

# Validating and improving performance

## W2W market maturing at last





It's clear that the Walk to Work (W2W) concept is here to stay in both wind energy and the oil and gas industry. The major operators and turbine EPCs have all commissioned dedicated W2W vessels from various operators. The last 4 years has seen a number of new operators enter the market with different vessel designs and improved gangway designs. Now the question is who can deliver the required performance most effectively? PES turned to BMO Offshore for their thoughts.

The current situation is not unlike that of the crew transfer vessel (CTV) market of 10 years ago. It's quite interesting to see the development of this new market in the light of the experiences of the CTV market.

CTVs were the genesis of the dedicated offshore wind vessels, and after an initial development phase, there was a substantial boom. At this time the market was flooded with new operators with exciting designs ranging from mono hull, catamaran, trimaran to Swath and surface effect Vessel.

#### Lessons learned on vessel performance

It was, however, quickly realized by many, that performance of the vessels was vastly different at different locations throughout Europe. Carbon Trust, in the UK, and others undertook substantial efforts to create transparency of performance and fuel efficiency.

The aim was to quantify the level of performance a charterer could reasonably expect for their vessels. This method uses measurements of vessel motion during present trials to determine key characteristics.

However, this scientific approach soon ran into a practical issue. Although general performance is nice to have, the difference is made at the edge of performance. This is the moment that the wind is strong (high production) and the sea is relatively rough. As it turns out, based on our 8 years of data collection and analysis, the key differentiator, given equal vessels, is the skipper and the trust placed in his judgement and capabilities by the technicians.

Skill, however, is a soft factor and doesn't quite fit the technology oriented frame of mind of the offshore industry. This touches upon a common issue in this industry, as there is a strong tendency to solve a problem with 'a bigger piece of steel', rather than invest in the skills to wield the tool in the first place. It is our core belief that investing in human capital will gain much more results in this market than more hardware.

This brings us back to the current state of the W2W market. As we see it, the technology has been developed to a large extent. Now it is key to improve the

effectiveness of deployment by the teams using it.

#### Key human success factors

So, given our experience in both markets, what do we see as the deciding factors for maximal, safe operations? First, let's look back to the CTV operations, as there the work process is (mostly) 3 separate activities:

- Strategic: selecting the right vessels and providers for the campaign
- Operational: selecting the right vessel for the task
- Tactical: getting the techs onto and off the asset safely

These key steps each require skill and knowledge to complete, both on the charterers' side, as well as the vessel operators' side.

But most importantly, these were dependent on three human factors for success:

- A knowledgeable organization running and supporting the vessels
- Effective vessel deployment decisions by the client
- The good seamanship of the skipper

Now all these factors are far more complex in a W2W setting where the work planning, mission planning and operations continually go in sync. This means there is far less room to avoid errors than there is with CTV operations.

Like CTV operations, the key factor of success is experience and understanding by the team of each tier in the process. From the operational ability of the vessel by the client, the ability of the vessel crew to quickly adapt to weather or mission changes and the skill of the dynamic positioning and deck officers to conduct safe operations.

But in a rapidly growing industry, not everyone can be an expert from day 1. So how to successfully spread experience and best-practises, on all operation levels, across the vessel fleet? In the CTV industry, the boom has already passed and consolidation is now key, where vessel companies, which have shown to be effective at operating on the three crucial levels are taking over the market. How can companies in the W2W now consolidate on their expertise?

#### Continual Improvement

At BMO Offshore, we have noticed that the experience level of the vessel team is being recognised by the key EPC contractors, as a





deciding factor in awarding contracts.

So how do we demonstrate our knowledge and train the new crews and clients' staff? This is where we think a major benefit of W2W data capture and analysis systems, like the BMO Argus system comes into play, by continually improving all these success factors.

With our clients Acta Marine and Bibby Marine, we gather all operational data: from the basic where and when, to the more essential how and why. This has created a dataset for their vessels where every operation of the last 2 years can be played back on a second by second basis. As a result, the vessel owners can actively engage their client on observed best practises and holistic vessel performance, including the human factor, on three levels.

First, the data available means that all logical scenarios which the W2W vessel team will need to operate in, can be simulated beforehand. Then deviations can be introduced during the simulation run, turning it into a dynamic simulation.

The team, which consists of both vessel crew and clients' planners, can then be brought together in a bridge set-up to practise both

the procedures, as well as the essential cooperation, each day. This way new personnel on both sides can be brought up to speed with best practises and procedures as soon as possible.

Second, the current format for contracting vessel performance, as well as defining acceptable working limits, uses the significant wave height (Hs) as the key metric against which all performance is measured. However, it is generally known that this is a very convenient but crude measurement, and the direction and wave spectrum, energy distribution, make a huge difference during operations that are conducted in challenging conditions.

Linking the ability to work safely and effectively to these factors in a transparent way creates a more balanced way of defining workability. This effectively allows charters to plan around actual vessel access, not hard limits.

Third, using the data collected over their campaigns, these companies can also engage the client and clearly demonstrate where current operational conditions can be extended. This opens up parts of the seasons, which without the W2W system

would be deemed uneconomical to work in i.e. spring and autumn.

Normally this requires a revised metocean conditions study, however since all vessel performance data is readily available the workability can be determined in a straightforward way. It is much easier to engage the QHSE based working limits in an evidence based way.

### Conclusion

As the W2W market boom may be seen as a repeat of the CTV market, there are key differences. Whereas for the CTV market the focus was initially on just the technical capabilities of the vessel, it is clear charters have seen that the skills and experience of the operator and vessel crew are essential for operational results.

The focus on the team, both onshore and offshore, being able to operate the vessel to its highest capacity, as an integral part of the offered solution, is proof the market is maturing. Ability to demonstrate this and having the capability to train and maintain the highest operational skill set required, will be seen as the key differentiator in this market.

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