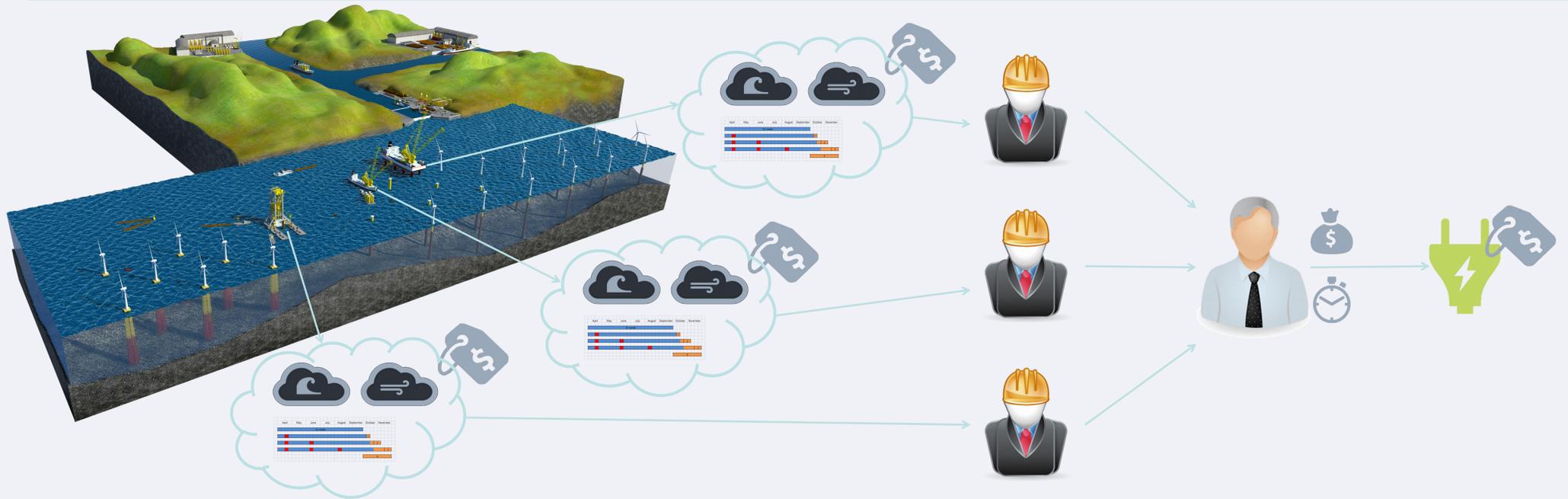


Abstract

Project performance and success can be measured on three main elements: cost, time and quality¹. Offshore installation projects performance is impacted by weather events on time and cost, which translates itself into risk for the project. The extent of impact of weather on the project schedule and cost can be mitigated by selecting the right strategy on multiple different levels in the project. This can only be achieved when the impact of decisions and strategies on the project performance is crystal clear.

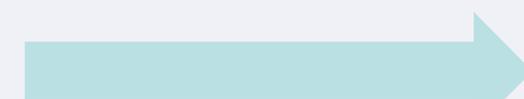
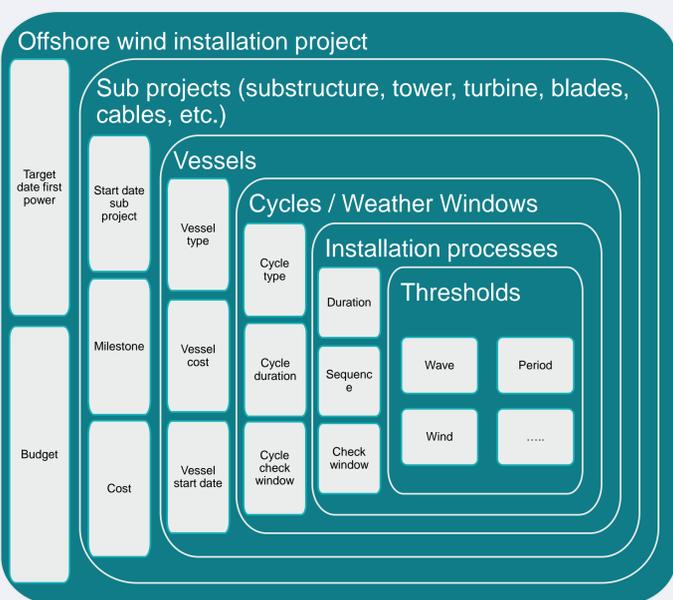
EOWIN™ is a tool that uses simulation technology to integrate all relevant aspects in one model, which enables contractors and developers to evaluate project strategies and decisions against cost and time targets. Contractors and developers define the set of parameters they want to test and link this to a set of hind cast weather data for the project location. EOWIN™ then calculates the project performance and delivers valuable results. Comparing different strategies enable the contractors and developers to select the most robust and efficient project plan. Furthermore contractors and developers can design contingency strategies for different weather scenarios ensuring their teams can anticipate to guarantee project progress. This results in reliable integrated project planning with a sound understanding of weather risks in relation to contract interfaces in the project. Understanding the weather risk will enable contractors to actively manage the risk rather than accepting it in return for a fixed price. This approach results in multi-million Euro reduction on the overall project cost and eventually drives down cost of wind energy.

