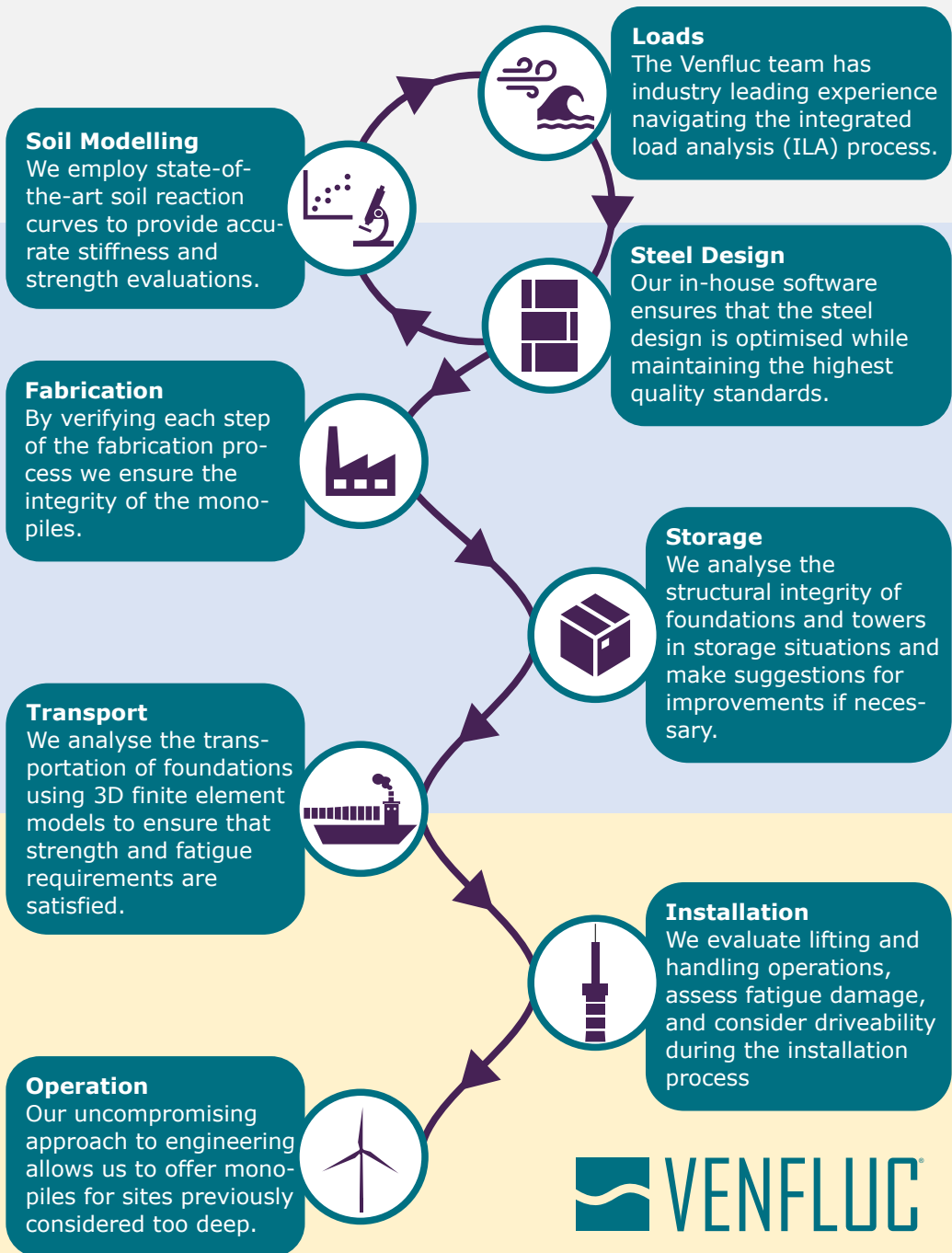




Deep Water Monopiles

A large red and white crane on an offshore oil rig is lifting a long, brown, cylindrical monopile into the sea. The rig is yellow and white, and the sea is blue with a clear sky in the background. The crane's arm is extended diagonally across the frame, with a yellow hook and cables holding the monopile. The monopile is being lowered into the water, and the rig's deck and various equipment are visible in the foreground and background.

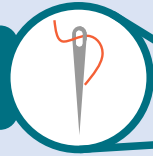
The Path to Deepwater Monopile Foundations



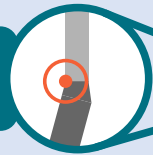
Deep Water Monopile

85m

Overall concept tailor made for deep water



Details optimised to reduce fatigue



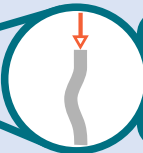
D/t increased to provide stiffness without compromising mass

