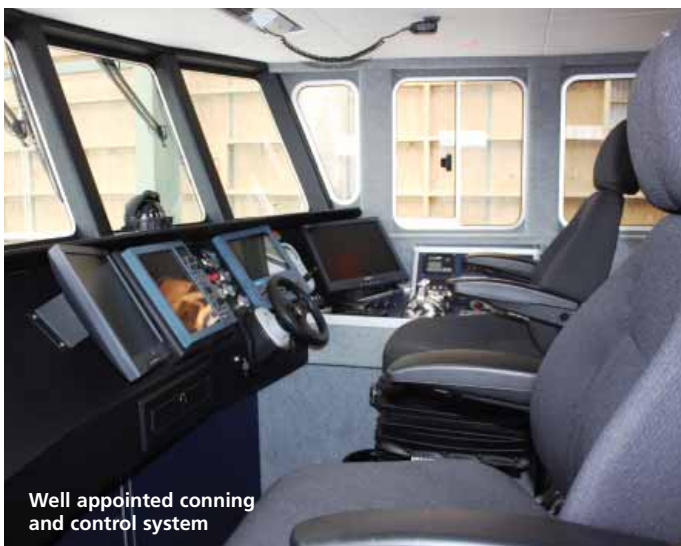




# NEW NIWA VESSEL FIT FOR VARIETY OF ROLES

BY LINDSAY WRIGHT



Well appointed conning and control system

When the National Institute of Water and Atmospheric Research NIWA began drawing up a wish list for their new inshore research vessel, they were painting with a fairly broad brush.

The boat would need to be fast and manoeuvrable, capable of working in inlets and shoal waters – or anywhere else within coastal survey limits – and supporting the research and data recording requirements of up to 15 different scientific disciplines.

Armed with a list of these specifications, NIWA's marine managers started shopping around and ended up, like many other commercial boat operators, at the Q-West boat building premises in Wanganui.

Teknicraft, the Auckland design firm run by Nic de Waal, who drew the Auckland police launch *Deodar III*, Whalewatch vessel *Wawahia* and scores of other power catamarans which are operating successfully all over the world, were contacted to design a 13.9 metre catamaran with their signature asymmetrical



ABOVE: Galley and crew area

BELOW: The rear area of the deck house and access to the flybridge



hulls and fixed foil between them to provide lift.

The new boat, *Ikaterere* (swift fish) was launched late last year and, after the delivery voyage to her Wellington base, steamed to the Bay of Islands to begin water quality sampling there.

The name *Ikaterere* has an illustrious history in New Zealand marine research. It was also the name of the first research vessel built for the New Zealand Marine Department, a 19.3m kauri planked inshore trawler which is still around today, retired to pleasure use in Napier.

The new *Ikaterere's* hull was plated with 5mm 5083 marine grade alloy supplied by Ulrich Aluminium on the bottom and two Cummins QSC 8.3/500 engines were chosen to power the Hamilton 322 jet units that give her the get up and go.

"She gets up and goes all right," Q-West managing director, Colin Mitchell, laughed, "the design brief was for 25 knots service speed – but she was doing 27-28 knots on trials and they had 36 knots out of her at one stage." The boat maintained 23 knots on passage from Wellington to the Bay of Islands. ▶

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Even at rest *Ikaterē* looks as if she means business

Down below, the engines produce 372kW (500 horsepower) at 2600rpm and due to the asymmetrical shape of the hulls which prevent using a straight shaft to drive the jet units, two offset 1.5m long intermediate shafts use a universal joint and Vulkan flexible coupling.

The engines draw their fuel from two 1000 litre tanks which are integral to the hull and located just forward of the engine room

The engines are under-floor just aft of the deckhouse and Seaworth vents mounted inside the bulwarks make sure that the engines get plenty of air without any unwanted and corrosive salt spray getting below.

The engines draw their fuel from two 1000 litre tanks which are integral to the hull and located just forward of the engine room, in a dedicated tank room, which also holds the 300 litre polyethylene fresh water tank.

Down in the engine space, an 11kVa Onan genset supplies power for an AC hydraulic pump to supply quick release hydraulic connections which are fitted fore and aft. “Any hydraulic gear; pumps, winches, or whatever, can be carried to where they need it. She was designed and built to be as versatile as possible – she’s fitted with extra cable trays inside and they are all accessible so that scientists can move on board and plug in their computers, monitors and set up other equipment,” Colin said. “Everything just comes apart so they can adapt it to whatever they want.”

