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Passive documentstion on the examples works carried in the 3D Scan Lab at the Institute of Archaeology, Univeristy of Warsaw

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Laser Scanner Leica C 10

Scanner white light

Smarttech ScanBright

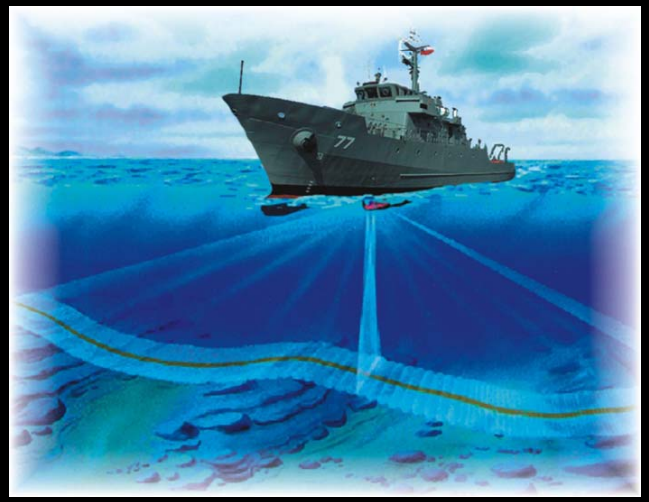
SLS - Satellite Laser Scanning

ALS - Airborne Laser Scanning

TLS - Terrestrial Laser Scanning

MLS - Mobile Laser Scanning

Bathymetric Scanning



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"Passive documentation" based on the scanning and storing of raw unprocessed clouds of points in all forms of depositories.

Once acquired, the cloud of points can be processed in the future by other, more capable means, and the documentation can be prepared when required.

It can be the object of various forms of processing or morphing, the creativity of the scientist being the only limit.

The process of modifying clouds of points is long and time-consuming.

It is estimated, that the mere scanning, that is the acquisition of the point cloud; constitutes about 10-20% of the entire work necessary for standard documentation.

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Cloud of the points – castle Hammershus - Bornholm
research of Institute of Archaeology UW

To documentation means to acquire a picture,
as precise and neutral as possible, of a given item,
with all its attributes.

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Józef Piłsudzki astronomic observatory on Pop Iwan mountain,
Czarnohora, Ukraine.
The laser scanner allows generating an orthoscan on any surface of the object.

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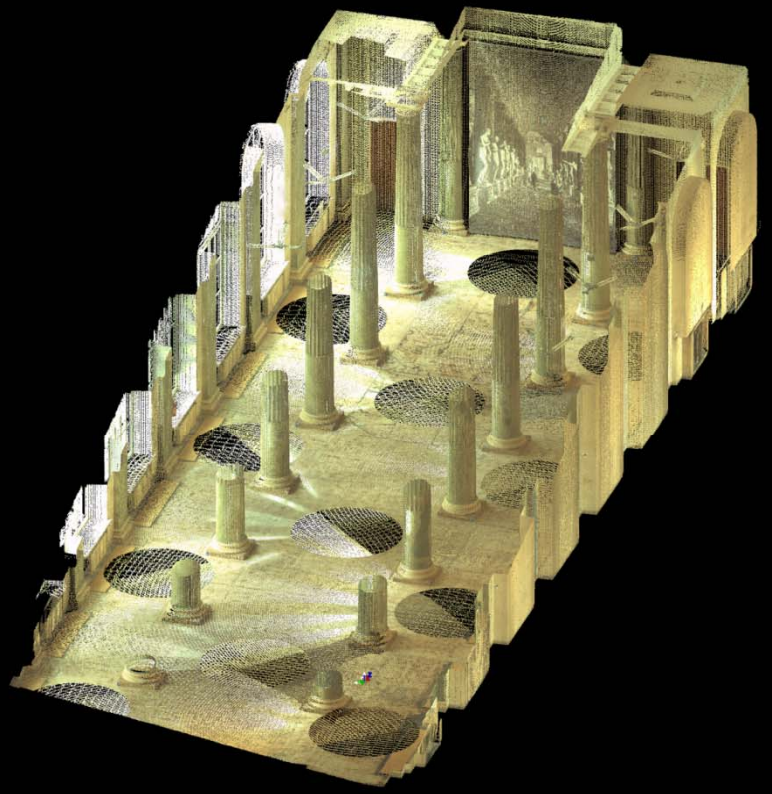
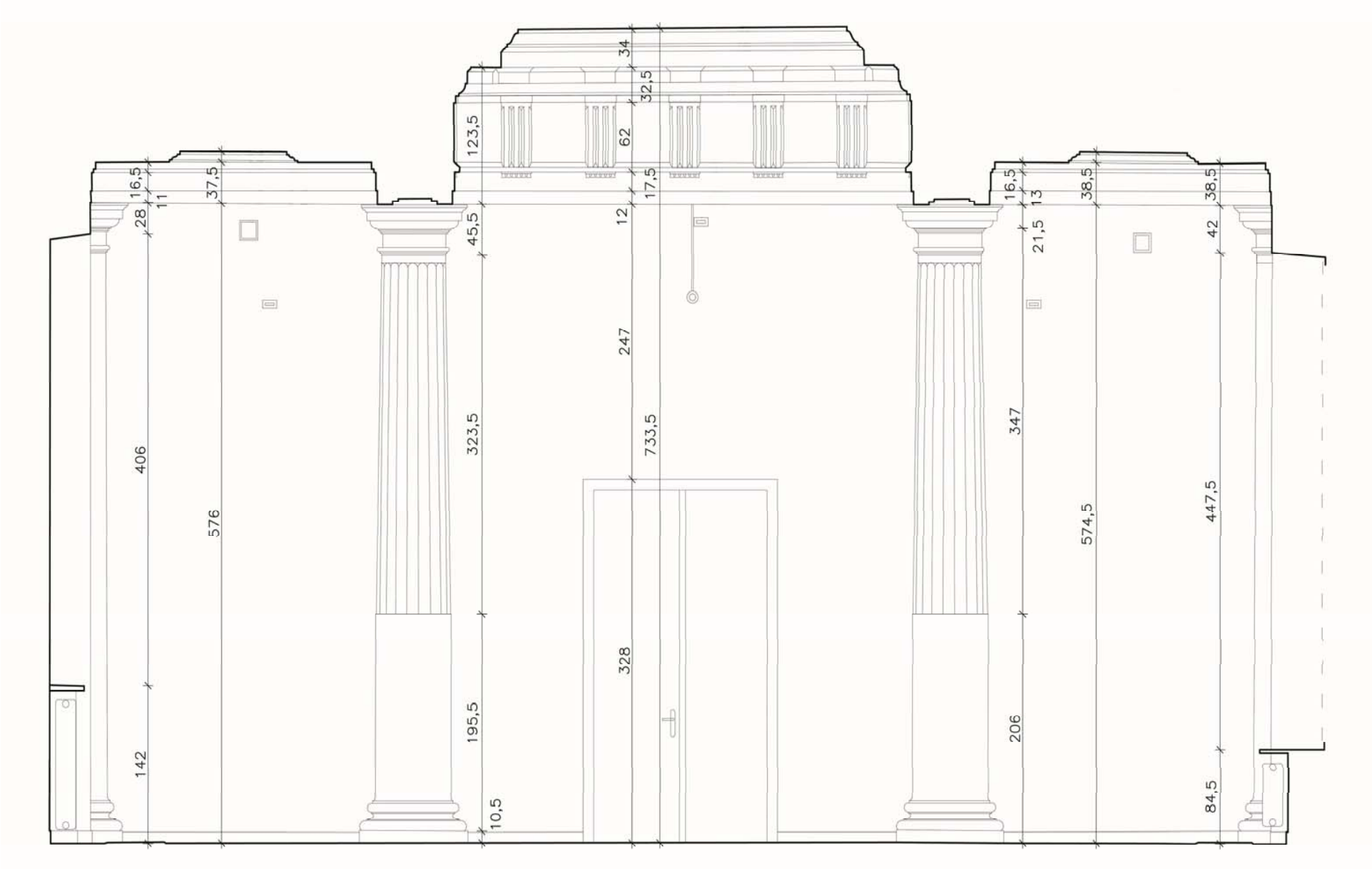
Column Hall, University of Warsaw.

