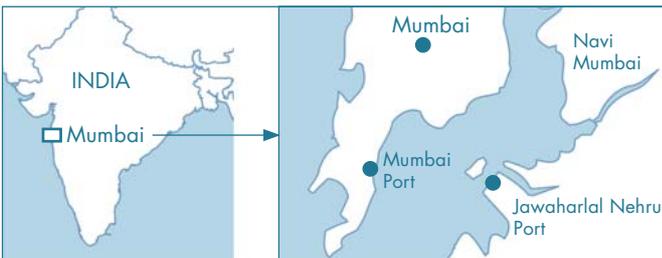




## FEATURES

Client	Jawaharlal Nehru Port
Project	JNPT–Project, Extension of Fairway
Location	Jawaharlal Nehru Port, Mumbai, India
Period	December 2017 – March 2018
Contractor	Consortium formed by Boskalis Smit India and Jan De Nul Dredging India.
Subcontractor	Terramare Oy (Cooperation with the UK company Rock Fall).



## SCOPE

Terramare was participating as a subcontractor in a major fairway project, in which the fairway of the Ports of Mumbai and Jawaharlal Nehru, located on the west coast of India, was deepened and widened. Terramare was responsible for the underwater drilling and blasting of the fairway, which was deepened to -14.7 metres.

## UNDERWATER DRILLING AND BLASTING

Blasted rock	33,000 m <sup>3</sup>
Worksite area	33,000 m <sup>2</sup>

## MAIN PLANT

Six Terramare drilling towers. The towers were installed on a barge leased from a local company.

**A** View of Terramare's drilling towers installed on the barge.



### INTRODUCTION

Terramare has implemented, as a subcontractor, underwater drilling and blasting in a major fairway project in which the fairway of the Ports of Mumbai and Jawaharlal Nehru, located on the west coast of India, is being extended. The

fairway project itself is being implemented by a consortium consisting of Boskalis Smit India and Jan De Nul Dredging India. Terramare completed the drilling and blasting part of the project in cooperation with the UK company Rock Fall.

### UNDERWATER DRILLING AND BLASTING

Jawaharlal Nehru Port is India's largest container port. The port is extending and deepening the fairway to accommodate larger cargo vessels. The fairway project covers a section approximately 35 kilometres long. The dredging masses at the site exceed 40 million m<sup>3</sup>. Terramare's underwater drilling and blasting work took place off Jawaharlal Nehru Port and included the removal of 33,000 m<sup>3</sup> of rock waste from an area of approximately 33,000 m<sup>3</sup>. The fairway area extended by the drilling and blasting was deepened to -14.7 metres.

### TERRAMARE'S DRILLING TOWERS

The drilling and blasting was carried out by Terramare drilling towers. Six drilling towers were refurbished by an international project organisation at Terramare's equipment centre in Loviisa. The towers were loaded in Helsinki in mid-September and they arrived in India in October 2017. The towers were then installed on the barge Gauri, leased from a local company. The underwater drilling and blasting began in December 2017 and was completed in March 2018.

### INTERNATIONAL TEAM

The approximately two-month excavation project employed a total of 25 professionals from Finland, the UK and Portugal.

Terramare's Indian project represents an opening to the global drilling and blasting business. Until now, the company's underwater drilling and blasting service has been restricted mainly to the Nordic countries and the Baltic region, and from time to time elsewhere in Europe.

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## JAWAHARLAL NEHRU PORT, INDIA

### EXTENSION OF FAIRWAY, UNDERWATER DRILLING AND BLASTING



- B** Terramare's international team comprises 25 professionals from Finland, the UK and Portugal.
- C** The drilling towers were refurbished at Terramare's plant department and shipped to India in the early autumn 2017.
- D** At the Port of Mumbai, the drilling towers were installed on a barge Gauri, which was leased from a local company.
- E** Terramare's six drilling towers.