

MARITIME SECURITY 

Indo Defence 2016: Tank boat dominance moves up river

01st November 2016 - 4:11 by [Tim Fish](#) in Jakarta

The new X-18 Tank Boat built by Indonesian shipbuilder PT Lundin is expected to begin firing trials next year.

An actual-sized model is on display at the Indo Defence exhibition. The vessel combines the versatility of a lightweight catamaran with the power of a 105mm gun from CMI Defence, one of Lundin's partners.

The Indonesian MoD has taken a real interest in the system. Widjanto, the chief commercial officer at PT Pindad – the other partner of Lundin – said that the Minister of Defence has expressed interest in developing a new specialist 'swamp battalion' that can traverse the numerous Indonesian waterways and thinks the craft can fit this role.

Widjanto added that there were discussions with a Middle East country about the vehicle. UAE has previously expressed an interest in the vehicle.

First [announced in May 2015](#), the X-18 has now completed structural design and engineering phases. CEO of PT Lundin, John Lundin, told *Shephard* that the company has also run the vessel in a test tank to prove the concept and was ready to start building and get a prototype in the water fitted with the CMI 3105 modular turret that can fire from 30mm to 105mm calibre munitions. Lundin said the X-18 is technically feasible using a catamaran hull made from advanced composite materials and using the 105mm turret from CMI Defence.

The 40t boat ultimately has three functions. The first was to have a brown water/riverine craft but secondly to also have a green water/littoral capability to work close to the shore to support amphibious landings on a large scale as well giving firepower along the waterways and in very shallow water.

Instead of having large warships with small guns and trying to get close to the shore, the concept is to put larger calibre guns on smaller vessels to provide fire support.

'What is unique about the CMI gun is it has 42° elevation so that when an amphibious landing reaches stage two on the shore it can beach land and provide an artillery function to back up the troops. CMI as far as we know is the only one that can offer this dual functionality,' Lundin said.

The third role is as a troop transporter/logistics craft. X-18 has a crew of six but can take up to 20 troops and logistics supplies and in the same sense could be used in a medical evacuation role if required.

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The main challenge in carrying a heavy gun on a lightweight boat is having good enough stabilisation. The catamaran hull with a hydrofoil (underwater wings) takes away a lot of the stability issues. Along with a good gyrostabilisation system from a vehicle, a relatively small boat can support a larger calibre gun and all additional personnel and logistics loads.

Lundin argued that a turret on a vehicle moving over land actually moves a lot more than when compared to a turret on a waterborne platform.

CMI technology has been able to manage the recoil forces of the gun, Jean-Luc Maurange, president of CMI Defence, told *Shephard* that 'although the gun is large calibre the recoil forces that are transported from the weapon to the boat are massively lower than a traditional tank gun'. Therefore when doing composite materials engineering the forces they have to contend with are of a magnitude less making it more feasible to support a bigger gun.

The other major challenge alongside the stability issue was the marinisation of the 105mm gun and turret for maritime operations. CMI has used different materials, adding corrosion protection sealing for the electronics. Maurange said this was the major part of the work that they had to do.

Furthermore, the tower structure below the turret, which usually goes deep down into a standard naval vessel and includes the basket and ammunition handling and storage, is much less on the X-18.

Maurange said that the CMI gun uses an autoloader with a bussle, which means that the depth that the turret extends into the boat is an order of magnitude lower and permits the architecture for the craft. It can store 32 shells in two rows of 16 and these are stored below the waterline.

The armour package is 7.62mm protection for the crew areas and 12.7mm for frontal protection. Lundin said that during beach landings the protection systems often use 12.7mm so this will offer extra reinforcement although weight restrictions means that it can be provided all around.

JANE'S

Sea Platforms

Indo Defence 2016: Indonesian defence companies unveil mock-up of 'tank boat' concept

Ridzwan Rahmat, Jakarta - IHS Jane's Defence Weekly
02 November 2016



A group comprising two Indonesian firms, PT Lundin and PT Pindad, and Belgian company CMI Defence is showcasing a full-sized 'tank boat' mock-up at the Indo Defence 2016 exhibition in Jakarta for the first time in the hope of generating more interest in the platform.

