



A client-centric approach to meet the offshore access needs of the global renewables market

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There is a lot going on in the offshore wind market and not only in specific regions; companies around the world are increasingly moving towards generating and harvesting renewable energy. From 2023 onwards, the majority of new offshore wind turbines will be installed outside of Europe. After Europe, Taiwan has become the new hotspot for offshore wind.

Going forward, there will be an increased need for specialised vessels and equipment in Taiwan, Japan, South Korea and the US as well as for technology where the focus lies on safety and efficiency. With a global network of storage and maintenance hubs and regional offices, Dutch offshore access provider Ampelmann offers its innovative technology at the very heart of the upcoming offshore wind hotspots globally.

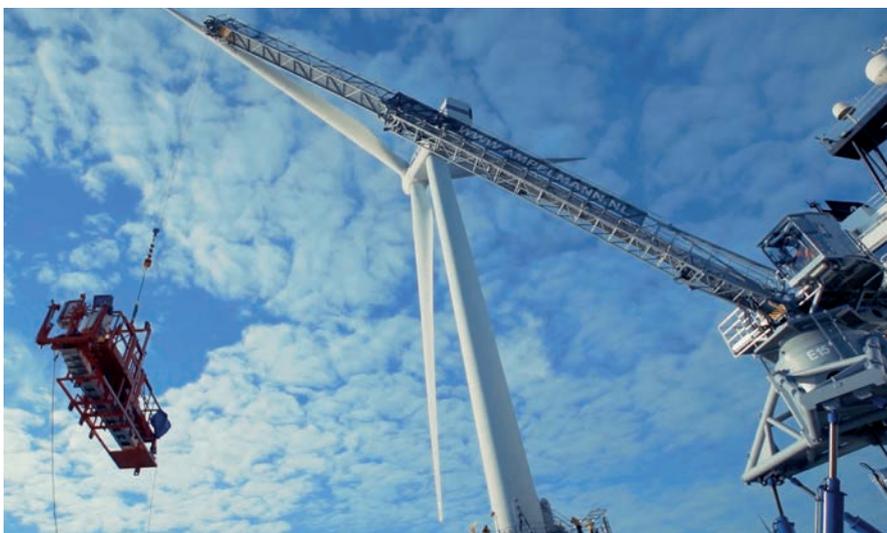
Ampelmann pioneered the Walk to Work market more than 10 years ago with the launch of its first motion compensated gangway system, inspired by technology traditionally used in flight simulators. The system compensates all six degrees of freedom of a vessel which makes the transfer of workers offshore safer and more efficient than alternative methods.



Caspar Blum

Purpose-built systems for purpose-built vessels

With a maturing market and the introduction of purpose-built vessels for the offshore wind market, the customer need has widened. Next to being able to compensate high waves and strong winds throughout the construction phase of the wind farm securing the timely completion



The E1000 lifting cargo to an offshore wind turbine in the North Sea

and production of power, the industry has matured in the use of Service Operation Vessels (SOVs). SOVs are used throughout the operation and maintenance lifecycle of an offshore wind farm, offering high comfort to offshore service technicians and work throughout the year, staying offshore for up to two weeks before heading back to port.

The vessels are being designed and built against high efficiency and safety requirements: logistical flows of personnel and cargo on and from the vessel to the offshore turbines are planned to the last second, showcasing the high need for extra efficiency for the whole operation.

To comply with these needs, Ampelmann developed the W-type, which meets the current requirements and provides a future-proof solution. The W-type combines a height adjustable gangway connected to an elevator in order to enable personnel to reach the gangway from the same level as the cargo and accommodation decks.

It also meets the need for more sustainability, being an electric system and reusing power when compensating for the vessel's motions. Connected to the vessel's power system, the gangway does not require extra diesel-driven hydraulic power units.

