

Bacteria-based Ground Improvement Technology

OPPORTUNITY

Maintaining and developing our national infrastructure comes with huge financial and environmental costs. The industry deploys construction techniques and technologies that have changed little over decades, require the transportation of large volumes of carbon-intensive construction materials and produce significant waste streams.

PROJECT

The proposed project will harness natural biochemical mineralisation processes to reinforce soils, via in-situ injection. Research at the University of Strathclyde has demonstrated that, at laboratory-scale, calcite biomineralisation can substantially increase the strength of soils and rocks. This technology could transform industry practice from one of soil excavation and material import, to one in which the properties of local materials are tailored to meet construction needs. In-situ biomineralisation would reduce material and transport costs, cut carbon emissions and promote sustainable use of local resources.

The partnership between BAM Ritchies and the University of Strathclyde, through this CSIC-funded project, will enable the partners to scope potential applications, develop industrial protocols, begin to set-up appropriate supply

chains and collect the financial information needed to bring this transformative technology to market.

OUTCOMES

- 2 new processes
- 1 new services
- £25million over 5 years - BAM increased revenue
- Increased headcount of - 5 and safeguarded 15 jobs

SUPPORT

- Total Project Value - £521k
- CSIC contribution - £187K

PROJECT DURATION

May 2018 - June 2020



Innovation Support: Process Innovation
Sub Sector: Construction Technologies