The point cloud was used to elaborate an architectural documentation with a precision up to 1 mm.



A model created from the point cloud served for acoustic measurements necessary for the renovation of the interior.



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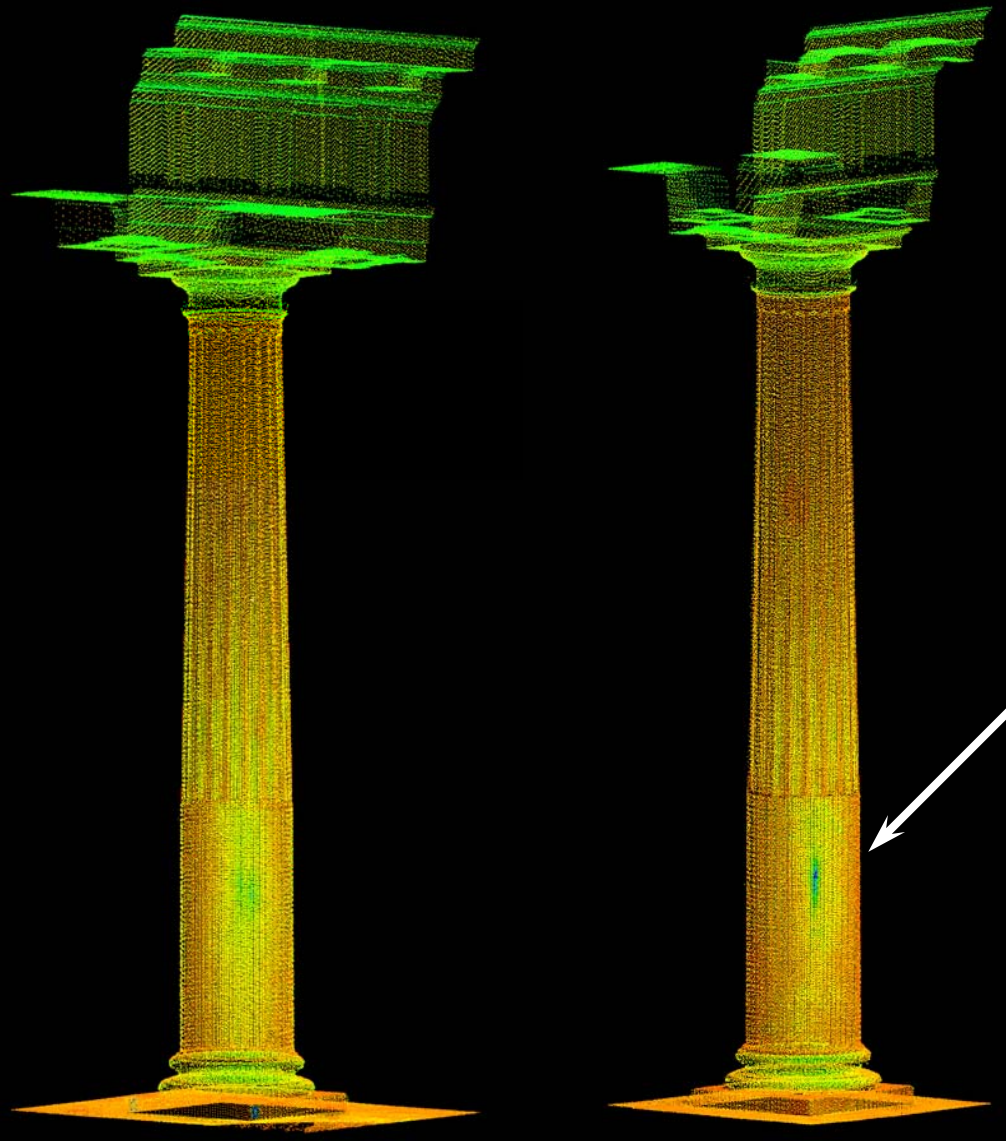
The scanner registered the intensity of reflection on the various surfaces, which allowed us to analyze the state of preservation of the stone columns in the hall.