The 18 m fire support vessel concept was first introduced by PT Lundin at the Indo Defence 2014 exhibition, with a smaller scale model.

Speaking to *IHS Jane's* at the 2016 exhibition on 2 November, Andri Setiyoso, manager of business co-operation at PT Pindad, confirmed that no contract for an actual vessel or a prototype has yet to be awarded by the Indonesian defence ministry.

PT Pindad was brought into the 'tank boat' collaboration with PT Lundin and CMI Defence earlier this year to tap on the arms manufacturer's expertise in handling weapon systems of a similar calibre, he said.

The 'tank boat' concept features a Cockerill 105 mm high-pressure gun provided by CMI Defence as a primary weapon.

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"At this stage we are still conducting studies on how operation of the vessel's main weapon will affect the platform as a whole", he said, adding that a prototype for demonstration purposes will only be built once these studies are complete.

However, he was not able to give a timeline on when the studies are expected to be completed.

NAVYRECOGNITION

PT Pindad, PT Lundin & CMI Defence unveil innovative Tank Boat design at

Indodefence 2016

PT Pindad, PT Lundin and CMI Defence are presenting the full versatility and lethality of their X-18 Tank Boat® concept at Indo Defence 2016 for the first time. The Tank Boat® incorporates the CMI Defence Cockerill® 3105 high pressure 105mm weapon system aboard an advanced composite catamaran hull specifically designed by PT Lundin. It provides navies and coastal forces with unmatched capability.



The Tank Boat unveiled at Indodefence 2016

The lethality of the Cockerill® 105mm gun combined with the maneuverability, speed and stealth of the platform give the Tank Boat® a peerless capability to operate unrestricted in the littoral environment. During the exhibition, the three partners are scheduled to introduce the concept to official delegations from the Indonesia's armed forces and other countries in the region.

John Lundin, President of PT Lundin: *"We're delighted to see that there is already interest both within and beyond the local region in the acquisition of the Tank Boat®. Working with CMI Defence and PT Pindad on this project is particularly exciting for our teams."*

Jean-Luc Maurange, President of CMI Defence: *"The Tank Boat® concept represents a revolution in thinking about littoral security. This development contributes to CMI Defence remaining at the forefront of technological developments, always going ahead of customers' needs."*

Patrick Ledig, Vice president Indonesia: *"the Tank boat fills the gap between blue water activity and land activity, for the first time Tank Boat gives operators a versatility that has only been dreamt of before. The Tank Boat will make history for sure..."*



The Tank Boat is fitted with a Cockerill 3105 high pressure 105mm turret

It is the first time that Belgian company CMI Defence adapts one of its turret for a naval application. Talking to Navy Recognition, Jean-Luc Maurange explained that the biggest challenge was not the stabilization of the turret but rather its navalization. To adapt the proven Cockerill 3105 high pressure 105mm weapon system (already fitted for example on 8x8 IFV), CMI had to apply an anti-corrosion coating, fit additional sealing gaskets and use marine specific cables and connectors.

According to PT Lundin, the X18 Tank Boat is an innovative, fast, stealthy, and highly maneuverable catamaran design that provides a stable weapons platform for close-in and long range direct fire support in normally inaccessible coastal and riverine environments. The X18 features a catamaran hull made of infused vinyl ester composite. It has a length overall of 18.00m, beam of 6.10m and draught of 1.00m. Propulsion is achieved via 2 x MAN 1200HP engines and 2 x MJP450 Waterjets. The crew consists of 6 persons with accommodation for 20 fully equipped troops. Maximum speed is 40 knots.

The Tank Boat showcased at Indodefence 2016 is fitted with a BAE Systems Bofors LEMUR remote weapon station, 2x PASEO electro-optic systems by Safran (Sagem) including one on the LEMUR RWS, and a navigation radar by Transas. All these systems are fitted on top of the 105mm turret.



NEWS

INDO DEFENCE 2016: IS IT A TANK...IS IT A BOAT?

Actually it is neither....and both. Prominent at the entrance to the main hall of Indo Defence 2016, taking place in Jakarta this week, is the so-called TANK BOAT – a curious hybrid vehicle which was named ANTASENA by Indonesian Defence Minister Ryamizard Ryacudu on the first day of the exhibition .

