

## The Company

ISC Consulting Engineers A/S was founded in 1967 by Kjeld Thomsen M.Sc. (Struct. Eng.), and former Associate Professor at the Technical University of Denmark.

We have offices located in Copenhagen, Esbjerg, Viborg, Kalundborg, Kolding, Aarhus and Aalborg in Denmark, and Wellington in New Zealand.

ISC is an engineering services company based in Denmark working worldwide to create value for our clients through innovative engineering solutions for on- and offshore projects.

We have been providing engineering services to offshore wind projects since we designed the world's first offshore substation almost 20 years ago.

We provide engineering design service solutions within sectors such as Offshore Wind, Offshore Oil & Gas, Buildings, Energy, Industry and Infrastructure. This includes projects such as industrial plants, power stations, port facilities, airports, bridges and railways.

ISC has worldwide experience gained on projects carried out in more than 70 countries on five continents.



## Wind Energy

One of the key competencies in ISC is wind energy. Since the design of the offshore substation for the world's first offshore wind farm in 2003, we have been a key player in the wind energy business and offering engineering services for substations, wind turbine foundations and onshore substations.

Today the list of references counts more than 43 offshore substations, several WTG foundation projects and a highly experienced and skilled team.

The portfolio consists of offshore surveys, site supervision, assistance during the full project execution, numerous studies and new concept developments.

Our services have been performed directly for wind park owners or EPC or EPCI partnerships for all major players in the offshore wind energy business.

We continuously challenge the design and way of thinking together with our clients to obtain innovative solutions.

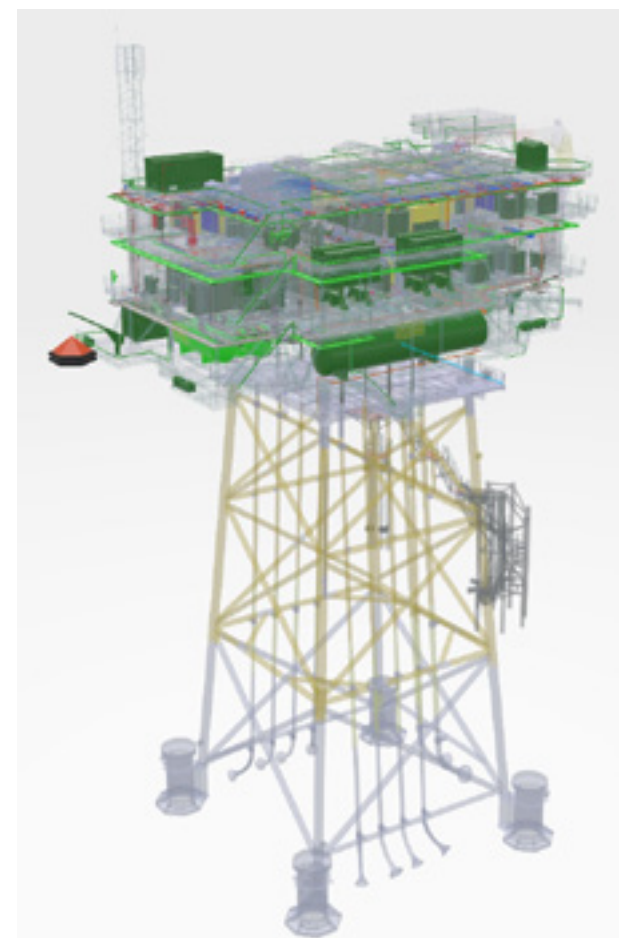


## Substation Design

ISC entered the offshore wind business with the development and design of the offshore substation for the world's first offshore wind farm in 2003.

This design by ISC has formed the basis for almost all offshore wind farm substations built today.

ISC's key competencies derive from the ability to undertake the complete range of tasks associated with substation design, from FEED/concept design through detailed design, tender documents, assistance during fabrication and installation and commissioning phase, site supervision and follow up.



## Services

ISC provides independent engineering both directly for wind farm owners and developers as well as for EPCI contractors.

- FEED: Layout, Descriptions, Feasibility Studies and preparation for Basic & Detail Design.
- Basic & Detail Design: Design Basis, Design Briefs, Design Drawings and Design Reports.
- Certifications: All projects are certified by independent certification agencies such as DNV-GL, Bureau Veritas and Lloyds.
- Authority Approval: Approval in accordance with country specific regulations such as e.g BSH in Germany and Boem in USA.
- Offshore Assistance: Skilled staff holding offshore certificate.
- Fire & Safety: We are cooperating with the client to achieve cost-effective fire & safety design. Chaired Hazid and Hazop sessions for the client. Risk Management.
- Employer Engineer: Engineering support during detail design, manufacturing and commissioning. Development of employers requirement, philosophies and assistant doing EPC/EPCI contracting.

## Engineering Disciplines

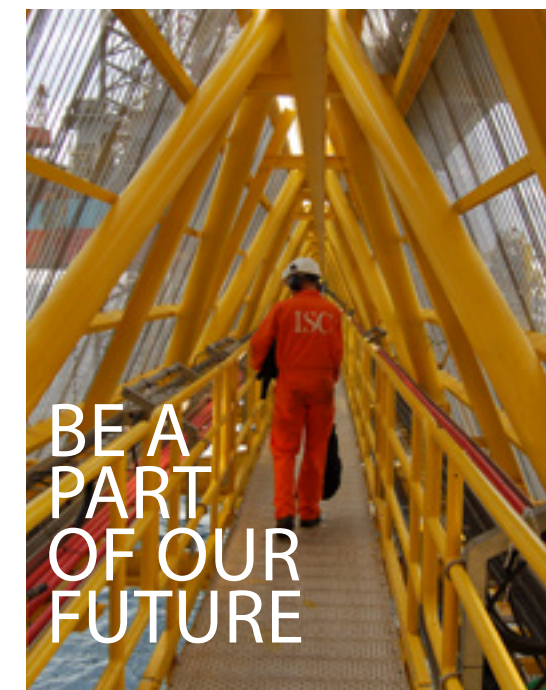
- General Arrangement: We are working with the client to achieve the best platform layout solution.
- Structural: Design of an economical yet robust structure which optimises efficient installation. Geotechnical design and design of piles, substructure and topside.
- Electrical: All electrical installations. Cable-ways, Earthing and Bonding, Single Line Diagrams, Power- and Light installations, Fire Alarm System, Auxiliary Systems and ATEX Area Classification.
- HVAC: Design of systems to maintain the correct conditions for the sensitive platform equipment.
- Mechanical: Working together with the client to ascertain the appropriate demands and specifications for equipment, lifting and environmental protection.
- Piping: Open drain, bunkering, de-bunkering, sea water cleaning, technical water and sewage systems. Isometrics, material lists and stress analysis.
- Process: Process Flow (PFD), Process & Instrumentation Diagrams (P&ID) and flow calculations.

## Employees

The combined staff of the company comprises 230 employees (year 2021) of which approximately 70 percent are graduates in civil and structural engineering, electrical or mechanical and related disciplines.

Furthermore, ISC maintains standing agreements of cooperation with individual experts and public scientific institutions, thereby supplementing the company's know-how in connection with assignments requiring multiprofessional teams of specialists outside the company's own staff.

For further information about the products and services ISC Consulting Engineers A/S can provide, please visit [www.isc.dk](http://www.isc.dk)



# Offshore Substations



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