



CAPACITY BUILDING PROGRAM FOR SUSTAINABLE RECONSTRUCTION - REBUILD

Deliverable 4.3

Report Study visit in Moldova

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PP	

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SUMMARY

REBUILD – Capacity Building Program for Sustainable Reconstruction is an international cooperation initiative co-funded by the **Erasmus+ Programme of the European Union** (Action: *Capacity Building in the Field of Vocational Education and Training – CB-VET*).

The project aims to **strengthen and modernise Vocational Education and Training (VET) systems** in **Ukraine, Georgia, and Moldova**, three Eastern Neighbourhood countries not associated with Erasmus+, through the **transfer of European knowledge, skills, and best practices for sustainable and resilient reconstruction**.

Objectives and Rationale

The recent crises and natural disasters affecting Eastern Europe have highlighted the urgent need to **rebuild infrastructure and communities** in ways that are **environmentally sustainable, socially inclusive, and technologically advanced**.

REBUILD responds to this challenge by promoting **capacity building and skills development** in the construction and training sectors, with a special focus on the **green and digital transitions**.

The project's **overall objective** is to support **sustainable reconstruction and resilience-building** through enhanced cooperation between **VET providers, industry actors, and public authorities**. It seeks to strengthen **institutional capacity**, foster **innovation in teaching and learning**, and ensure that VET systems are better equipped to meet labour market needs in post-crisis contexts.

Key Focus Areas

REBUILD's training programme addresses **four core areas** essential to sustainable reconstruction and the modernisation of VET systems:

- 1. EU Regulations and Standards**
Understanding European policies, directives, and technical standards related to energy efficiency, construction quality, and environmental performance.
- 2. Economic Tools and Access to Funding**
Introducing financial instruments, incentives, and funding mechanisms that support reconstruction, innovation, and skills development.
- 3. Reconstruction Techniques and Sustainable Building Practices**
Promoting innovative and resilient construction methods, use of green materials, energy-efficient technologies, and circular resource management.
- 4. Digital Innovation in Construction**
Developing competences in **Building Information Modelling (BIM)**, **digital monitoring**, and **data-driven management systems** to improve quality and transparency in reconstruction projects.



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Implementation and Methodology

REBUILD combines **research, training, and transnational cooperation**.

It begins with a **comprehensive needs analysis** in the partner countries to identify gaps in skills, policies, and infrastructure. Based on this, partners will co-develop **modular training content** to be delivered via a **dedicated Moodle platform**, allowing flexible and open access for VET trainers and learners.

The digital training programme will be complemented by **face-to-face activities** such as **international exchanges, study visits, and expert seminars** that promote **practical, experience-based learning**.

A key milestone of the implementation phase is the **Study Visit in Moldova (Chişinău, March 2026)**, hosted by the **Centre of Excellence in Constructions from Chişinău**. The visit offers partners direct insight into the local VET system and practical examples of sustainable reconstruction. Through presentations, site visits, and exchanges, participants examine applied methods, challenges, and successful practices, supporting the adaptation of European approaches to local contexts and strengthening cooperation among partners.

Expected Results and Impact

The Study Visit in Moldova contributes to the overall REBUILD impact by:

- **Enhancing understanding** of local challenges and capacity-building needs in sustainable reconstruction;
- **Strengthening competences** of VET educators through exchange of practical experiences and restoration practices;
- **Supporting the adaptation** of European standards and methodologies to partner country contexts;
- **Promoting cooperation** between VET institutions, industry stakeholders, and public authorities;
- **Contributing to the development** of relevant, practice-oriented training materials;
- **Encouraging knowledge exchange** and peer learning across partner countries, reinforcing long-term collaboration.

Strategic Relevance

REBUILD aligns with major **European policy frameworks**, including the **European Green Deal**, the **Digital Education Action Plan**, and the **European Year of Skills**.

By connecting **education, innovation, and sustainability**, the project contributes to the EU's broader objectives for a **green, digital, and inclusive transition**.

REBUILD is not only about rebuilding physical structures: it is about **rebuilding systems, competences, and resilience**. It empowers institutions and professionals to lead reconstruction efforts that are **environmentally responsible, technologically advanced, and socially fair**.

In doing so, REBUILD positions itself as a **catalyst for transformation** in the Eastern Neighbourhood region, promoting a new generation of **skilled professionals and educators** capable of shaping the future of sustainable reconstruction.

1.AGENDA

Capacity Building Program for sustainable reconstruction – REBUILD PROJECT



Study Visits

The visit will **showcase local examples of sustainable reconstruction and vocational training practices**. Participants will engage in **site visits, presentations, and discussions** highlighting Moldova's current challenges and opportunities in the **rebuilding sector**. This exchange will foster deeper cooperation, inspire new approaches, and strengthen the shared commitment to resilient, future-oriented development across partner countries.

Study Visit Program

From the 24th to the 26th of March 2026

TIME (CET)	ACTIVITY	LOCATION
23 March 2026	Arrivals and check in at the hotel	Chişinău, Moldova
24 MARCH 2026		
09.30 to 12.00	7th Coordination meeting	Center of Excellence in Construction 71 Gh. Asachi Street, Chisinau
12.00 to 13.00	Presentation of the Institution IP CEC and Its Facilities	Center of Excellence in Construction 71 Gh. Asachi Street, Chisinau
14.00 to 15.00	Transfer Străşeni, Vorniceni <i>Private bus organised by CoE</i>	
15.00 to 16.00	Technical Visit at the wooden Church from Vorniceni <i>An architectural monument built in 17th century and recently fully restored. The restoration process will be described by technical experts.</i>	Satul Vorniceni, Străşeni
16.00 to 17.00	Transfer to Chişinău	Chisinau
17.00 to 18.00	City center visit	Chisinau
25 MARCH 2026		
09.00 to 11.00	Transfer to Rogojeni Village <i>Private bus organised by CoE</i>	Meeting point: Center of Excellence in Construction, 71 Gh. Asachi Street, Chisinau

11.00 to 12.00	<i>Technical visit at „Hobitton Moldovenesc”,</i> <i>Rural historic site of historic human shelters.</i> <i>An example of revitalized constructions.</i>	<i>Rogojeni Village</i>
12.00 to 13.00	<i>Transfer to Soroca</i> <i>Private bus organised by CoE</i>	
14.00 to 16.00	<i>Technical visit at Soroca Fortress</i> <i>Medieval architectural monument dating back to the 15th century, which has gone through several stages of transformation and restoration.</i>	<i>78 Independentei street, Soroca</i>
16.00 to 18.00	<i>Transfer to Chişinău</i> <i>Private bus organised by CoE</i>	
26 MARCH 2026		
09.00 to 10.00	<i>Transfer to Mereşeni</i> <i>Private bus organised by CoE</i>	<i>Meeting point: Center of Excellence in Construction, 71 Gh. Asachi Street, Chisinau</i>
10.00 to 11.00	<i>Technical visit at Steam Mill</i> <i>National architectural monument</i>	<i>Mereşeni village</i>
11.00 to 12.00	<i>Technical visit at Manuc Bei manor</i> <i>Restored architectural monument: a presentation will be organized within the "Manuc Bei" complex with the participation of the beneficiaries of the restoration project where relevant aspects of the project will be presented and discussed.</i>	<i>Mereşeni village</i>
13.00 to 15.00	<i>Technical visit to the State Pedagogical University “I. Creangă”</i> <i>One of the university’s buildings is undergoing restoration and revitalization.</i>	<i>Chişinău, str. Ion Creangă 1</i>
15.00 to 15.30	<i>Transfer to Center of Excellence in Construction</i> <i>Private bus organised by CoE</i>	<i>Chişinău, str. Gh. Asachi 71</i>

2.REPORT ON THE STUDY VISIT IN MOLDOVA

The REBUILD Study Visit in Moldova, hosted by the Centre of Excellence in Constructions from Chişinău (IP CEC), from 24 to 26 March 2026, represented a key milestone in the implementation of the **REBUILD – Capacity Building Program for Sustainable Reconstruction** project. As a core activity within the project’s capacity-building and knowledge exchange framework, the visit brought together participants from Ukraine, Georgia, Moldova, Poland, and Italy, alongside local **experts in**



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architectural monuments and built heritage, to explore **the realities of sustainable reconstruction in an Eastern Neighbourhood context**.

The event combined **coordination meetings**, institutional presentations, and a series of **technical site visits** to significant heritage and **construction sites** across the country. It provided participants with a comprehensive understanding of Moldova's VET system, the challenges faced in the construction and restoration sectors, and the opportunities for aligning local practices with European standards and policy frameworks. The programme also included discussions on the development of modular training content through a dedicated Moodle platform, reinforcing the project's **digital learning dimension** and supporting the objectives of the European Skills Agenda in **strengthening lifelong learning and vocational excellence**.