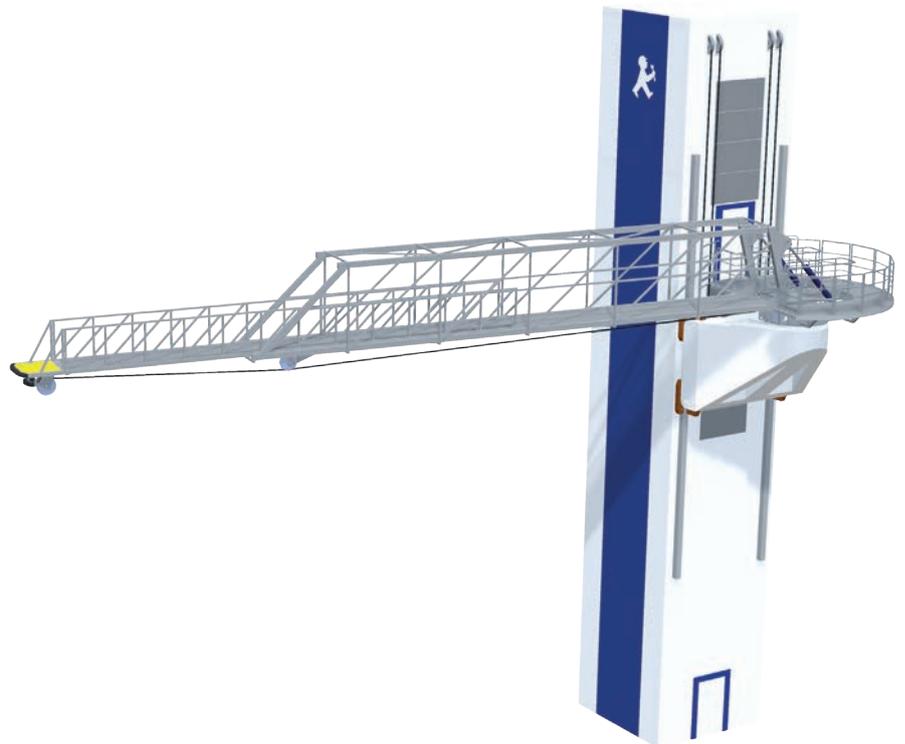
Data that has been collected over the past 483 projects around the globe is now being used to drive efficiency even further. The company can put time and location stamps on each personnel and cargo transfer throughout each operation of the global fleet. Additionally, Ampelmann has launched a tool to forecast workability for the coming days. This does not only help SOVs become more efficient, but also the more time-critical construction market.

An offshore access system for any client need

Understanding the needs of a diverse offshore construction market, Ampelmann's fleet offers the right solution for the right task and budget. From the flagship A-type to the most frequently requested system in the fleet, the E1000, which can lift up to 1000kg, to its latest development, the E5000, the company serves the needs of its clients throughout any scope in the offshore wind farm lifecycle.

The A-type gangway system was the first product to be commercially deployed in 2008. It can transfer personnel to and from an offshore platform in high sea states and operates according to the highest safety standards in the industry. After successful testing in 2020, Ampelmann is launching the new A-hoist add-on which can enable clients to lift up to 300kg with the existing A-type fleet.

The E1000 is a heavier system with a wider



A render of the Ampelmann W-type

range allowing it to operate in even rougher waters, while ensuring the safe and efficient access of both personnel and cargo. Originally launched in 2016, the E1000 is an adaptable access system which can transform from a gangway into a crane boom to provide full logistical requirements. In the past, the system would use pins to manually switch from personnel to cargo mode, which would take at least ten minutes to perform.

Ampelmann has since enhanced the system with improved time savings. It is now fully automated and employs remote-controlled hydraulic pin pushers to fixate the gangway booms in less than one minute with a single push of a button. To switch from cargo to personnel transfer mode, the crane hoisting cable is placed in a freewheel mode to allow the booms to telescope, significantly increasing the available working time and removing all risk to handlers.

The system can safely transfer people and up to 1,000kg of cargo in rough waters.

To date, Ampelmann has enabled the safe transfer of more than 6 million people and close to 17 million kilograms of cargo to and from offshore platforms. To further strengthen this track record, it recently delivered the E5000 system. Based on the technology of the E1000 and with the ability to lift up to 5 tonnes, it helps increase the

work scope clients can deliver and improve the efficiency of W2W operations.

This plug-and-play system turns any vessel into an all-round offshore tool and as a result, clients benefit from shorter campaign durations, increased logistical efficiency and a broader scope of work. Examples include lifting fully fuelled generators to wind turbines or supporting blade repair projects.

While the W-type is designed to be integrated into the host vessel from day one of the design and building schedule, the hexapod-based fleet of systems A- and E-types, are mainly used on various vessels. These systems are able to be moved between vessels in short periods of time as mobilisations and demobilisation only take a few days.

Looking towards the future of Offshore Wind

Looking at future markets, on the one hand, Ampelmann sees the need to elevate its systems higher than before. With more remote locations and further offshore, the wind farms of the future will increase in landing heights up to 30 meters or more.

The Dutch company covers for these additional height requirements with a fleet of modular pedestals that can be installed underneath the system. This will enable even bottom fixed wind farms, for example in

‘Our systems enable fully motion compensated lifting of a wide range of cargo, from 240kg to 5,000kg.’



With the A-hoist add-on, Ampelmann enables clients to lift up to 300kg with the existing A-type fleet

Taiwan and France, to be served by its fleet of offshore access systems.

On the other hand, with an evolving floating offshore wind market, another, in fact the opposite, trend can be observed: low landing heights of 10 or 11 meters above sea level. Covering the levels of future wind farms with landing heights

ranging between 10 and 30 meters will be difficult. Installing Ampelmann's hexapod-based fleet directly on deck will enable the client to access their floaters on the low end of landing heights.

In addition, using its knowledge from ship-to-ship transfers in the oil and gas market, the company can offer a solution

that enables high workability for floating wind farms as well. Having worked in Portugal and Scotland on floating wind farms, Ampelmann is set and equipped for the whole future of providing offshore access solutions to the global offshore renewables market.

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