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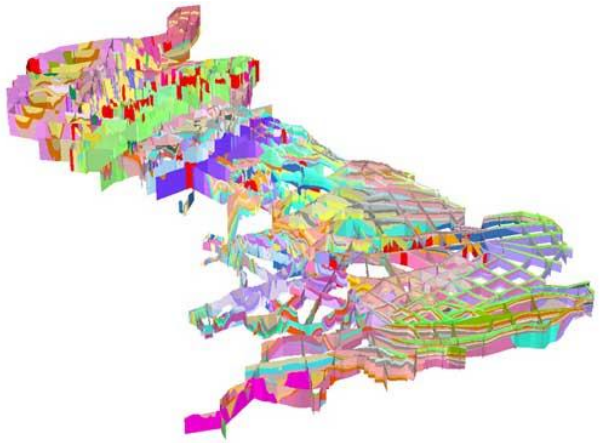
From geological maps to 3D and 4D models - transforming the delivery and relevance of geological knowledge for practitioners

Presented by Dr. Diarmad Campbell

Date:	Thursday 18th July 2013
Time:	6.30 pm – 7:30 pm
Venue:	3/F Meeting Room, Mariners Club, Middle Road, Tsim Sha Tsui
Seminar Fee:	Free of charge
Registration:	No prior registration is required. Attendance CPD certificates will be provided. For enquiries, please contact Ms Kitty CHAN at kitty.chan@arup.com.

Synopsis:

Geological Survey Organisations (GSOs) are increasingly replacing geological map outputs, by highly visual, variably parameterised 3D, and 4D, models (deterministic and stochastic). Benefitting from improving software, workflows, and visualisation tools, these deliver geological data and knowledge to practitioners engaged in a range of engineering and environmental decision-making.



The British Geological Survey has embraced the migration from 2D to 3D and 4D in developing a National Geological Model of the UK. This aims to be an accurate, multi-scalar, 3D geospatial model depicting the subsurface rocks and sediments. It draws on vast amounts of borehole and other subsurface data and knowledge (e.g. 2.5 million borehole records), and existing local and regional 3D models.

Urban areas are a key focal point of available subsurface data in the UK, and are at the forefront in the development of high resolution 3D, and 4D (groundwater, thermal and other properties) models. These are being delivered to practitioners through knowledge exchange networks (e.g. the ASK network in Glasgow) to help users develop solutions to engineering and environmental challenges (e.g. subsurface property characterisation, strategies to mitigate industrial contamination, developing sustainable drainage). Examples from Glasgow's subsurface, developed by BGS's multidisciplinary Clyde-Urban Super-Project (CUSP), will be used to demonstrate this. These models are the most extensive of their kind for any city in the UK.

About the Speaker:

Diarmad Campbell is the British Geological Survey's Chief Geologist, Scotland responsible for onshore geological surveying and 3D modelling of Scotland. He currently leads: BGS's Clyde Urban Super-Project, a major geological multidisciplinary project focussed on the Glasgow area; and a European COST (Cooperation on Science and Technology) ACTION, currently with 14 national partners, focussed on characterisation and more efficient use of the urban subsurface. He was formerly a member, and latterly Head, of the Hong Kong Geological Survey, within the Planning Division of GEO/CEDD, involved in a range of geological projects related to Hong Kong's development, infrastructure projects, and landslides. That followed an earlier attachment to the UK's Foreign and Commonwealth Office, to assist the gold mining industry in Zimbabwe.