The Port of Rotterdam is presently expanding the Rotterdam harbour to the west into the North Sea. About 240 million m³ sand is dredged from the North Sea floor several kilometres offshore to build the harbour. It was recognized in an early stage that a project of this kind and size might have a substantial impact on the cultural heritage values present. Historic shipwrecks and prehistoric landscapes would be destroyed in the process of dredging and digging. This awareness led to intensive contact between the Rotterdam Port Authority and the Dutch Cultural Heritage Agency about the archaeological work that had to be done and the way this could be conducted without delays to the project. A true challenge has been the development of a research method for the prehistoric drowned landscape in the sand extraction area and deeply buried under the harbour itself. Hence, a consortium of research institutions, museums and universities has been invited to formulate a research programme. This research programme serves as a test-case to develop new methods and techniques which can be applied in a more systematic way to offshore research in the future.