



## Deliverable 4.1:

# Online platform supporting the activities of SHEERenov+ one-stop shops

*Responsible partner: EnEffect*

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## Executive Summary

The SHEERenov+ web platform, accessible at address [www.sheerenovplus.eu](http://www.sheerenovplus.eu), has been developed to support the implementation of the One-Stop Shop (OSS) model and to facilitate citizens’ access to high-quality services for energy renovation of residential buildings. Through a modern, user-friendly interface and a variety of digital tools, the platform provides both information and opportunities for real interaction between homeowners, experts, partners, and institutions. It combines public and internal modules tailored to the needs of different user groups.

Key functionalities include an online calculator for assessing energy savings, a rich library of documents and best practices, visualization of buildings covered by OSS, and a partner registration system. The individual OSS pages and the internal administrative module enable efficient management of renovation processes, documentation of results, and building trust with users. All modules are designed with a strong focus on security, user personalization, and compatibility with future upgrades.

The SHEERenov+ platform serves as a foundation for the sustainable development and expansion of OSS activities. Its role goes beyond providing information – it supports real planning and implementation of energy efficiency measures, stakeholder engagement, and traceability of outcomes. It also has the potential to integrate additional functionalities such as data from Energy Performance Certificates (EPCs) and digital building logbooks. Thus, with the advancement of the market environment and the availability of sustainable funding programmes for building renovation, the platform can become a key element in the digital transformation of the building sector in the context of the green transition in Bulgaria.

## **1. Introduction**

The SHEERenov+ platform was created as a central digital tool to support citizens and local partners in the process of energy renovation of residential buildings. Developed within the framework of the SHEERenov+ project, its goal is to provide access to high-quality consultancy services, transparent and up-to-date information, and effective coordination among all involved stakeholders – homeowners, municipalities, technical experts, and financial institutions.

The platform functions as a digital portal for the network of One-Stop Shops (OSS), which offer services in diagnostics, planning, coordination, and oversight of renovation processes for both single-family and multi-family residential buildings. Through a wide range of functionalities – including an online calculator, a document library, a building map, individual profiles for partners and OSS centres, and administrative modules – the platform supports informed decision-making for all stakeholders involved.

This report presents the structure, content, and technical features of the SHEERenov+ web platform, describing its key modules, user interface, and functionalities. It aims to provide a complete overview of the fully developed platform and to outline its role in the sustainable development and potential national-scale expansion of the OSS model.

## **2. Key Principles and Platform Architecture**

The SHEERenov+ web platform has been developed in accordance with modern standards for reliability, security, and accessibility. It is web-based and does not require users to install additional software, offering full functionality on both desktop and mobile devices. The interface is intuitive and user-friendly, tailored to the needs of diverse target groups – from professionals to citizens with no technical background.

The platform follows a modular architectural approach and object-oriented programming principles (including SOLID), ensuring flexibility, ease of maintenance, and future scalability. Its modular structure allows individual features to function independently, which facilitates updates, integration with external systems, and the implementation of new services in response to changing regulatory and market conditions.

The system design applies the MVC (Model-View-Controller) architectural model, which separates logic, visualization, and data management. This allows for efficient development, better control over system performance, and the option for phased upgrades. The platform supports open communication standards, guaranteeing its compatibility with future software solutions and enhancements, including those aimed at expanding the OSS service model.

The system defines different types of users, each with specific access levels and roles:

- **Administrator** – responsible for maintenance, publishing and content management, approving registrations, and managing users;
- **OSS Operator (first-level user)** – has access to all platform functionalities, including data entry and processing;
- **Partner (second-level user)** – companies and organizations that register to join the OSS network, submit documents, and maintain their profile;
- **General User (third-level user)** – citizens who can use the public modules of the platform and benefit from tools such as the online calculator, document library, and building map.

This flexible structure enables the platform to serve a wide range of users while maintaining high standards of security, personalization, and service efficiency.

### 3. Main Modules and Functionalities

The SHEERenov+ platform is composed of several interconnected modules, each addressing specific user needs. These modules combine informational, analytical, and administrative tools, creating a comprehensive digital environment for managing the building renovation process.