Challenges and Opportunities in Sustainable Reconstruction

During the study visit, participants identified a number of structural and operational challenges that directly affect sustainable reconstruction processes in Moldova and are highly relevant to other partner countries. Among the most significant were **limited financial resources**, **outdated infrastructure**, and a **shortage of skilled professionals** trained in modern, sustainable construction techniques.

Particular attention was given to **regulatory gaps** in the field of heritage restoration, which remains at an **early stage of development**. The absence of clear and harmonised frameworks for restoration practices limits alignment with European directives on cultural heritage protection, energy performance, and construction quality, and often leads to **inconsistencies in implementation**.

At the same time, the visit highlighted important opportunities emerging from closer alignment with European policy initiatives such as the **European Green Deal**, the Renovation Wave, and **cross-border cooperation programmes**. Moldova benefits from a strong vocational education tradition and a growing openness to reform and international cooperation. Good practice examples in restoration and revitalisation demonstrate the potential for combining traditional craftsmanship with modern approaches. The increasing use of **EU-funded programmes**, including **Interreg and neighbourhood cooperation instruments**, was recognised as a key driver for advancing sustainable reconstruction, improving energy efficiency, and supporting the transition towards a more circular and resource-efficient construction sector.

Insights into Green and Digital Transitions

The Moldovan experience offered valuable insights into the current stage of green and **digital transition** in the construction and **VET sectors**. While still developing compared to more advanced European contexts such as Bologna, Moldova is **progressively aligning with EU priorities** related to **sustainability, digitalisation, and skills development**.



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Through **technical visits**, participants observed restoration projects that relied heavily on traditional techniques and locally sourced materials, particularly in sites such as the wooden church in Vorniceni and the “Hobitton Moldovenesc” rural complex. These approaches are consistent with the principles of the **Circular Economy Action Plan**, promoting **resource efficiency**, **reduced environmental impact**, and preservation of cultural identity.

Other case studies, including the restoration of the Soroca Fortress and the Manuc Bei Manor, illustrated the integration of modern engineering solutions with heritage conservation, supported by European funding programmes. These projects demonstrated how **sustainable reconstruction** can contribute not only to structural resilience but also to regional development, cultural tourism, and social cohesion.

Digitalisation was addressed as an emerging priority in line with the **Digital Education Action Plan and broader EU digital transition strategies**. Participants were introduced to modern tools and innovative educational environments, including the use of **digital models in construction projects** and the “**Class of the Future**”, a national centre for **digital innovation in education**. These examples highlighted the growing role of technologies such as 3D modelling, virtual reality, and data-driven design in improving both construction processes and vocational training delivery.

Preliminary Outcomes and Implications for REBUILD

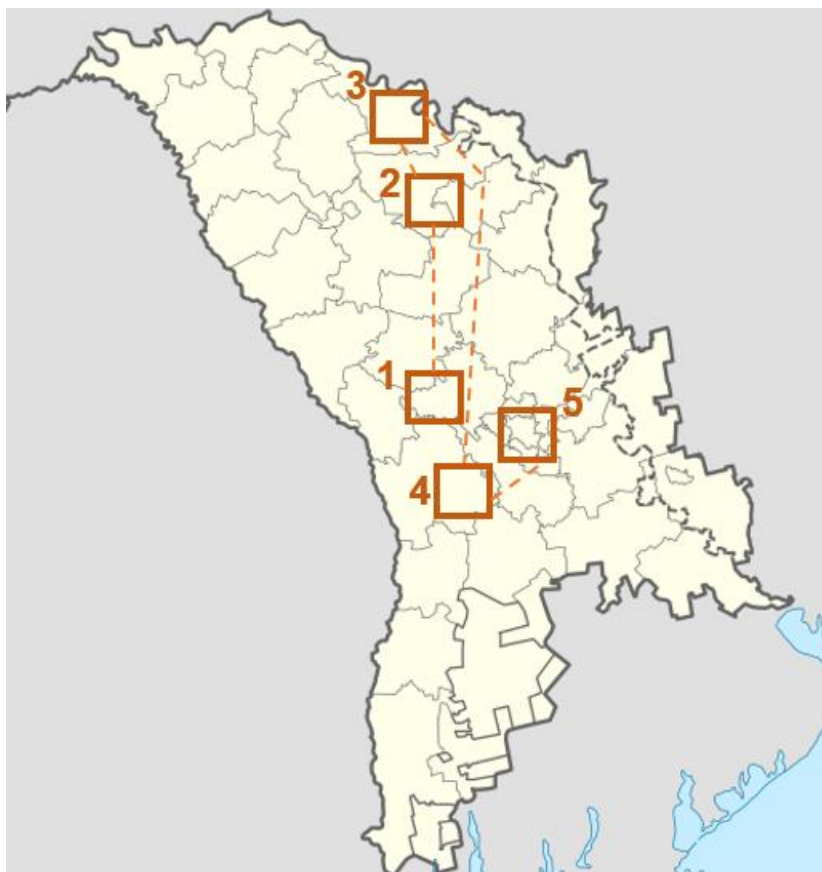
The Study Visit in Moldova provided valuable, **field-based insights** that contribute directly to the objectives of the Capacity Building Program for Sustainable Reconstruction — REBUILD. The combination of field observations, expert contributions, and peer-learning exchanges facilitated the identification of priority areas for skills development, including heritage restoration, sustainable construction practices, energy efficiency, and digital competences.

The findings emphasise the importance of contextualising European best practices to ensure their relevance and applicability within partner country environments. In this regard, the study visit reinforced the adoption of learner-centred and experience-based pedagogical approaches, consistent with **contemporary VET methodologies promoted at EU level**, including **project-based learning and competency-based training** frameworks.

Furthermore, the activity contributed to strengthening **transnational partnerships and institutional cooperation** among project beneficiaries. These enhanced linkages are expected to support the co-creation, piloting, and validation of training modules, as well as the effective deployment of digital learning platforms and resources.

Overall, the Moldovan Study Visit complements the Italian experience by providing a context-specific perspective on the **challenges and opportunities associated with sustainable reconstruction** in partner countries. It reaffirms the **strategic importance of aligning national systems with European policy frameworks** while ensuring flexibility, inclusiveness, and responsiveness to local needs, thereby contributing to the achievement of the REBUILD project’s overarching objective of promoting green, resilient, and inclusive **development within the VET sector**.

3. SITES VISITED



Vorniceni village (Straşeni district)

Wooden Church "Saint Archangels Mihail and Gavril"

Rogojeni (Şoldăneşti district):

Moldovan Hobbiton (Rural historic site of historic human shelters).

Soroca:

The Soroca Fortress.

Mereşeni (Hînceşti district):

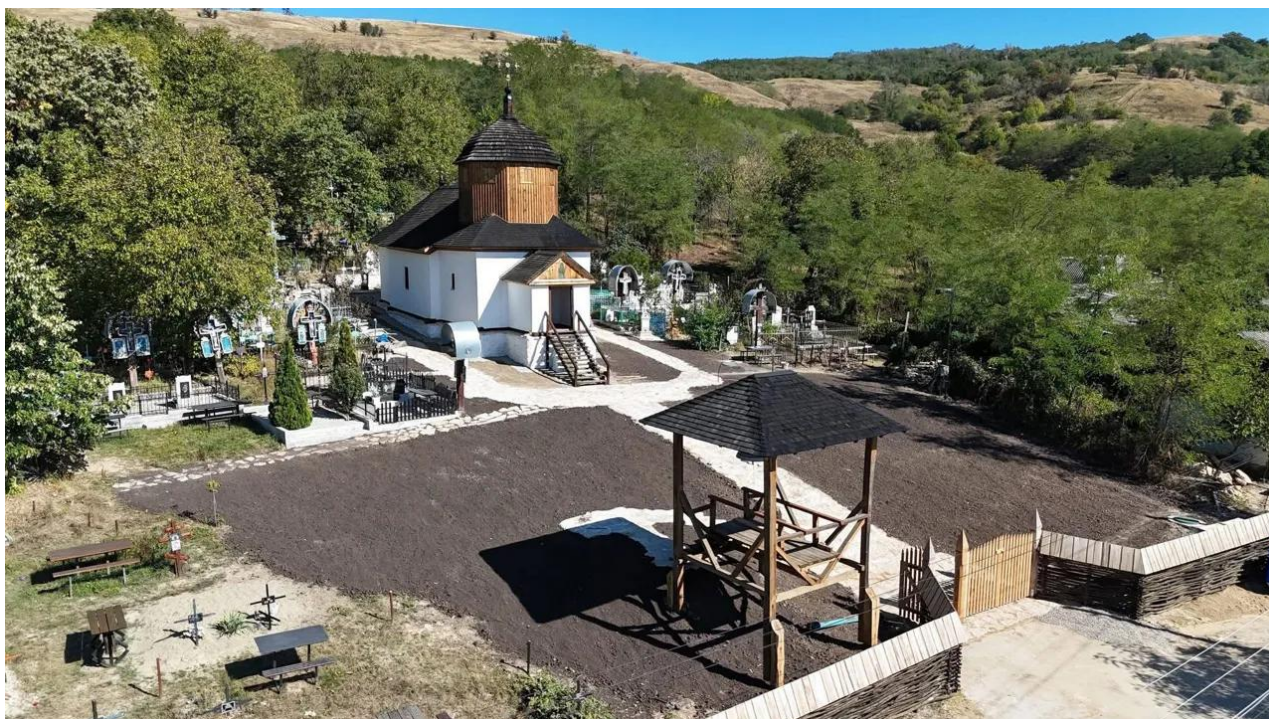
1. Steam Mill
2. Manuc Bei Manor

Chişinău:

State Pedagogical University "I. Creangă"

I. WOODDEN CHURCH "SAINT ARCHANGELS MIHAIL AND GAVRIL", VORNICENI VILLAGE

The wooden church “Saint Archangels Mihail and Gavril,” located in Vorniceni village (Strășeni district), stands as a significant example of Moldova’s vernacular architectural heritage and serves as a relevant case study within the REBUILD project’s focus on sustainable reconstruction and heritage preservation. Originally constructed in the 17th century, the monument embodies traditional building techniques, locally sourced materials, and spatial configurations characteristic of rural ecclesiastical architecture in the region. The recent restoration provides valuable insights into the integration of traditional construction methods into contemporary conservation practice. The intervention emphasized the use of natural, locally available resources—timber, as well as mixtures of straw, clay, lime, ash, and other components—and relied on artisanal craftsmanship to safeguard both structural integrity and historical authenticity. This approach aligns with European principles of cultural heritage protection, sustainability, and resource efficiency.



Regarding the year of construction of the monument, several versions exist. One account, preserved by the village elders, links the church’s foundation to the year 1685: “Around 1685, the inhabitants, decided to build a church in the village and succeeded in erecting a small wooden church dedicated to the Holy Archangels Mihail and Gavril, modeled after the monastery built by Petru Rareș, located at the edge of the forest—a customary practice in those times to ensure protection from the Turks.” Another version attributes the church’s origin to the early 19th century, based on the inscription

above the entrance door in the narthex, which bears the year 1839 (likely related to repair works). Nevertheless, the most credible tradition designates 1685 as the year of construction.

Over time, several priests served the parish, including Gheorghe Calalb and Ștefan Tverdievichi. Archival documents describe Tverdievichi as a swindler who illegally collected money from the villagers. He reportedly exercised significant influence in the community, acting simultaneously as lawyer, merchant, and commission agent, which prompted repeated complaints from peasants to the authorities. The church also played a fundamental role in local education, with a parish school established in 1862 within its pews.

During the Soviet period, marked by militant atheism, places of worship were systematically neglected. Authorities forbade locals—through administrative harassment and criminal cases—from repairing or maintaining churches, particularly wooden ones. Of the 181 wooden ecclesiastical monuments dating from the 17th century to 1828 that still existed in 1944 (the year of Soviet occupation), only 21 remained by 1991. Today, just 17 survive, most in poor physical condition.

The wooden church has not been used since 1943. Attempts by the local community to carry out routine maintenance during the 1960s–1980s were obstructed by the Soviet administration, which, through the prosecutor's office, and party activists, discouraged, intimidated, or punished the most active villagers. The financial collapse of the 1990s further prevented both authorities and locals from resuming initiatives to preserve or restore the monument.

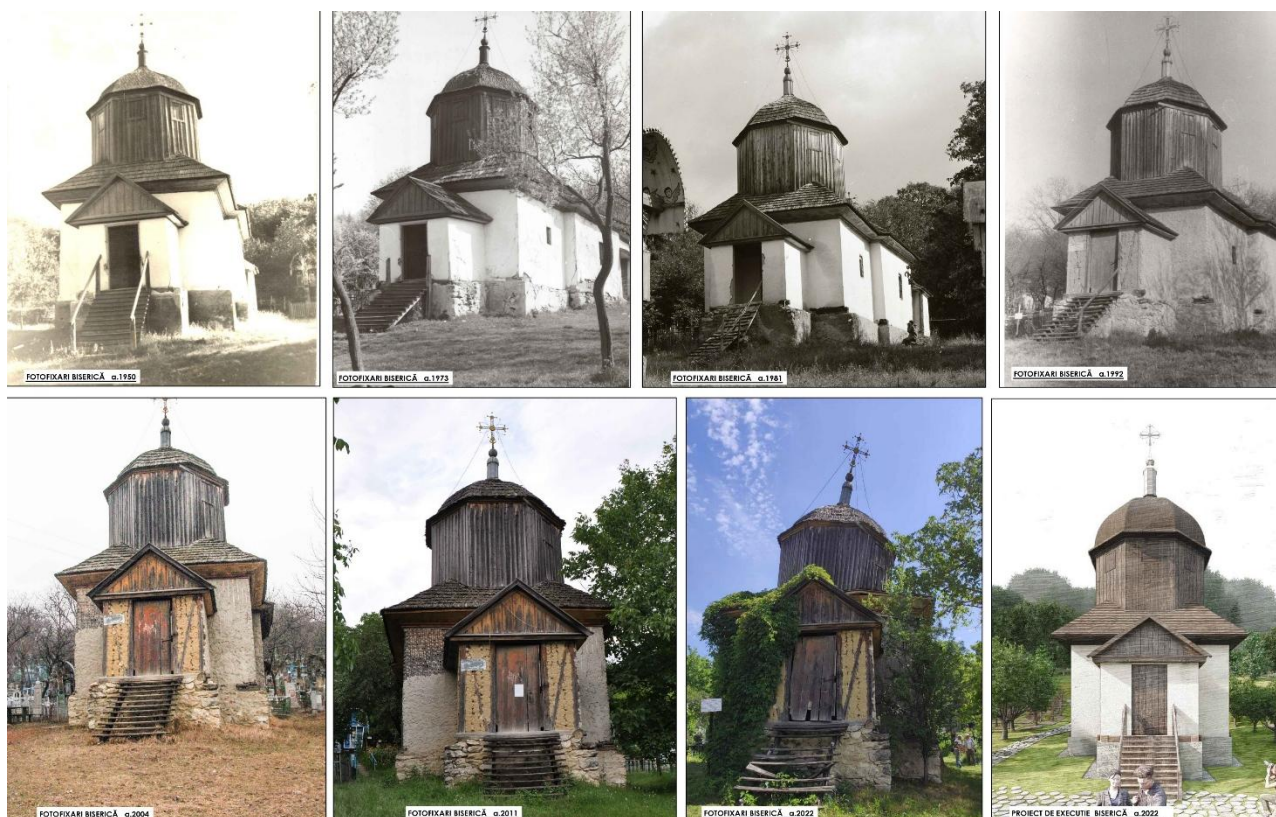


Figure 1: Images highlighting the evolution of the appearance of the wooden church between 1950-2022

In **1839**, major architectural modifications were made:

- A **porch** was added at the entrance, along with a new wooden staircase.
- A **small annex** was built on the south side of the altar.
- An **octagonal tower** was constructed above the narthex, significantly altering the church's appearance.

After this period, only minor maintenance works were carried out. The church was **abandoned in 1942** following the construction of a larger stone church in the village.

Between **1978–1981**, repair works were undertaken, including replacing the roof shingles and modifying some decorative elements, though the works remained unfinished.

Due to neglect and improper interventions, the building deteriorated significantly in the following decades. In the **1990s**, an inappropriate restoration attempt using wooden grilles and cement plaster accelerated structural decay by trapping moisture.

In **1994–1995**, the original wooden bell tower collapsed and burned, being replaced with a metal replica.