D/t
170

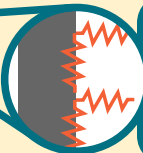
20+MW Turbine 300+m Rotor



Optimisation algorithm
ensuring desired stiffness
with minimum amount of
steel



Advanced finite element
analysis to ensure integrity
during pile driving



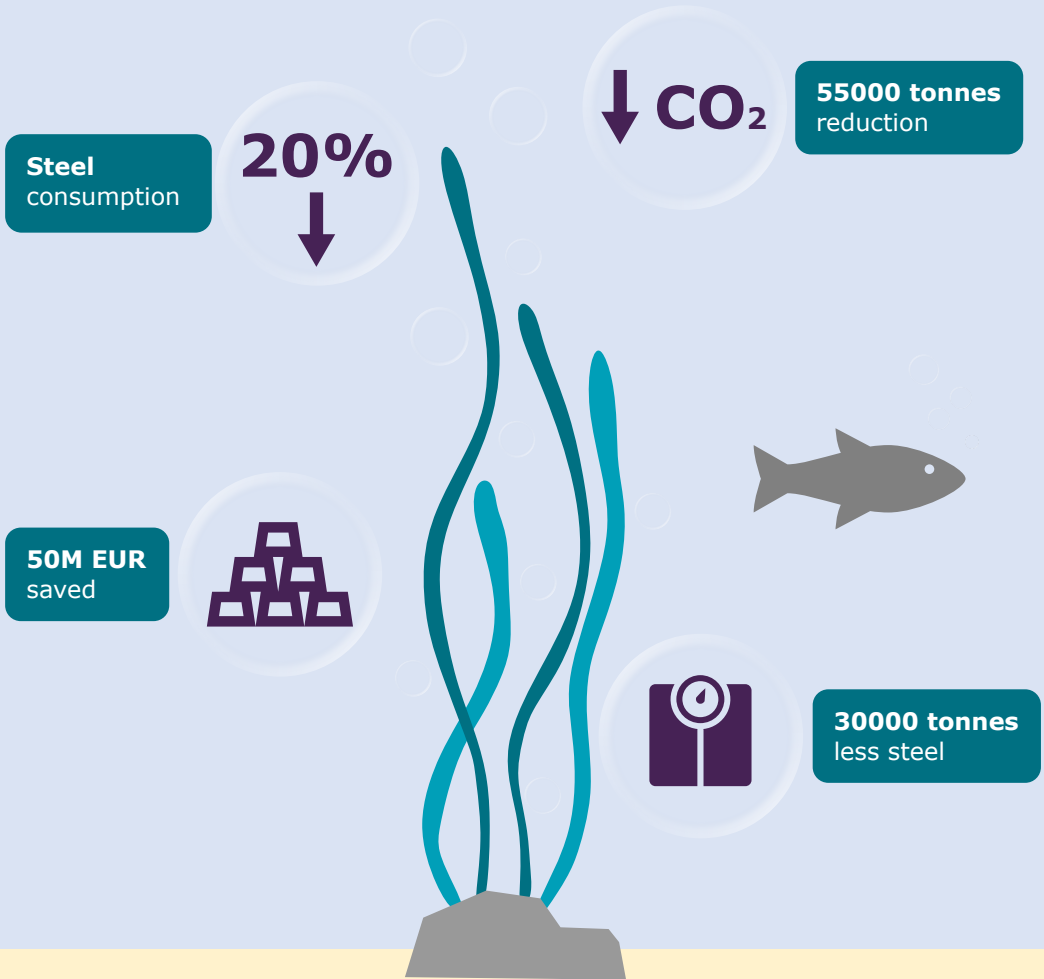
State-of-the-art soil mo-
delling ensuring high stiff-
ness and reduced pile
length

A large offshore wind turbine with three white blades and a yellow monopile stands in the foreground. In the background, an offshore oil rig is visible on the left, and another yellow structure is in the distance. The scene is set against a clear blue sky and a dark blue sea.

Sustainability

In addition to enabling monopiles for deep water, Venfluc's design approach allows for significant cost savings in the construction of off-shore wind farms, promoting sustainable development.

1 GW Offshore Wind Farm



Venfluc is a structural engineering consultancy delivering solutions for the offshore wind industry. The company was established in 2022 by three specialist engineers with a vision to leverage their expertise within structural engineering, load calculation and software development to deliver cost-effective foundation designs enabling the transition to a zero-carbon future.



Anders Mandrup Hansen

Anders has 8 years of experience within the offshore wind industry and comes from a position as Senior Load Engineer at Ørsted. Anders is an expert in aeroelastic modelling and load calculations related to design of offshore foundations and has a long track record in mathematical modelling and engineering software development.



Kenneth Hansen

Kenneth has 8 years of experience in offshore wind, specialising in new design methodologies and optimisation of structures. He has a background as a senior structural engineer at Ørsted and leverages his skills in finite element analysis, technical development, and quality improvement to deliver savings and optimised solutions for clients.



Kristian Kousgaard Mikkelsen

Kristian has extensive experience designing and optimising monopile foundations for offshore wind turbines. He has designed foundations for several offshore wind farms and developed software used for over a thousand foundation designs. Kristian has also led optimisation efforts for monopile design, reducing costs significantly.



Venfluc ApS
info@venfluc.com
+45 6110 6059
Teknikerbyen 5, LM242
2830 Virum
Denmark

