

V2 Marine Design: Revolutionizing Marine CFD with Orca3D

The integration of Computational Fluid Dynamics (CFD) into small design offices has been a game-changer for the marine industry. [V2 Marine Design](#), led by Sasha Vlad in Latvia, is a shining example of this evolution. Traditionally, CFD was a costly and technically demanding process, but with the advent of user-friendly software like [Orca3D](#) Marine CFD, the barriers have crumbled, making it accessible for solo designers to evaluate and refine their creations.

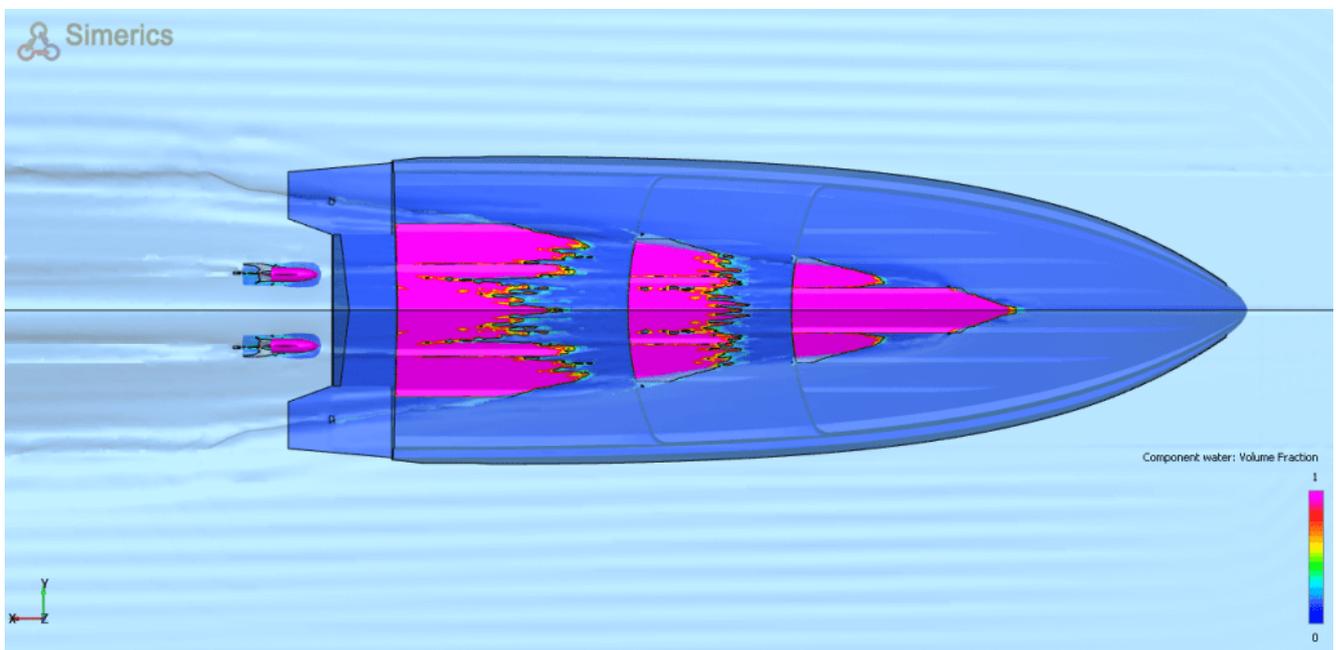


Sasha Vlad's extensive journey from Romania to South Africa, New Zealand, England, and finally, Latvia has armed him with a diverse set of skills and experiences. He acquired knowledge in traditional wooden boatbuilding in New Zealand and earned a degree in Naval Architecture in Southampton, UK. His career took him through luxury yacht design

