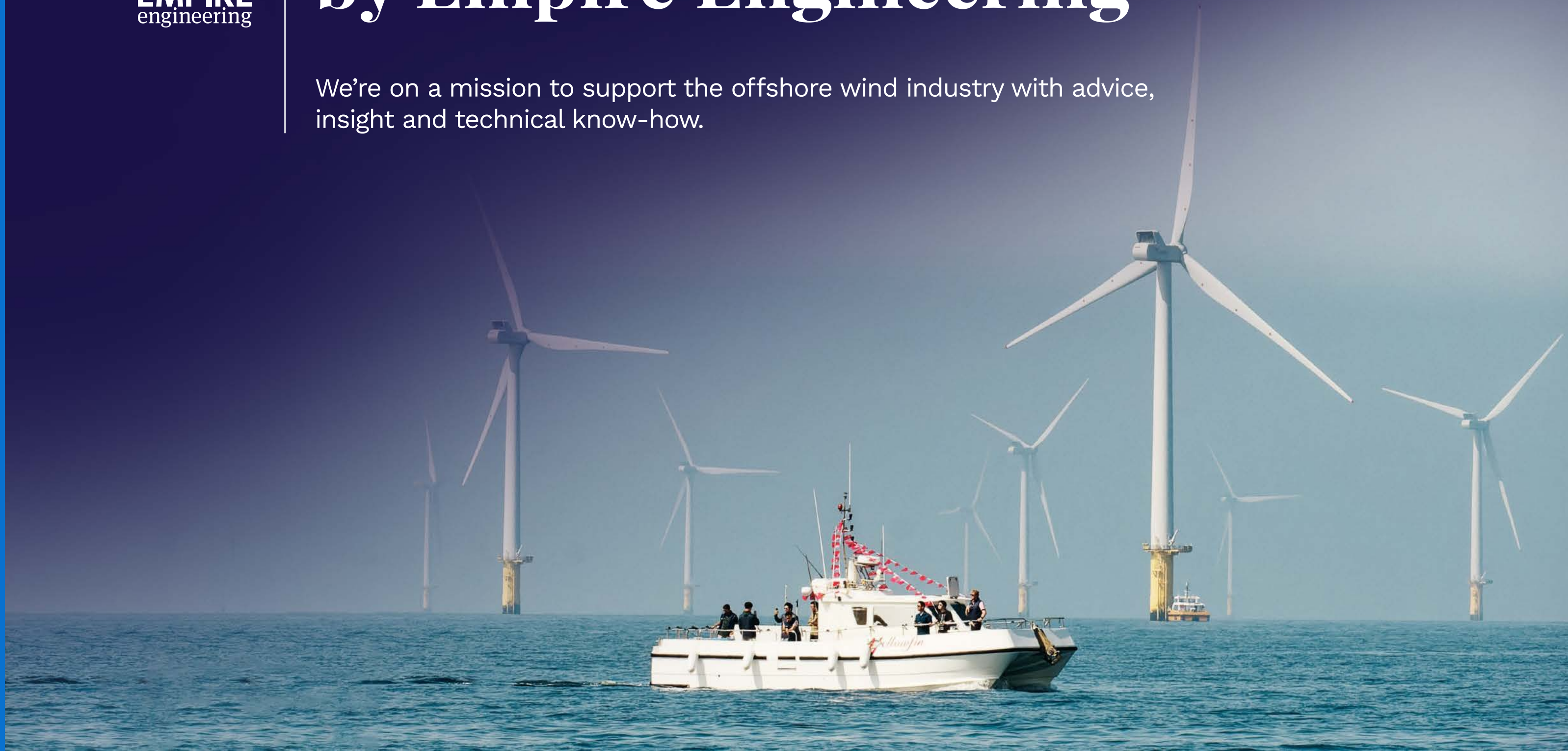




Training courses offered by Empire Engineering

We're on a mission to support the offshore wind industry with advice, insight and technical know-how.





The big questions facing developers in Offshore Wind

There are considerable macro level and local challenges for developers to navigate. The pressures on the supply chain are considerable. War, access to raw materials, inflation, tariffs, geo-technical considerations, foundation design, turbine selection, vessel availability, local restrictions ... (the list goes on) are all going to make the task of the developer that much more arduous.