#### 3.1. Homepage (Public Module)

The homepage of the SHEERenov+ platform serves as a central point for orienting and informing visitors. It is designed to immediately present the platform's primary purpose: delivering integrated consultancy services for the energy renovation of residential buildings through the network of One-Stop Shops (OSS).

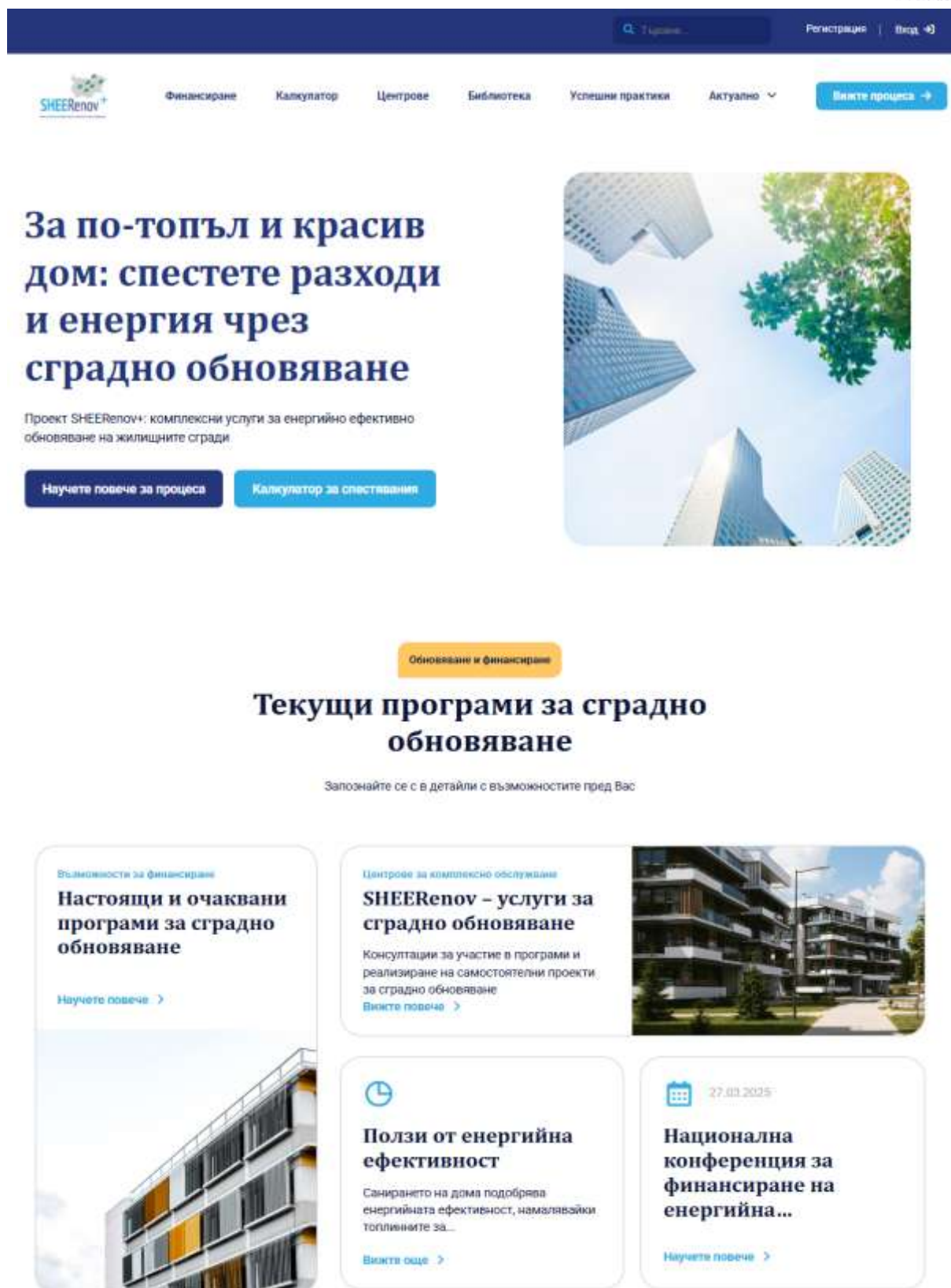
At the top of the page is the main navigation menu, providing access to all key functionalities of the platform, including "Customer Journey," "Documents and Best Practices," "Calculator," "Centers," and "Become a Partner."

