Industrial Symbiosis
Case Study

"The Industrial Symbiosis service provided us with the ideal contacts to help us achieve our goals while reducing costs and maintaining our social reputation. As a result of this synergy, the sustainability plan for the harbour was concluded and further enhanced our economic activity."

Nigel Paine, Farrans Construction

Farrans Construction

The Challenge

Farrans Construction is a building and civil engineering contractor based in Dunmurry, Belfast. Farrans became a member of the Invest NI Industrial Symbiosis service in a quest to improve resource and environmental efficiencies and to improve its social responsibility reputation.

Farrans is aware that construction activities can have a significant impact on the environment and always seeks to find environmental and cost efficient solutions to construction projects to comply with its Environmental Management System which has been implemented for several years.

Portavogie harbour caters for a large active fleet of traditional fishing boats and several seafood processing plants. Over time the harbour had become difficult to navigate for larger vessels and this had resulted in a reduction in harbour capacity.
Farrans was awarded a contract to improve fleet access to Portavogie Harbour but needed to find a company to complete a technical review of the silts and material that would be removed from the seabed. Farrans contacted the Industrial Symbiosis service to find if any members of the network could provide this service.

The Solution

The Industrial Symbiosis practitioner was aware that ATG Services, a company who undertake technical reviews and look at bringing the best available technology to a project without excessive costs, had previously been involved in two other synergies similar to the challenge provided by Farrans. The practitioner introduced ATG to Farrans and maintained regular contact with both companies during the implementation of the project.

As a result of this introduction, ATG completed a survey of the harbour bed materials. This revealed contaminants in the silt that limited disposal options to prohibitively expensive disposal as hazardous waste. Furthermore, transport from the harbour to a suitable disposal site presented a major Health & Safety issue due to the physical nature and composition of the sludge.

After the survey was conducted, ATG proposed a three phase remediation solution which included extensive bench testing off site and the use of a mobile treatment licence on site with NIEA approval.

Firstly, the dredged silty material was dewatered on site to mitigate both the transport risks and costs due to reduced quantities requiring removal from site.

Secondly, the dewatered material was treated with remedial solutions on site to reduce the hazardous nature and change the classification of the material.

And finally, as a result, the stabilised material was removed from site as an engineered material, with no transport difficulties, and used as a product within a landfill capping system.

The Outcome

As a result of this synergy, 6000 tonnes of dredged silt was remediated, removed from site and used as landfill capping material. Hazardous waste disposal costs, including landfill charges, landfill tax and transport costs of £100,000 were avoided.

Not only has this synergy helped Farrans reduce costs, but equally as important to them, it has helped to sustain its strong environmental credentials.

The synergy demonstrates that the knowledge and expertise within one company, backed by the facilitation provided by the Industrial Symbiosis Service, can solve a difficult issue for another. The cost savings achieved far outweighed the cost of procuring the remediation service.