

A Series of studies on ancient Roman architecture and urbanisation applying laser scanning technology

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New investigations and re-examinations of older data applying the latest technology of laser scanning for more accurate measurements, afford not only fresh insights into ancient Roman buildings and urbanisation, but also new information that may lead to provide clues as to new research.

Firstly, general maps retained in popular usage in Pompeii and Ostia were revised. The extreme resolution was sufficient to provide the comprehensive data required to create the sections and elevations, even general maps, in which large differences were confirmed to early drawings. Accurate records are essential for research and the incorrect records could eventually lead us to not only loss of new study opportunity but also incorrect results.

Secondary, large data sets of point clouds with terrestrial scans allowed us to make functional analyses of ancient Roman buildings and cities through reverse engineering processes possible, such as the design of the streets and sewers in Pompeii, the production process of a mosaic in the House of the Dioscuri at Ostia, the layout of mosaics in the Insula of Muse at Ostia, the topographical surveys of Ostia and its planning process, the traffic system of vehicles in Pompeii, and the construction process of the Capitolium in Ostia.