Below the main banner, which includes a short description and visual highlight, the page is structured into separate tile sections that summarize the most important topics:

- **What is an OSS?** – introduces the concept of integrated service provision;
- **Financing** – presents current programmes for financing building renovation projects;
- **Benefits of Energy Efficiency** – provides a brief overview of what homeowners can expect from renovation projects;
- **Latest News** – links to the most recent news items available on the platform;
- **Renovation Process** – leads to a step-by-step guide that homeowners can follow;
- **Calculator** – directs users to the online tool for estimating potential savings.

At the bottom of the page, featured news and events are displayed as short previews linking to full articles, alongside an embedded interactive map showing buildings covered by the OSS network. The footer contains information about the funding programme, project partners, and key contact details.

The homepage is designed for quick orientation, accessibility for various user groups, and to encourage active engagement with the other modules of the platform.



The screenshot shows the homepage of the SHEERenov+ online platform. The header is dark blue with a search bar, 'Регистрация', and 'Вход' links. Below the header is a navigation bar with links: 'Финансиране', 'Калкулатор', 'Центрове', 'Библиотека', 'Успешни практики', 'Актуално', and a 'Вижте процеса' button. The main content area features a large headline: 'За по-топъл и красив дом: спестете разходи и енергия чрез сградно обновяване'. Below this is a sub-headline: 'Проект SHEERenov+: комплексни услуги за енергийно ефективно обновяване на жилищните сгради'. There are two buttons: 'Научете повече за процеса' and 'Калкулатор за спестявания'. To the right is a large image of modern buildings. Below this is a section titled 'Обновяване и финансиране' with the headline 'Текущи програми за сградно обновяване' and a sub-headline 'Запознайте се с в детайли с възможностите пред Вас'. This section contains four cards: 1. 'Възможности за финансиране' with the headline 'Настоящи и очаквани програми за сградно обновяване' and a 'Научете повече' link. 2. 'Центрове за комплексно обслужване' with the headline 'SHEERenov – услуги за сградно обновяване' and a 'Вижте повече' link. 3. 'Ползи от енергийна ефективност' with a clock icon, a sub-headline 'Санитарното на дома подобрява енергийната ефективност, намалявайки топлините за...', and a 'Вижте още' link. 4. 'Национална конференция за финансиране на енергийна...' with a calendar icon, the date '27.03.2025', and a 'Научете повече' link. Each card also features a small image of a modern building.

### 3.2. “Customer Journey” Module

This module is designed as an interactive guide for homeowners, illustrating the renovation process step by step. Its core feature is a flowchart, which displays the following elements when a specific step is selected:

- a brief description of the required actions;
- relevant documents and templates (where applicable);
- the role of the OSS at that particular stage.

The module enhances awareness, builds user trust, and encourages active participation in the renovation process. It is based on the project's Organizational Guide, adapted into a clear and visually engaging format.



The screenshot displays the SHEERenov+ website interface. At the top, there is a navigation bar with links: Финансиране, Калкулатор, Центрове, Библиотека, Успешни практики, and Актуално. A button 'Вижте процеса' is on the right. Below the navigation bar is a yellow button 'Създайте мечтания дом'. The main heading is 'Вашият процес на енергийно ефективно обновяване'. Below this is a subtext: 'Потърсете Център за комплексно обслужване (ЦКО), който ще Ви преведе през целия път'. There are three numbered steps in colored boxes: 1. Планиране (yellow), 2. Финансиране (green), and 3. Изпълнение (blue). Each step has a 'Научете повече' link. The 'Планиране' section is expanded, showing a list of steps on the left and detailed text on the right. The left list includes: Стъпка 1: ПЪРВАТА КРАЧКА КЪМ ЕНЕРГИЙНО ОБНОВЯВАНЕ, Стъпка 2: ВЗАИМОДЕЙСТВИЕ С ЦЕНТЪР ЗА КОМПЛЕКСНО ОБСЛУЖВАНЕ (ЦКО), Стъпка 3: ОЦЕНКА НА ДОПУСТИМОСТТА НА СГРАДАТА, Стъпка 4: РАЗЯСНИТЕЛНИ СРЕЩИ И КОНСУЛТАЦИИ ЗА НЕОБХОДИМОСТТА ОТ ОБНОВЯВАНЕ, and Стъпка 5: НАМИРАНЕ НА ПЪРВИЧНА ПРОЕКТНА ДОКУМЕНТАЦИЯ. The right text describes the process, mentioning the role of the Energy Efficiency Center (EEC) and the importance of consulting with neighbors and experts.