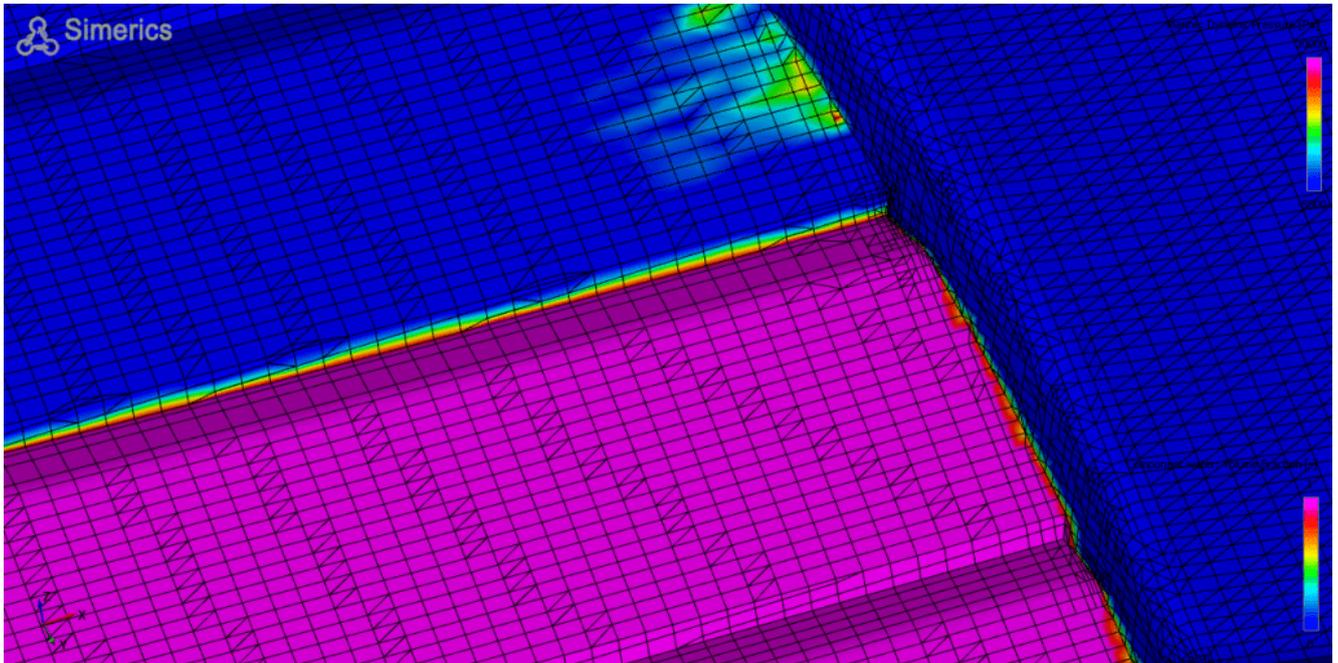
and high-grade military spec boats, enriching his treasure chest of knowledge.

Although Vlad has a deep-seated passion for sailing, he realized that the powerboat market offered greater opportunities and potential for his work. This shift led him into the world of powerboat design, setting the stage for a remarkable journey.

His early projects featured hull shapes with no steps, which he considered “low risk.” However, it was his 30-foot boat project for Canelli Yachts that pushed him to explore CFD. The design brief was ambitious, demanding a fast, stunning boat with no restrictions. To achieve this, Vlad needed technical assistance for the addition of steps to the hull, which led him to Bruce Hays at Orca3D Marine CFD.

