



# 3D-PITOTI Newsletter



2<sup>nd</sup> Newsletter 2015

## Latest news: 2nd Review Meeting at Weimar

### Special points of interest:

- 2nd year review
- Update of the website and new publications
- ICT Lisbon

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On 20th May, 2015, the 3D-PITOTI project was reviewed by the European Commission and two evaluators at the Bauhaus-Universität Weimar, Germany.

Presentations of the progress and results of each workpackage were given along with the first demonstration of our innovative 3D scanner prototype. This was followed by interactive sessions of our 3D-Pitoti Scientists' lab. The result

of the review was very positive and that we had "exceeded expectations"!

The assessment stated that "the main scientific/technological achievements of the project were impressive in rock-art scanning, scanner development, database creation, rendering and interactive visualisation of scanned rock-art. The quality of the results were very good and appear clearly above average. Impact of the project

is already visible, and should be important as a tool for scientists, as a nice example of how modern VR technologies can be used for dissemination and education in historical studies as well as dissemination.

The 3D-Pitoti database contains information far more detailed and useful than any other rock-art database available in the world today."



Project team and reviewers, Weimar, Germany

### Update of the website and new publications

Check out our updated website (3D-Pitoti.eu)

We have restructured parts of our website. From now on you can find the conferences that we have been to in the section "PUBLICATIONS".

In this tab you can find a link to freely available publications of members of the consortium as well. More information about our regular meetings and about us in the press can

be found in the section "NEWS". On this site we will also inform you about events and conferences that we will be involved in.

Furthermore we are glad to announce that the 3D-Pitoti Project will be present at the Digital Heritage Conference 2015 with a paper about "Interactive Segmentation of Rock-Art in High-Resolution 3D Reconstructions" and as well at the euroVR2015 with a paper about "Augmented

Reality (AR) bringing pre-historic rock art stories to life".

In addition, check out our other article published in Education Research 2015 Volume 57. It is called "[Imagining technology-enhanced learning with heritage artefacts: teacher-perceived potential of 2D and 3D heritage site visualisations.](#)"

Visit our web site at [www.3d-pitoti.eu](http://www.3d-pitoti.eu)



## Meet us in Lisbon



ICT 2015, 20-22 October 2015

*"Impact of the project is already visible, and should be important as a tool for scientist, as a nice example of how modern VR technologies can be used for dissemination and education in historical studies, and on the dissemination side."*

Result of the review of your FP7/ICT project

The 3D-Pitoti consortium is proud to announce that we have been selected as exhibitors at the Innovate Connect Transform (ICT) which will take place at Lisbon from 20–22 Oct, 2015.

This event will give us the chance to present our full scanning and processing pipeline, starting from the 3D-data acquisition with our 3D-Pitoti Scanner, to the generation of point clouds and their segmentation, processing and storage.

Unfortunately we cannot bring the unique 3D-Pitoti Scientists' Lab from Bauhaus Universität Weimar to Lisbon,

but we will try to convey it interactive 3D visualization capabilities through videos. An augmented-reality application prototype for tablet computers will show how the 3D scanning data can be used for teaching and interactive storytelling.

Finally, you will even be able to see the rock art! We have created some high resolution 3D-prints to enable you to touch and feel the many different depictions of rock art in Valcamonica. We have created 4 panels representing the variety of shapes, ideas, styles and detail of the rock art left by our Euro-

pean ancestors.

In the next newsletter, we will inform you in more detail about our booth and activities at the ICT.

For more information follow the website of the ICT 2015:

<https://ec.europa.eu/digital-agenda/en/ict2015-innovate-connect-transform-lisbon-20-22-october-2015>

## Conference on Computer Applications and Quantitative Methods in Archaeology, Siena 2015

Members of the 3D-Pitoti consortium, Craig Alexander, Paolo Medici, Axel Pinz and Markus Seidl organised a session called: 4D 3D Reconstruction, Analysis and Immersive Telepresence at Rock-Art Sites.

This session offered the 3D-Pitoti consortium two advantages: On the one hand we were able to present results to specialists and professionals.

On the other hand we were able to evaluate our own

research and progress in comparison to other developments in the academic and commercial research.

The 3DP-organised session was a considerable success with more than 50 people from all over the world in attendance - CAA has 8 or more sessions running in parallel so the audience size was significant.

3D-Pitoti team members made useful and interesting contacts with people from other research institutions,

including, for example, access to 3D rock-art data from Eire. Without a doubt the project's presence at CAA 2015 in Siena served to raise our global profile.



Visit our web site at [www.3d-pitoti.eu](http://www.3d-pitoti.eu)





## Open day at 3D-PITOTI science lab at Weimar

On 10th - 11th July, 2015, the 3D-PITOTI science lab at the Bauhaus-Universität Weimar was opened to the public. The first visitors were business people attending the Big Data Analytics event funded by the German Federal Ministry of Education and Research (BMBF) within the InnoProfile-Transfer program. This was followed by visits with the Thuringian Government Minister for Economy and Science Wolf-

gang Tiefensee. Finally the Lab was opened for 2 days to the general public. Over 150 people interacted with the 3D multi-viewer touch table, 3D Powerwall and 3D prints. The University of Nottingham conducted evaluations including feedback forms, observations and informal interviews. 81 responses were obtained with the majority responding positively to the technology and content.