### 3.3. Online Energy Efficiency Calculator

The online calculator is one of the platform's most valuable tools, developed to support citizens in making a preliminary assessment of the opportunities for energy renovation. Without requiring expert knowledge, it offers:

- selection of building type (single-family/multi-family);
- input of key data (number of floors, floor area, window type, heating system, etc.);
- selection of energy-saving measures (ESMs);
- estimation of potential energy savings, investment costs, and payback period;
- the ability to save and download results upon registration.

The calculator is designed to provide an initial orientation and does not replace a professional energy audit. However, it supports users in making informed decisions about possible renovation actions.

### 3.4. Library Module

The Library module is a structured document repository that provides direct access to essential materials supporting the building renovation process. It is divided into three sections:

- **Legislation** – key national and EU legislative acts relevant to energy efficiency (EE), renewable energy (RES), NZEB requirements, and heating system upgrades;
- **Templates** – editable sample forms and documents used throughout the renovation journey (e.g., declarations, applications, standard requests);
- **Guides** – practical instructions and procedural documents, including step-by-step manuals for homeowners and project coordinators.

Users can browse and download all materials freely. The design ensures clear navigation and efficient document retrieval, helping both individuals and professionals prepare for and implement renovation projects.

### 3.5. Best Practices Module (Case Studies)

The Best Practices module presents a growing collection of real-life renovation projects, highlighting successful examples from the SHEERenov+ network and beyond. Each case study is structured to include:

- **Building profile** – location, type, ownership structure;
- **Implemented measures** – types of energy efficiency improvements or renewable installations;
- **Financing and support** – details about funding sources and role of the local OSS;
- **Results** – estimated or achieved savings and qualitative outcomes.

The module includes a filter function, allowing users to explore examples by building type or location. It serves as both an inspiration and a practical reference for homeowners, local authorities, and market actors considering similar renovation steps.



## Библиотека

СПРАВОЧНА ЛИТЕРАТУРА    НОРМАТИВНИ ДОКУМЕНТИ

☒ Помагала    ☐ Информационни брошури    ☐ Изследвания

Разработване и управление на инвестиционни проекти за дълбоко сградно обновяване. Ръководство за общински ръководители и специалисти



Ръководство за създаване и внедряване на система за управление на енергията в общини



Общински стратегии за обновяване. Ръководство за общинските власти относно хармонизирането на техните стратегии с Плановите за действие за устойчива енергия и климат



Общинско енергийно планиране и управление. Наръчник



Активни за повече комфорт: ПАСИВНАТА СГРАДА. Информация за строителни предприемачи, изпълнители и клиенти



Пътят към почти нулевоенергийната сграда. Пасивна къща + BEI



Модел за разработване на дългосрочни национални стратегии за обновяване



Общинско енергийно планиране. Наръчник за общински ръководители и специалисти, 2010 г.



