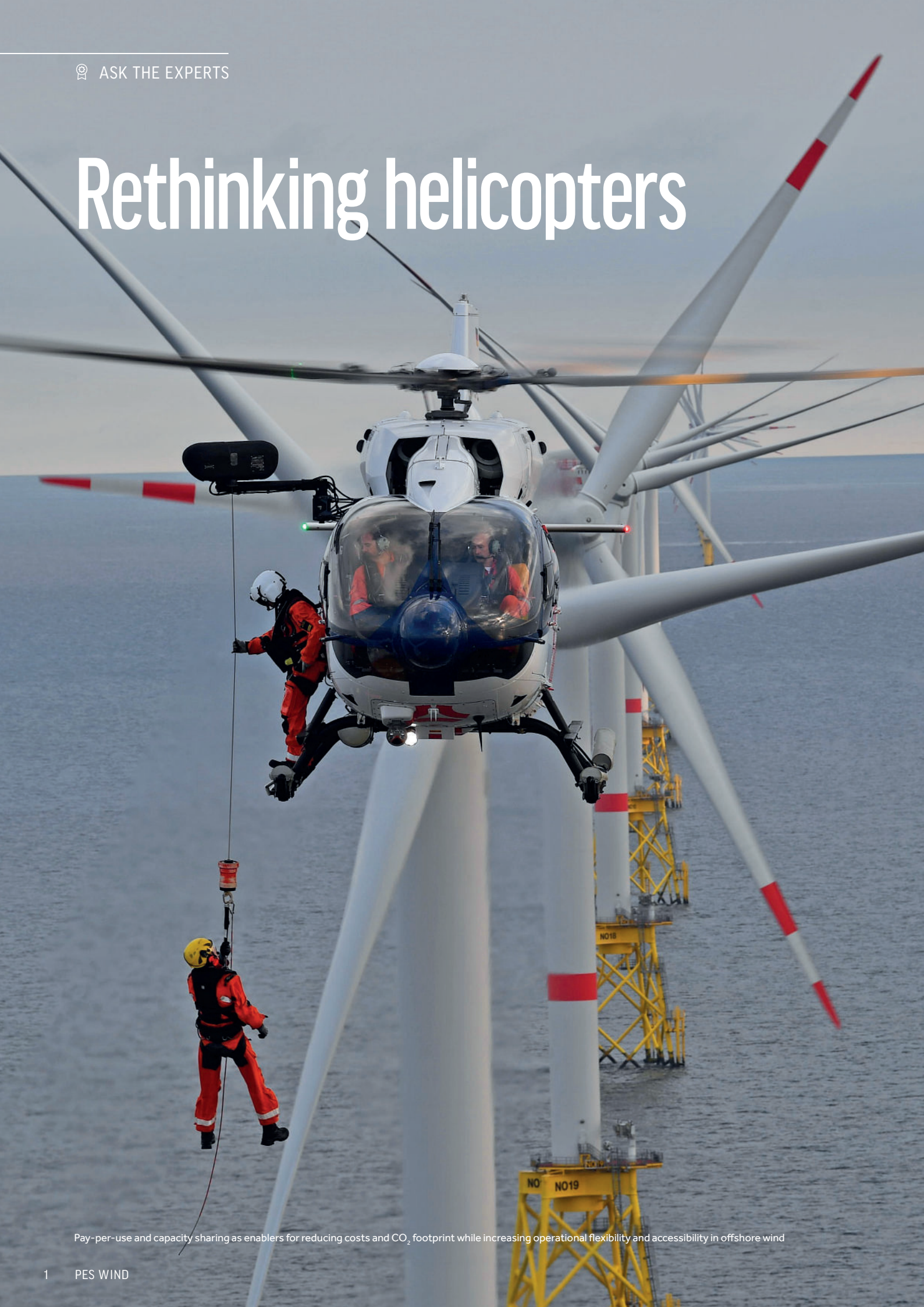
Rethinking helicopters



Pay-per-use and capacity sharing as enablers for reducing costs and CO_2 footprint while increasing operational flexibility and accessibility in offshore wind

Flexibility and accessibility are key for wind farm operators when ensuring a successful and profitable operation. In recent weeks we have seen the world change once again, with renewable energy coming even more into focus. The result is likely to be a greater requirement to deliver energy to the European grids. Helicopters as a supplement to the logistics setup provide an opportunity to increase production of renewable energy, by adding higher accessibility to wind farms at a very competitive price.

