

Neste renewable energy refinery

Tuas, Singapore

Design build solution for energy refinery expansion



The project

Neste, a Finnish renewable energy company, invested S\$2 billion in its expansion by building the world's biggest biodiesel refinery in Tuas, Singapore. With an excellent record from previous work for the client, Keller was entrusted again due to our innovative and sustainable solutions.

The challenge

Compared to previous Neste project in 2008, Keller faced the challenge of high variability in soil properties as the site, which was entirely reclaimed from sea. After extensive analysis, Keller proposed design and build solutions customised for the variable properties. This required four operations: pre-drilling through dense sands, stone column installation for the clay layer, vibro compaction for looser sands and upper stone columns in the residual soil, with up to 160 manpower on site at its peak.

The solution

Keller's innovative and cost-effective solution with low carbon footprint resonated with Neste's objectives and provided flexibility to foundation placement while design was still ongoing. Our expertise, capabilities and resources gained the client's trust, resulting in a 10-year relationship so far.

Project facts

Owner(s)

Neste Singapore Pte Ltd

Keller business unit(s)

ASEAN

Main contractor(s)

TechnipFMC

Solutions

Bearing capacity / settlement control

Markets

Power

Techniques

Vibro compaction
Vibro concrete columns