Innovative, efficient CTVs

In such a busy period for the industry, it's not just wind farms that are getting bigger to help meet demand. PES was keen to hear from Steve Evans, General Manager at Mainprize Offshore, about some of the challenges faced in terms of crew transfer vessels and how growing their fleet is just one part of their plans to innovate.

PES: It's great to speak to you for this issue Steve. Could we perhaps begin with a brief summary of the work of Mainprize Offshore, as a recap for our readers?

Steve Evans: Of course. Our primary service provision and our core focus is the supply of high-performance crew transfer vessels to the offshore wind industry. As well as crew transfer, our vessels are also capable of heavy cargo operations, fuel and water bunkering, remotely operated vehicle (ROV) support, dive support and subsea survey operations. In addition to this, we are also a guard vessel supplier and offer marine consultancy services on a range of services, from ISM compliance to vessel design and efficiency.

PES: You've been a part of the offshore renewable industry for 30 years now; how have things changed during that time?

SE: There have been substantial industry changes during this time. Offshore wind has accelerated massively, so we've aimed to be a step ahead to ensure our vessels are up to the challenges of tomorrow. In the early days, I remember doing transfer operations from converted inshore fishing vessels and any other vessel you could push on with.

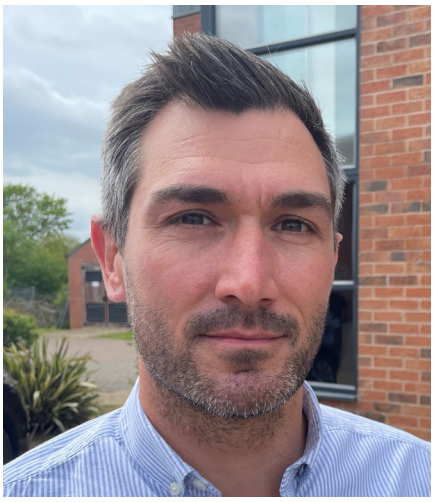
With the introduction of the dedicated windfarm support vessel around 2007, things picked up. The shift to these vessels was inevitable, with companies investing large amounts of capital to build them.

In 2012 we took delivery of our first dedicated windfarm support vessel, the Dalby Derwent. We recognised early on how offshore wind farms would get further offshore and the industry demands would grow, so from 2014 we started building 24m crew transfer vessels (CTVs) with a higher power to weight ratio, to transfer safely in higher wave heights.

Additionally, by increasing the tunnel height we reduce the tendency for our vessels to slam when sailing into heavy weather, which reduces strain on the structure and increases the comfort for those on board. This all led to where we are now, with 26m plus vessels able to transfer safely in very challenging conditions.