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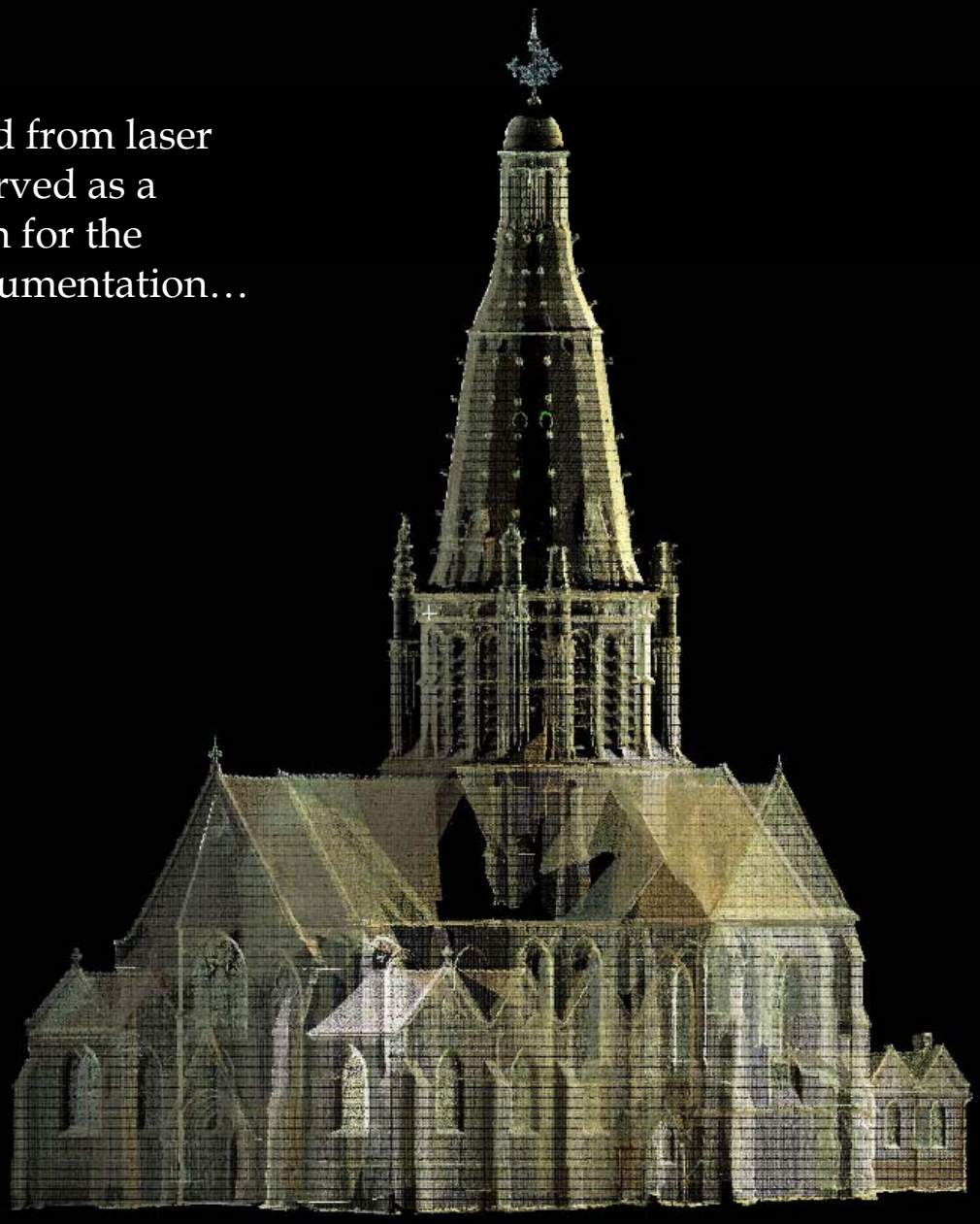
Church St. Crepin – Saint CrepinIbouvillers, France

The point cloud from laser scanning served as a preparation for the architectural documentation…



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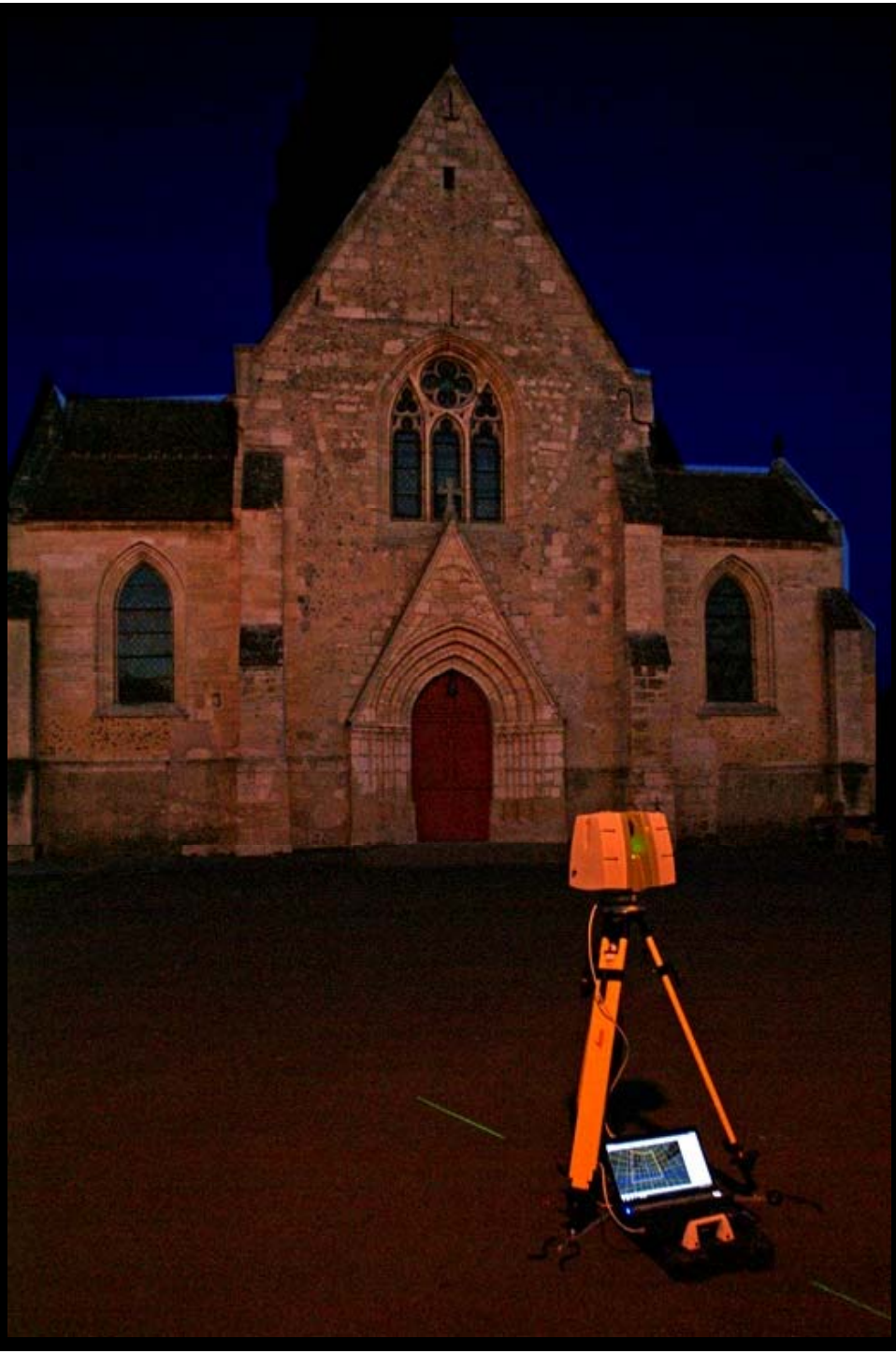

