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ALUMINIUM



HARNESSING THE SUN: CUSTOM WORKS' SOLAR-POWERED ALUMINIUM PASSENGER BOAT



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Silently gliding through the Northern Territory's pristine waterways, the boat cruises at a leisurely pace of two to three knots, presenting an ideal vantage point for observing wildlife without disturbance. The nine-metre vessel, which comfortably seats up to 24 passengers, is propelled by an impressive ensemble of six large array solar panels, reaching up to five knots.

Dale Smith, director and owner of Custom Works, champions the vessel's 2.4 kW solar array coupled with a 10kW battery reserve as a testament to renewable energy's vast

potential in marine settings.

"The boat will be able to sit in a remote inland waterway and only require solar to operate, except in the wet season where you might get a few days where you need to add some external charge to the batteries," Smith explains. The inclusion of a Victron CERBO GX control unit to optimise system performance underscores the company's commitment to cutting-edge technology.

"Our naval architect, Damien Smith, finessed the hull design to perfection, balancing speed and efficiency while maintaining exceptional power economy," Smith reflects on the rigorous testing phase that saw the boat consume less than an induction cooktop—at 1kW per hour to maintain its cruising speed.

The eco-friendly attributes of the solar boat are garnering attention,

indicating a pivot towards sustainable tourism practices—a sector increasingly conscious of its environmental footprint. Its electric motor, particularly, has been commended for its compatibility with eco-tourism, offering a silent and fume-free alternative to traditional petrol engines.

A strategic expansion three years prior has positioned Custom Works to fabricate larger and more numerous vessels, with their largest stretching to 16.5 meters. This growth spurt has also sparked further innovation, culminating in the creation of this solar-powered craft.

Damien Smith's expertise, is manifested in the custom-designed solar boat, constructed by Custom Works' specialised team of 14 including the use of his proprietary aluminium extrusions. "This project marks a significant stride in innovation for the marine industry of

the Northern Territory and raises the bar for eco-tourism operators," Dale states.

When queried on the choice of aluminium, Dale offers a candid explanation: "Given the local

conditions, aluminium is unmatched. It's resistant to corrosion, light yet sturdy—easily the first choice for boat-building in the NT."

Capral Aluminium has been pivotal in this venture and others since Custom

Works' inception in 2007. "Capral has been a staunch ally from our early days, offering favourable pricing and account terms which were invaluable during our early years," Smith acknowledges. He also highlights



Capral's commitment to keeping a robust stock of geometric extrusions in Darwin, a smaller market, to ensure project continuity.

Dale further notes that with all Custom Works boats being CAD designed and incorporating CNC router cutting in their manufacturing process, Capral's precise cutting services have significantly enhanced the value of their plate sales.

The ethos at Custom Works is straightforward—unwavering quality and customer satisfaction. "We are dedicated to delivering superior boats and trailers that surpass our clients' expectations, with integrity at the core of our operations," Smith asserts. This guiding principle permeates the company, from the meticulous in-house CAD boat design to the comprehensive water testing before delivery.

Custom Works' flagship series, the Eliminator, and its Premier line embody the company's capacity to meet and exceed the challenging maritime demands of northern Australia. These vessels have earned a reputation for their robust performance and durability, securing long-term value for their owners.

