



Rion Antirion Bridge

As early as the 19th century, engineers had visions of bridging the Gulf of Corinth, joining the Peloponnesian peninsula to mainland Greece. It wasn't until the early 21st century, however, that it was technically feasible to span the 2,500 m (8,202 ft) gap.

The intense seismic activity in the region, continuous tectonic movement, a soft seabed and the 65 m water depth posed serious engineering challenges to the project. The answer was to build a foundation flexible enough to cope with the tectonic movements, which could be several millimetres a year, between the North Antirion and South Rion coasts. The cable-stayed bridge is supported by four 90 m

diameter reinforced concrete caissons, resting on a reinforced foundation. For each foundation, 2 m OD steel piles spaced 7 m apart were driven 25–30 m into the seabed and topped with a 3 m thick gravel layer. For the underwater piling work, MENCK engineers adapted a special pile sleeve for the MHU 200T with an integrated pile gripper. This allowed the operator to lift the pile from the barge, stab it into a guiding frame attached to the bottom of the barge and then drive the pile into the ground. The angle of the leader was monitored with inclination sensors, while depth sensors monitored the position of the hammer in the water column, allowing for an even installation.

Project name	Rion Antirion Bridge
Client (end customer)	Hellenic Republic
Contractor	Kinopraxia Gefyra
Location	Greece
MENCK operational start	July, 2000
MENCK operational end	March, 2002
Water depth	45–65 m
Installation vessel	Custom-made tension leg barge 'LISA A'
Quantity of piles	600
Pile diameter	2.0 m
Pile soil penetration	25–30 m
Number of blows per pile	1,400–1,600
Hammer	MHU 200T
Power pack	MHP 450
Mobilisation/demobilisation by	MENCK GmbH
Mobilisation harbour	Antirion
Demobilisation harbour	Antirion
MENCK's scope	Mobilisation/Demobilisation, rental of MHU 200T & ass. equipment
MENCK engineering	External pile gripper integrated in pile sleeve



Hammer above waiting piles

Removing piles from the work barge

Placing the pile into the guiding frame

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