Route optimisation project

In response to the need for enhanced navigational efficiency, d'Amico has leveraged big data to optimize routing and vessel speed on each voyage. The **Route Optimization Project**, initiated in 2020, employs big data analysis to evaluate the impact of CO2-saving devices, validate the ship's performance model by factoring in weather conditions, and assess the hydrodynamic efficiency of its vessels.

The project aims to **define optimal voyage plans with the goals of saving fuel, reducing emissions, and ensuring navigational safety**. The optimization process unfolds in three steps. First, the route is simulated to assess environmental factors like wind, waves, and currents, and their impact on speed and fuel consumption. Next, the simulation is adjusted to reflect the actual departure and arrival times, ensuring alignment between modelled and reported fuel consumption. Lastly, a final simulation checks the optimized route against actual voyage conditions to confirm the accuracy of the optimization. This process allows for fine-tuning future route to achieve improved fuel efficiency and performance. In 2024, the **Route Optimisation procedure was applied to 103[48] transoceanic voyages, resulting in a significant fuel saving of approximately 82 metric tons**.