

COBRA



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ELECTRIC JETBOARDS WITH LARGE-SCALE
MANUFACTURING PLATFORM**

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Cobra International, one of the world's largest OEM manufacturers of composite goods for Water Sports, Automotive, Marine and Civil Engineering, has announced its latest collaboration with Radinn to mass produce its new range of electric powered surfboards.

Swedish innovators, Radinn (whose name reflects their passion for Radical Innovation) produce some of the fastest jetboards on the market, offering three board models, each with market leading battery technology and high-performance water jets, that can be configured to match the rider's style. Originally launched in 2018, the range of three easy-to-ride boards, sold well and demand accelerated significantly. With the production requirement ramping up quickly and a target to reduce overall board weight, Radinn required both a technical development partner and a large-scale manufacturing platform.



COBRA's watersports division has been supplying riders with the finest composite boards for more than 40 years. COBRA boards showcase durable lightweight constructions and exceptional quality, all at mass production volumes - exactly the combination that jet board innovators Radinn were looking for.

After an initial meeting at Germany's boat show, BOOT, sample boards were shipped to Thailand, and four of the

Radinn team travelled to COBRA to set up the project. Almost immediately, the COBRA team was able to suggest improvements.

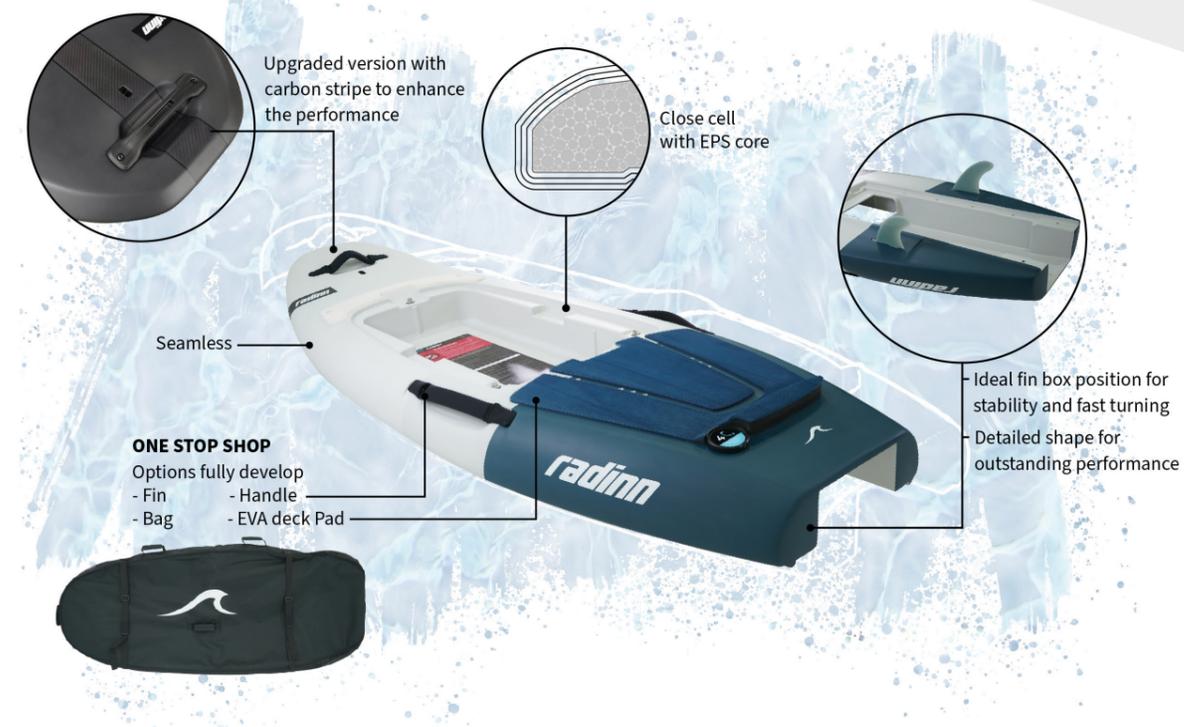
Having reviewed the existing boards – thermoformed plastic shells with an injected PU foam core – a switch to a lower density EPS foam core and moulded glassfibre skins was proposed. This lighter weight construction, perfected by COBRA over many years, provided weight savings of around 25%

whilst maintaining the durability required by riders. An additional benefit was the removal of the edge seam around the board's rails, with the new seamless moulded boards having a cleaner look and improved performance on the water.

