

# SETARMS PROJECT: SUSTAINABLE ENVIRONMENTAL TREATMENT AND REUSE OF MARINE SEDIMENT

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**Introduction:** The English Channel is acknowledged as one of the busiest shipping lanes in the world and fishing is also a key industry. To accommodate the ever increasing size of modern ships in European ports and waterways, and to prevent natural silting up of harbour entrances, significant dredging activity is constantly required to enlarge, deepen and maintain harbour access and achieve appropriate water depths along waterside facilities.

These dredging activities are essential for the local economy and generate dredging materials. Sediment management faces tighter regulation and the scarcity of land for storage. To tackle this challenge that concerns so many stakeholders on both sides of the Channel ports managers and owners, public works companies, research labs, etc – a Franco- British partnership was created to research common solutions, with the support of the EU programme INTERREG IVA France (Channel) England. This partnership gathers ports, local authorities, universities and private companies. It allows to this project to be realistic, pragmatic and innovative.

## 1- SAMPLING SITES



**Methods:** English sediment samples will be provided by a dredging company on the Channel: Westminster Boskalis, in co-operation with the port authorities of Shoreham, Newhaven, Fowey, Poole and Falmouth. The industrial already gave their positive support to the project (Vinci).

The project is organised in 3 technical work packages:

- 1 - Overview of the current situation on dredging in the Channel
- 2 - Sediment characterisation
- 3 - Stimulate and validate new methods to re-use dredged sediments in civil engineering.

The objective of the work package on the “Overview of the current situation on dredging in the Channel” is to develop the sustainable management of the dredging operations, both economically and on the environmental and social criteria. The 3 first studies on the context, the regulations, and the ways to mutualize the dredging operations are completed. The 2 last studies on the environmental stakes (including the criteria in Europe to define a hazardous sediment) and the social and communication issues are in progress and will be finalized by September 2014.

Regarding the sediment characterization, the geotechnical and geochemical analyses on the rough and treated sediments in laboratory are completed. The final step, the pilot test (5 treated samples used as sub-layer road) will begin in May 2013. The experimental road will be monitored geotechnically and geochemically. The results will provide a typology of the treated sediment analysed in the project.

## Results:

The first study concluded that the ports faced to the same issues in the Channel and beyond regarding the dredging operations. The regulation study shows that it has to change to be more consistency between the management at sea and on land. Economically, it exists means to decrease the costs of the dredging, as purchasing a dredging vessel with some ports or to launch a tendering joining some ports.



**Discussion:** The last studies of the project aim at presenting the best practices regarding the management of the solid waste and debris of all types, precise the way used by the ports to define a hazardous sediment and showing the social issues, why they exist and the means allowing an evolution.