

# INO15™

by T.EN

An innovative and cost-competitive 15 MW floater, standardized and easily scalable for mass production.





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## Overview

As a world-leading engineering and technology player, we are capitalizing on our 65 years of EPC track record to develop new solutions that will support the world's energy transition. Today we offer our client on every continent a range of advanced floating offshore wind (FOW) solutions. The floating offshore wind market is a dynamic and rapidly expanding industry, presenting unique challenges and opportunities. Our expertise lies in developing meticulously tailored floaters to withstand the harshest conditions, while seamlessly integrating mass production capabilities and exceeding our clients' expectations.

Introducing INO15 by T.EN™, the unique solution for supporting a 15 megawatt turbine generator (WTG). This state-of-the-art floater is specifically designed to meet the needs of both ongoing and future projects. With a focus on providing a standardized, derisked product, we have optimized its cost-effectiveness and streamlined its production process, making it the perfect choice for large-scale serial production. INO15 by T.EN™ demonstrates exceptional performance even in the harshest conditions, mitigating operational risks.



**INO15 BY T.EN™ SELECTED  
FOR THE WORLD'S 1ST FEEDS  
OF LARGE COMMERCIAL  
WIND FARMS**



**LEAN DESIGN  
ENSURING EFFICIENCY  
& RESILIENCE**



**13GW  
PROJECT  
PIPELINE**



**CONFIGURED  
FOR MASS  
PRODUCTION**

# Challenge

## Exceeding clients' expectations by providing a cutting-edge INO15 by T.EN™ concept

Technip Energies rises to the challenge of delivering a winning INO15 by T.EN™ product, meeting clients' expectations for CAPEX and OPEX.

Our approach involves meticulous cost and weight optimization, coupled with streamlined simplification and standardization, to enable efficient serial production.

Through close collaboration with industry professionals via workshops and exchanges, we acquired valuable knowledge about manufacturing processes, enabling us to customize the product and enhance mass production efficiency. Each design change is thoughtfully evaluated to ensure cost reductions without introducing unforeseen expenses in the value chain.

By selecting Technip Energies as your reliable partner, you will encounter an entirely tailored solution that exceeds expectations and maximizes cost-effectiveness.



# Technology

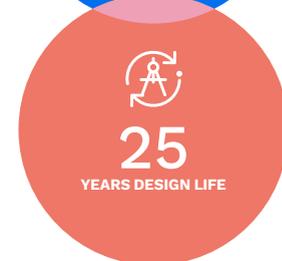
## Joining forces with Inocean team to build the INO15 by T.EN™ concept

The INO15 is built on the INO12 by T.EN™ concept (12MW), initially developed by our subsidiary Inocean in 2021. Recognized for its excellence, the concept received Basic Design Approval from DNV and Approval in Principle from BV.

The INO concept represents a three-column semi-submersible foundation meticulously designed to withstand diverse environmental conditions worldwide. This foundation embodies efficiency and resilience with its DNA rooted in lean design principles.

As part of the INO15 by T.EN™ program, we leveraged our in-house simulation tools to thoroughly analyze the dynamics between the floating platform and its integrated turbine. This comprehensive evaluation ensures optimal performance and seamless operation.

Also, T.EN actively engaged in discussions with various fabrication yards to gain insights into their manufacturing processes. This collaborative effort aimed to identify pain points and costly operations, ultimately streamlining the INO15 by T.EN™ design. Implementing these solutions paves the way towards mass production, delivering an efficient and cost-effective solution.



# Solutions

## Finding a cost-effective design suitable for mass production

The INO15 by T.EN™ has been meticulously engineered by T.EN teams as an assembly of several simple blocks, all sharing identical dimensions and making it highly adaptable for efficient serial production. Also, the design of the floater itself has undergone significant simplification, resulting in a more streamlined and optimized structure.

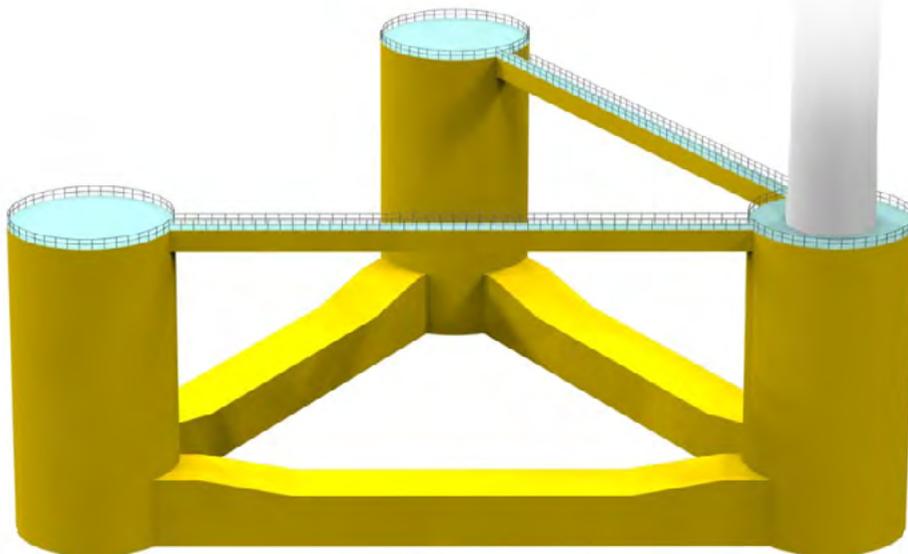
In transitioning from INO12 to INO15, Technip Energies successfully achieved a noteworthy

weight reduction of approximately 10% by strategically eliminating diagonal bracings and an upper beam. This breakthrough enhancement translates into substantial cost savings throughout the fabrication process of the floaters.

With its standardized and cost-competitive design, INO15 by T.EN™ stands out as an exceptional solution tailored for FOW industrials. Its streamlined construction

mitigates risks and ensures fast implementation, enabling businesses to embrace the ongoing energy transition.

By choosing INO15 by T.EN™ as your preferred option, you can experience a truly customized and state-of-the-art solution that surpasses expectations and maximizes cost efficiency, empowering you to stay at the forefront of the evolving energy landscape.





# Results

The INO15 by T.EN™ product has undergone extensive optimization, reaching an exceptional level of maturity equivalent to FEED (Front-End Engineering Design). It has successfully achieved the expected fatigue life duration, playing a crucial role in reducing risks associated with ongoing FOW projects.

With its industry-leading capabilities, INO15 by T.EN™ became the standard technical choice in pre-FEED evaluations and was selected as the technology for the world's first FEED of a large commercial wind farm in South Korea. This achievement showcases the trust and confidence placed in INO15 by T.EN™ as the leading solution driving the advancement of FOW technologies.

By embracing INO15 by T.EN™, you gain access to a highly optimized and mature product and position yourself at the forefront of industry advancements.

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With our INO15 by T.EN™, we're shaping the future of floating offshore wind, driving robust and proven solutions at an industrial scale. Our technology's commercial success and certifications from industry leaders like DNV and BV solidify our commitment to quality, performance, and scaling up to meet the evolving market demand.”

Willy Gauttier, VP Floating Offshore Wind

Innovative offshore  
wind technology

End-to-end project  
management

Approved design  
by DNV & BV

Advanced simulation  
& analysis tools

Yard assembly  
and integration