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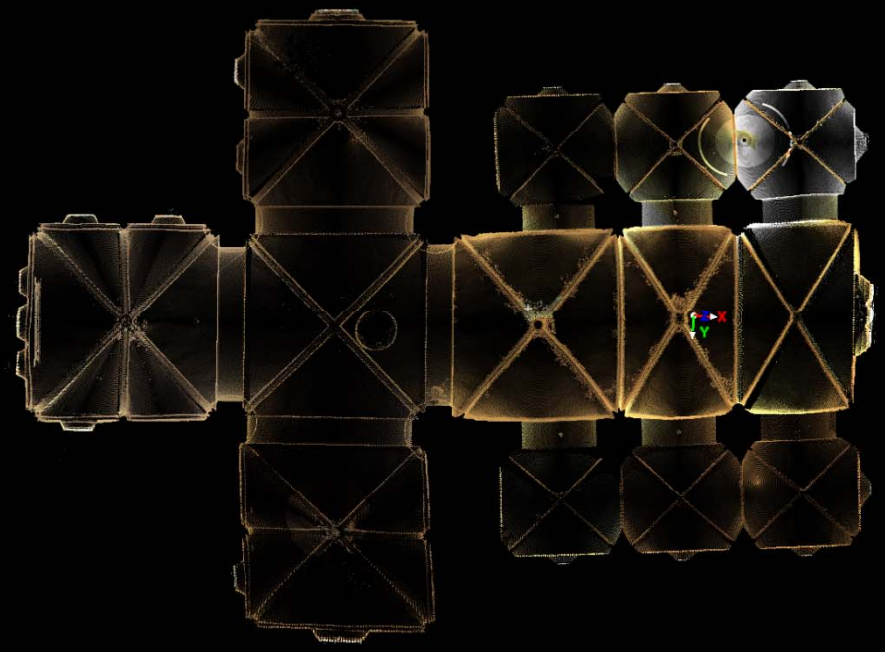

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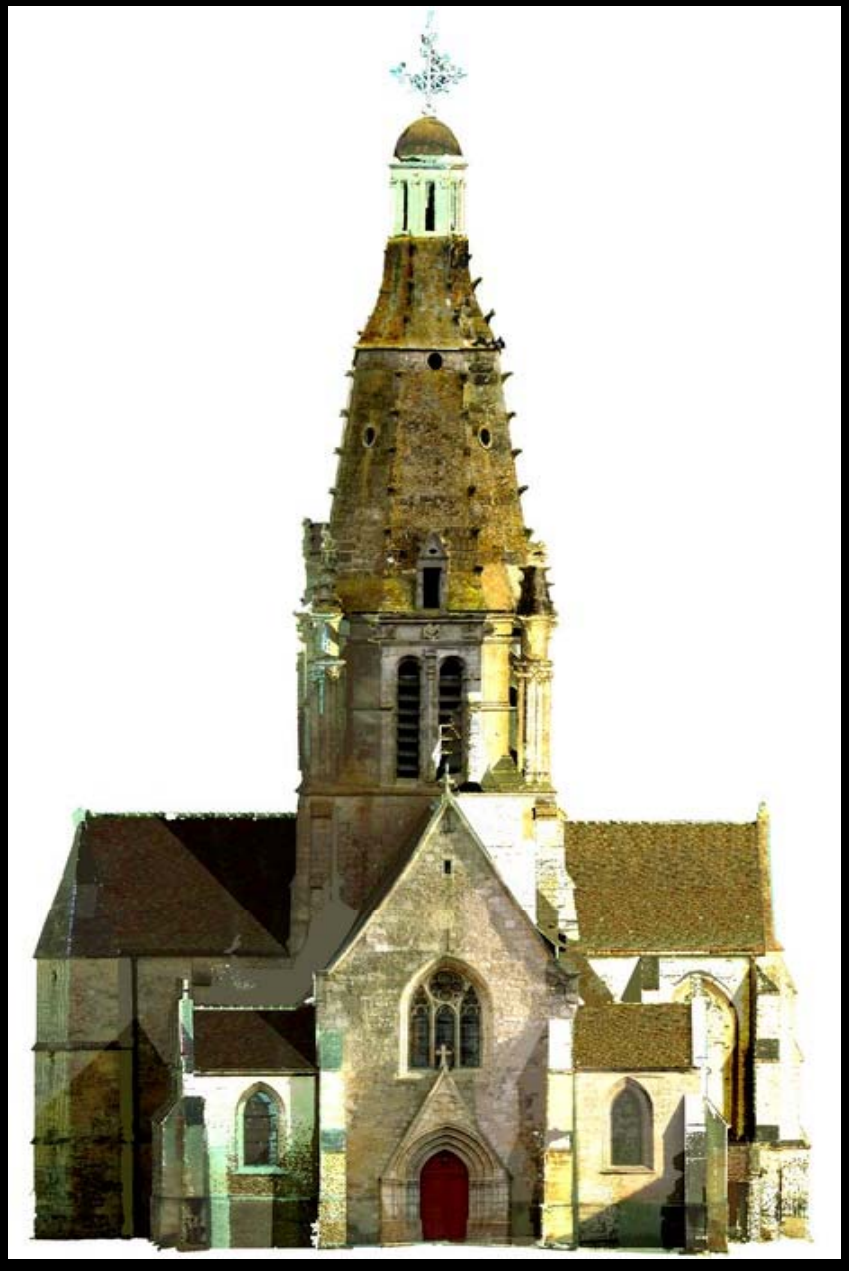
… orthoscans of the façade sections as well as for virtual visiting.



