

## CASE STUDY

# Custom marine elevators deliver dual functionality and increased comfort

Alimak is widely recognized as a global leader of industrial elevators built for the demanding requirements of various challenging industrial environments, such as those posed by tough marine conditions.

The remote and challenging environments involved in offshore wind power, rely on purpose-built Service Operation Vessels (SOVs) and Construction Support Vessels (CSOVs) for a range of essential duties, including transportation of wind turbine technicians and a variety of tasks involved in commissioning and the continuing operation of offshore wind farms. New SOV and CSOV vessels are currently under construction, and each of them will be equipped with a walk-to-work gangway, including integrated passenger elevator. Alimak have been successful and awarded several of these elevator contracts.

Marine elevators are exposed to extreme weather conditions, making the use of the most hard-wearing materials a key consideration. The challenge in this project was meeting the requirement for an elevator capable of achieving a variable travel height. This was addressed using a telescopic shaft that effectively adjusts the height of the entire elevator tower.



*Service Operation Vessels (SOV) for offshore wind farm maintenance.*

### ELEVATOR DETAILS

Application type:	Service Operation Vessels
Elevator type:	Traction, custom designed marine
Elevator model:	ALIMAK ME
No. of elevators:	4 provided
Capacity:	2,000 kg
Elevator car size:	1.5 m x 2.9 m x 2.3 m (W x L x H)
Speed:	0.6 m/s
Lifting height:	24 m and 18 + 8 m (Telescopic)
No. of landings:	4 + 1 (Variable) and 3 + 1 (Variable)

This system allows the lifting height to be increased to meet the needs of the largest wind turbine, or to be decreased in applications where height clearance would otherwise be an issue. Alimak developed a custom solution for this purpose based on a system with two sets of guide rails that the elevator car can run on, depending on the lifting height required.

Among other key factors were the size of the elevator shaft and car floor area. The Alimak solution benefits from a positive drive system, which does not require an additional travelling counterweight. The winch also allows for precise control of the stopping distance and minimizes the number of components involved, to simplify maintenance and maximum reliability.

This flexible vertical access solution will serve two distinct purposes, where separate elevators would otherwise be required. It will deliver access to the gangway bridge when required and operate as a standard elevator for transport between vessel decks. The dual functionality saves space, which is always a key consideration for marine vessels, and increases ride comfort for crew members.