



## FAST AMPHIBIOUS LANDING CRAFT: REASONABLE AND VERSATILE

Since 2011, the French Navy has commissioned four fast amphibious landing craft (EDA-R). This new series of amphibious vehicles geared towards earth projection, with their innovative design, is now well known in the maritime world. Why this choice of an aluminum catamaran with a lifting ramp?

### THE ISSUE

The renewal of the French amphibious landing capacity meets several needs. The French Navy's current infantry and tank landing craft ("EDIC / CDIC") and equipment transport barges ("CTM") are inadequate for current operational need; travelling at low speed (about 10 knots) and with poor seakeeping (flat bottom). A new generation of amphibious landing craft are required to replace these aging units (the most recent CISC was delivered in 1989), capable of transporting heavy tanks such as the Leclerc (58 t). Fundamental to the capability of these crafts is high mobility – whether high speed from ship to shore or rapid deployment or loading of payload – ensuring a steady pace of strengthening or evacuation, and minimising time exposed during landing.

### POTENTIALLY ATTRACTIVE ALTERNATIVES

The commissioning of projection and command ships (BPC) has naturally raised the question of having a suitable landing capacity. From their conception, BPCs were designed to accommodate the *Landing Craft Air Cushion* (LCAC), an American hovercraft that can disembark heavy tanks like the *M1 Abrams* (70t). These vehicles with keeled air propellers can reach 40 knots at full load (30 knots by sea state 3), have a range of 300 nautical miles at 25 knots, and are capable of roll-on/roll-off (RoRo) deployment - with front and rear ramps.

Meanwhile, the Royal Navy is also faced with the choice of a modern landing craft to equip its *Landing Platform Dock Albion* and *Bay* classes. The current choice is the PACSCAT (*Partial Air Cushion Supported CATamaran*); a hybrid craft between a surface effect catamaran powered by water jets and a 2-fan air cushion craft. These craft are capable of transporting 55t at 25 knots.

Both options have a good beaching capacity thanks to an extremely low, or non-existent in the case of the LCAC, forward draught.

### THE L-CAT (LANDING-CATAMARAN) FORMULA?

Despite good seakeeping and enough speed, its low payload capacity makes the PACSCAT unsuitable for French needs (Leclerc tank, armoured combat and infantry vehicles). The alternative, the LCAC, is very fast, has high consumption, but requires servicing comparable to that of an aircraft. In addition, it has a highly restricted manoeuvrability in rough seas.

An original solution was proposed by CNIM (formerly *Constructions Navales et Industrielles de la Méditerranée*) in La Seyne-sur-Mer with a craft to be built by the

SOCARENAM shipyard of Saint-Malo and equipped in Boulogne-sur-Mer. This aluminum catamaran will be capable of moving 300 tons, powered by four jets at a speed of up to 25 knots (18 knots at full load with 80 tons of freight). With a range of 800 nautical miles at 15 knots, it has demonstrated its offshore capability by travelling from the English Channel to the Mediterranean Sea on its own. In RoRo design, this catamaran has a raised platform that moves downward for loading or beaching (reducing the water draft to 60 cm), and upwards during the transit phase (when the draught reaches 2.40 m), which gives it excellent seakeeping, even at high speed.

### A REASONABLE CHOICE FOR A SUITABLE OUTCOME

Funded by the defence component of the economic stimulus plan, the four EDA-R in service perfectly meet the needs of the Navy. Economically, they are a more attractive solution than the higher cost and maintenance intensive LCAC. Operationally, the EDA-R's greater range and ability to function in elevated sea states make it a more tactically suitable than the LCAC (an LCAC must refuel twice as often as an EDA-R).

It is also legitimate to think that this craft will represent a future export opportunity to navies looking for a cost effective solution for amphibious operations.



©Marine nationale / Sébastien Chenal