Working on the 3D multi-viewer touch table. From left: Dipl.-Med.sys.wiss. André Kunert, Minister Wolfgang Tiefensee, Prof. Dr. Bernd Fröhlich and Prof. Dr.-Ing. Karl Beucke.

## New 3D scanner prototype testing in Valcamonica – Results

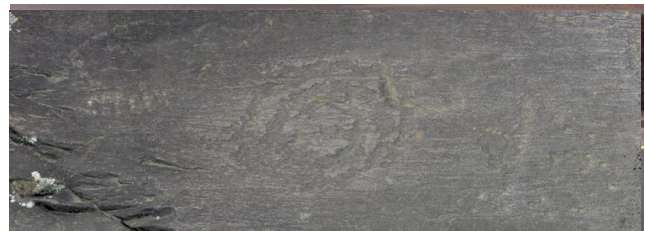
After some modifications of the novel 3D rock-art scanner (housing, tracking prism mount, support for tripod mount) the system was delivered to Italy and tested by several 3D Pitoti team members.

The images show reconstruction results for two of these scans, namely, a small region of rock Seradina 18 obtained from 48 raw images, and a large rock panel on Seradina rock 12C obtained from 1052 raw images.

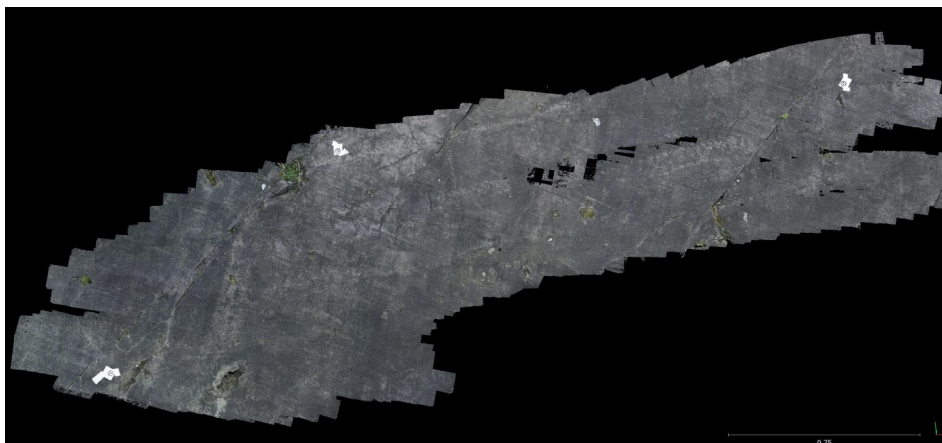
We placed markers on the rock whose geoposition was

measured using a total station to provide a means to assess the accuracy of the geoposition and scale of our final reconstruction.

The distance between the outermost markers in the Seradina 12C reconstruction is roughly 3.1 meters.



Seradina 18. (Detail)

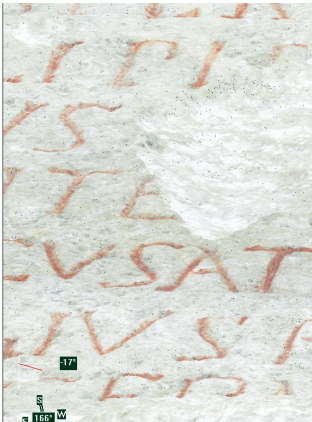


Seradina 12C. (Detail)

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## ITN-DCH Fellows were using the 3D-Pitoti Scanner



Detail of the point cloud of the Roman grave stone.

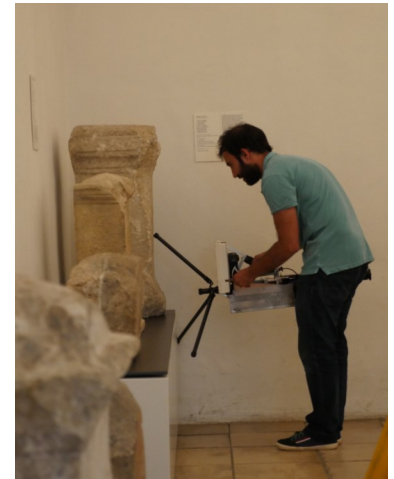
Last year the 3D-Pitoti consortium signed a Memorandum of Understanding with the Marie Skłodowska-Curie action ITN-DCH.

During the secondment of eight ITN-DCH fellows at ArcTron3D, the 3D Pitoti Scanner was available for testing as well.

Gert Holler and Thomas Höll from the TU Graz presented the 3D-Pitoti Scanner to the fellows and provided first-hand information and experiences.

The 3D-Pitoti Scanner was used to scan various objects. The example shown here is a Roman Grave Stone. This

stone was recorded at the Historische Museum Regensburg with 116 images and – for testing – total station measurements as well.



ITN-DCH fellow using the 3D-Pitoti Scanner to digitize a Roman Gravestone at the Historische Museum Regensburg.

3D P•I•T•O•T•I



3D-PITOTI is an EU FP7 funded project which started in 2013 and will finish in February 2016. The Human Factors Research Group at University of Nottingham are project coordinators.

Other partners are:

- ◆ Graz University of Technology
- ◆ ArcTron 3D GmbH
- ◆ University of Cambridge
- ◆ Centro Camuno di Studi Preistorici
- ◆ Bauhaus-Universität Weimar
- ◆ St. Pölten University of Applied



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Find out more at [www.3d-pitoti.eu](http://www.3d-pitoti.eu)