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Temple of Sun - Cusco, Peru

The object has been holistically scanned from the subterranean crypts through the cloisters up to the surface of the roof.

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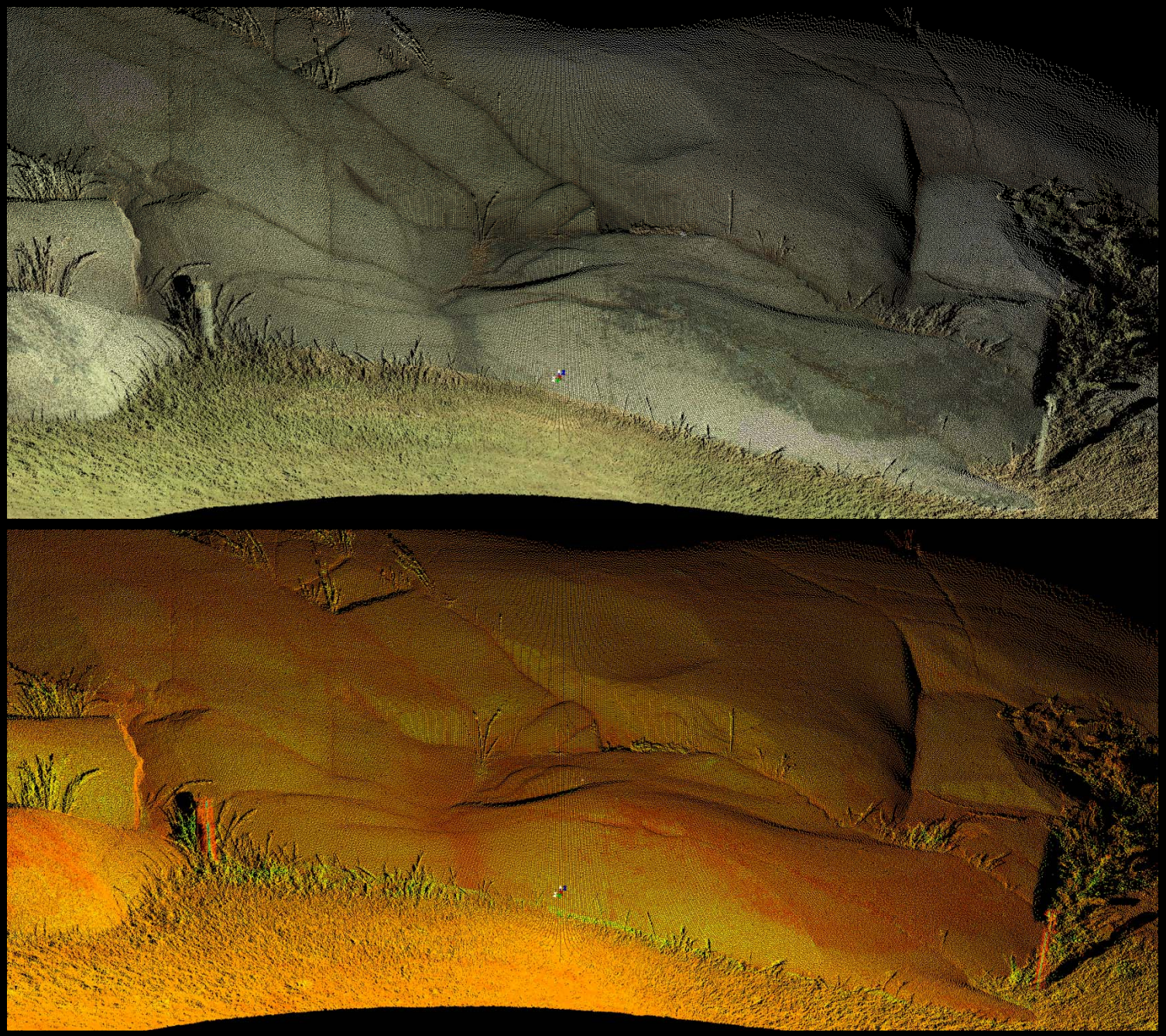
Rock carvings

Bornholm, Denmark

Laser scanning allowed for a detailed documentation, independent of the lighting conditions…



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…and also brought material for an objective analysis as to which signs are natural and which made by humans.