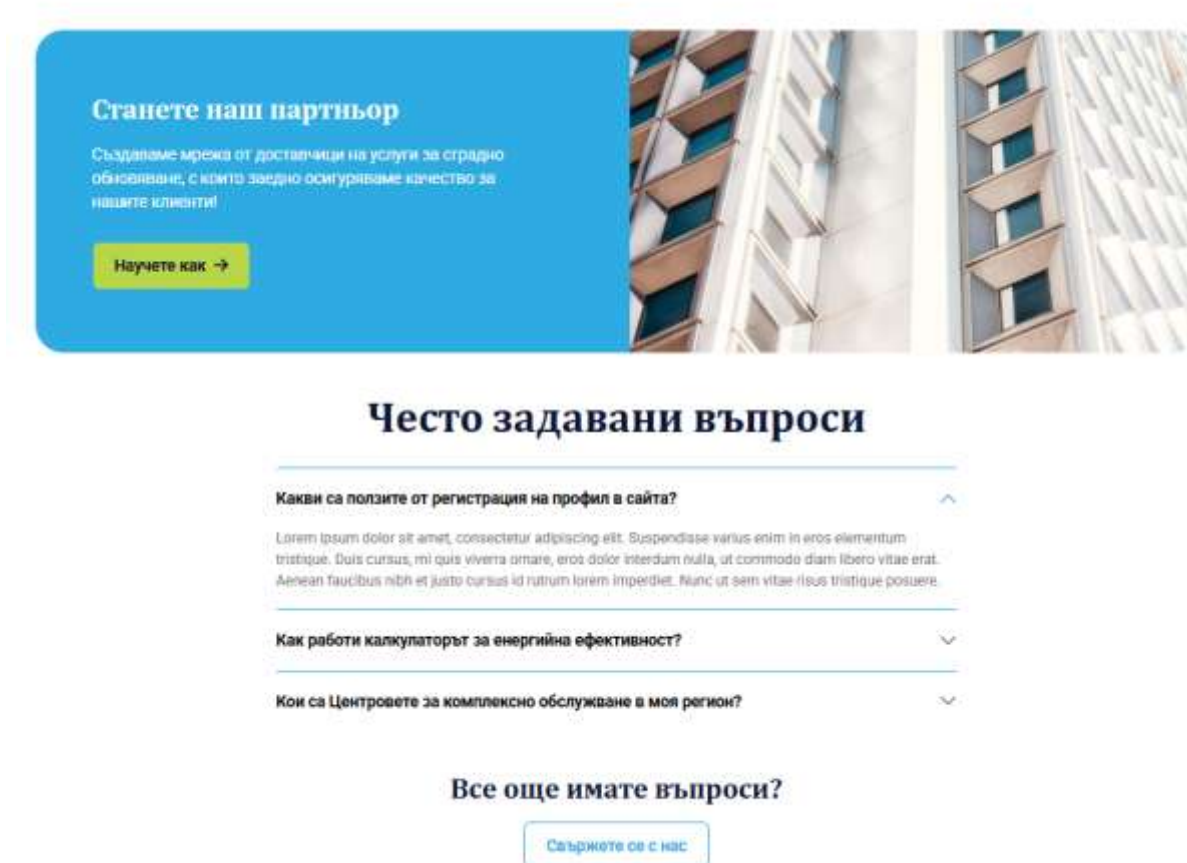
### 3.6. “Become a Partner” Module “

This module enables organizations to register and join the network of trusted partners supporting the OSS centres. Eligible entities include service providers in the fields of energy efficiency, renewable energy, engineering and construction, consulting, and other professional sectors.

The main functions of the module include:

- **Information about the benefits** of joining the network (access to methodologies, documentation, guidelines, participation in partner projects, and more);
- A **dynamic registration form** through which organizations can describe their activities, upload required documents, and select preferred OSS partnerships and areas of expertise;
- The ability to **edit and update the organization’s profile**;
- **Visibility in the partner database** following approval by the respective OSS.

The purpose of this module is to expand the operational capacity of OSS centres by attracting qualified external professionals and facilitating communication between homeowners, technical experts, and solution providers.



### 3.7. Individual OSS Pages

Each One-Stop Shop (OSS) has its own dedicated page on the platform, which serves to showcase:

- Its team and the main services offered;
- A gallery of completed projects, including “before/after” comparisons;
- News updates, client testimonials, and useful links;
- Contact information and a form for direct inquiries.

The OSS pages are managed independently by the respective teams and act as a direct communication tool with the public. They enhance the visibility of each OSS and help build trust by sharing real outcomes and feedback from users.



ФинансиранеКалкулаторЦентровеБиблиотекаУспешни практикиАктуално

Вашето решение →

## Центрове за комплексно обслужване

Лесният и достъпен път към успешно саниране

Разгледайте нашите локации



Пътят към успеха

### SHEERenov - вашият партньор за успешно обновяване

Процесът на обновяване на жилищни сгради често се оказва сложен и изпитан с предизвикателства – от намирането на финансиране и избор на изпълнители до решаването на административни въпроси и съгласуването между съсобствениците. За да улесни този процес, проектът SHEERenov+ създаде мрежа от Центрове за комплексно обслужване (ЦКО), които вече работят в шестте пилотни града – София, Пловдив, Стара Загора, Бургас, Русе и Габрово.

