

SeaMade is the perfect example of how a successful client-contractor relationship makes a huge difference to the swift completion of a project. Comprising 58 Siemens Gamesa 8.4 MW turbines, SeaMade actually consists of two wind farms (Seastar and Mermaid) each with its own offshore substation and the export cables connect them to the 'Modular Offshore Grid' switchyard individually.

Although much of the construction took place during the pandemic, DEME Offshore, working shoulder to shoulder with Otary, ultimately installed the foundations, inter-array cables, offshore substations, export cables and the scour protection within a period of 15 months.

The relationship between DEME Offshore and Otary is a longstanding one, with the partners originally joining forces for the construction of C-Power offshore wind farm in 2007. They again teamed up to construct the Rentel OWF in 2017.

Smarter and faster

Mathias Verkest, Chief Executive Officer of SeaMade, comments that working together for many years and trusting one another were key to the success of the latest project. "As a developer it is vital to optimise the business case - we are always under enormous pressure to be smarter and faster, as the industry rapidly matures, and the Belgian government expected us to be operational prior to the end of 2020. This is one reason why it is crucial to work together from a very early stage. We knew the challenges we were going to face and worked together to find successful optimisations and improvements, as well as implementing the new technologies which helped us achieve them."

Bas Nekeman, Business Unit Director of DEME Offshore, stresses: "Fortunately, we had the Rentel team in place, which was also the core team working jointly on the project. It was crystal clear what everyone was going to do, even before the contract signing!" "From the beginning everyone was looking in the same direction. We pooled our joint expertise, got the go-ahead and didn't look back!" Mathias adds.

Although a wind farm is based on four key elements - foundations, turbines, cables and substations - there are probably a thousand aspects related to its design, fabrication, transport and installation, which is why it is important to have the client's perspective throughout, Bas explains.

Early collaboration is vital, they agree. When the partners were considering the geotechnical characteristics of SeaMade, DEME's experts could be brought in. "They know every square centimetre of the Belgian North Sea and understand the seabed morphology, which is an important basis to simultaneously develop the first state-of-the-art design and installation concepts." Otary could also tap into the expertise of its own design team and geotechnical experts.

Advances in technology

The teams have also integrated lessons learnt and advances in technology from previous projects, they point out. "In the last 14 years there have been immense steps forward. DEME Offshore has captured these advances and moved from the gravity-based foundations and pre-piled jackets of

C-Power to the grouted monopile foundations of Rentel. For SeaMade, further technological innovations have been implemented such as the bolted flanged connection between the monopile and transition piece (TP).”Another example has been the TP’s ‘internal cage’ which allowed parallel manufacturing of the TP’s outer primary steel and all the internal structures, which were contained in a dedicated cage and produced separately. This design concept took a lot of essentials out of the critical path and enabled a faster fabrication process within the project’s tight time constraints,” stresses Bas.

Mathias enthuses: “I believe SeaMade shows other projects and countries developing their wind farm business, that if there is the will, collaboration and the right competences, things can be done very quickly and efficiently. Did DEME live up to our expectations? Absolutely! We were on time and on budget. If you see what we have created - and during Covid - where we both had to carry out a vast array of extra measures to make sure our people were safe, it is quite remarkable.”