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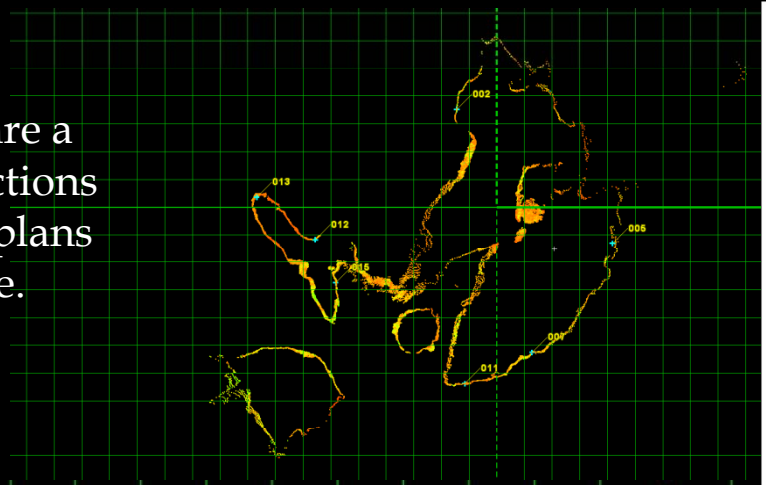
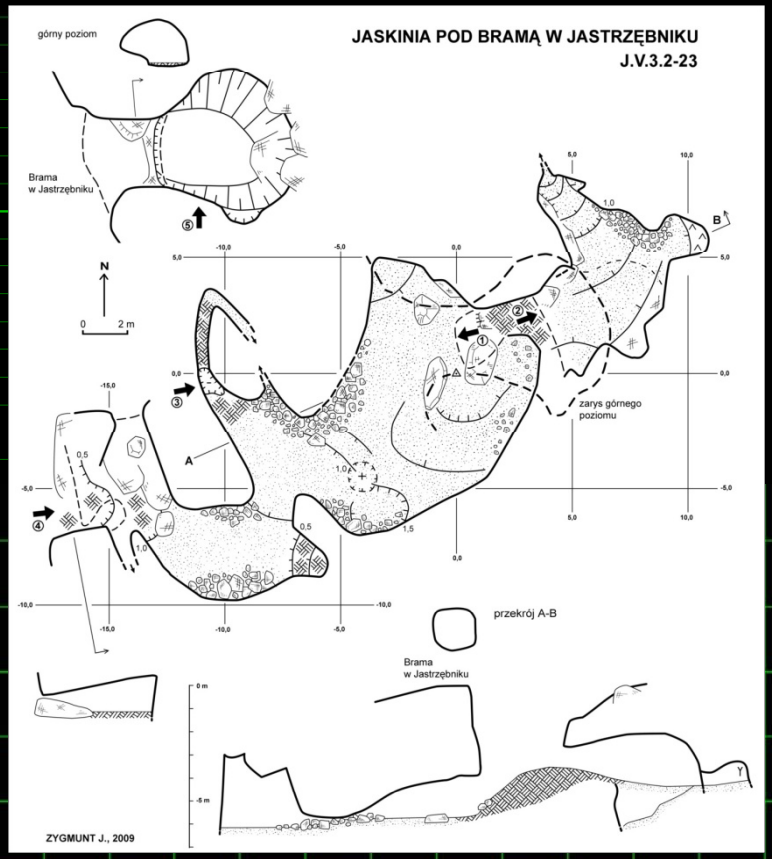
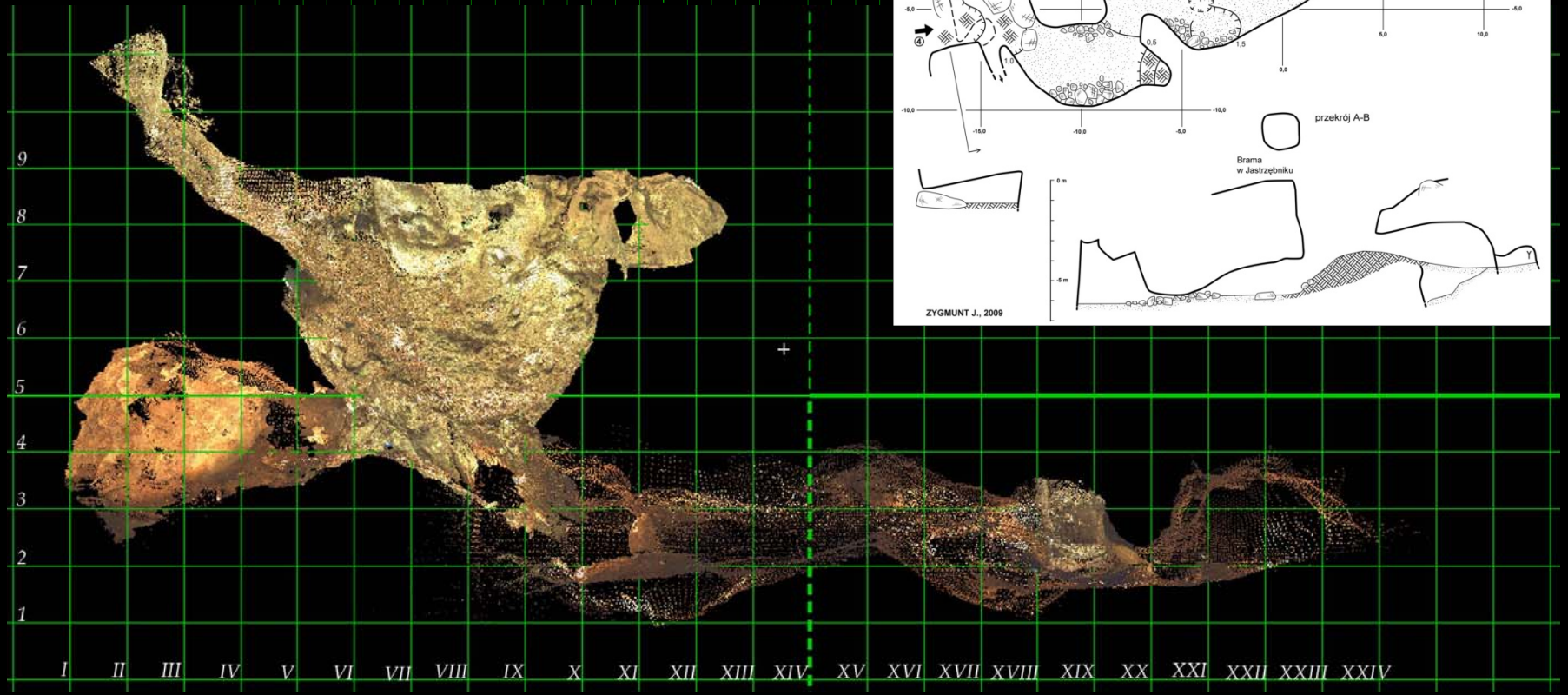
Okno-Cave (Brama-Cave), Poland

The results are a number of sections and detailed plans of the cave.







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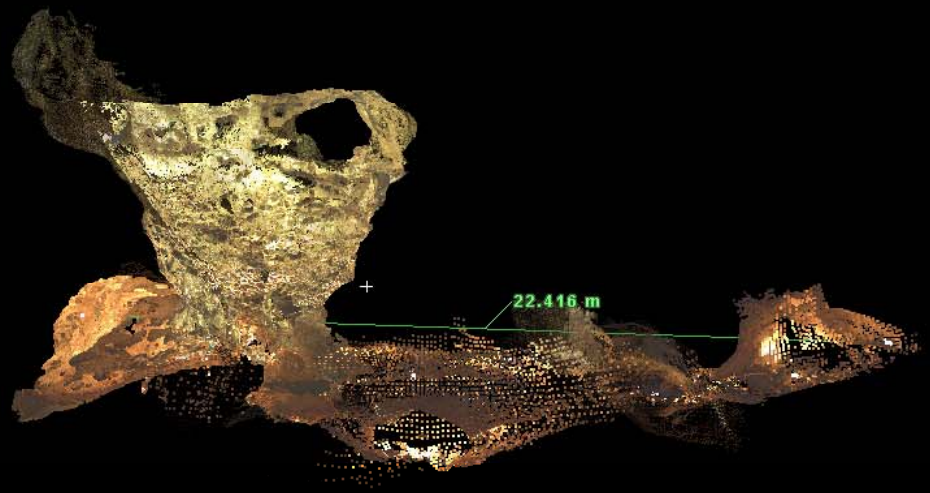
Okno-Cave (Brama-Cave), Poland

The point cloud was given additional attributes acquired via GPS RTK. This procedure allowed establishing an extremely accurate grid, used for archaeological fieldwork within the wide, multidisciplinary project Migration Period between Odra and Vistula.



