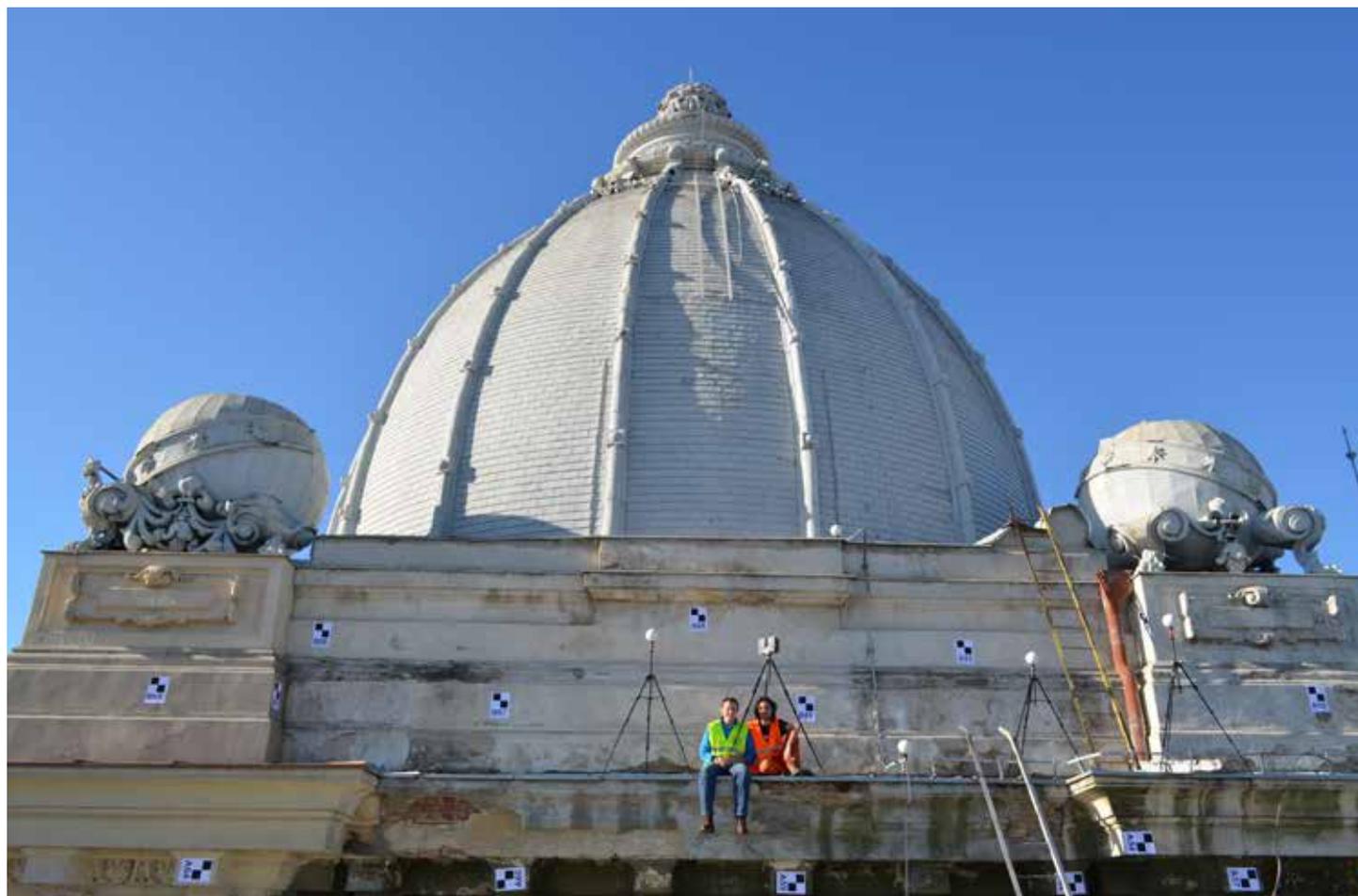


User Story

National Museum of Romanian History



Using the FARO Focus^{3D} on the roof of the museum.