First revealed in 2011, the newly named vehicle has been the subject of a detailed design feasibility study over the last two years. The design has now been frozen and industrial partners PT Pindad, PT Lundin and CMI Defence are now in the final stages of negotiation to build the prototype, currently ambitiously scheduled for delivery by the end of 2017.

The design revolves around an 18m composite catamaran platform, carrying a CMI 105mm gun turret mounted over the bridge. The concept has arisen from a desire to provide a mobile, amphibious and riverine fire support and manoeuvre capability for the 'swamp battalions' the Indonesian armed forces are in the throes of organising. The model on display at Indo Defence, Mönch understands, will now act as the mould for fabrication of the prototype, all structural design and hydrodynamic characteristics having now been finalised. The remote controlled turret will provide ANTASENA operators with the capability to provide a wide range of fire support missions on demand, with the addition of a bustle-mounted automatic loading system. The model on display also has a BAE Systems Bofors LEMUR RWS and a low recoil Orbital ATK 30mm cannon fitted.

Tim Mahon

SHEPHERD LAND WARFARE 

Indo Defence 2016: More Badak on the cards

26th October 2016 - 6:00 by [Gordon Arthur](#) in Hong Kong



Following an initial order for 50 [Badak \(Rhino\) 6x6 armoured fighting vehicles](#), it is rumoured the Indonesian Army wants more.

This could push orders into the several hundreds and worth a lot more than the \$36 million that domestic manufacturer, [PT Pindad](#), received for the first 50 units.

Badak has passed its qualification tests and the company is preparing the production line and deliveries of Badak could begin later this year, but a large order could see production increase to 25-30 units annually.

Pindad is pinning much credence on its Badak, which was [unveiled at the Indo Defence 2014](#) exhibition. The Badak, based on a new hull with STANAG 4569 Level 3 ballistic protection, [successfully performed test firings](#) with its 90mm main armament at the Infantry Training Centre from 10-12 December 2015.

For this project Pindad is cooperating closely with Belgian company [CMI Defence](#). The latter's [Cockerill CSE 90LP two-man turret with low-pressure gun](#) will be produced in Indonesia under a transfer of technology agreement signed in late 2014. Pindad engineers have completed training in how to manufacture the turret using aluminium materials, with a spokesman confirming that Pindad will produce 90mm turrets not only for the Badak but also as a 'special hub to produce the turret for the nearby region'.

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The Badak is powered by a 340hp, six-cylinder diesel engine coupled to a ZF automatic transmission. It features independent suspension to help withstand recoil forces when the main gun is fired, while its armour is able to withstand 12.7mm rounds. Pindad's spokesman hinted that 'we'll continue to develop new variants of this type of panzer'.

Pindad began producing the Anoa-1 6x6 APC in 2008, while the Anoa-2 appeared in 2012. The latter possessed improvements to suit it for Lebanon peacekeeping duties, and variants include APC, command, logistic, ambulance, recovery and mortar.

Pindad's spokesman informed *Shephard* that around 300 Anoa vehicles have been produced to date, and its United Nations peacekeeping deployments include Darfur and southern Lebanon. The newest amphibious variant has already passed certification tests. Furthermore, this year Pindad sent the Anoa to an undisclosed Middle East country for trials.

For more from Indo Defence 2016, see our [dedicated news page](#).
[News Home](#)

Link to videos:

<http://www.tankboat.com/>

<https://youtu.be/aN7nLSQoEdo> (naval products at Indodefence)

<https://youtu.be/mWgPZ7ytnM> (Interview JLM: CMID gunning for Asia_pacific)

<https://youtu.be/jfC1rYdM2o> (Day 3 Indodefence Indonesia defence industry & BADAk)

<https://youtu.be/oEG2ETCA2sQ> (in Bahasa Indonesia)

<https://youtu.be/dUqn8wTplUo> (P Lundin unveils Tank Boat)

https://youtu.be/uzJmOwY_UEQ (PINDAD OUTLINE STRATEGY)

<https://youtu.be/qRjaQ7lplwc> (top 5 recent military acquisitions in Indonesia)

<https://youtu.be/1BABUIN0B7g> (medium tank FNSS Pindad)

<https://youtu.be/9aGJ04E9m8c> (Day 1 at Indodefence Medium Tank)