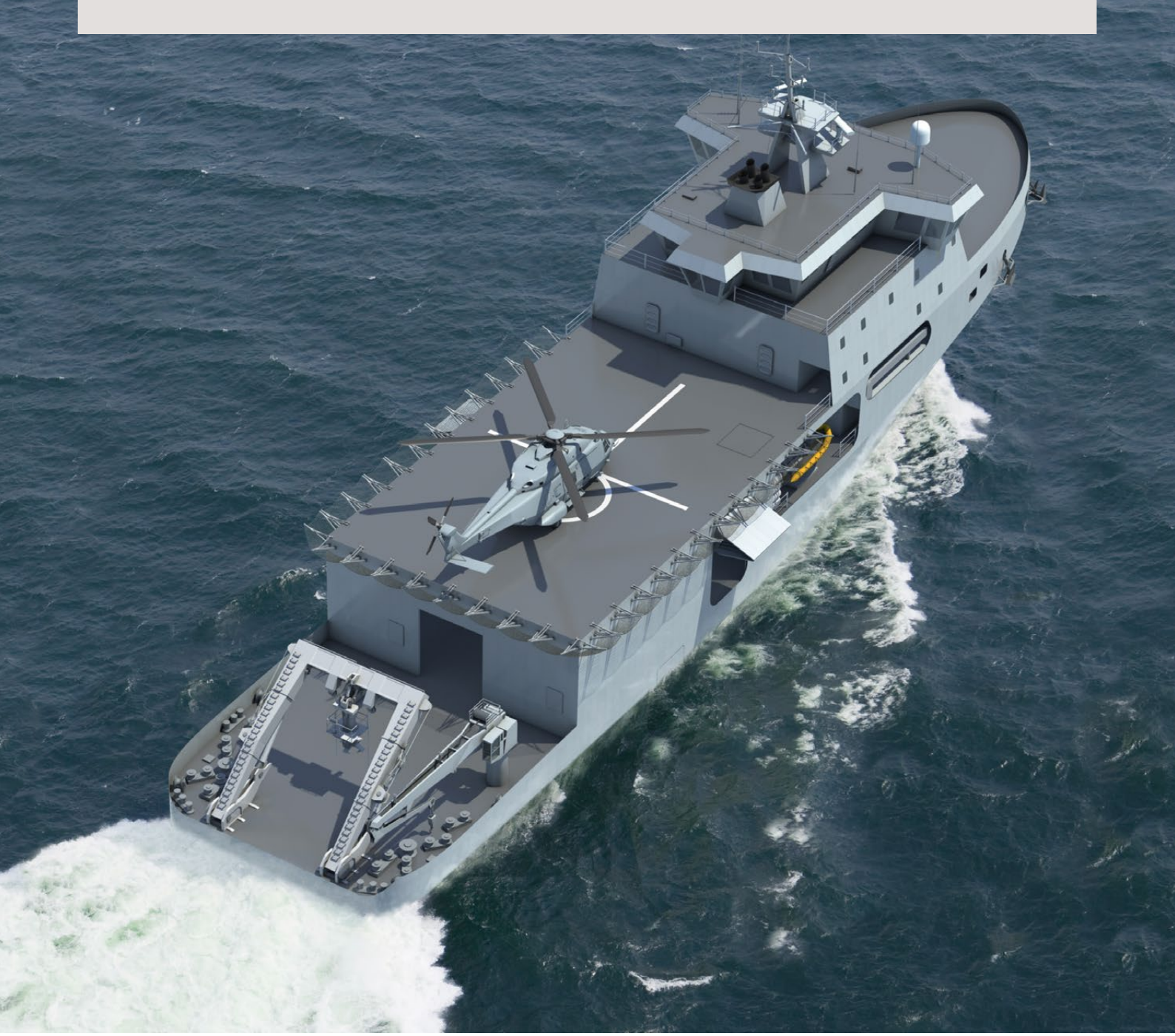
About BMT

BMT is the leading independent centre of engineering design, support and technical services for defence customers.

From concept design to acquisition support, in-service design and technology management, BMT is known for its innovation, expertise and ability to tackle the most complex design and systems issues.

BMT has a strong track record in naval platform design for surface warships, submarines and auxiliaries together with extensive acquisition support experience within land and maritime domain projects.

BMT employs over 700 specialists and support staff in defence and security markets. Its people include systems engineers, combat systems engineers, naval architects, marine engineers and software developers.



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