

Vacancy – Structural Engineer

About us

SolarDuck is a start-up that was founded in 2018 by a group of senior Dutch entrepreneurs with roots at Damen Shipyards. With a strong background in maritime and solar industry we are developing scalable, seaworthy technology to produce economically viable electricity offshore. Offering carbon free energy independence to megacities around the globe before 2025.

In April 2021 our first floating solar demonstrator with four platforms was installed in the Waal river; see *Figure 1*. We are now preparing for a second demonstrator of 500kW to be placed in a near shore location in the North Sea, which is planned to be installed in October 2022. This demonstrator will allow the performance of our technology to be shown on real scale and in representative environmental conditions. The SolarDuck team is growing rapidly as the development of utility scale offshore solar farms progresses. (Don't forget that floating wind energy was developed in just 5 years time!) See [solarduck.tech](https://www.solarduck.tech) for more information about our technology.



Figure 1: The SolarDuck platforms under tow

The role

As a structural engineer you are responsible for the structural design, analysis and testing of our floating offshore solar platforms. You do this work in alignment with a team of professionals from diverse disciplines and backgrounds such as mechanical, structural, hydromechanical, electrical, etcetera. You approach each new engineering challenge in a structured manner. Define the problem, split it in smaller challenges, generate concept solutions and work down if these solutions can work. Then with first principles, analytical calculations and FEM analyse a structure for the ULS (yield, buckling,etc), FLS, ALS and SLS limit states. You optimize the structure for manufacturing, assembly, maintenance and cost. Where needed we test solutions in the lab and in the field to prove performance and classify the structure. You keep an overview of your work for others in minutes, reports and presentations. Finally to tackle future challenges you maintain an R&D agenda and network of partners.



Key responsibilities

As a structural engineer you will:

- Take the initiative to conceptually consider and analyse the performance of various materials and structural concepts depending of the needs of a certain application and come with clear explanations and advice regarding the way to go.
- Coordinate with class and the hydromechanics colleagues and thoroughly perform all the detailed analyses and load case checks required to get the selected concepts completely approved.
- Perform structural tests and measurements and ensure a minimum required level of confidence in the structure and its connections is established
- Support the other disciplines with information and input from your specific expertise.
- Perform FMEA analyses.
- Connect with research and technology partners to use their knowledge, expertise and network to tackle future challenges.
- Maintain and engage your wider network into our journey.

Skills & Experience

- MSc degree in structural, mechanical, maritime or offshore engineering
- At least 5+ years' experience of which 3+ in a similar role
- Having experience and good skills with one or more FEA software packages
- Having experience and good skills with analytical analysis and optimisation studies
- A pre would be: having experience with design and analysis of (aluminium) structures for fatigue in the offshore environment
- Experience in data processing and programming in python/matlab/similar
- High level analytical and theoretical understanding, conceptual thinker

What we offer

- Be part of a fast growing start-up team that strives for excellence and that is currently already making a positive and lasting impact on the world and the way human kind harvests energy.
- A competitive salary
- Certificates of shares SolarDuck
- Annual leave of 24 days, Travel allowance
- Partially work from home
- Time and resources to attend courses, workshops, networking events and R&D projects

Contact

Excited and or more questions? Please contact us at career@solarduck.tech.