

A large-scale photograph of an offshore wind turbine being installed. The turbine's tower is white with blue and red sections. It is supported by a complex white lattice structure. The tower is being lowered into the sea by a yellow barge. In the foreground, there are several large, cylindrical metal piles being driven into the seabed. The sky is clear blue, and the sea is a deep blue.

Noise Mitigation System

To meet the strictest regulations offshore

For over 15 years, IQIP has been at the forefront of innovation and expertise in noise reduction solutions. Based on considerable practical expertise and theoretical knowledge, these solutions ensure environmentally friendly installation. Pile driving for onshore and offshore installations needs to provide the force required to overcome soil resistance while simultaneously reducing noise to meet regulations for airborne and underwater sound levels.

As significant offshore wind growth leads to the installation of significantly larger monopile foundations at greater depths, more force is needed. This means more noise—while mitigation legislation is becoming stricter. IQIP offers proven technology for effective noise mitigation during pile driving, which complies with the strictest regulations. We are your trusted partner in laying the foundations for successful projects and a sustainable future.

Offshore Noise Mitigation

Efficient, accurate, safe installation of even the largest monopiles

Pile driving technologies and noise mitigation measures clearly impact the foundation, installation costs, reliability, and the underwater environment. IQIP offers innovative noise mitigation technology to extend installation windows and cut costs. Our integrated consultancy, engineering, production, and installation expertise guarantees reliable, tailor-made solutions that optimize customers' operational efficiency, reduce project risks, and ensure every project is delivered on time and within budget.

Offshore Noise Mitigation System

The basic concept is to create barriers between different media and materials: a double-wall steel screen featuring an air-filled annulus between the inner and outer screens and a multi-level and multi-size bubble injection system. The NMS mitigates almost all waterborne noise radiating from a pile and, in addition, also mitigates the ground-borne noise caused by piling. Depending on the project and soil conditions, noise reduction levels above 16 dB are within reach and exceed industry standards, contributing to sustainable installation practices and environmental care even as the size of monopiles increases.

Efficient monopile installation

Elements integrated into a single system safeguard against the impact from waves and currents, providing a longer installation window, which significantly contributes to cost reduction without compromising safety and quality. This system streamlines operations, reduces noise, enhances accuracy, and creates a safer work environment. Fully integrable into the installation process, it eliminates the need for human intervention.

Template NMS

The Template NMS (NMS-T) is distinguished as the largest noise mitigation system in the world, capable of handling monopiles 10.0 meters across and even larger in the future. The NMS-T can be used from a floating vessel, is positioned on the seabed, and can keep monopiles vertical, rotating them to the correct heading. Its integrated template has a leveling system to ensure alignment and stability.

Deck guided NMS

An integrated monopile installer guiding tool is available for positioning and supporting the NMS for the installation of monopiles from a jack-up vessel. Adding this guiding tool to the NMS has already proven its impact and is adjustable for various water depths and diameters. This NMS accelerates installation by centering the pile with an adjustable guiding system, reducing wave impact in the splash zone, and operating in sea states up to two meters. Equipped with GPS and an inclination tool, it guarantees precise positioning and correct heading with its rotation tool.

Combining solutions for optimal noise mitigation

In combination with the PULSE, a solution for noise reduction at the source, the NMS has proven to be highly effective. The PULSE damping system is essentially a hammer add-on, positioned between the hammer and the sleeve.

Advantages of the NMS

- Designed for use from floating and jack-up vessels
- Highest levels of noise reduction and minimizing environmental impact
- Efficient monopile installation and reduced installation time
- Increased operational weather windows
- Adjustable for various water depths and diameters
- Safe working conditions
- Robust technology and proven track record for over 10 years



Template NMS



Deck guided NMS