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Predictive model for Maneuvering Risks Assessment.

The use of simulation instruments which allow to predict or analyze the maneuvers to be performed on a real vessel are very common in the naval sector. Such a practice results from the need to make navigation increasingly safer, in order not only to avoid collisions between vessels in the open sea, but also to evaluate the most convenient maneuvers in confined spaces, such as for example in harbors and canals.

Traditional simulation systems produce a simple prediction of the future motion of the vessel without offering any qualitative analysis about the risks of safety related to the manoeuvre.

To solve the aforementioned problems CETENA's naval simulator includes a patent method that offer a highly reliable predictive model with regards to the risks connected to a given maneuver.

The developed system generates at different intervals of time, one or more virtual disturbances in the virtual simulated vessel, producing an unexpected deviation of the vessel from the path followed by the pilot.

All generated virtual scenarios, in which the behavior of the vessel is influenced by one or more virtual variations, could be evaluated in order to obtain a manoeuvre "Performance Index".

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