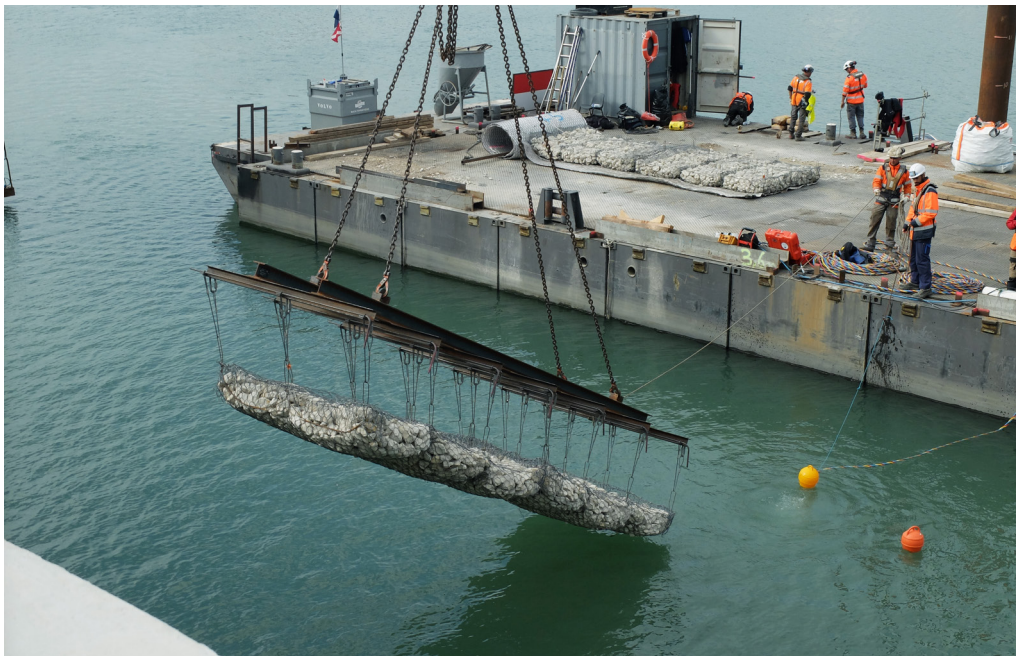


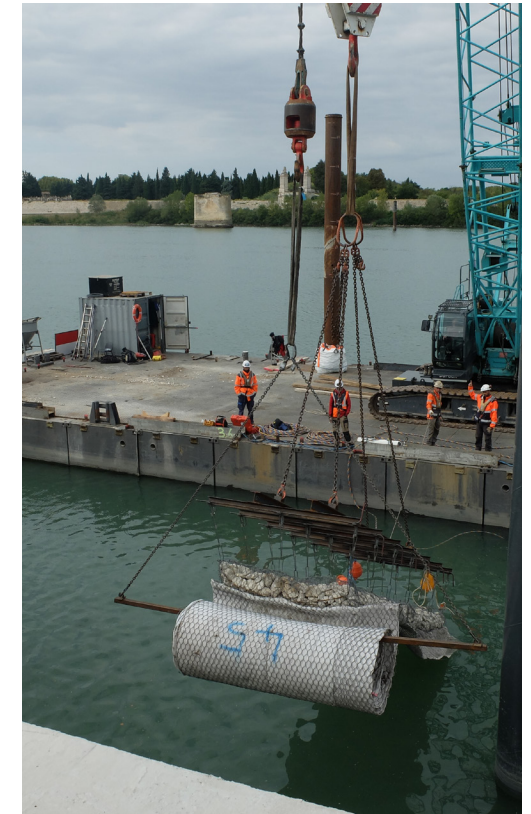
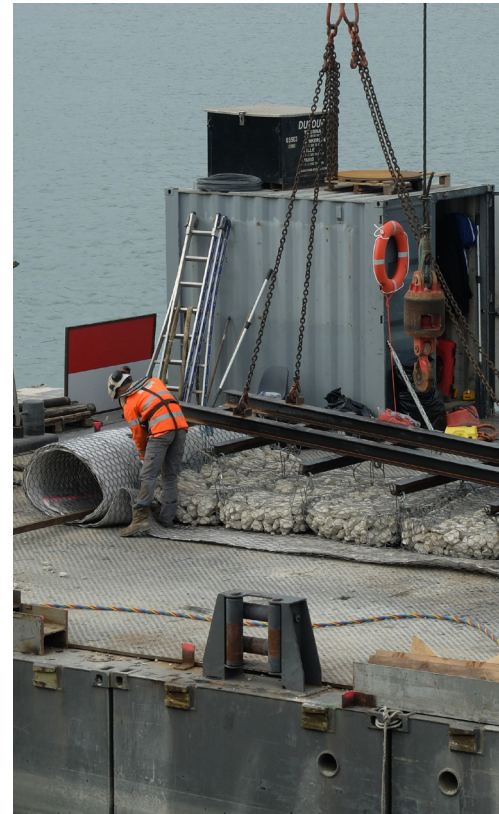
Overcoming riverbank challenges: Arles' cruise ship dock expansion

In the heart of Arles, a remarkable project unfolded to accommodate large cruise ships. The existing Lamartine quay, steeped in history, couldn't meet this demand, leading CNR, the project owner, to envision a new dock on the left bank of Arles. This ambitious undertaking involved using specialized double-twisted wire mesh pre-filled mattresses, RenoMac Plus. These mattresses were chosen for their precision and reduced environmental impact compared to traditional rip-rap. The decision to employ RenoMac Plus was driven by its ability to provide targeted protection to vulnerable areas of the riverbank, negating the need for a full coverage.

Its thin 30-centimeter profile not only reduced the volume of materials required, but also minimized the ecological footprint of the project. The company Maia Fondations entrusted Maccaferri with the supply and prefabrication of these mattresses, which were custom-designed for this unique application. Additionally, the lower layer of the mattresses featured a 14-meter geotextile-reinforced layer, adding to their effectiveness. Notably, the inclusion of a geotextile layer together with the base panel of double-twisted wire mesh creates a 2-in-1 solution that allows both protection and filtering.



RIVERBANK PROTECTION FOR SHIP DOCK EXPANSION RHÔNE RIVER, ARLES, FRANCE



During the construction phase, the complexity of the riverbank terrain became apparent. The soil composition was a mosaic of heterogeneous materials, making it challenging to maintain the trenches required for anchoring the mattresses. In response, Maccaferri proposed an ingenious solution – the use of pre-filled CubiMac gabions to reinforce stability in areas where trenching was impractical. This project was executed with precision and care, with Maccaferri's teams prefabricating the structures on a nearby storage site, while Maia Fondations' teams meticulously carried out the installation from a barge on the tranquil waters of the Rhône.

The expansion of passenger boat docks in Arles has opened the door for cruise ships measuring 135 meters to berth, consequently boosting river tourism along the Rhône. This achievement owes its success to the innovative implementation of RenoMac Plus, a groundbreaking solution that ensures the protection of riverbanks against erosion.