Objective

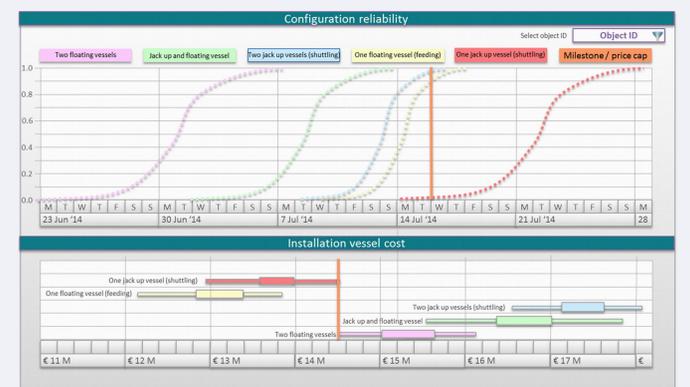
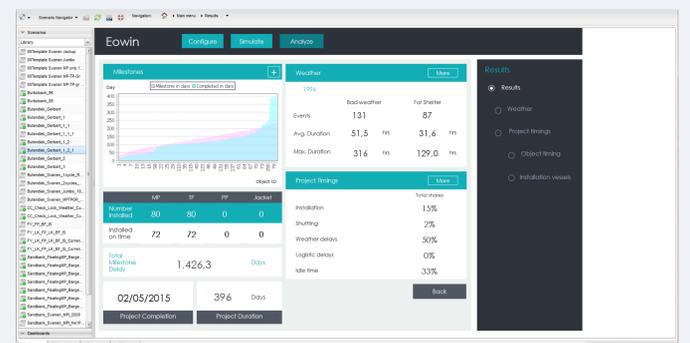


Developers aim to minimize installation cost to fit within budget and offer better wind energy prices to consumers. This requires developers to select the best contractor for every sub project with regard to cost and time. Furthermore alignment of the project interfaces is essential to manage the project efficiently. Weather events impact cost and planning substantially and understanding this impact is crucial to design and select the best installation strategy.

Method



EOWIN™ is a standardized method that delivers performance indications on cost and time based on defined sub project configurations. The results of a sub project can be used as a starting point for the analysis of subsequent sub projects. This enables an integral approach of project planning throughout all stages, without requiring contractors to share their intellectual information with other contractors. By testing different strategies and decisions on all the sub projects, a robust and optimized installation project planning can be designed.



Results

Managing weather risk in offshore wind installation projects can only be achieved successfully when consequences of project decisions can be illustrated based on weather events. This requires a tool that includes all decisions in a project and that evaluates those decisions with regard to project performance.

EOWIN™ is a simulation based tool that enables analysis of sub projects taking into account historical weather data. Results of sub projects can be used as input to subsequent projects to understand the impact on interfaces and optimize the integrated project. EOWIN™ can be used and results can be shared by all parties involved in the project, without exposing intellectual property. Furthermore it can be used on individual basis by contractors or developers to translate weather risk to cost empowering reliable contract negotiation and tendering. Using the tool will minimize cost of installation and reduce cost of wind energy.

References

1. R. Turner, The Handbook of Project-Based Management, p.8
2. Weather risk in Offshore projects, The Journal of the Operational Research Society, Vol 45, no. 4, 1994