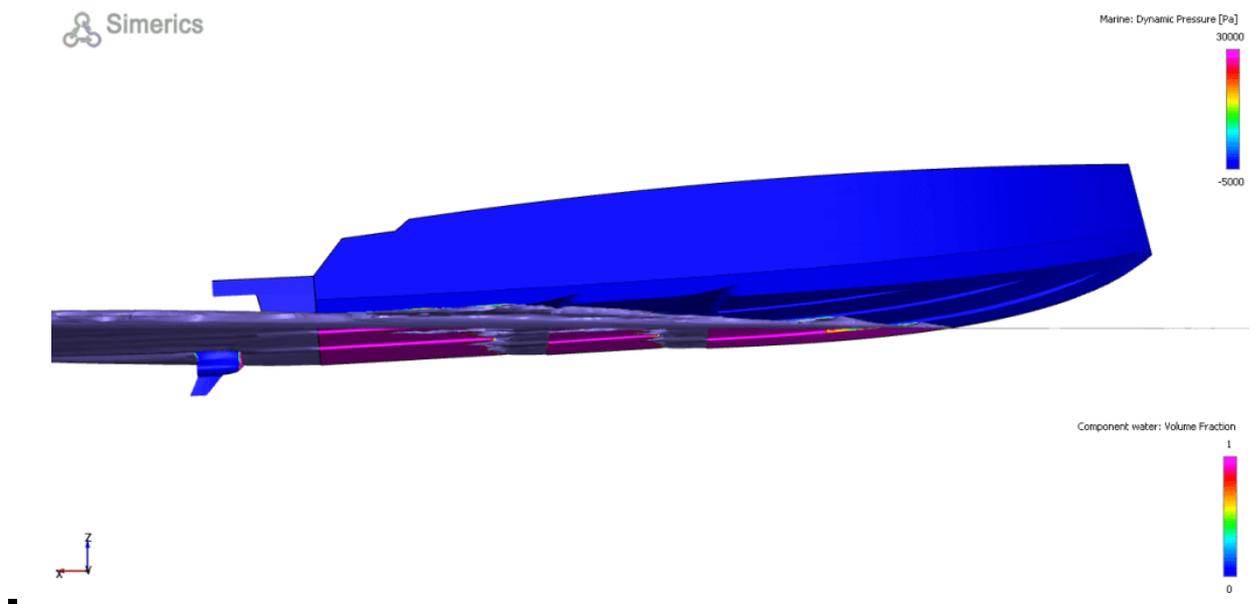


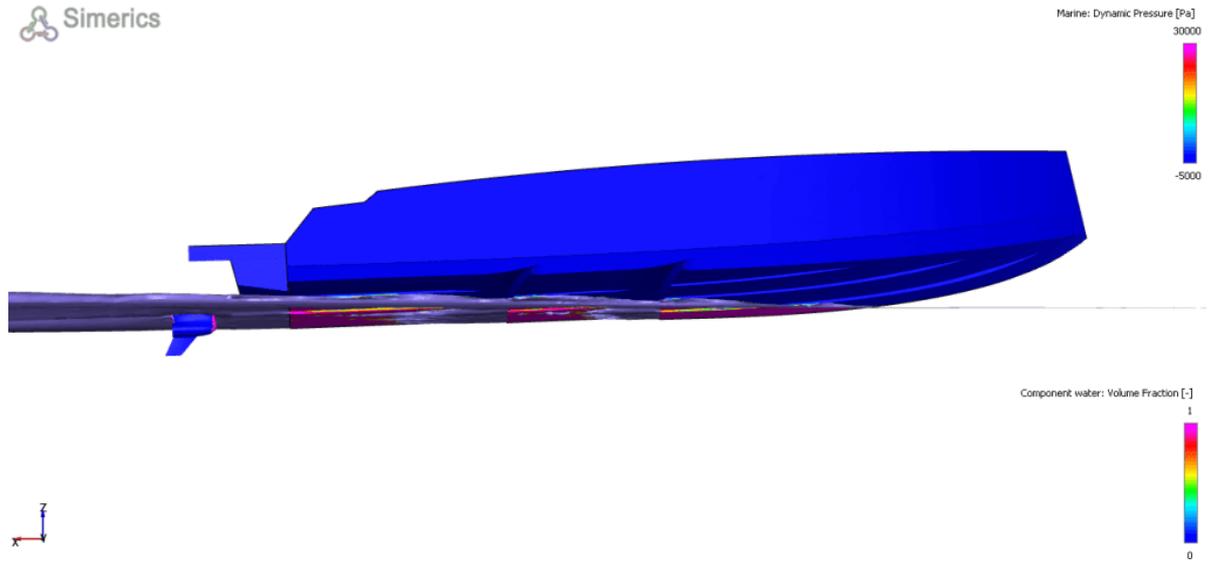
Vlad acquired his first license for Orca3D Marine CFD, equipping himself with a computer setup that could handle the significant data generated during a CFD run. Orca3D’s template architecture and integration into Rhino3D streamlined the process, making it accessible even for those who weren’t CFD experts.



The CFD analysis process extended beyond the hull, creating a 3D domain to assess fluid behavior. Vlad's preference for approximately 20 million cells in the mesh led to 14-hour runs, an investment he believes is worth it when compared to the lengthy modifications required if the design isn't right.

Vlad's design philosophy involves a division of labor with his long-time partner, Carlos Vidal, who takes care of the topside aesthetics and functionality. This collaboration allows Vlad to focus on the performance and handling of the boats.





In the past, Vlad relied more on experience and intuition in his designs. CFD analysis has since empowered him to create innovative shapes with confidence, offering significant advances compared to the slow, evolutionary changes of the past. The Sterk 31 serves as a prime example of the remarkable progress he has achieved with CFD.

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In conclusion, Sasha Vlad's journey from diverse experiences and locations has culminated in V2 Marine Design's outstanding work. The incorporation of Orca3D Marine CFD has revolutionized the design process, allowing him to explore new possibilities and confidently create groundbreaking powerboat designs.



Read more about [Vlad's success story](#)