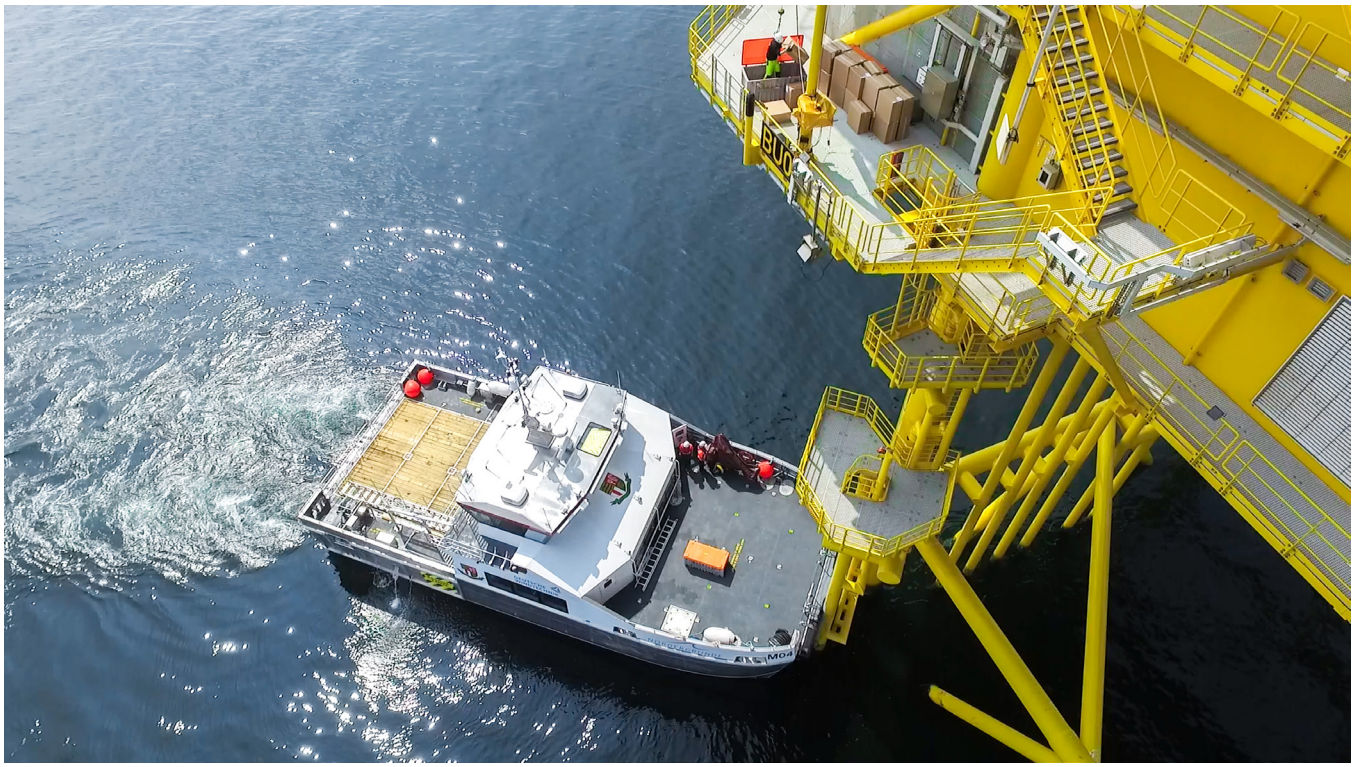
PES: It's a busy period for the sector now, of course, and for Mainprize too, I would imagine?

SE: The industry is definitely busy, and with the pipeline of wind farms proposed to meet the government's net zero targets by 2050,



Steve Evans

it's only going to get more competitive within our sector. We are almost doubling our fleet in the next year to take advantage of these new opportunities, as our clients value our cost-efficient approach, all achieved through a collaborative attitude to



operational tasks, including bespoke project vessel design and delivery.

PES: As growth accelerates, how important is it to be innovative in your thinking and to drive new methods of working where you can?

SE: We believe that innovation is critical in operating a company in what is a very competitive industry. As with any dynamic company, it's about pre-empting the demands that the industry will face and adapting to meet them. We have to think outside the box regarding vessel design, and that's why we are continually developing concept designs. Even if the original never comes to fruition, the knowledge and design components can have any number of future uses.

Sometimes small gains can make all the difference; this is why we are always looking ahead to enhance our products and services. Take, for instance, our first-to-industry flow align rudders that will reduce fuel burn and therefore benefit the client and, ultimately, be more environmentally friendly.

PES: Presumably, that means a significant investment in research and development?

SE: Research and development is a huge part of our strategy. We are committed to finding ways to improve the performance of our vessels, and as a result, our vessels are now market leaders in transferring in increased wave heights, with the MO5 working in two metres significant.

Over the past three years, we have invested over £2million into research and development projects, like maximising the power to weight ratios, hybrid systems, fender designs, vessel designs, and rudder and propeller designs, to mention a few.

To prove our concepts, we examine all our new hull forms in a test tank; which allows us to get the maximum efficiency and performance out of a design, adding peace of mind, because we know the vessel will perform as intended.

PES: Are there any particular challenges you think the industry is facing at the moment?

SE: With a focus on reducing greenhouse gases, we see a lot of opportunities to design and build hybrid, and full-electric vessels. As an innovative company, we would like nothing more than to introduce these fantastic innovations to our fleet. Unfortunately, the industry and, in some cases, the technology needs to catch up to the collective advance from the vessel owners and operators. The infrastructure needed to service fully-electric vessels is a long way off yet.

The gap between CTV owners wanting to apply these innovations and the substantial investment required to implement them is a massive challenge for the industry.

