

Cultural Heritage: Monastery Melk, Austria

Monastery Melk was scanned in 2005 as a *RIEGL* demo-project. The field campaign concentrated on the main inner-court of the monastery. The surrounding parts of the monastery are just visualized as a block-model. The aim of this pilot-project was to show the workflow of creating a high-accurate 3D-model. Besides, high resolution 3D-orthophotos were also calculated, to be used for facade-measurements. For visualization-purposes also external data like CAD-planes and aerial orthophotos were integrated in the RiSCANPRO-project. The data of our pilot-project was adopted by the local government of Lower Austria, a *RIEGL* customer, who will continue the data-acquisition at this site.

Project Key-Facts:

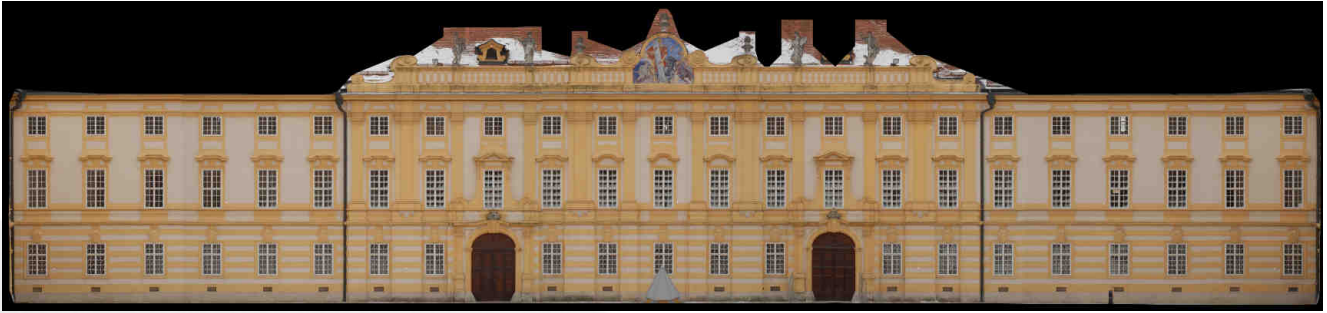
RIEGL instrument	LMS Z-420i
Object of interest	Monastery Melk, situated along the Danube, Austria
Results	high resolution 3D-model and orthophotos

Process Key-Facts:

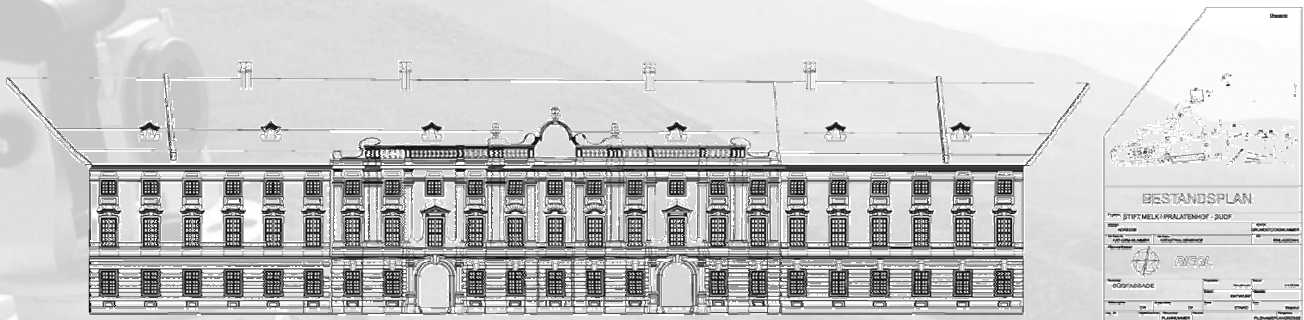
Number of scan-positions	20
Time needed for data-acquisition	1 day
Time needed for post processing	5 days
Acquisition workflow	panorama scan (VxH 80°x360°), registration of scan-data via control-points, measured by total-station
Acquisition platform	Mobile Scanning Platform MSP-Zxx

Scanner at work:





3D-orthophoto of the South Facade



Contour Drawing of the South Facade extracted from the 3D-orthophoto

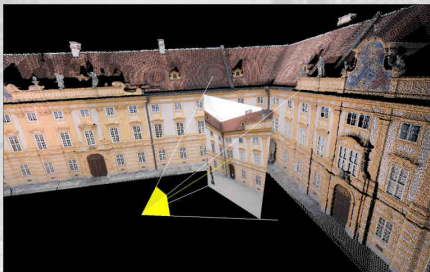


Fig.1

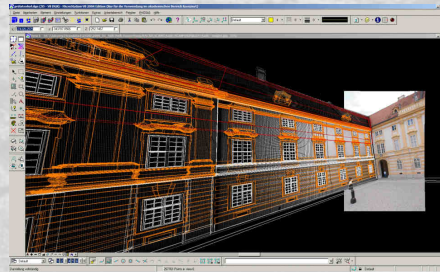


Fig.2

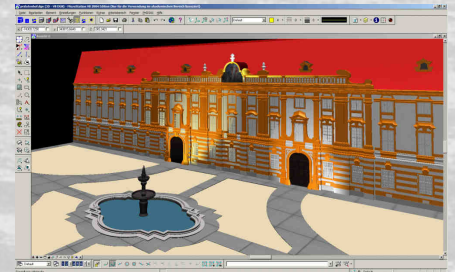


Fig.3

Fig.1 shows the point-cloud from the LMS-Z420i combined with one calibrated image taken from the mounted camera. Due to the fact that internal- and external-orientation of the camera is stored automatically within the RiSCANPRO-project, the 2D-image can be shown in the 3D-orbit. Plugins for Microstation and AutoCAD are available making use of this combined information to extract 3D-information in post-processing (Fig.2). The final 3D-model (Fig.3) can be re-imported to RiSCANPRO for automatic texturing using the images taken from the mounted camera.

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