

## Siemens' Digital Twin technology gives Orient Express Racing Team & K-Challenge the edge for America's Cup

- **America's Cup team uses Siemens Xcelerator software to create a digital twin to simulate hydraulics and aeronautic systems of the yacht in the water through virtual and immersive experiences**

Siemens Digital Industries Software announced today that the Orient Express Racing Team is using the Siemens Xcelerator portfolio of industry software to aid in preparation for upcoming 37<sup>th</sup> America's Cup and to gain competitive advantage.

The Orient Express Racing Team, founded by sports tech company K-Challenge, brings together some of the best French athletes, engineers, technicians and experts with the aim of winning the most prestigious international sailing competitions, including the America's Cup. Mastering this ultra-competitive environment is the drive behind the company's creativity and capacity for innovation.

Working in close collaboration with Siemens' Simcenter Engineering Services, Orient Express Racing Team is gaining an understanding of real-world performance of the hydraulic flight and aeronautic systems that control sails and rudder/foil flaps actuation. Digital twins of these systems have been built, parameterized and functionally validated, along with dedicated libraries, that help ensure the layout and interface are comprehensive and easy to operate in a multi-disciplinary team effort spanning the Performance, Mechatronic and Hydraulic groups.

“Sailing boats have dramatically changed since the arrival of foil technology enabling them to fly above the water. Managing two fluids and all the new aerospace flying technologies has become a real challenge as the game is completely changed,” said Stephan Kandler, CEO K-Challenge and Orient Express Racing Team. “Digital twins and virtual testing became a major breakthrough to enhance the R&D of the boats besides real sailing. Having Siemens on our side was a key element of K-Challenge Racing & LAB's strategy in the America's Cup but also for other developments in the maritime transport decarbonation.”

“Siemens is incredibly proud to work with K-Challenge and the Orient Express Racing Team to help them in their bid to succeed in the 37th America's Cup race,” said Jean-Marie Saint-Paul, CEO, Siemens Digital Industries France and CEO, Siemens Digital Industries Software France. “The work achieved through our technical collaboration now and during the forthcoming race shows how the benefits of digital twins of complex systems can leverage the use of real time data in one of the most competitive sporting environments.”

When the team finds that performance is deviating from expectations, data from the water is taken as reference and the engineers introduce modifications in the systems model (for example, to find suspected leaks in the hydraulic systems) to try and match simulation results and data – which allows them to target inspection and maintenance more accurately and efficiently.

As the team prepares for the race, there is also potential to use the same digital twin-based systems model, already prepared for real-time performance, to be exploited for streaming live data from the race to the models and to compare the response in real time. Additionally, when the boat is not at sea, the systems models are connected to K-Challenge's virtual-reality simulator. Finally, there is also potential to work control systems control strategy and test multiple scenarios virtually before testing in the water.

To learn more about how Siemens' Digital Twin technology is helping K-Challenge and the Orient Express Racing team to prepare for the forthcoming 37<sup>th</sup> America's Cup, watch our video here: [https://www.youtube.com/watch?v=3Hj\\_FF-Gsa8](https://www.youtube.com/watch?v=3Hj_FF-Gsa8)

**Siemens Digital Industries Software** helps organizations of all sizes digitally transform using software, hardware and services from the Siemens Xcelerator business platform. Siemens' software and the comprehensive digital twin enable companies to optimize their design, engineering and manufacturing processes to turn today's ideas into the sustainable products of the future. From chips to entire systems, from product to process, across all industries. [Siemens Digital Industries Software](#) – Accelerating transformation.

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**Siemens AG** (Berlin and Munich) is a leading technology company focused on industry, infrastructure, transport, and healthcare. From more resource-efficient factories, resilient supply chains, and smarter buildings and grids, to cleaner and more comfortable transportation as well as advanced healthcare, the company creates technology with purpose adding real value for customers. By combining the real and the digital worlds, Siemens empowers its customers to transform their industries and markets, helping them to transform the everyday for billions of people.

In fiscal 2023, which ended on September 30, 2023, the Siemens Group generated revenue of €77.8 billion and net income of €8.5 billion. As of September 30, 2023, the company employed around 320,000 people worldwide.

Further information is available on the Internet at [www.siemens.com](http://www.siemens.com).

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