“ At the top of the list it is increasingly clear that the current supply of skills falls far short of meeting growing demand ”

Empire Engineering offers a select range of one and two day training courses for Engineers in Offshore Wind. The content has been carefully curated with context from real world project experience. Our courses are delivered to small groups either face to face or online. We can also create a bespoke agenda according to your requirements.



Our Courses

01



**INTRODUCTION TO
OFFSHORE WIND
FOUNDATIONS**

02



**SOIL INFORMATION AND
GEOTECHNICAL DESIGN**

03



**INTEGRATED LOAD
ANALYSIS FOR FIXED
BOTTOM OFFSHORE WIND
FOUNDATIONS**

04



**INTEGRATED LOAD
ANALYSIS FOR FLOATING
OFFSHORE WIND
FOUNDATIONS**



01: Introduction to Offshore Wind Foundations

This can be either a one or two day extended course suitable for both non-technical profiles and experienced engineers transitioning into offshore wind.

Course agenda

- Introduction and industry terminology
- Foundation concepts types and selection
- Design stages and processes
- Load Iteration Process
- Certification
- Fabrication, transport and installation
- Contracts and tendering strategies

Benefits

- Learn how to choose what foundation type in what site conditions
- Gain confidence in understanding the transition areas
- Master contracting strategies for foundation sourcing
- Develop transport and installation strategies

Duration
1-2 days

Technical detail
Low to Medium

[BOOK NOW](#)



02: Soil Information and Geotechnical Design

This is a one day course aimed at an advanced audience who are looking to learn how geotechnics relate to decision making for offshore wind projects.

Course agenda

- Soil investigation and laboratory testing
- Determination of soil parameters
- Geotechnical design principles and scenarios
- Case studies featuring design drivers and design challenges

Benefits

- Increase the understanding of soil investigation reports
- Better understand the interaction between the geotechnical and structural design drivers
- Identify practical design methods

Duration
1 day

Technical detail
Medium to High

[BOOK NOW](#)





03: Integrated Load Analysis for Fixed Bottom Offshore Wind Foundations

This is a highly technical one day course, a tour-of-force of all things Integrated Load Analysis.

Course agenda

- Introduction, terms and definitions
- Roles and responsibilities
- Importance of input data
- Soils, wave and turbine loading
- Super Elements
- Technicalities or Combining/ Sequential Analyses
- Risks, mitigations and project specific challenges

Benefits

- Better understand the design methods
- Learn to navigate multifaceted ILA requirements
- Understand the difference between load cases and identify the governing load cases for foundation types
- Have an understanding of how to identify design challenges

Duration
1 day

Technical detail
Medium to High

[BOOK NOW](#)



04: Integrated Load Analysis for Floating Offshore Wind Foundations

New for 2024, the Empire Engineering team have curated a one day floating specific ILA training course. Please contact the team for more information.

Course agenda

- Floating vs Fixed: the key differences for ILA
- Code & Standards requirements
- Early-design stages strategies
- Advanced design stages strategies
- Zoom on WTG control
- Roleplay: delivering a floating ILA process in OpenFAST

Benefits

- Learn what are the specificities of the ILA process for floating wind
- Understand the class requirements for floating-specific design load cases
- Help transition from understanding of the ILA process in fixed to floating
- Demonstrate the ILA process on a practical example using an open-source software

Duration
1 days

Technical detail
High

[BOOK NOW](#)



We are engineers

This is both an exciting and challenging time in offshore wind.

The people are what make our industry. As the famous quotes goes 'train people well enough so they can leave, treat them well enough so they don't want to.'

We have carefully curated our training courses to help share expertise and provide practical how-to knowledge for engineers to take straight into their projects.

At Empire Engineering, we acknowledge the technical challenges which lie ahead. At the same time, we are enthused from seeing the effort going into to innovation by skilled professionals who are stretching technical boundaries.

The next decade promises to be very interesting and fast-moving for our industry.



Karl Davis

Founder and Managing Director,
Empire Engineering



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