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EPIR | E-Procedure of Institutional Recognition of Foreign Higher Education Documents

WORK PACKAGE 3

WP3 - Development and improvement of IT systems for the recognition process of foreign students' HE documents

Implementation report

Project	E-Procedure of Institutional Recognition of Foreign Higher Education Documents
Work Package 3	Development and improvement of IT systems for the recognition process of foreign students' HE documents
Activity 5	Implementation of the new/upgraded IT systems at each partner organisation, which includes training the users through WP2 activity, providing documentation, and data conversion from the previous system to the new system
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EPIR project partners:



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1. Introduction

The primary objective of Work Package 3 (WP3) within the EPIR project is the development of new or the improvement of existing IT systems that support the institutional recognition of foreign higher education documents at partner institutions. This objective is pursued through a complete software development lifecycle, including system analysis and design, programming, testing, and implementation of new or upgraded digital tools.

At the University of Novi Sad (UNS) a new web-based information system, designed to meet the UNS specific needs and requirements is developed in the scope of this work package. This software system will enable candidates to submit recognition requests and accompanying documents online, simplify the tracking of the recognition process for all participants, provide more efficient reporting for institutional and regulatory purposes, and reduce the number of paper documents.

The University of Novi Sad WP3 project team consists of a design team from the Centre for Information Technologies at UNS, responsible for system analysis and design and software development coordination, testing, and implementation, and a development team from the University of Novi Sad Faculty of Technical Sciences, tasked with coding and software development.

The software solution was developed during the Programming Phase (Activity 3.3), verified during the Testing Phase (Activity 3.4), and finalized during the Implementation Phase (Activity 3.5 - from March 1, 2026 to June 30, 2026). The implementation activities focused on deploying the system into the production environment, completing final software refinements based on testing results, initialization of system data, configuring users and workflows, validating the system through pilot use, and officially releasing the system for operational use.

The implementation activities ensured that the EPIR software solution became fully operational from July 1, 2026 and ready to support recognition procedures in accordance with Serbian legislative and the *Rulebook on the Evaluation of Foreign Study Programmes and the Recognition of Foreign Higher Education Documents for the Purpose of Further Education*¹ The software system for the academic recognition of a foreign higher education document at the University of Novi Sad could be find at:

<https://priznavanje.uns.ac.rs/>.

All new applications for the recognition of foreign higher education documents have been processed through this information system.

2. Overview of the Implemented System

The EPIR information system is a centralized web application designed to support the complete institutional procedure for the recognition of foreign higher education documents at the University of Novi Sad.

The system replaces a predominantly paper-based administrative process with a digital workflow, enabling electronic submission, processing, evaluation, approval, and monitoring of recognition requests. Throughout the process, all activities are recorded within the system, providing complete transparency and traceability of each case.

¹ *Rulebook on the Evaluation of Foreign Study Programmes and the Recognition of Foreign Higher Education Documents for the Purpose of Further Education* was adopted at the session of the Senate of the University of Novi Sad held on 29 January 2026.
Entered into force: 6.2.2026.
Applicable from: 1.7.2026.

The system supports several categories of users, each assigned specific responsibilities and permissions according to the institutional recognition procedure. These include *Candidates* submitting recognition requests, authorized *Representatives* of candidates, *Officers* responsible for processing applications, *Supervisors* of the Officers, *Vice-deans* coordinating academic evaluation, *Head of study programme* managing academic evaluation, and *Administrators* of the system.

The main functionalities of the system include:

- online submission of applications for recognition of foreign higher education document;
- upload and management of supporting documentation;
- assignment of tasks according to user roles;
- management of recognition workflows;
- automated e-mails and notifications throughout the procedure;
- monitoring of application status and progress and tracking of all actions performed within the system;
- generation of reports supporting recognition procedure;
- user groups management
- management of registries, catalogues, and other reference data.

The system has been developed using a modular architecture that enables future functional extensions and integration with other institutional information systems.

3. Implementation Objectives

The implementation phase aimed to transition the EPIR software from a tested solution into a fully operational production system. The specific objectives were to:

- deploy the EPIR software in the production environment;
- prepare the technical infrastructure required for operational use;
- configure institutional data and user accounts;
- initialize production data;
- support pilot use by institutional users;
- validate workflows in real operational conditions;
- complete system integration;
- complete final software improvements;
- ensure compliance with institutional procedures and legal requirements;
- prepare supporting documentation
- enable the official launch of the system for everyday use.

4. Implementation Strategy

The implementation phase followed an incremental deployment strategy, ensuring a controlled and reliable transition from the tested software solution to full production use. The system was deployed through successive stages, including infrastructure preparation, production environment setup, system configuration, initial data setup, validation, pilot operation, and final production rollout.

The deployment strategy emphasized close collaboration between the development team, the design team, the system administrators at UNS, and institutional users involved in the recognition process. This collaborative approach enabled stable environment and continuous validation of the implemented solution, and also ensured that user feedback collected during the pilot period was incorporated into the final production release.

To minimize operational risks and maintain system stability, a dedicated staging environment (epir-staging.uns.ac.rs) was established alongside the production environment (<https://priznavanje.uns.ac.rs/>). Software updates, configuration changes, and final refinements were validated in the staging environment before being deployed to production.

The implementation strategy combined technical deployment activities with organizational preparation, including user account configuration, initialization of institutional data, verification of operational workflows, user trainings, and readiness of the production infrastructure. This approach ensured a smooth transition from the development and testing phases to everyday operational use while maintaining compliance with institutional procedures and the legal framework governing the recognition of foreign higher education documents.