Due to the advanced state of degradation, the church was dismantled. Most of the structural elements were preserved, while those that could not be recovered were replaced. The wooden

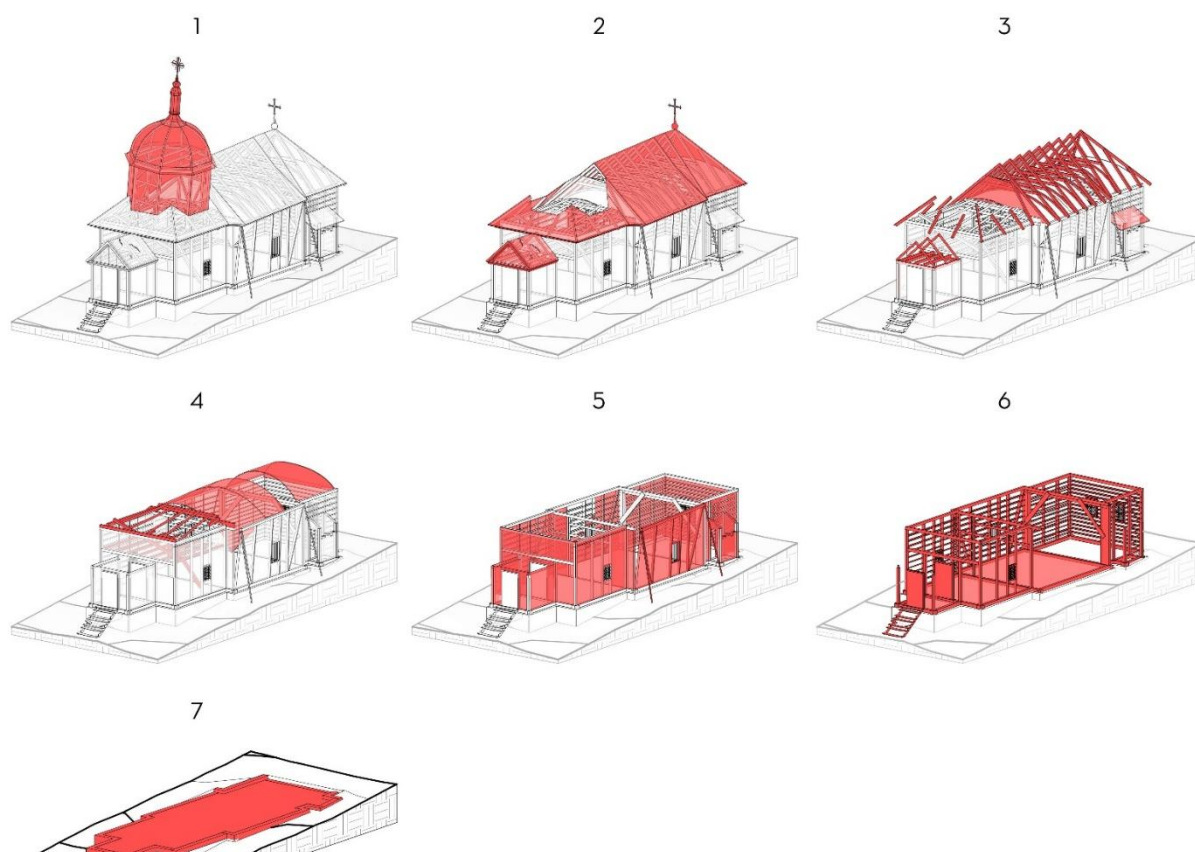


Figure 2: Necessary cleaning and dismantling interventions

components were substituted with timber of the same species as the original and processed in a similar manner. The traditional joining methods were also maintained.

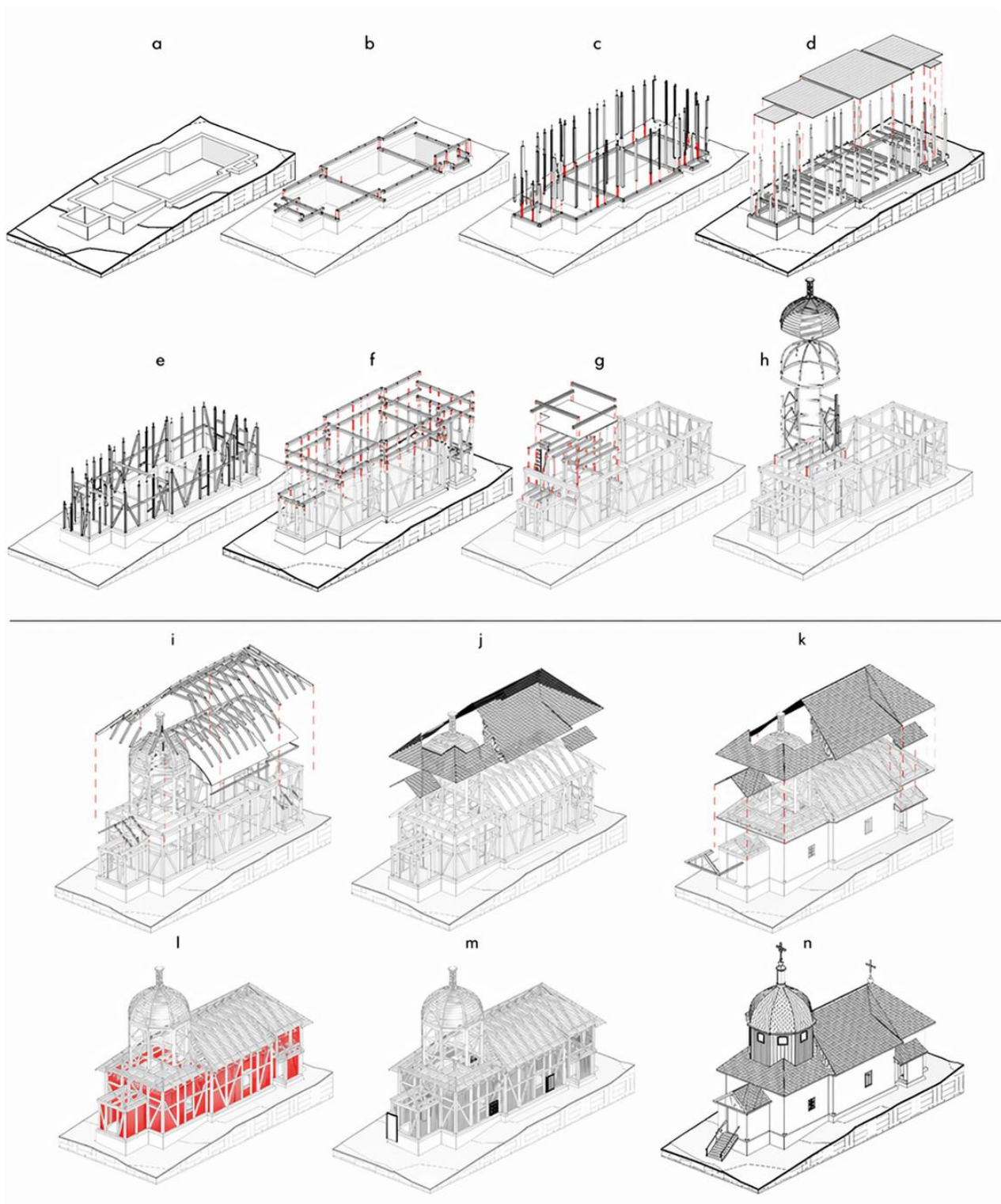


Figure 3: The steps for installation of the renovated wooden structure



Figure 4: Images representing the first steps in the restoration process



Figure 5: Restoration process



Figure 6: Representation of the church before and after the restoration process

The restoration of the wooden church offers valuable lessons for post-disaster reconstruction scenarios, particularly in rural or resource-constrained contexts where traditional materials and techniques remain accessible. The approach demonstrates how selective dismantling, documentation, and reassembly can be effectively applied after events such as earthquakes, fires, or structural collapse. The reuse of original elements, combined with compatible replacements, reflects principles aligned with internationally recognised methodologies such as minimum intervention, material compatibility, and reversibility.

Professionals working in such contexts require a combination of skills, including:

- expertise in heritage conservation and structural assessment of timber buildings;
- knowledge of traditional construction techniques and natural materials;
- capacity for on-site decision-making in uncertain conditions;
- ability to coordinate with local communities and artisans.

