

Project Title

3D Scanning of Chuhuiv's Architectural Heritage as a Delayed Re-creation of Small Historic Towns in Eastern Ukraine under Threat of Disappearance

Project Data

Duration	Funding	Project location/ Region
February – December 2026	Deutsche Bundesstiftung Umwelt (DBU), Förderinitiative Ukraine	Chuhuiv, Kharkiv Region, Ukraine

Project Partners

Who are the project partners?

- NGO "ART OBORONA", Kharkiv, Ukraine
- Ilya Repin Historical and Art Museum in Chuhuiv, Kharkiv Region, Ukraine

What does each partner specifically contribute to the project?

- Acts as the lead project partner and is responsible for the overall project management and administration.
- Coordinates project implementation, procurement, financial management and reporting.
- Leads the methodological development of the laboratory and the creation of the digital collection.
- Coordinates communication activities and cooperation between project partners.
- Provides access to the heritage site and relevant archival materials.
- Contributes to the interpretation and public dissemination of the project results.
- Supports public events and the integration of project results into museum activities.

- Chuhuiv City Council
- Provides organisational and informational support for the project.
- Supports communication with the local community and the dissemination of project activities and results.

About the Project

What is the problem – and what do you want to change about it?

Small historic towns in eastern Ukraine are losing their architectural heritage as a result of war, depopulation, long-term deterioration and uncontrolled development. In many cases, physical restoration is currently impossible, while buildings and historic urban environments may be irreversibly altered or lost before restoration becomes feasible.

The project aims to ensure that the loss of physical heritage does not also mean the loss of the knowledge needed to restore it in the future. Using Chuhuiv as a pilot case, we are developing the concept of “delayed re-creation”: documenting endangered architectural heritage today to create a reliable digital foundation for future generations.

What are you doing specifically to achieve this goal?

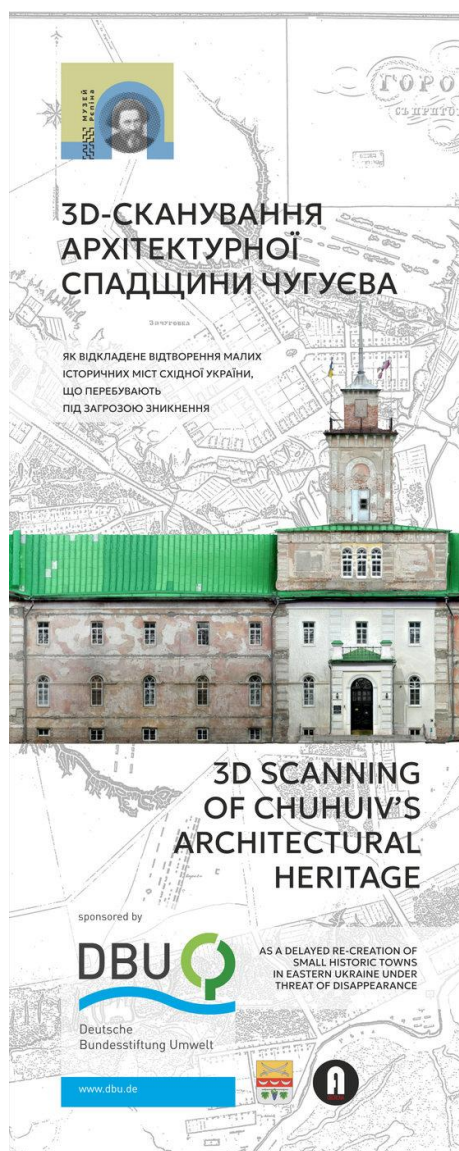
We combine high-precision 3D laser scanning, aerial photography, photogrammetry and geospatial documentation with research into the concept of delayed re-creation. As a pilot case, the project digitally documents the 1831 Military Settlement Headquarters building and its adjacent territory in Chuhuiv.

The resulting point clouds, orthophotos, photographs and 3D models form a digital archive that can support future research, conservation and restoration. At the same time, the project develops and discusses methodological principles for using digital documentation as a long-term tool for safeguarding the architectural memory of small historic towns.

What is special or new about your approach?	“Delayed re-creation” is an approach to heritage preservation for situations where restoration is urgently needed but cannot realistically take place now. It grew out of the reality of eastern Ukraine: historic buildings continue to deteriorate, while the resources and capacity to restore them are extremely limited. Small historic towns are unlikely to receive sufficient funding for large-scale heritage restoration in the foreseeable future, while their buildings may disappear before such restoration becomes possible. The project therefore focuses on what can be preserved now: accurate digital documentation of heritage while it still exists. Even if a building is lost, this digital record can remain for future generations as a basis for its study and possible re-creation.
The figure: What does the project actually do?	The project combines 322 laser scans, 2,450 aerial images and 1,356 high-resolution photographs with a registration accuracy of 3–4 mm. These data have already been integrated into a low-poly 3D model, which is currently being further developed into the final digital model of the 1831 Military Settlement Headquarters building and its adjacent territory.
What remains? What concrete results are achieved, and who can use them in the future?	The first concrete result has already been achieved: a high-precision digital record of the Military Settlement Headquarters building and its surrounding area has been created through 3D scanning and photographic documentation. These materials can be used by the Chuhuiv museum, researchers, heritage professionals and future restoration teams. The second result is currently being developed: the experience gained in Chuhuiv is being translated into the concept of “delayed re-creation” and explored as a practical approach to heritage preservation. The next step is to discuss, refine and introduce this approach so that it can be applied in other small historic towns in Ukraine where restoration is not currently feasible.

Project images

Image 1 of 5



Project banner prepared for the presentation of the DBU-funded project.

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Project images

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Project information card presenting the project concept and visual identity.

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3D laser scanning of the Headquarters of the Military Settlements building in Chuhuiv.

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Processing and documentation of architectural heritage during fieldwork.

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3D scanning process with the Director of the Ilya Repin Historical and Art Museum.

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