

Towards the Dynamic PressureMeter

Publieke samenvatting / Public summary

Aanleiding

Monopiles supporting offshore wind turbines are currently over-designed, implying that too much steel is used.

Doelstelling

The Dynamic PressureMeter (DPM) will contribute to non-conservative design of monopiles by providing accurate values of in-situ shear stiffness and material damping ratio of the soil at the right strain level and at the right frequency of oscillation, provided that the penetration of the device does not induce significant soil disturbance.

Korte omschrijving

The current project is a first step towards developing a self-boring DPM, which does not disturb the soil. More specifically, a lab-scale prototype of the DPM unit will be developed which is needed to excite the soil in-situ at the right strain level and frequency. The project will provide a proof of concept of the DPM device and confirm its potential to accurately measure soil properties in a controlled (lab) environment.

Resultaat

Results will demonstrate the potential for a clear step beyond the state of art of in-situ soil testing as the self-boring DPM is expected to provide values of in-situ shear stiffness and material damping ratio without being hampered by soil disturbance.

Projectinformatie / Project information

Projectnummer / Project number

TKITOETKI_WOZ_2512_TUD_TDPM

Subsidiebedrag / Grant amount

€ 95.000,00

Algemene informatie / General information

Penvoerder / Secretariat

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