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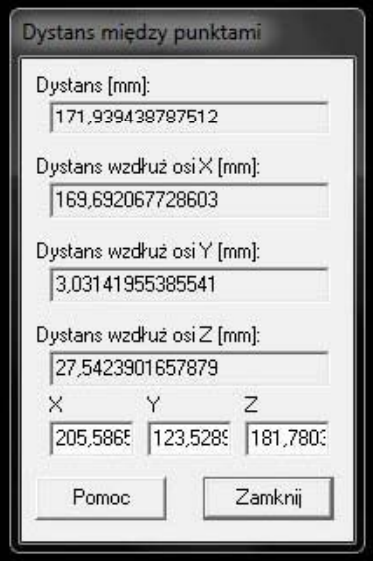
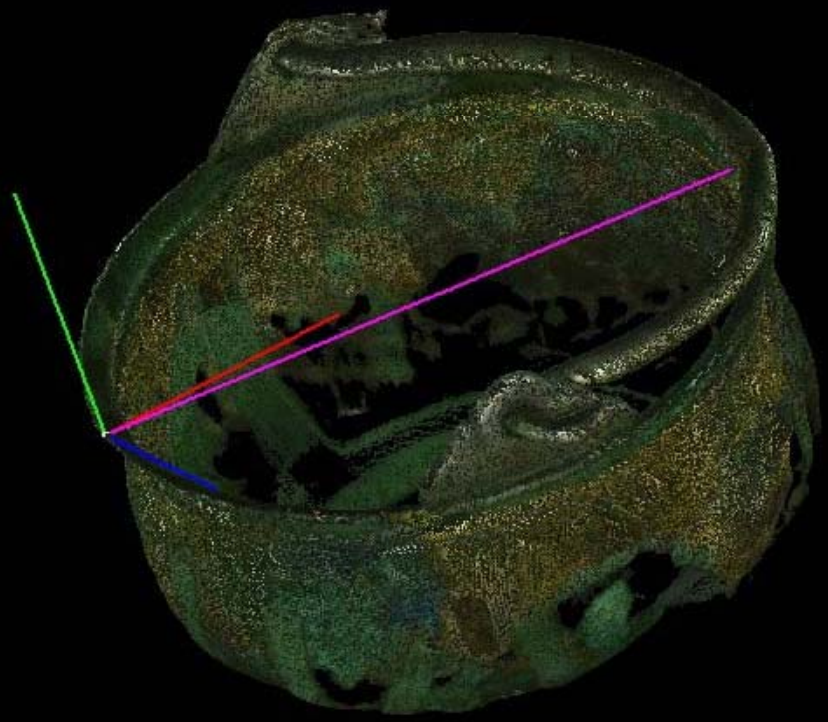
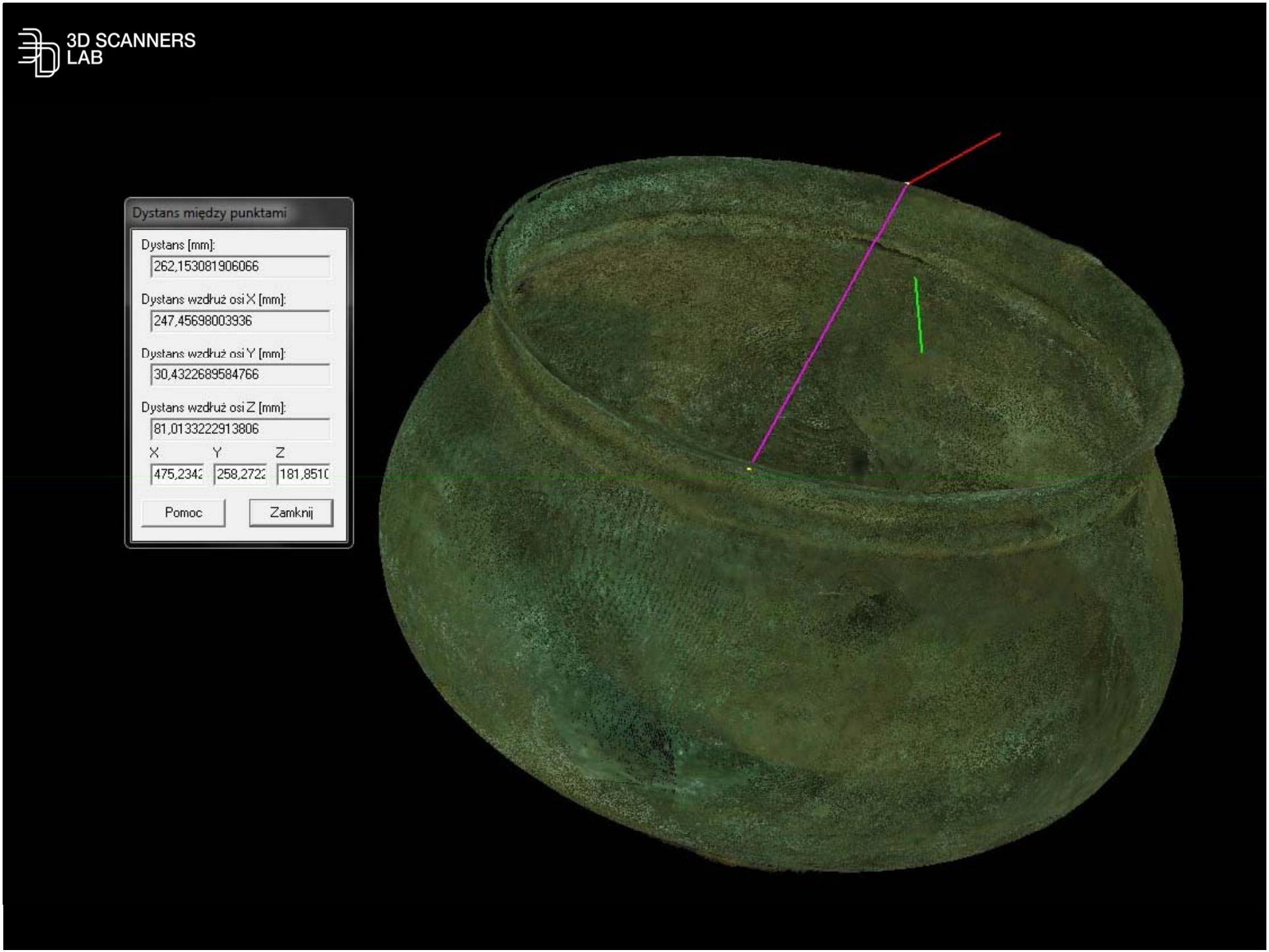
Project scanning of a specific type of roman vessel, exported beyond the frontiers of the Empire, the so called *obliquely fluted cauldrons Eggers 44-49 w*ith a structural light technology, point clouds with a density of up to 40 microns could be acquired.