A key part of the Radinn design concept is its modular approach. With different battery Powerpacks dropping into a pocket in the deck, and the Jetpack propulsion unit fitting into the board's base, absolute precision of the moulded shape was critical. Working from Radinn's initial CAD data, master board plugs were produced for the Freeride and Carve models, before test assembly and final sign off for production was agreed.

COBRA was able to scale up rapidly, producing multiple sets of identical composite board moulds to match Radinn's impressive demand forecasts. With tooling in place, production details were defined for the different models. Radinn boards use a custom laminate made up from several plies of woven and stitched biaxial fiberglass fabrics, moulded with epoxy resins to produce a tough monolithic shell. Demoulded boards then proceed to painting, where two different designs are created – a full matt white colourway or shades of black with additional clear carbon stripes.

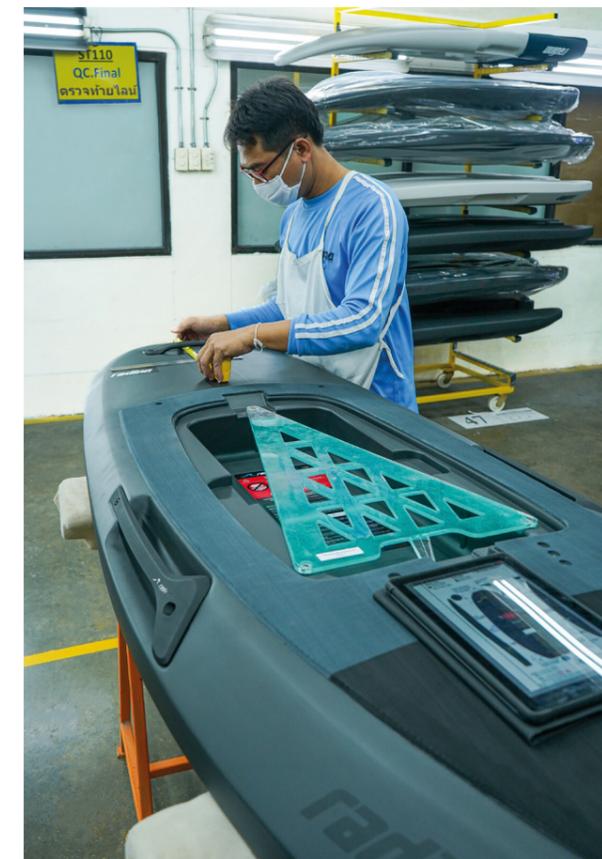
With production following COBRA's lean manufacturing principles, the company is able to deliver at the target rate of 300 boards per month. For now, COBRA is delivering finished, painted boards for final assembly and packing at Radinn's Swedish Facility. COBRA has also started to supply composite fins for the boards, as well as straps



and board bags produced by the company's inhouse accessory division, adding these components to recent shipments to provide a complete board and accessories package.

With a customer's final Radinn board configuration being assembled in Sweden, or at Radinn distributors around the globe, total production accuracy is required where components must fit together. COBRA has taken

production tolerances and QC measurement to the next level for Radinn, providing their most detailed quality control and documentation records for a watersports board to date. Each Radinn board leaves the factory with a complete photographic record of all template and measurement checks as it passes through final QC inspection at Cobra.



“What really works for us in our partnership with COBRA is that they can rapidly help us develop the most suitable composite construction for our boards and then consistently manufacture boards at a scale that's just mind blowing.”

Danijel Jakešević, Head of Strategic Sourcing, Radinn





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