DECK1 has undertaken extensive research to look at new ways of chartering and managing helicopter operations, modernizing how helicopters are perceived and utilized, to make them suitable for wind farm operators. The goal is simple: an affordable and reliable helicopter service to increase revenue and improve LCoE. PES caught up with Jim Hededal Nielsen, CEO and Founder, to find out more about Helicopter 2.0.

PES: It's lovely to welcome you back to PES Jim and I'm looking forward to discussing this topic with you. It sounds very promising. More energy to the grid, higher revenue and a helicopter at a competitive price, why is it not being done already?

Jim Hededal Nielsen: That is a good question. I think the answer is the opportunity hasn't been there before. The individual providers and buyers have leaned on their experience from the oil and gas industry, where the norm is to have a 'sole use helicopter'. Similarly so in the marine industry, where a vessel is chartered for several years.

But what got us here will not take us to the next level. Innovative companies that adapt fast will thrive, and digitalization and a network of transport will be the future.

DECK1 presents an opportunity for both providers and buyers in the industry. And the network extends beyond transportation, since we expect that wind farm operators want to buy simplicity and redundancy in one package. This is why we have managing companies such as DHSS onboard, and aim to get both ports and heliports onboard in the coming months, since they represent the hubs and spokes in the network of transportation.

PES: Some O&Ms already have helicopters in their operations, and some even share internally. What would the benefit be of using DECK1's virtual cluster instead?

JHN: Some offshore wind farms have a large organization behind them, which enables internal sharing between their own units. This provides them with an opportunity to split the cost on expensive assets and reduce administrative overheads.

The difference between internal sharing and DECK1's network is that we have multiple companies on both sides, improving resilience in operations with regards to operational safety and availability for the buyer, and high revenue and a wider customer base for the providers.

By including a handling company like DHSS, we aim to provide an easy to use solution at a very competitive price. Linked with ports and heliports around the North Sea, the user will have unique flexibility connecting the whole area. Like with Uber or Airbnb, the real benefit comes from the large network, not just sharing a car with your neighbour.

PES: Why is this extended window of access so important?

JHN: There are multiple reasons, but number one is that it represents an opportunity for extra revenue. Number two is the shortage of workers offshore, that could create a bottleneck in service.

Revenue is always a factor, and with wind turbines increasing in size and output the consequences will increase as well. Rising energy prices are another factor. Why not boost output with a flexible solution, such as adding a helicopter, to your logistics setup?

There are shortages in the workforce. Just

look at the job advertisements, or take a moment to think about where the 220,000 new employees needed in the offshore renewable sector each year will come from. If there are less people, the O&Ms need more time to perform the same level of service.

This is why extending the accessibility window to the wind farm is important, and will be even more so going forward. A helicopter could provide this extended window of access up to 310 days per year.

PES: Will the helicopter price not eat up the extra revenue?

JHN: No, but I understand where this misconception may come from. In fact, the cost of the helicopter contract could be paid for in full, after just 12 hours of production for many wind farms, depending on the size of the turbines, the price of electricity produced, the locations of the wind farm, etc.

We have identified more than 36 offshore wind farms in Europe of varying size and distance from shore that would benefit from DECK1's virtual cluster, and might even make money by having a helicopter on a shared contract. We would be more than happy to show these calculations to any interested offshore wind farm operators of course, and we will be able to invite both DHSS as a representative for the handling party, and Den Helder airport to explain the simplicity of operations in and between the heliports.

DECK1's platform enables a handling agent to manage the complete helicopter setup. Their high level of experience lowers the complexity of the operation for the O&Ms and ensures best practices are adhered to from the start.

PES: But does there need to be a handling agent in the middle? What if O&Ms want to do it themselves, will that be possible?