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Dystans między punktami
Dystans [mm]:
262,153081906066
Dystans wzdłuż osi X [mm]:
247,45698003936
Dystans wzdłuż osi Y [mm]:
30,4322689584766
Dystans wzdłuż osi Z [mm]:
81,0133222913806
X
Y
Z
475,2342
258,2722
181,8510
Pomoc
Zamknij

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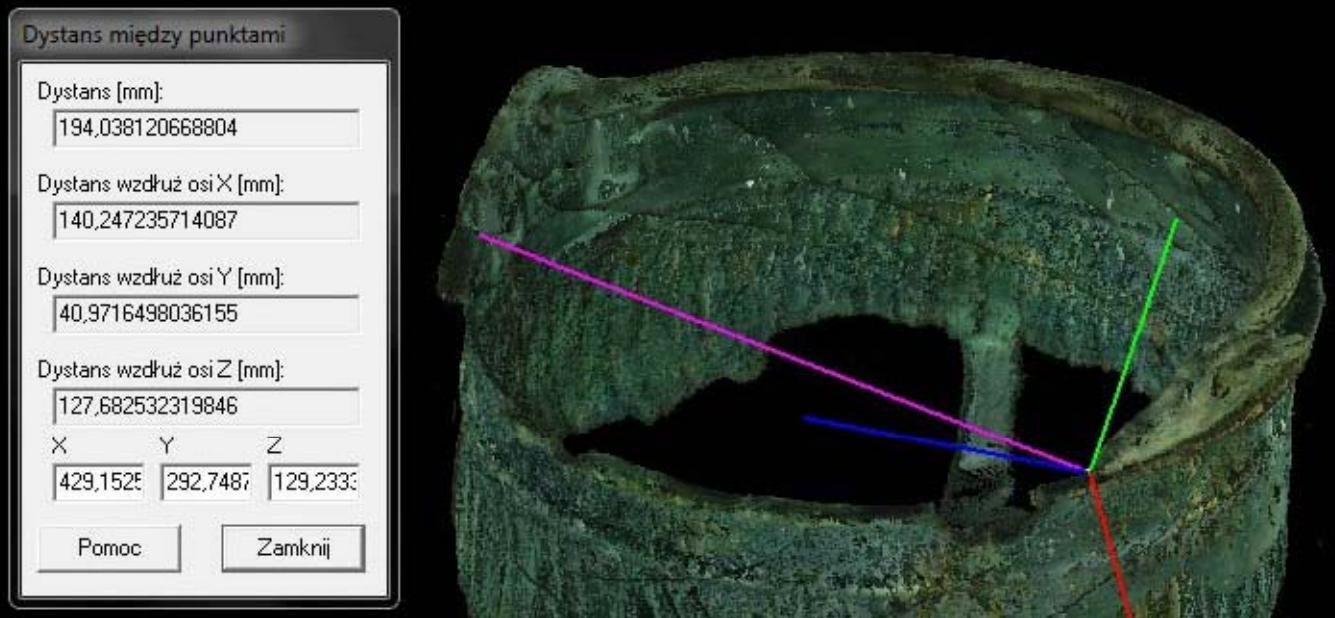

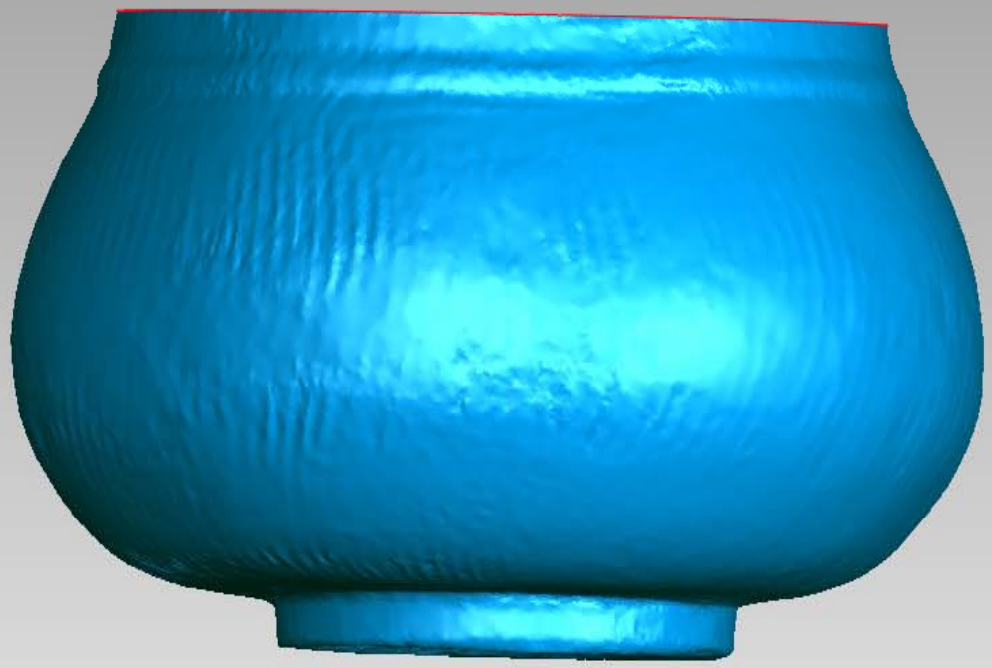

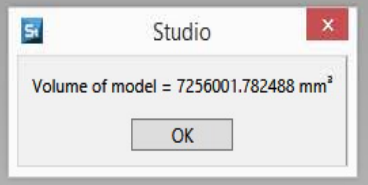

Documenting of cauldrons allowed us to carry out a number of analyses in order to reconstruct the production process of these vessels and investigate their shape, size and capacity.

Smarttech

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Thank you for your attention

Marta Bura

Janusz Janowski

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