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# New Technologies Might Save Venice's Cultural Heritage from the Floods

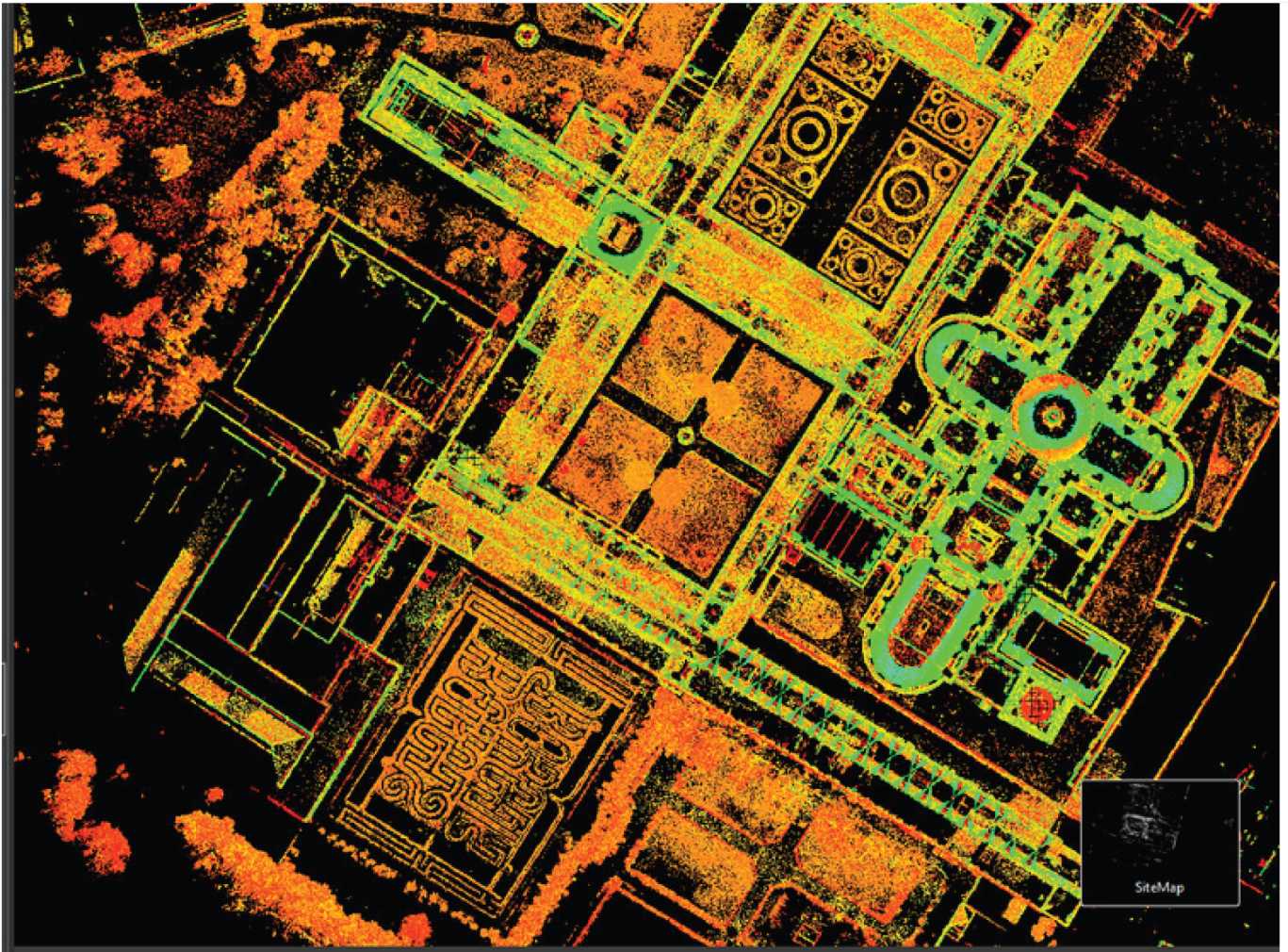
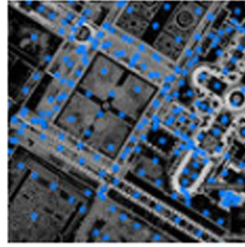
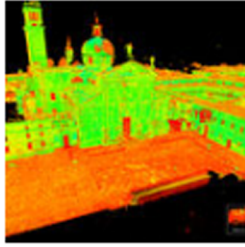
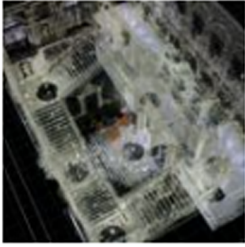


Written by [Christele Harrouk](#)

about 17 hours ago

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[Factum Foundation](#), a nonprofit dedicated to the use of digital technology for cultural heritage conservation, in collaboration with the [Fondazione Giorgio Cini](#), [Ecole Polytechnique Fédérale de Lausanne](#) (EPFL) and [Iconem](#) have recorded the [Island](#) of San Giorgio Maggiore, in [Venice, Italy](#), in its entirety. For more than 10 days, the team using photogrammetry and LiDAR technologies scanned the 10-hectare island. The project entitled ARCHiVe, linked with EPFL's [Venice](#) Time Machine aims to “*efficiently and effectively aid in the preservation of Venice's fragile cultural heritage*”.



After the [2019 flood in Venice](#) that recorded the highest level, a team of experts including Factum Foundation, the Fondazione Giorgio Cini, [EPFL](#), and Iconem, have decided to take urgent actions, in order to preserve Venice's fragile cultural heritage. The city that might be uninhabitable by 2100 required immediate measures.



The first phase of the project ARCHiVe involved recording the Basilica of San Giorgio Maggiore, a 16th-century church designed by Andrea Palladio, using LiDAR scanning (using a Leica RTC360) and ground-based photogrammetry (using a Sony A7Riv camera). For the first days, the group recorded the interior of the Palladian church, the apse, and the inside of the bell tower, while the following days were dedicated to the exterior of the church and the crypt.

Capturing images of every building, inside and out, these digital technologies have recorded the island from more than 600 different recording spots, generating 60,000 million-point-cloud. Currently, *“the data acquired through photogrammetry is currently being merged with the point-clouds - with the aim of creating a 3D model of the whole island”*. These undergoing groundwork, create permanent data, in the hopes of preserving the legacy of Venice.

Hoping to create accurate models of the architecture, ARCHiVe utilizes two technologies: LIDAR scanning, using lasers to capture “*spatial relationships within a large area*”; and photogrammetry, recording high-resolution images and data to generate accurate 3D models.

News via [Factum Foundation](#).

## Image gallery