II. MOLDOVAN HOBBITON. THE RURAL HISTORIC SITE OF HISTORIC HUMAN SHELTER FROM ROGOJENI VILLAGE



Figure 7: "Habiton Moldovenesc" historic site



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The site known as “Hobbiton Moldovenesc” represents a relevant case study for the development of post-disaster housing solutions, particularly in rural areas affected by natural hazards such as landslides, extreme weather events, or displacement. Its design approach—characterised by integration into the natural landscape and the use of earth-based construction techniques—demonstrates how low-impact, locally adaptable solutions can be effectively applied in both emergency and recovery phases. The practices observed at the site align with nature-based and vernacular reconstruction approaches, which emphasise environmental integration, thermal efficiency, and the use of locally available materials. These methods are increasingly recognised within European and international frameworks for post-disaster recovery due to their cost-effectiveness, sustainability, and cultural relevance. In reconstruction contexts, such approaches can contribute to: the rapid deployment of temporary or semi-permanent shelters; the transition towards durable, climate-resilient housing solutions; the promotion of community-led and participatory rebuilding processes. The revitalisation of “Hobbiton Moldovenesc” further illustrates the effective application of traditional construction techniques and locally sourced materials. The interventions were designed to preserve the original architectural concept and authenticity of the site, while demonstrating the potential for adaptive reuse of rural heritage assets. This contributes not only to environmental sustainability but also to the safeguarding of cultural identity. Additionally, the project functioned as a practical learning environment within the Vocational Education and Training (VET) sector. Student involvement in restoration and construction activities provided hands-on experience, strengthening technical competencies in areas such as earthen construction, passive environmental design, and sustainable resource management. It also supported the integration of experiential learning methodologies and enhanced skills in participatory design and community engagement, which are essential for implementing resilient and context-sensitive reconstruction strategies.

III. THE SOROCA FORTRESS, SOROCA

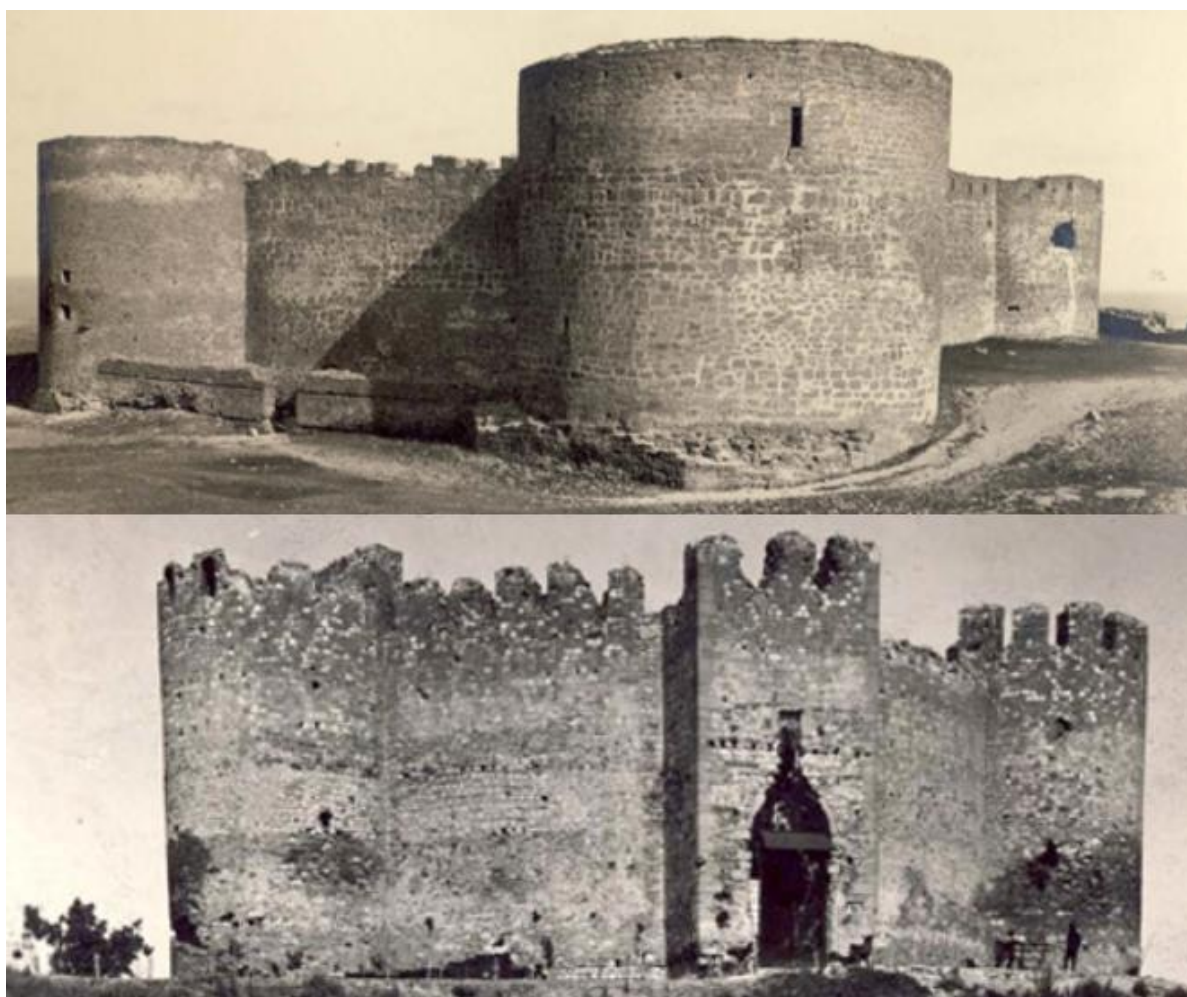


Figure 8: Soroca fortress before restoration

Soroca Fortress is one of the most important medieval monuments in the Republic of Moldova and a landmark of national cultural heritage. Located on the banks of the Dniester River in the town of Soroca, the fortress was originally built in wood in the late 15th century under Stephen the Great and later rebuilt in stone in the 16th century under Petru Rareș. Its circular plan, five defensive towers, thick masonry walls, and strategic riverfront position make it one of the most distinctive fortified structures in the region. Today, it is recognised not only for its military and architectural value, but also for its role in shaping Moldova's cultural identity and tourism offer.



Figure 9: Images from the restoration project of Soroca Fortress

The restoration of Soroca Fortress has been carried out in phases, largely with European support. A first major phase was implemented between 2013 and 2015 through the cross-border project **“Medieval Jewelleries: Khotyn, Soroca, Suceava”** under the Romania–Ukraine–Moldova programme. According to official project summaries, this phase included the restoration of three circular towers and contributed to increasing the attractiveness of the fortress as a cultural tourism destination. Moldovan public reporting on the same intervention states that the works also included repairs to the guard road, waterproofing of the terrace above the cellars, repairs to the entrance stairs, landscaping of the courtyard and museum-related area, and rehabilitation of access roads to the fortress.

A second restoration phase was later launched under the project **“Ștefan the Great, common history – shared heritage, Soroca–Vaslui”**, with procurement published by the Romania–Republic of Moldova programme and Soroca District Council as beneficiary. Public reporting in late 2023 described Soroca Fortress as being in a second stage of restoration supported predominantly by EU funding. These later actions indicate that restoration of major heritage assets is not a one-off intervention, but a multi-stage process requiring long-term planning, financing, and institutional continuity.



Figure 10: Restoration process of Soroca Fortress

The restoration of Soroca Fortress involved a combination of conservation and technical interventions, including structural consolidation, waterproofing, repair of circulation elements, and site improvement. Initial works focused on rehabilitating towers and restoring the defensive circulation route, while later phases addressed masonry strengthening through mortar renewal, ensuring structural stability while preserving the historical fabric.

The restoration of Soroca Fortress provides a strong reference for post-disaster interventions on large-scale heritage structures, particularly those affected by structural degradation, conflict, or environmental exposure. The phased approach implemented at the site reflects best practices in long-term recovery planning, where interventions are prioritised based on urgency, available funding, and technical feasibility. The methodologies applied—such as structural consolidation, staged restoration, and continuous monitoring—are directly transferable to post-disaster contexts, where heritage assets often require gradual recovery rather than immediate full reconstruction. The project also illustrates the importance of cross-border cooperation and institutional coordination, which are critical in large-scale recovery efforts. From a professional perspective, such contexts require: advanced skills in structural analysis of historic masonry; knowledge of risk assessment and damage evaluation methodologies; experience in project phasing and heritage management planning; ability to work within multidisciplinary and international teams.

IV. STEAM MILL, MEREȘENI VILLAGE

The steam-powered mill was constructed at the initiative of the landowner Serghei Leonard (of Greek, Phanariot origin), proprietor of the estate in the village of Mereșeni, Hâncești district (former Lăpușna county). The implementation of the project was entrusted to Efim Orlov as architect and Izot Orlov as mechanic, both residing at that time in Chișinău. They were, in fact, father and son, both having received professional training in their field at the Ekaterinburg School of Crafts (Екатеринбургская ремесленная школа), Russia. The construction lasted 3.5 years, from 1908 to 1912, when the mill was commissioned. The financial resources were provided exclusively by the landowner Leonard, while Efim and Izot Orlov acted as contractors and executors. The construction materials were sourced locally (the bricks were made from clay extracted in the village), whereas the timber was imported. The milling machinery itself was imported from Germany and installed personally by Izot Orlov. The mill was built in close proximity to a small lake, from which water was drawn for steam generation. Over time, the lake dried up and no longer exists. The mill produced wheat flour of all quality grades, semolina groats, as well as corn flour.