On deck, *Ikaterē* has a moon pool – a tube welded through the boat from deck level to the hull to allow easy and rapid-



The bar crossing at Whanganui river presented no problems during sea trials

deployment of transducers. The moon pool exits just aft of the foil on the bottom and a yacht mast section is fixed from the aft side of the deckhouse down the forward side of the pool so gear can be lowered using a rope tackle.

An A frame is mounted on the stern for deploying sample nets or other gear and an hydraulic winch looks after all the heavy lifting.

Colin wasn't sure what *Ikatere* weighed but said that she'd be around 15 tonnes.

*Ikatere* was built to coastal survey and is operated by a skipper and one crew but can accommodate up to 10 people in restricted coastal limits. The interior is fitted out in the light and flexible Ayres panels which have become a Q-West standard. The panels use an aluminium honeycomb core with a paint finish bonded to the outsides and can be moulded to fit neatly around corners with a tidy radius. The panels, and big Seamac windows give the interior a spacious and airy feel with good all round visibility.

Stepping through the aft door there's a small external laboratory with a galley to starboard and dinette on the sport side, which also converts to sleeping accommodation. Accommodation for four berths in the foc'sle is a few steps down from the forward end of the wheelhouse and there is access to the tank room under the stairs.

On board safety equipment is supplied by RFD NZ Ltd who have had a very longstanding relationship with NIWA over the years and are recognised as the preferred supplier of marine safety equipment to all NIWA vessels. The liferaft supplied to *Ikatere* is an RFD Pacific six as specified by NIWA in the build specification. RFD supplied a full range of supporting safety products – from flares to immersion suits. They also provide the on-going service of their liferaft fleet.

The helm station is forward in the wheelhouse and Blue Arrow controls provide a seamless flow of orders from the skipper to the steering gear and engine/jet units. Another set ▶



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Galley and crew lounge

of Blue Arrow controls is fitted to the flybridge along with a davit and manual winch for deploying and retrieving *Ikatere's* small tender.

NIWA's requirements for the electronics onboard this new research vessel meant that, in addition to the specific research equipment, they required a comprehensive suite of high quality stand-alone navigation equipment. To meet this requirement they selected Koden, ComNav and other equipment from Cetronics Systems Ltd.

The vessel is equipped with a Koden MDC-2240 12 inch Colour LCD Display, 48 nm Radar with Chart Overlay and ATA/ARPA target tracking for up to 50 targets, a Koden CVS 842 10.4 inch LCD, 1 kW 50/200 KHz dual frequency sounder on the bridge and a Koden CVS 833C 8 inch dual frequency 50/200 KHz sounder on the flying bridge. For positional and heading information the vessel is fitted with a Koden KGC-1

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GPS compass. This is connected to all the Koden equipment as well as the Nav Cruiser Pro Computer based plotting system, the Standard VHF and the ComNav Commander autopilot system. The ComNav Commander has been integrated into the Hamilton Blue arrow system enabling full steering control using heading information from the Koden KGC-1 GPS compass, the Comnav Fluxgate compass as well as waypoint information from the Nav Cruiser Pro navigation package. This enables the vessel to maintain an accurate course and allows the vessel to run predetermined run lines during research work.

For communication the vessel has fitted a standard Horizon GX 1500S marine VHF with remote control from the flying bridge. They have also fitted a Codan 8528S SSB and an OceanCell cell phone. All antennas fitted to the vessel are Moonraker, selected for their outstanding performance and durability.

With a backlog of research projects to support, *Ikatere* will be hard at work for some time to come – and is likely to turn up at a coastline near you. 

#### SPECIFICATIONS

LOA	13.9m
Beam	4.85m
Draft	0.70m
Builder	Q-West Boat Builders
Designer	Teknicraft Design
Engines	2 x Cummins 8.3 – 500 (372kW, 500hp at 2600rpm)
Drive	2 x Hamilton 322 jet units
Construction	5083 grade marine alloy
Electronics	Koden supplied by Cetronics NZ
Owners	National Institute of Water & Atmospheric Research

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