Measurin of a museum

AS-BUILT DOCUMENTATION/ARCHITECTURE A FARO Focus^{3D} played the lead role in a massive project to capture all the structural and decorative detail of a neo-classical architectural landmark in central Bucharest.

The National Museum of Romanian History is one of the landmarks of Bucharest. Inaugurated as the Post Palace in 1900, the neo-classical masterpiece designed by Savulescu boldly welcomes visitors with dome-graced corners and facade length steps leading to a portico supported by ten Doric columns. After serving seventy years as the downtown post office, renovations and improvements began as the building became home to the country's most important museum of archaeology and history.

Now major work is planned to repair old earthquake damage and improve the building, so the decision was made to begin by creating complete 3D 'as built' documentation. Given that the whole building has over 468 rooms, a volume of 120,285 m³ and a complex roof structure and facade measuring 23,551 m², surveying using conventional methods would have been prohibitively expensive. So the decision was made to use laser scanning and call on the services of International Partner Buro (IPB), one of the leading 3D scan-

ning and surveying companies in Romania.

"Our task was to create a complete Building Information Management system as soon as possible, so that planning and construction work will be based on reliable information. To do this, we deployed teams working in two eight-hour shifts. One team was on site scanning with a FARO Focus^{3D} laser scanner while the other team was processing the point cloud data. Work began on the 19th November and scanning was completed on the 20th >>

National Museum of Romanian History

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Scanning artefacts in the exhibition spaces.

>> December 2012," explains CEO International Partner Buro, Marian Radoi.

"Before we acquired the FARO Focus^{3D}, we worked with traditional surveying tools and methods," explains Radoi. "But now, using FARO laser scanners, we can take on much more ambitious projects. Not only can we collect huge quantities of data, but the handling is easy and the workflow is fast." To model the interior and the exterior including the roof, IPB made 2'474 color scans.

When you generate a multi-billion point dataset, a good workflow is essential: so IPB used FARO

Scene to process the point cloud data before exporting to Kubit software to create the 2D plans and the 3D modelling. But the FARO output is basically compatible with all the main 3D modelling packages.

Creating the 2D plans for each floor took 10 man-days and creating the 3D models took 15 man-days. In total, IPB reckons that post-production will take about 2 months for the completion of all the deliverables. Once the data is available there are plenty of further possibilities. For example, when parts of the building are closed for renovation work, tourists could still visit them in a virtual reality application.



From point cloud to 3D solid model.

– 4 GOOD REASONS –

Dr. Marian Radoi, CEO, International Partner Buro says:

- 1 **Ease of use:** with features like auto-registration, touch screen and intuitive software, the Focus^{3D} allows you to concentrate on the job and not the equipment.
- 2 **Range:** When we were surveying the facades and the roof, the 120m range of the Focus^{3D} helped to reduce the number of scans that were necessary to capture all the information.
- 3 **Light and compact:** Repositioning means carrying, so when you are doing hundreds of scans per week you are grateful for lightweight equipment.
- 4 **Scan speed:** The Focus^{3D} creates a precise, virtual copy of reality in millimetre-accuracy at a blazing speed of up to 976,000 measurement points per second.



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IPB

IPB was one of the first Romanian companies to own a FARO Focus^{3D}. Founded in March 2007, International Partner Buro S.R.L. works in topography, 3D laser scanning, land survey, cartography, geodesy and UAV Photogrammetry. With a team of 15 specialists and geodetic engineers experienced in land surveying and a management team with German and Romanian experience, the firm has managed to rapidly capture the attention of demanding companies and handle increasingly complex reference projects.

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SUMMARY

To create a complete 3D model of the interior and exterior of the Romanian Museum of National History, specialists IPB employed FARO technology and an efficient team workflow. The resulting models will serve as a basis for the further planning and renovation of this important and complex architectural masterpiece.