Figure 11: The steam mill from Mereșeni. A representation of the original building.



Figure 12: The building before restoration

The intervention on the steam mill in Mereşeni followed a structured approach combining cleaning, dismantling, restoration, and selective reconstruction.

The intervention on the steam mill in Mereşeni followed a structured approach combining cleaning, dismantling, restoration, and selective reconstruction, with a strong emphasis on preserving the original fabric of the monument. Architectural works included the removal of degraded elements (plaster, damaged masonry, carpentry, and roof components), followed by targeted restoration of masonry, openings, and structural details using traditional materials such as brick and hydraulic lime mortar. Surface treatments ensured durability while maintaining breathability and authenticity. Interior interventions focused on plaster restoration, masonry repair, and reconstruction of traditional flooring systems. Constructive solutions were based on preservation rather than major structural alteration, with no large-scale consolidation required. The roof structure was reconstructed using traditional wooden framing systems (rafters, purlins, braces), designed to



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ensure stability, load distribution, and durability. Protective treatments were applied to improve fire resistance and prevent biological degradation, while maintaining compatibility with the historic structure.

Architectural and Technical Interventions

The restoration process followed a phased methodology, beginning with cleaning and dismantling operations aimed at removing degraded materials and non-original interventions. This included the stripping of damaged plaster, dismantling of compromised masonry and carpentry elements, and removal of deteriorated roof structures. These preparatory works ensured that subsequent interventions were based on a clear understanding of the building's condition and structural behaviour. Restoration works focused on repairing and stabilising the existing masonry, reconstructing missing elements, and restoring original architectural features such as openings, staircases, and façade components. The use of traditional materials, including bricks compatible with the original fabric and hydraulic lime-based mortars, ensured both technical compatibility and preservation of authenticity. Surface treatments were applied to improve resistance to moisture, frost, and biological degradation, while allowing the structure to remain breathable. Interior interventions included masonry repairs, application of lime-based plasters, and reconstruction of traditional flooring systems using layered natural materials. These solutions reflect principles aligned with sustainable construction, including resource efficiency, low environmental impact, and compatibility with historic materials.

Constructive Solutions

The intervention strategy prioritised conservation over structural transformation, as no major consolidation works were required. Instead, the focus was placed on ensuring the stability and durability of the existing structure through careful repair and selective replacement of elements. The roof system was reconstructed using a traditional wooden framework, composed of structural elements such as rafters, purlins, braces, and supports designed to ensure proper load transfer and long-term stability. The use of traditional carpentry techniques and carefully selected timber reflects best practices in heritage restoration and contributes to maintaining the historical character of the building. Protective measures were integrated to enhance the performance of the structure, including treatments against fire and biological degradation, as well as waterproofing solutions. These interventions ensure compliance with modern safety requirements while remaining compatible with the original construction system.

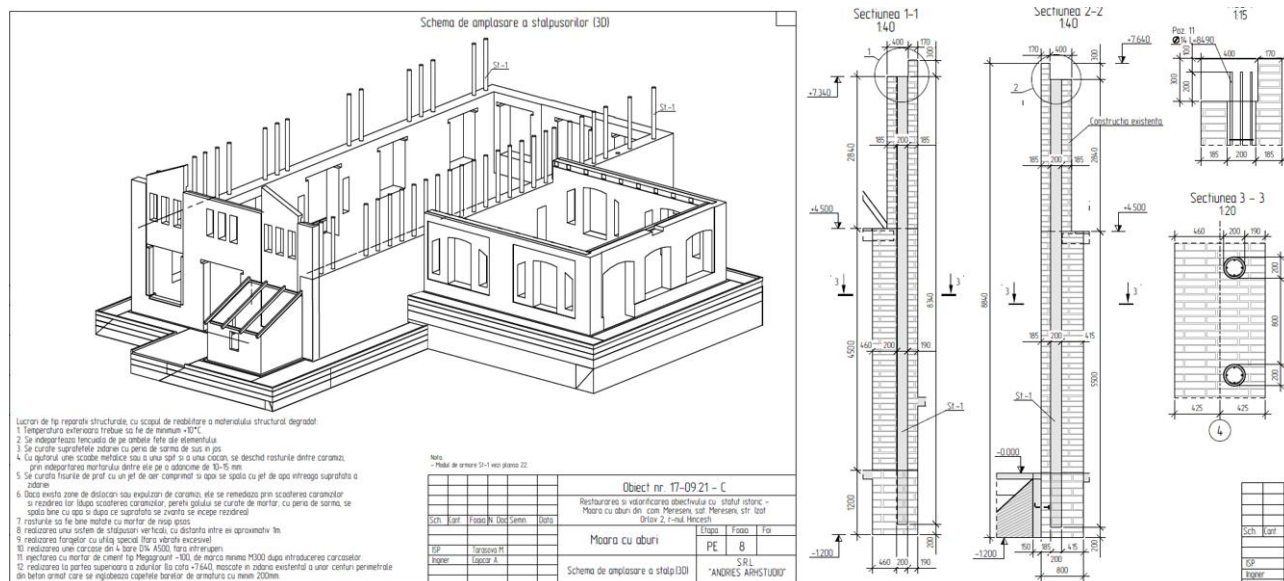


Figure 13: Representation of a method used for consolidating the structure

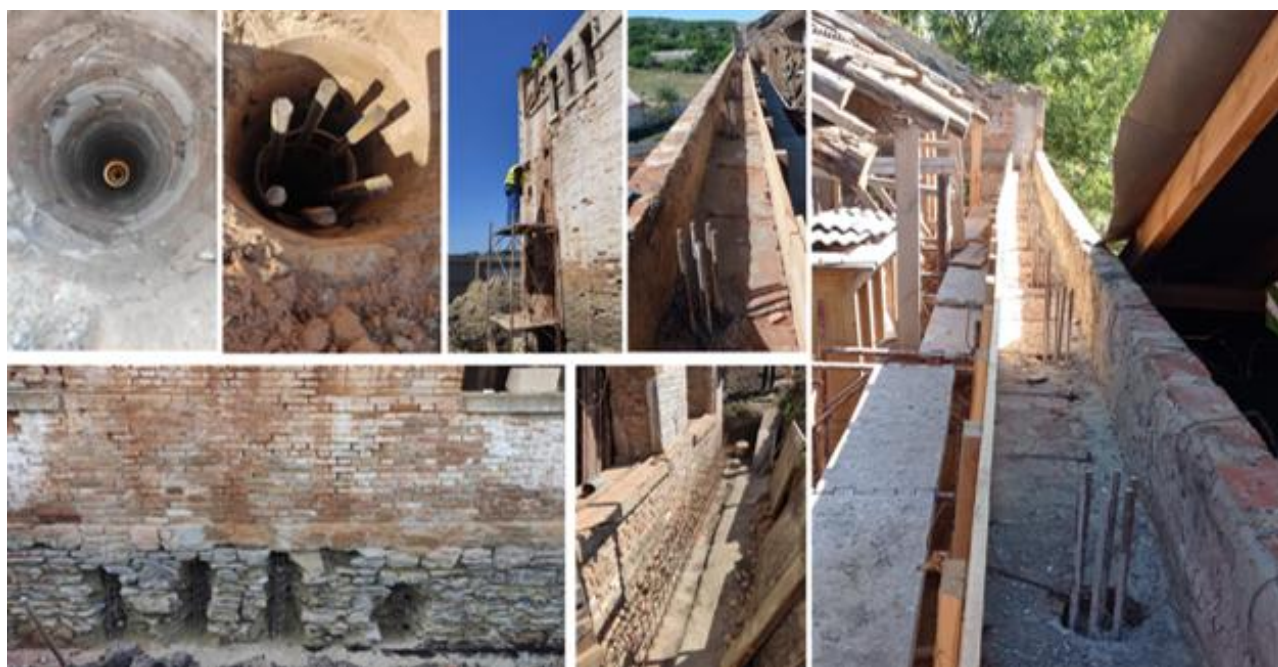


Figure 14: a Methods used for consolidating the structure



Figure 15: The process of consolidation



Figure 16: The end of the work. December 2023

V. MANUC BEI MANOR, HÎNCEȘTI

Manuc Bei Manor, located in Hîncești, is one of the most significant architectural and historical ensembles in the Republic of Moldova. The complex was founded in the early 19th century by Manuc Bei (Emanuel Mârzaian), an influential Armenian merchant, diplomat, and innkeeper known for his role in regional trade and political affairs within the Ottoman and Russian spheres. After his death in 1817, the estate was further developed by his descendants, notably under the guidance of architect Alexandru Bernardazzi, who contributed to the design of several buildings within the complex, including the Hunting Castle. Over time, the manor evolved into an important cultural and economic centre, before entering a period of decline during the 20th century due to changing political and socio-economic conditions.