PES: How can these be overcome, do you think?

SE: By having a unified front in reducing greenhouse gases and meeting the net-zero government target, but we all have to play our part in doing this. Apart from the sheer cost and scale of the infrastructure needed to sustain these technological advances, we all have a responsibility to do all we can in the present.

We are working with a third-party consultancy firm to draw up and implement a Carbon Management Plan for the company. This five-year plan will help us reduce our carbon footprint, by introducing bespoke projects that make a fundamental difference to our overall carbon emissions.

PES: What changes have you made to your fleet to help and reflect the industry's demands as it develops?

SE: Supply and demand within the industry creates real opportunities within the crew transfer vessel sector. This, coupled with the drive for sustainability, makes for some challenging years ahead.

We have made significant investments into the fleet to maintain our competitive advantage as the industry develops, with the introduction of new vessels to the fleet adding additional scope to our ever-growing profile and market share.

In addition to the expansion of the fleet, by installing vessel motion monitoring software, we can optimise passenger comfort by reducing the likelihood of seasickness while operating safely in more challenging conditions.

PES: Have you added to your fleet as part of this?

SE: Yes, we enjoy the challenge of bespoke client requests. With the vessel MO4, we collaborated with the client about how we could build a site-specific vessel for the wind

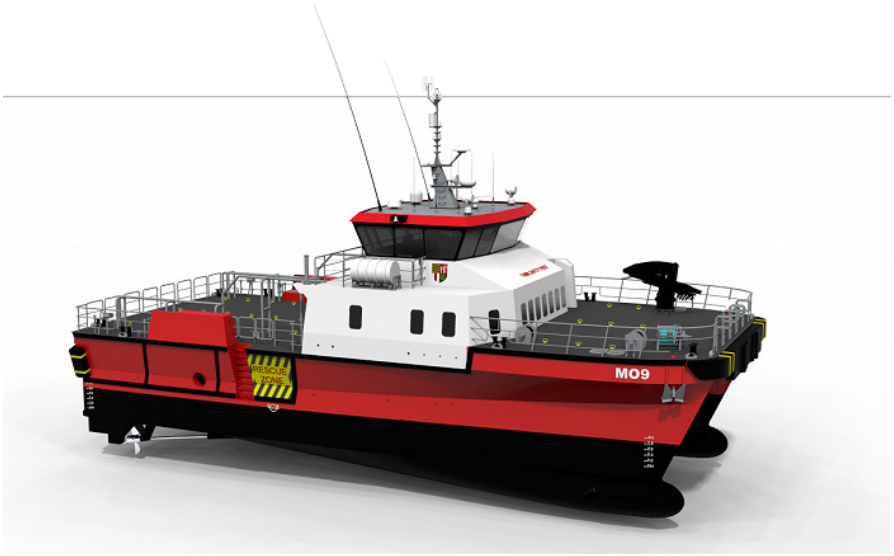
farm Nordergrunde. As a result, we designed and built a vessel with a shallow draft that could still take 20,000 litres of fuel to bunker the offshore sub-station, with the added value of conducting sub-sea surveys and a fixed multi-beam scanner installed in the hull.

The vessel continues to perform very well and, due to her versatility, drives down costs by reducing unnecessary vessel charters, demonstrating how individual project-designed vessels can impact the long-term financial cash flow of the project.

PES: Are you finding the type and level of support you are offering is also shifting?