JHN: The virtual cluster requires one coordinating unit. If this can be done inhouse it is possible, of course. Just ensure that the back-logistics, check in process, PPE, etc is coordinated at the same time.

Alternatively, buying a combination of a virtual cluster agreement and a handling service in one package has multiple advantages at very little extra cost. It provides great flexibility in scaling operations up and down, depending on work pressure, without the need for extra hiring. It also reduces risk due to personnel getting sick, or leaving for new opportunities in this growing industry.

PES: Wouldn't O&Ms lose flexibility compared with a sole use helicopter with Helicopter 2.0?

JHN: Both yes and no. A virtual cluster is based on best practice and business guidelines. If the company can accept these terms and conditions, it's possible to add a full pallet of opportunities for operations, at a very low cost and commitment.

Yes, having a sole use helicopter gives flexibility, in the same way as a private driver and own car. But if that driver is sick or the car is being serviced, you will need to find a taxi. DECK1's virtual cluster is that taxi service, with a direct line to you.

With a shared service the buyer has the opportunity to select based on many parameters, ensuring the best service is always to hand.

PES: Many wind farms have strong CTVs on full time charter already, and we know they are capable machines. Will they not be able to handle the logistics as they planned?

JHN: The opportunity to share a helicopter in a virtual cluster was not an option when many of these long-term vessel charters were negotiated. Having taken part in negotiations previously, I have seen first hand how helicopters have been misunderstood in a marine oriented industry. It is not a competition, it is a complementary addition, based on the fact that vessels will always be the backbone of the operation due to their size, multi-purpose roles, etc.

Additionally, capacity sharing on a helicopter charter is a good idea. Most wind farms only need a helicopter available for backup, campaigns and smaller transport tasks. This is why we developed this virtual cluster setup. Nothing needs to change in your current setup; just add the extra accessibility to your operation.

PES: Would it not be better to charter an extra CTV then?

JHN: If it is a backup for the main vessels, then yes. But if the goal is to reduce cost and increase accessibility, a helicopter is the better option. The weather downtime will probably be the same between the vessels, whereas the helicopter will be able to compliment the vessels.

Regarding weather downtime; in this instance the helicopter in the virtual cluster is shared between multiple wind farms and is extremely cheap to have standing by.

PES: Does it work for other services other than helicopters?

JHN: Yes, it would work for all types of services, but in reality, the cost efficiency will vary depending on the type of shared service and the effect this service has overall. As an example, a combined CTV with drone inspection shared between adjacent offshore wind farms can save up to 50% of a normal priced inspection, and would not affect the planned daily routines.

Another positive effect of sharing is the reduced risk when introducing new technologies, and the inherent sharing of best practices on a wider field. The combined effect of cost, efficiency and risk mitigation would make it worthwhile investigating shared services more broadly.

PES: Is there any guarantee of the quality of the safety?

JHN: It is the same or better. It will at least be the same standard of safety as when a company charters its own dedicated helicopter. In fact, a helicopter crew flying more hours on multiple wind farms will build better routines and experience, which adds to the safety levels.

Also, it is of course possible to audit helicopter providers, if that is an internal requirement. It will also be possible for DECK1' or a handling agency to perform audits on your behalf, if required.

But the more restrictions the less flexibility, in the same way, if you only want to fly with AirFrance as your sole carrier in Europe. Your connection and price options for the European network would be reduced significantly, especially as there are a lot of other qualified carriers.

PES: What do you see as the main benefits that would make this the future of helicopter use for the wind industry?

JHN: Accessibility to the wind farm and simplicity in operations are essential to wind farm operators. With a cost neutral, time saving and transparent solution like DECK1's Virtual Cluster, we support the industry with a direct link to optimize LCoE as well as the UN Sustainable development goals 13 and 17.

The virtual cluster enables handling companies to organize the practical execution of the operation, making it a true plug and play solution that includes innovation, digitalization and industry experience.

Helicopter providers can increase their customer base with those that otherwise would not charter a helicopter. This opportunity for extra revenue requires little or no extra manual work for the helicopter operators, since our virtual cluster setup logs agreements and the handler agency will be the one point of contact for contractual matters in case of claim management or contract management.

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