Figure 17: The Manuc Bei manor before restoration

The restoration of Manuc Bei Manor, carried out primarily between 2012 and 2015, represents one of the most comprehensive heritage revitalisation projects in the country. Supported by European Union cross-border cooperation programmes and national funding, the intervention included **structural consolidation, restoration of façades and architectural elements, rehabilitation of auxiliary buildings, and landscape redevelopment**. Key components of the complex, including the main palace, the Hunting Castle, and service buildings, were restored and adapted for cultural and museum functions, ensuring their reintegration into the public domain.

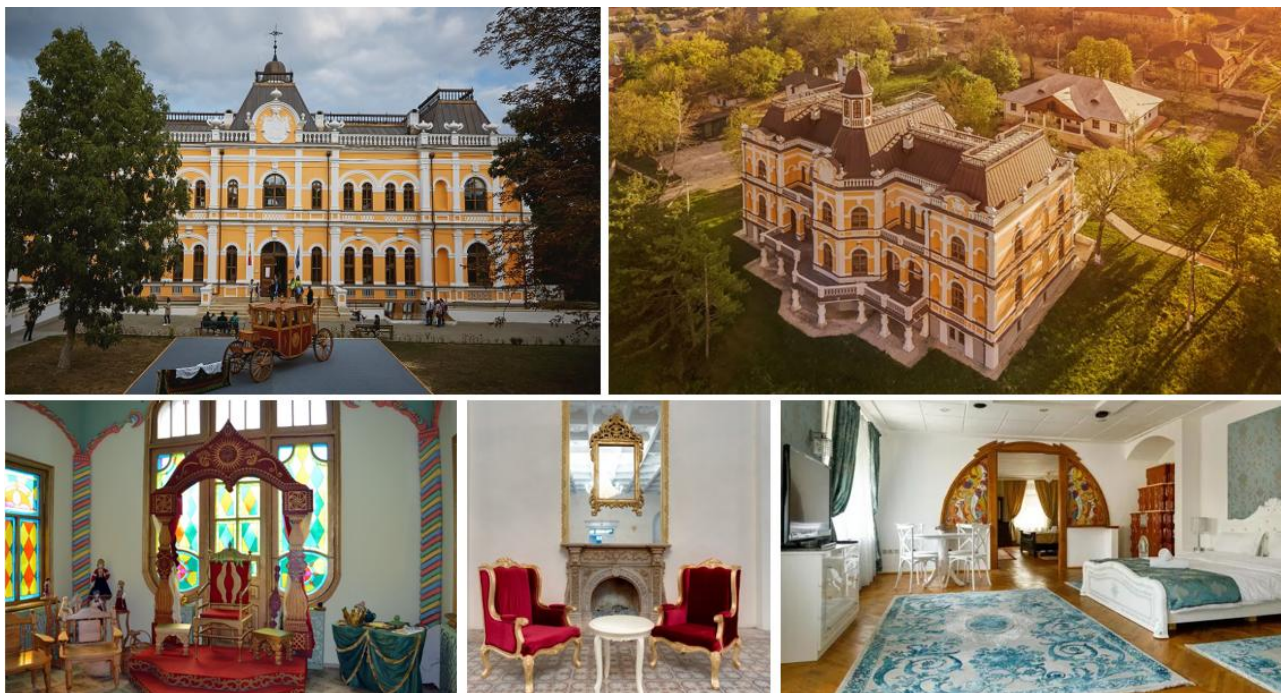


Figure 18. The Manuc Bei manor after restoration

From a technical perspective, the restoration combined **conservation principles with adaptive reuse strategies**, aiming to preserve the historical authenticity of the site while ensuring its functional sustainability. Works focused on stabilising structural elements, restoring decorative features, and using materials compatible with the original construction. The integration of the site into the regional tourism and cultural circuit demonstrates the potential of heritage assets to contribute to local economic development and social cohesion.

The restoration of Manuc Bei Manor illustrates how complex heritage sites can be revitalised following periods of severe degradation, offering relevant insights for post-disaster recovery of cultural assets. The integration of conservation and adaptive reuse strategies demonstrates how historical buildings can regain functionality while maintaining authenticity, an approach frequently required after disasters affecting cultural infrastructure.

VI. STATE PEDAGOGICAL UNIVERSITY “ION CREANGĂ”

As part of the study visit in Moldova, participants carried out a technical visit to the State Pedagogical University “Ion Creangă”, where a major reconstruction and extension project was presented by the project team. The intervention concerns the vertical extension of an existing building, representing a relevant example of contemporary sustainable construction integrated into an existing educational infrastructure.

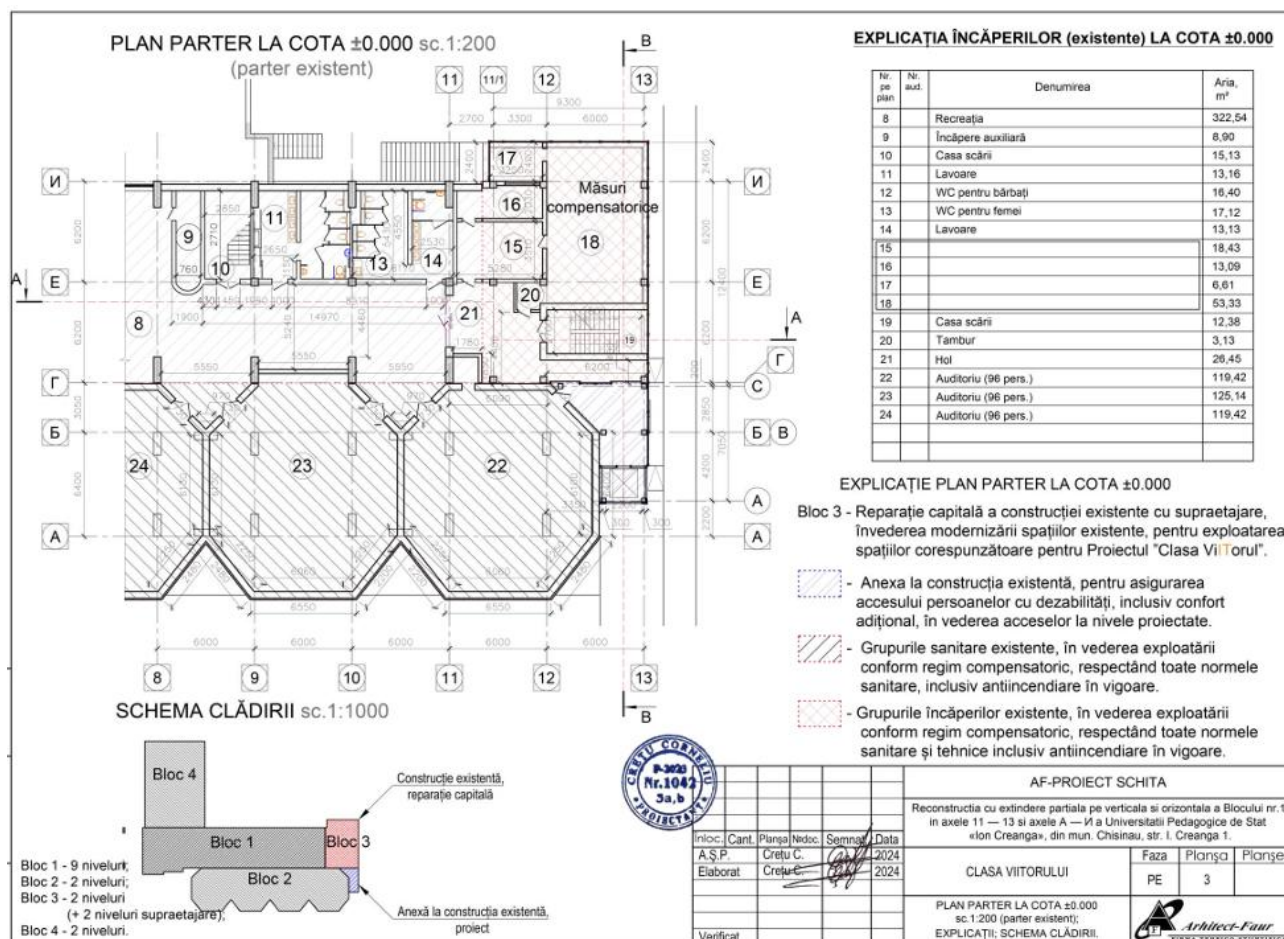


Figure 19: Ground Floor Plan for the existing building

The project proposes the **reconstruction and vertical extension of the existing structure**, combined with a modern architectural addition designed to accommodate new educational functions. The intervention targets the **modernisation of existing spaces and the creation of new functional areas**, including flexible learning environments such as open-space classrooms and multipurpose educational facilities.