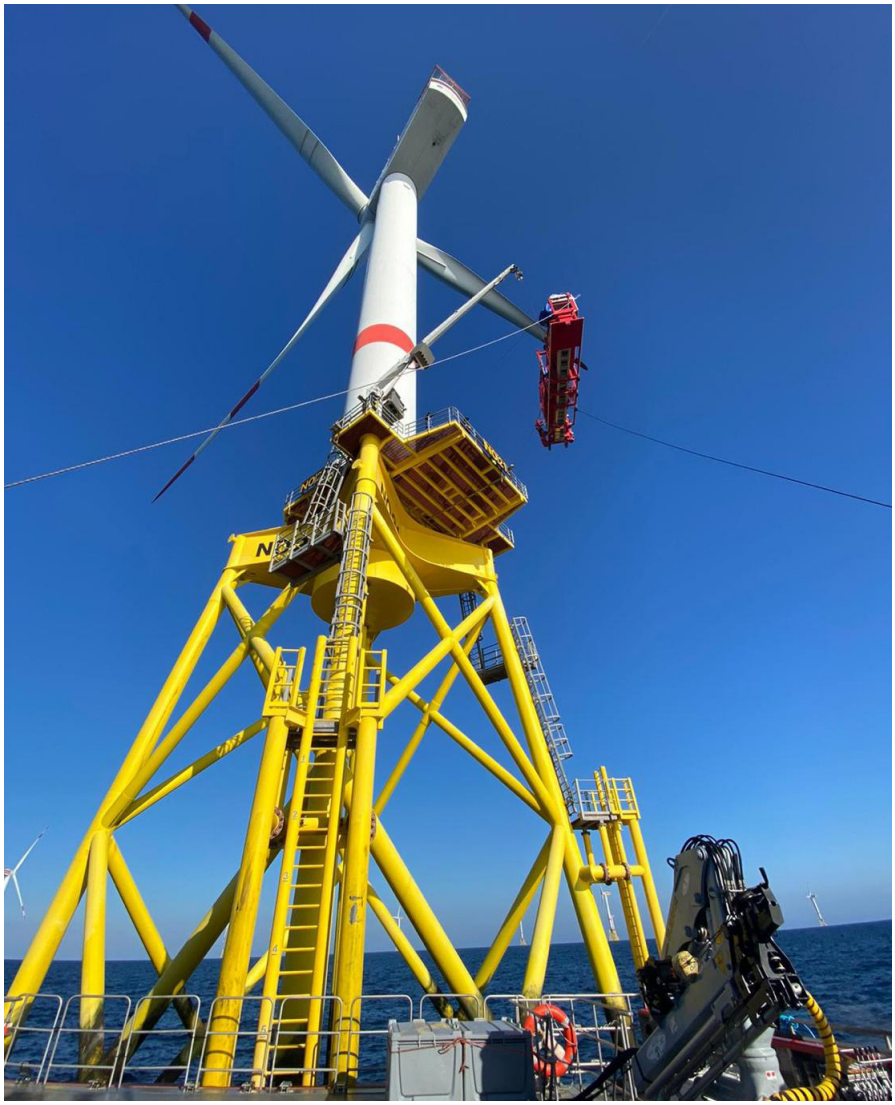
SE: With expanding client portfolios and driving to be more cost-efficient in all areas, we can definitely see a shift in the type and level of support we provide. Fortunately for us, we have always gone above and beyond when it comes to customer service and the level of support we offer our clients in various roles.

This is made much easier by having super versatile vessels that can quickly adapt to the dynamics of offshore work, giving the client the flexibility with no added cost through additional charters.



PES: What do you think is next for offshore renewables?

SE: We see massive opportunities within the offshore renewables sector, particularly in the UK, through the recent government announcements and the push for floating offshore wind in Scotland. Not to mention all the other emerging markets that are seeing the benefit from offshore wind, and being one of the world-leading countries is very exciting from an export and growth opportunity point of view.



PES: And for Mainprize, are more vessels planned in the future to meet demand?

SE: As mentioned earlier, we're expanding the fleet, and this is through the introduction of four new high performing vessels which almost doubles our fleet by 2023. The MO6 and MO7 are currently being built in Vietnam, with the MO8 and MO9 presently being built in the UK, as we believe we need to encourage UK content from a shipbuilding perspective. We expect to order MO10 and MO11 relatively soon.

Our in-house vessel design team collaborates with shipyards worldwide to determine the availability of build slots, guaranteed build quality, and supply lead times to satisfy our client's service needs and the broader markets' onward requirements.

PES: What secrets is your research and development unveiling about what the future may hold a few years from now?

SE: Undoubtedly, most of our research is around the efficiency and performance of the vessels. Given the industry and global drive for sustainability, we have various designs for fuel-efficient vessels, from hybrid and fully electric drive trains to more efficient hull forms to decrease hydrodynamic resistance. Ultimately, our future designs will be driven by whatever challenges our clients pose or face, and that's incredibly exciting to be a part of.

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