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# BOAT

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## Akalam-inspired windows for Barracuda yacht

► Iñigo Toledo, head of Spanish studio Barracuda Yacht Design, has penned a 52m performance orientated motor-sailer that uses sophisticated naval technology, to fulfil a client's requests for extensive windows and minimal noise.

The design's distinctive windows are based on those of the 32m sloop *Akalam* (see issue 303), launched in 2011. For that project Toledo developed naval architecture that allowed him to position 26 large windows in the hull without compromising its integrity.

'We have an owner who really loved the windows on *Akalam* and wants to push the idea further, on a bigger scale. On this yacht we have large hull windows, bigger than those of *Akalam* for all guest accommodation aft, as well as for the central master cabin,' says Toledo.

'Whatever gets cut away by a window hole needs to be replaced somehow, so reinforced framing and hull plating is used all around them. More importantly, no loads from the rig are allowed to reach any hull window. This is achieved by making stiff supports for the rig and

directing all loads straight there, away from hull sides.'

Toledo says the owner was also 'extremely focused on noise and vibration control', a challenge the designer met with a combination of well-considered engines, mounting and insulation.

'Instead of one big engine we plan four smaller generators producing electricity to be used by two electric motors, one at either propeller shaft. This reduced vibrations dramatically from their source,' says Toledo.

'Then we mount the whole interior in a flexible structure, like a box within a box, to stop vibrations directly touching any major interior panel. Good double walls also ensure privacy between cabins and technical areas.'

Toledo, who has worked on Spain's America's Cup campaigns, also endowed the 52m with an efficient, low-resistance hull, transferable water-ballast and retractable dagger-board. Extensive testing and VPP calculations indicate that upwind speeds in excess of 14 knots will be possible from 20 knots breeze, at a heeling angle of about eight degrees.