Центровете предлагат цялостна техническа, административна и финансова подкрепа на собствениците на жилища, като предоставят асна, достъпна и надеждна информация за възможностите за саниране на сгради.

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Вижте повече

### 3.8. Administrative module

The Administrative Module is accessible only to authorized administrators (currently, the EnEffect team) and enables the following actions:

- Management of all users and roles within the system;
- Approval or blocking of registrations;
- Publishing and editing content across all modules (news, pages, documentation);
- Control over the visibility and activity status of platform functionalities;
- Monitoring of user activity, including through system logs and journals;
- Generation of reports and data exports in various formats (Excel, PDF, Word).

This module ensures a high level of security and control, which is critical for the platform's reliable operation and compliance with personal data protection regulations.

### 3.9. Internal OSS Module (Non-public)

This module is intended solely for internal use by OSS experts and includes:

- Maintenance of digital building files – including current condition, site visits, diagnostics, and homeowners' association meetings;
- Generation of standardised documents and protocols, such as site visit reports and meeting minutes;
- Maintenance of an interactive database with georeferenced objects, photos, and "before/after" renovation information;
- Search, filter, and reporting capabilities based on various criteria (e.g., number of consultations, expert activity, etc.);
- Access to an internal registry of "trusted partners," used for homeowner recommendations and selection of service providers.

The goal of this module is to streamline the work of OSS experts, ensure traceability of actions, and maintain the high quality of services provided under the SHEERenov+ model.

## 4. Security, Access Control, and Technical Support

The SHEERenov+ platform is designed with a high level of data protection and strict access management across all system functionalities. This ensures secure operation for all user types and compliance with applicable regulatory requirements, including the General Data Protection Regulation (GDPR).

### 4.1. User Registration and Identification

Access to the platform's personalized features (such as the calculator, partner registration, or internal OSS modules) requires registration via email and the creation of a secure password. The system supports:

- Sending of a confirmation email upon registration;
- A password recovery option;

- Automatic logout after a period of inactivity to prevent unauthorized access.

Each user must confirm they have read and agreed to the platform's terms of use and data protection policy before their account is activated.

## 4.2. Role-Based Access Management

The system defines four main user types – administrators, OSS operators, partners, and general users – each with clearly defined access levels and functionalities. This allows for:

- Delegation of rights according to user roles;
- Restriction of access to internal data and administrative functions;
- Automatic notifications upon registration of a new partner or update of user information.

The administrative panel enables flexible profile management, including the ability to activate, deactivate, or reassign user roles as needed.

## 4.3. Technical Support and Maintenance

The platform includes monitoring and support tools to ensure continuous and stable performance:

- **Event logging and monitoring** – all key actions are recorded and can be reviewed by administrators;
- **Maintenance mode** – during updates or technical issues, the system displays a notification indicating the downtime period;
- **Automatic deletion of temporary files** generated during user activity;
- **Data export and archiving** – administrators can generate full backups, including the database and all site files, and export data in Excel or other formats.

These tools ensure reliable platform support, enable diagnostics and performance optimization, and help prevent technical failures.

## 5. Conclusion

The SHEERenov+ web platform is a strategic tool for implementing the One-Stop Shop (OSS) model in the energy renovation of residential buildings. By combining informational resources, digital tools, and opportunities for stakeholder interaction, the platform facilitates access to services, raises awareness, and strengthens public trust in the renovation process.

With features such as the online calculator, structured library, building map, partner registration, and individual OSS pages, the platform successfully addresses the needs of both end users and professional stakeholders. The administrative and internal OSS modules ensure sustainability, traceability, and quality control of the services provided, while maintaining high standards of data security and protection.

Designed with scalability and adaptability in mind, the SHEERenov+ platform can serve as a foundation for wider application of the OSS model at the national level. Its ongoing maintenance, promotion, and expansion beyond the project's duration will be essential for the sustainable development of the renovation market and for overcoming the barriers to active homeowner participation in the process.