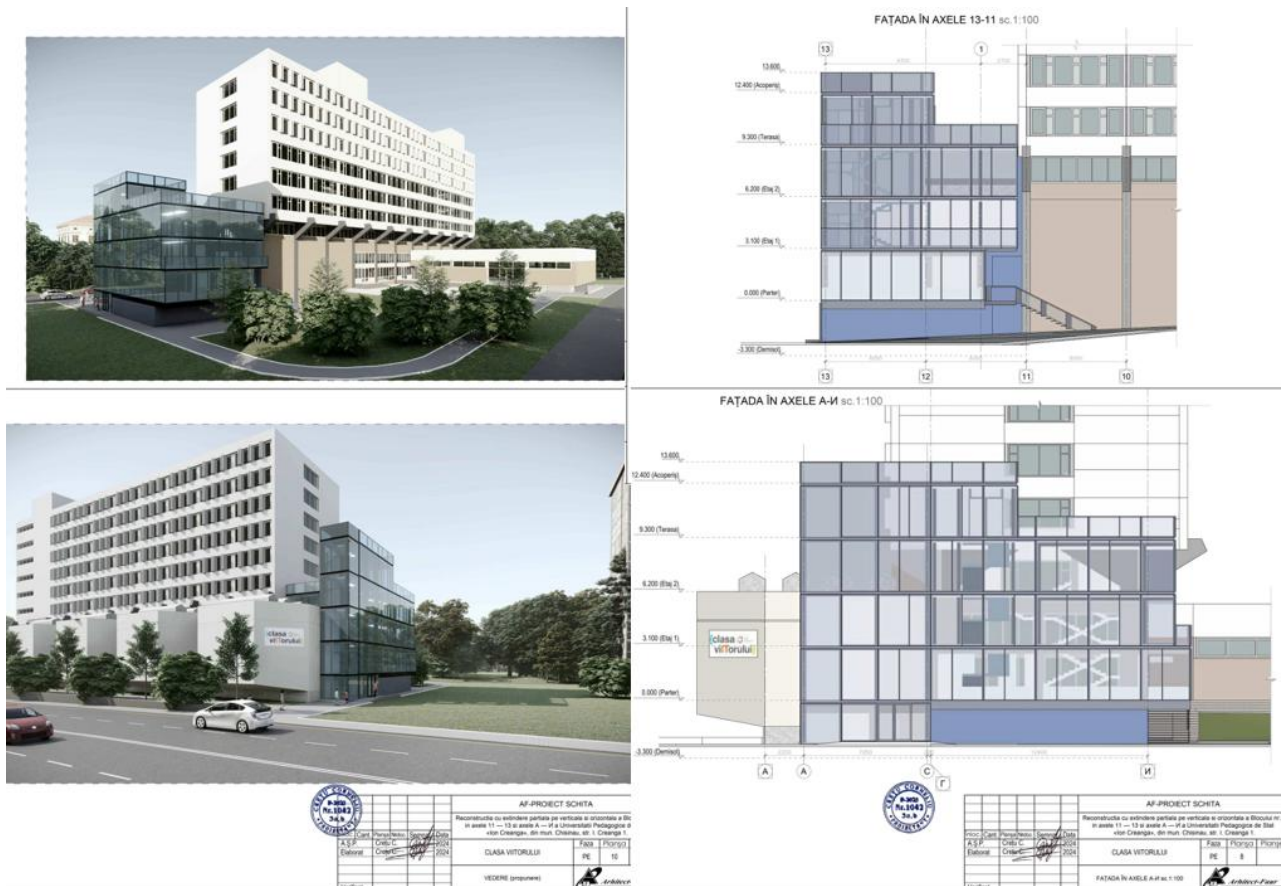


Figure 20 Images from the project proposal

From a technical perspective, the project involves building on top of an existing extension, which requires careful consideration of load transfer, structural capacity, and integration with the existing system. The design incorporates a multi-level structure with clearly defined vertical circulation cores and structural elements ensuring stability and safety. The solutions highlights the use of modern construction techniques and materials, including reinforced structural systems, glazed curtain walls, and energy-efficient envelope solutions. The roof is designed as an accessible terrace, adding functional value and contributing to the efficient use of space.

An important aspect presented during the visit was the use of digital tools in the design and planning process, including 3D modelling and detailed technical visualisations.

In parallel, the project is directly linked to the development of modern educational environments, aligned with current trends in digital learning and flexible teaching methodologies. The integration of innovative spaces, such as open learning areas and technologically equipped classrooms, reflects the transition towards more adaptive and student-centred educational models.

Overall, the project at the Pedagogical University “Ion Creangă” illustrates how **sustainable reconstruction can be applied in the education sector**, contributing to improved infrastructure, enhanced learning environments, and long-term institutional development.

4. EXPERTS AND TECHNICAL GUIDES INVOLVED IN THE STUDY VISIT

- Wooden Church "Saint Archangels Mihail and Gavril" – Vorniceni, Strașeni.
Architect Andries Mihail
- Moldovan Hobbiton(Rural historic site of historic human shelters) - Rogojeni, Șoldănești.
Expert in cultural heritage management - Ion Ștefăniță
- The Soroca Fortress - Soroca.
Expert in cultural heritage management - Ion Ștefăniță
- Steam Mill – Mereșeni, Hîncești.
Architect Andries Mihail
- Manuc Bei Manor – Hîncești.
A representative of the mansion administration.
- State Pedagogical University "I. Creangă" – Chișinău.
Architect Crețu Corneliu
Architect Borozan Valentin

5. PICTURES





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6. CONCLUSIONS

The Study Visit in Moldova represented a significant milestone within the implementation of the REBUILD – Capacity Building Program for Sustainable Reconstruction project, providing partners with a comprehensive understanding of the challenges, opportunities, and practical approaches related to sustainable reconstruction, heritage preservation, and vocational education and training (VET) development in the Eastern Neighbourhood context.

Through institutional meetings, technical exchanges, and on-site visits to restoration and revitalisation projects, participants were able to analyse real examples of reconstruction processes based on sustainability principles, traditional craftsmanship, resilience, and increasing integration of innovative and digital approaches. The activities highlighted how the preservation and adaptive reuse of cultural heritage can contribute not only to environmental sustainability and resource efficiency, but also to social cohesion, territorial identity, local economic development, and community resilience.

The study visit demonstrated the relevance of combining traditional knowledge and locally available materials with modern engineering methods and European quality standards. The restoration experiences observed in Vorniceni, Soroca, Mereșeni, and Chișinău showed practical applications of circular construction principles, low-impact building solutions, and nature-based approaches that can be adapted to post-crisis and post-disaster reconstruction scenarios. In particular, the use of compatible materials, selective dismantling and reconstruction techniques, and the integration of energy efficiency and conservation measures reflected methodologies aligned with European sustainability objectives and international heritage conservation principles.

The exchanges among partners also reinforced the importance of strengthening the capacity of VET providers and trainers in areas directly connected to the green and digital transitions of the construction sector. Discussions during the visit highlighted the growing need for competences related to sustainable construction techniques, heritage restoration, energy-efficient renovation, digital modelling and data-driven management systems. These elements are fully consistent with the objectives of REBUILD and with broader European policy frameworks.

Furthermore, the study visit provided useful insights and practical examples that may support the future development of the REBUILD training programme and related digital learning materials. Field observations, institutional exchanges, and discussions with experts contributed to a better understanding of local needs, sustainable reconstruction practices, and skills gaps within the construction and VET sectors of the partner countries.

Another important outcome of the activity was the strengthening of transnational cooperation among project partners, experts, educational institutions, and stakeholders from the construction sector. The visit fostered peer learning, exchange of experiences, and long-term collaboration among organisations from Moldova, Ukraine, Georgia, Italy, Poland, and Austria, reinforcing the shared commitment to sustainable, inclusive, and resilient reconstruction processes.

Overall, the Moldova Study Visit successfully complemented the broader objectives of REBUILD by connecting education, innovation, sustainability, and practical experience. The activity confirmed the strategic importance of international cooperation and capacity building in supporting the



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modernisation of VET systems and preparing professionals capable of addressing the environmental, technological, and social challenges associated with future reconstruction processes.

The knowledge and experiences gained during the visit will contribute directly to the next phases of the project, supporting the development, testing, and dissemination of innovative training methodologies and strengthening the long-term impact and sustainability of REBUILD across the partner countries.



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