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## Other Project Partners

Representatives from 25 organisations participate in the ProCeSS steering committee. See project website for details.

## Project Details

3 years, 2006 – 2009.

ProCeSS is co-funded by the Technology Strategy Board's Collaborative Research and Development programme, sponsored by the Department for Innovation, Universities and Skills ([www.innovateuk.org](http://www.innovateuk.org)).

## Project Web Site

[www.cege.ucl.ac.uk/process/](http://www.cege.ucl.ac.uk/process/)

## Keywords

Stabilisation, solidification, cement, industrial waste, ProCeSS project, web application.

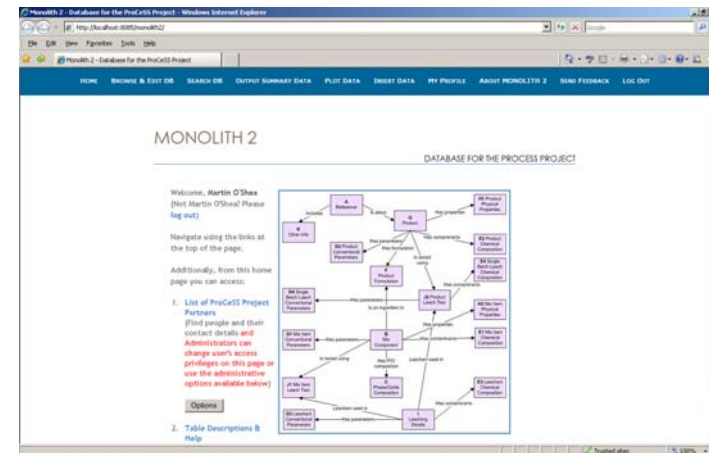
# ProCeSS Envelopes for Cement-based Stabilisation/Solidification

## Project Aims

Treatment by stabilisation/solidification (S/S) with cement-based binders is an option for wastes from the chemical and metal industries that can not be prevented or reduced. The ProCeSS project aims: 1) to develop process envelopes, i.e. a specified range for a set of parameters that result in an acceptable stabilised/solidified product, for generic S/S of the most common or problematic residual waste types, with respect to handling, leachability, durability and cost, and 2) to gain a better understanding of contaminant immobilisation mechanisms and long-term performance. This will increase technology transparency to allow an informed choice between treatment options, guide use and marketing of S/S by industry, prevent technology failures, enable confident approval of S/S by regulators, and provide fundamental data for development of predictive models of long-term behaviour for risk assessment.

## Monolith2

Part of ProCeSS is a statistically-based experimental programme conducted by laboratories at four universities: University College London, Imperial College London, University of Surrey and University of Cambridge. The results from the programme are being collected in the on-line Monolith Database and Interface for Cement Based Products, i.e. Monolith2. Monolith2 is a web-based application, whose front-end consists of a core application written in HTML with Java servlets and Java server pages using NetBeans. This front-end connects to a back-end database implemented in open-source database tool MySQL. Monolith2 also has specifically written facilities for searching and querying data and uses third-party tools to plot data and to provide analyses of server log activity.



Monolith2's homepage (showing database navigation).

## Birkbeck's Role

Birkbeck project staff at the London Knowledge Lab have developed Monolith2 as an on-line system with adaptive interfaces for updating and searching the database, which will assist the engineers involved in identification of process envelopes.

## Key publications

Stegemann, J. A., *MONOLITH - A Database of Cement/Waste Properties*. ICMAT 2001, Singapore.

O'Shea et al, *Monolith2 - An On-line Database for Cement/Waste Products*, IEMSS 2008, Spain (under review).

