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eD 32 c-Ultra: success for first sea trials of eD-TEC's revolutionary all-electric performance RIB

- *eD-TEC's eD 32 c-Ultra high-performance all-electric RIB completes first sea trials after just 9 months of development*
- *The RIB features eD-TEC's blank-sheet design, pioneering plug-and-play eD-QDrive propulsion system and Technology Stack*
- *The sea trials, conducted on the Adriatic Sea, showcase the vessel's impressive capabilities with a 25-knot cruise and 40-mile-plus range*
- *Advanced specifications and innovative design features mean the eD 32 c-Ultra demonstrates exceptional performance, stability, and manoeuvrability*
- *A two-week intensive Booster Sprint will further refine the vessel's performance and efficiency with a target for a 30-knot cruise speed before a second round of trials*

After nine months of development, there is a (quite literal) quiet revolution taking place on the Adriatic Sea. It is here that, from a marina in Punat, Croatia, the groundbreaking **eD 32 c-Ultra RIB** from electric boating pioneers eD-TEC is making waves as it undergoes its first phase of sea trials.

Those trials have been nothing short of impressive, with *eD-Enterprise* – the first hull of the eD 32 c-Ultra – gliding noiselessly into motion. The 9.5-metre RIB boasts a beam of 3.3 metres and a total weight of 2.3 tons, but the true innovation comes in her propulsion system. At its heart is eD-TEC's revolutionary Technology Stack, linked to its twin plug-and-play **eD-QDrive 200kW** propulsion units that drive surface-piercing propellers. Underpinning the system on *eD-Enterprise* is a battery bank with a net capacity of 105kWh. The whole system is a blank-sheet design that is setting new standards in the industry.

Performance has already been impressive – *eD-Enterprise* displays nearly 40 nautical miles of range at low speed in idle mode, and then at 30kW the surface drives start breathing an immediate boost to 20 knots, with all the theatre of the trademark rooster tail. The trials show incredible promise, even though this is effectively just the first phase of testing and optimisation.

"We have not yet conducted assessments to determine the maximum attainable speed and range," confirms **Michael Jost, founder of eD-TEC** and former Chief Strategy Officer at the VW Group, *"Preliminary estimates indicate a range of 20 to*



40 nautical miles and a current cruising speed of 25 knots. However, these figures are subject to variation based on driving behaviour and velocity. Following optimisation, the anticipated cruising speed is expected to reach approximately 30 knots.

“We are currently exploring adjustments to enhance performance, such as optimising air intake to the surface-piercing propellers to improve efficiency.” Jost continues. “This entails modifying the swim platform to increase the distance between the waterline and the platform. While seemingly minor, these modifications are expected to yield significant improvements. One avenue under consideration involves incorporating air intakes, akin to those found in automotive design, which not only enhance functionality but also contribute to an aesthetically pleasing appearance.”

With twin propellers and twin rudders, the **eD 32 c-Ultra** is highly manoeuvrable and executes turns effortlessly. However, the eD-TEC Believer Team has also developed adaptive steering – reminiscent of automotive steering systems – to mitigate cornering at high speed, where even a slight helm input can cause overly-tight turns. Further drawing from automotive principles, the concept of toe-in has been applied to the rudders with a slight toe-in of 1-2 degrees which has significantly enhanced stability in straight-line navigation while also reducing power consumption by 5kW at 20 knots.

The trials have also provided an opportunity to test in real-world conditions the charging system and, after 90 minutes of operation, the crew undertook the first charge initiated by CCS plug with a 21kW AC charge process, and with the screen displaying remaining charging time. At the same time, 10GB of data was downloaded, collated and analysis started – this will be added to over the coming days with more data logged from trials before the Believer Team embarks on a two-week Booster Sprint.

“The Booster Sprint primarily focuses on software optimisation aimed at facilitating improved and more convenient charging processes. It involves addressing key concerns such as enabling charging while the boat is on a trailer and ensuring the automatic deactivation of systems like seawater pumps to optimise the charging experience.” Jost explains. “We are also looking to develop a helm mode where you can select a heading and adjust course by push-button rather than steering directly.”

There are other gains to be made too, particularly in terms of hydrodynamics, for which eD-TEC is working with experts in the field to push the boundaries of hull design and propulsion technologies to enhance hydrodynamic efficiency. “We’ve also so far been trialling the boat without foil-assist to see what performance was

like, although the boat is already foil-ready – the next stage phase will be to try the boat with the foil and to see how that improves efficiency and the ride,” Jost adds. “Having said that, the boat is already very dry – there’s no water splashing into the boat even in waves. It feels very good, and with the Ullman helm chairs too you feel very safe.”

Project leads **Philipp Lehr and Marc Jost** are quick to express their satisfaction with the boat and the trials, particularly with regard to the pioneering drive system. *“After approximately 500 kWh, we have encountered no system disruptions thus far, and all temperatures have remained within optimal ranges,”* they report. *“However, we have identified areas for improvement that we aim to address promptly.”*

As is the case at every stage of developing an entirely new drive system and an entirely new platform for it, being a pioneer also brings the challenges of ambition versus reality. *“We thought we could reach more with our first proper sea trials, but at the same time we see a lot of clear fields of improvement,” Michael Jost* enthuses. *“Having said that, the boat is really nice and has already proven itself – and we have had a lot of interest in the marina out of which we are testing. We actually took the Sea-Help rescue team out on sea trials, and we are open to other select sea trials with interested parties if they want to see how it works, what the boat looks like, and see how it handles.”*

The next stage is to analyse all the data from these initial trials, for pitch, roll, consumption and the like, and then at the start of May the team will begin the next sprint. *“But the boat is really nice,”* adds **Jost**. *“It looks amazing and it drives very calmly, and the usability with the large aft sunbed and the bathing platform is really good.”*

As the trials progress, challenges such as optimising the air intake for the surface drives and refining the take-off phase persist. Nonetheless, the team remains undeterred, armed with a wealth of innovative ideas to overcome these hurdles.

However, that’s not all. *“The eD-32 c-Ultra is not the end of the story but actually just the first stage of an entire e-mobility and grid-free solution, and we will shortly share more details of the big picture,”* **Jost** teases. *“This focuses on solar-centric solutions that combine off-grid luxury shoreside living with our eD-32 c-Ultra on hand at the end of your private pier for on-water escapes. We’re super excited to talk about it in more detail – watch this space!”*

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