STSM Report

REFERENCE: Short Term Scientific Mission, COST TD1201
Beneficiary: Aurore Mathys, RMCA & RBINS, Belgium, aurore.mathys@africamuseum.be
Host: Frank Boochs, i3mainz, Germany, frank.boochs@fh-mainz.de
Period: from 03/08/2014 to 16/08/2014
Place: i3mainz, Germany
Reference code: COST-STSM-TD1201-18810

Abstract

This short term scientific mission was the opportunity for us to test some equipment we had not yet the opportunity to test in the framework of the Agora3D project, share our results and exchange point of view with engineer.
The first aspect of this STSM was to evaluate models captured with different equipment.
A roman ship wreck model (fig. 1) was acquired by using a TLS and photogrammetry. The evaluation showed that if the acquisition takes the same amount of time, the processing is longer with the TLS. The result showed that the photogrammetry is more cost and time efficient, specially if the model is wanted for visualisation purposes. TLS is not adapted to object, not even very large object as a ship wreck.
Three romans coins were also acquired with a structure light scanner and photogrammetry. The resulting models displayed a similar amount of details (fig. 2), but photogrammetry has the advantage of recording the colour information. Considering the difference of price with this 2 techniques, we consider photogrammetry clearly more cost efficient and more accessible to end-users.
The advantage of TLS and structured light remains in the automatic scaling of the model, avoiding manipulation or risk of human errors.
The second aspect of this STSM was to share our results from the Agora3D project and our experience as an end user in the framework of the COSCH ^{KR} App in order to share the results with the community. We reflected and proposed a solution for the COSCH ^{KR} App questionnaire for end user concerning the 3D measurements.

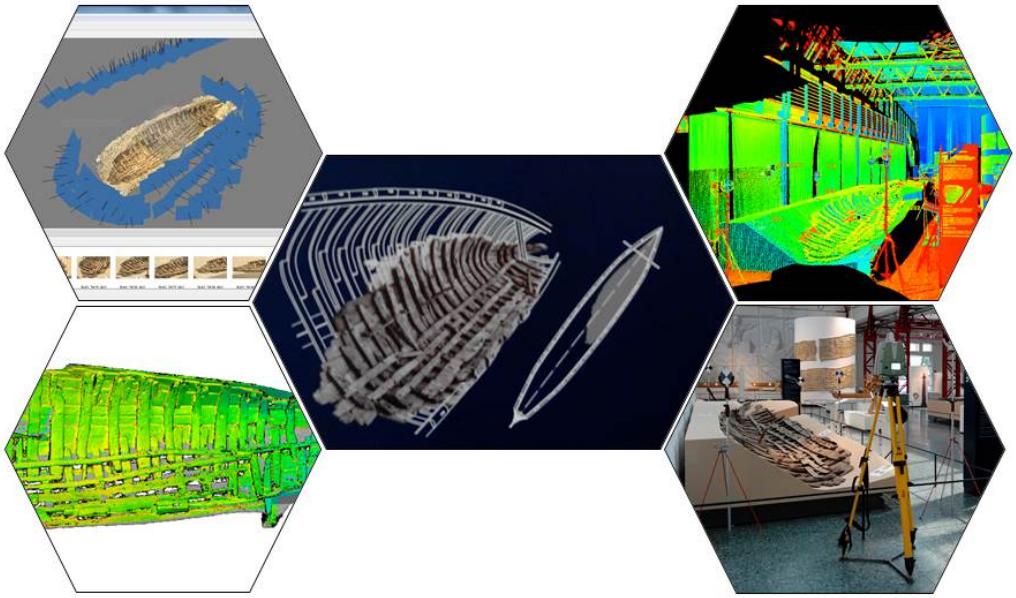

Fig. 1: Wreck 1,digitization with TLS and photogrammetry and comparison of the results..

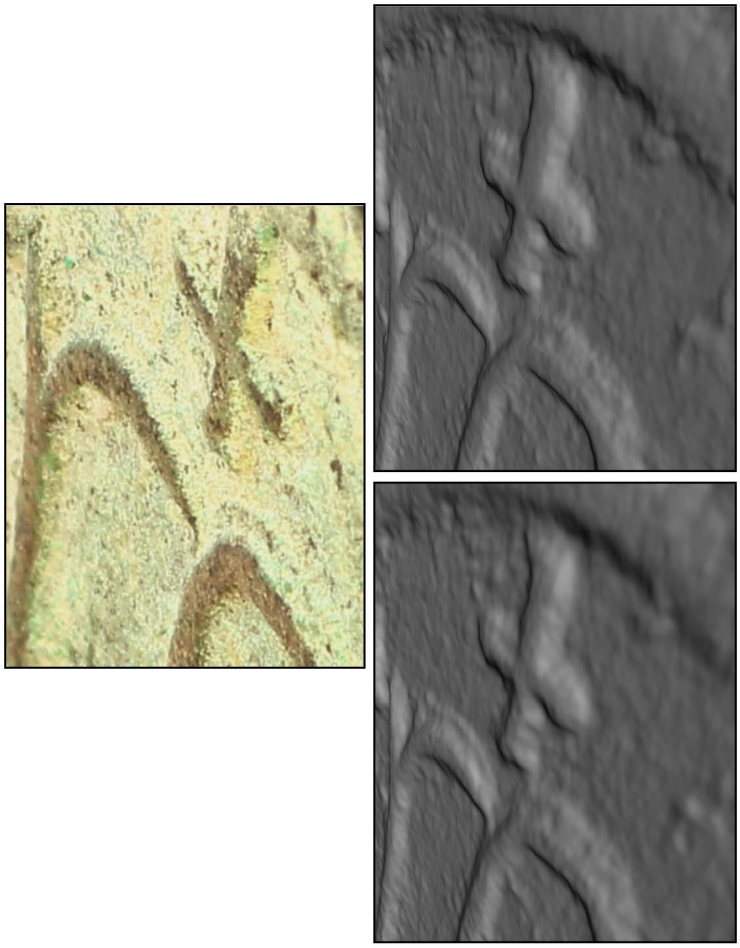

Fig. 2: Picture of a detail of the Tiberius II coin showing the roughness of the metal on the left. Screen capture of the same part of the photogrammetry mesh in the top-right and of the structured light mesh on the bottom-right .