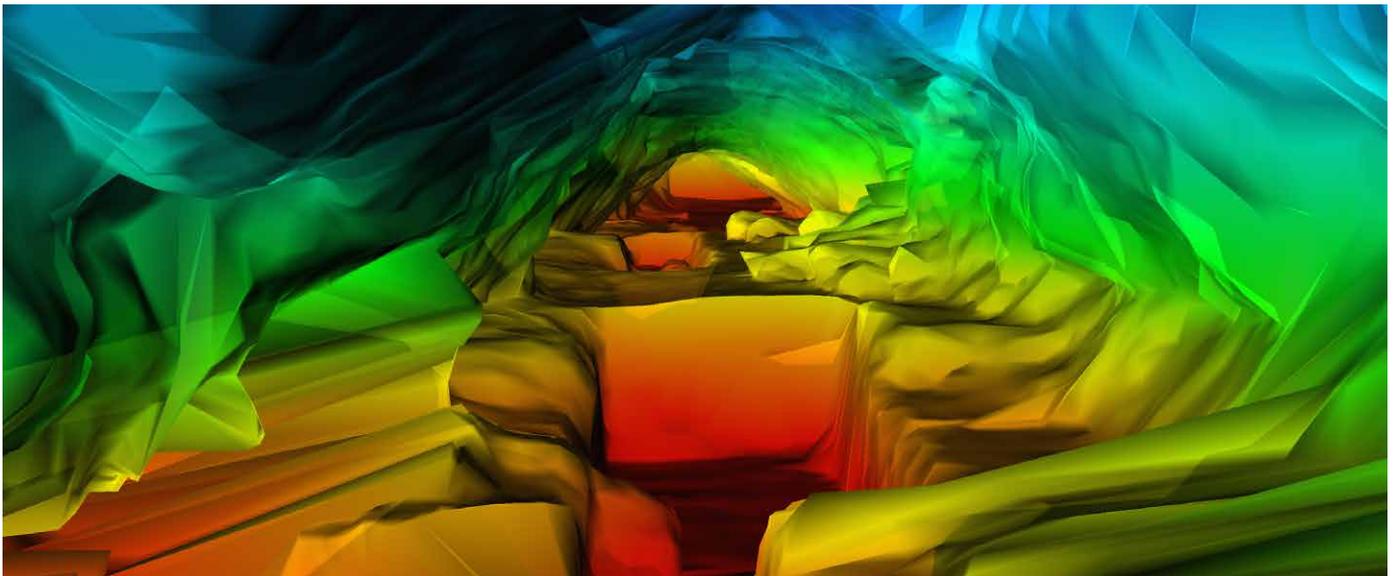


## Filling the void in archaeology

Maptek™ I-Site™ Void software has been used to model 3D point cloud data of caves being investigated by archaeologists in Serbia.



The discovery of one of the oldest human bones, in a cave near Niš in Serbia, prompted a team from Belgrade University to digitally preserve archaeological information using laser scan data. Maptek™ I-Site™ Void software was used to model a series of caves to map the discovery of archaeological finds in a 3D environment.

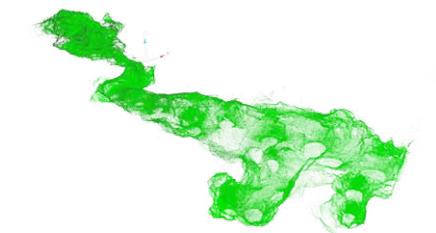
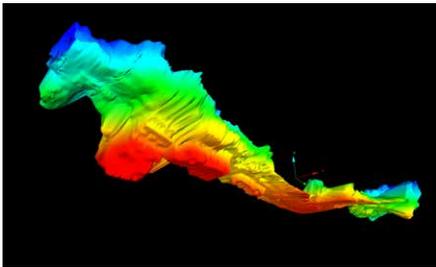
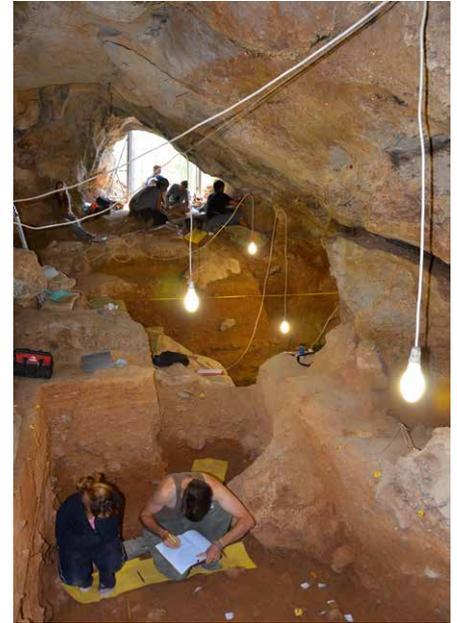
John Meneely, a geologist from the School of Geography, Archaeology & Palaeoecology, Queens University Belfast used I-Site Void to model 3D point cloud data of the caves. 'The archaeologists were working in two caves but they didn't understand the spatial relationship between them,' John said. 'By developing a 3D model of the caves, I was able to provide the archaeologists with a greater understanding of the cave system before them.'

John contacted Maptek when he had difficulty creating a solid shell of the cave with the software tools he had at hand. John had previous experience with Maptek, having used a Maptek™ I-Site™ 4400 laser scanner to scan the Giant's Causeway, a stretch of rugged coastline in Northern Ireland. He explains, 'I knew of I-Site Studio so I gave the UK office a call to see if they could help,' John explains. 'Was more than helpful in providing me with a temporary I-Site Void license and one-on-one training over Skype to get me up and running.'

In five minutes John created a 3D model of the caves in I-Site Void software. 'It was great, the ease of use and speed at which the software calculated the data was astounding,' John exclaimed. 'It was also particularly helpful to have the underground specific tools in Void. Of course I could have done the work in CAD, section by section, but I would probably still be working with the data.'

### Key features of I-Site Void

- Based on I-Site Studio software
- Designed for underground applications
- Imports ZFS scanner formats
- Filtering and colouring options
- CAD features
- Visualise and analyse data
- Modelling and volume calculations
- Optimised for x64-bit Windows 7



The 3D model can be used to create an interactive digital representation of the caves.

Each time the archaeologists discover a new item of interest in the trenches they dig, they map the location with a total station to obtain the X, Y and Z coordinates. Using these coordinates, the location of the archaeological finds can be mapped in the 3D model of the cave.

This provides an insight into the spatial and temporal distribution of all the recorded finds within the modelled cave system. Being able to display this in 3D will provide archaeologists with a new perspective on investigating how our ancestors lived thousands of years ago.

The ultimate goal is to have all of this

information in a GIS database available to the public. Anyone will be able to view the cave in 3D and see the layout of all of the discoveries. Each discovery will be linked to further information, photos and stories about cave life.

*Thanks to John Meneely*

*Visit [www.facebook.com/1manscan](http://www.facebook.com/1manscan) or email [j.meneely@qub.ac.uk](mailto:j.meneely@qub.ac.uk) for more information.*

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