5. Implementation Activities

5.1 System Deployment

During the implementation phase the production environment required for deploying the EPIR software solution was prepared. A dedicated production infrastructure was configured to ensure reliable, secure, and stable operation of the system. The production database was established using Microsoft SQL Server Standard 2019, which was procured specifically to support the production deployment of the EPIR software solution.

The deployment activities included:

- preparation of the production server environment;
- installation and configuration of Microsoft SQL Server Standard 2019;
- deployment of the latest production-ready version of the EPIR software solution;
- configuration of application services;
- configuration of institutional e-mail accounts used for automatic notifications generated by the system;
- establishment of secure database connections;
- verification of system availability and accessibility.

The staging platform (epir-staging.uns.ac.rs) was used for final validation of software updates and configuration changes before their deployment to the production environment, reducing operational risks and ensuring stable system operation.

5.2. Data Preparation and Initial System Configuration

Since the University of Novi Sad developed a completely new information system, no migration of legacy data was required. Instead, the implementation activities focused on preparing and populating the production environment with all institutional data necessary for system operation.

The initial configuration included the creation and verification of reference data, organizational structures, and user information required to support recognition procedures from the first day of operation.

The following activities were carried out:

- creation of user accounts for all categories of system users;
- assignment of user roles and access permissions;
- entry of institutional organizational units;
- entry of study programmes and moduls in serbian and english;
- preparation of system catalogues;
- configuration of system parameters;

- registration of institutional e-mail addresses used for system notifications;
- verification of data consistency and completeness.

Special attention was given to ensuring the accuracy of institutional data before the beginning of operational use. All reference data were validated through cooperation with the participating faculties and administrative staff.

5.3 User Setup

The implementation phase included preparation of production users and configuration of the authorization model. User accounts were created for most of the participants involved in recognition procedures, while permissions were assigned according to institutional responsibilities defined within the University's recognition process.

Configured user roles included: *Candidate*, *Representative*, *Officer*, *Supervisor*, *Vice-dean*, *Head of study programme*, and *Administrator*.

Each role was assigned appropriate permissions, ensuring secure access to system functionalities and maintaining the integrity of the recognition process. The successful completion of user setup enabled immediate use of the system during the pilot phase and subsequent production rollout.

5.3 System Integration

During the implementation phase, the final integration of all software modules was completed. The EPIR software currently operates as an independent information system, therefore integration between its internal components (application layer, business logic, database, notification services, reporting components, etc.) was verified.

5.4 Final Testing and Validation

Testing had been done during Activity 4, but additional verification activities were performed during implementation phase to ensure that the production environment functioned correctly under real operating conditions. The final validation focused primarily on confirming that all software improvements introduced after the testing phase had been successfully implemented. The implementation period also provided an opportunity to observe the system in realistic operational scenarios and perform final refinements before production release.

5.5. Pilot Use

Following the user training session held on 27 May 2026, the University of Novi Sad organized a pilot implementation period to validate the EPIR system under real operating conditions and prepare institutional users for the transition to production.

The pilot phase was conducted from 9 June to 21 June 2026 and involved the vice-deans responsible for recognition procedures, heads of study programme from the faculties of the University of Novi Sad, officers, and administrators. To support the pilot activities, officers prepared a set of representative test cases by creating candidate accounts and submitting sample recognition requests. These cases simulated realistic recognition procedures and allowed institutional users to apply the knowledge acquired during training and verify workflows, review submitted documentation, and perform their responsibilities within the system.

Also, participants review user interfaces, validate institutional data, and complete the configuration of faculty-specific catalogues (study programme and module information, election periods. etc).

Feedback collected during the pilot period leads to some minor improvements that were implemented before the official production release.

5.6. System Rollout

The University officially deployed the EPIR system into operational use after completion of the pilot use and verification that all planned implementation activities had been finalized.

Beginning on 1 July 2026, all new applications for the recognition of foreign higher education documents have been processed through the EPIR information system, available at:

<https://priznavanje.uns.ac.rs>

5.7. Documentation and Deliverables

Technical and operational documentation was prepared throughout the development, testing and implementation of the EPIR software system to support system deployment, administration, maintenance, and future development.

In accordance with the project responsibilities, user manuals and training materials were prepared under WP2 and therefore are not part of this report.

The technical documentation provides a comprehensive description of the implemented software solution and serves as the primary reference for future maintenance and development activities.

The documentation includes:

- system architecture;
- description of software modules;
- database structure and data model;
- description of implemented workflows;
- technical specifications of application components.

Where appropriate, UML models, database diagrams, and software design documentation prepared during the development phase are referenced as supporting materials.

6. Future Plans and Sustainability

The University of Novi Sad considers the EPIR information system a long-term institutional solution supporting recognition procedures.

Following successful implementation, the system will continue to be maintained and further enhanced according to institutional needs, technological developments, and future legal requirements.

Planned future activities include:

- continuous monitoring of system performance;
- regular software maintenance and security updates;
- further optimization of workflows based on user experience;
- extension of reporting functionalities;
- implementation of additional administrative tools supporting recognition procedures;
- continuous updating of institutional catalogues and study programme data.

The modular architecture of the system provides a solid foundation for future functional expansion and facilitates integration with other university information systems whenever required.

7. Conclusion

The implementation phase successfully completed the development lifecycle of the new software system for for the academic recognition of a foreign higher education document at the University of Novi Sad.

Through the establishment of the production environment, deployment of the software solution, preparation of institutional data, configuration of users and permissions, completion of final software refinements, pilot validation, and official production rollout, the University successfully introduced a modern information system supporting the recognition of foreign higher education documents and established a sustainable technological basis for future digital transformation initiatives within the University of Novi Sad.

Beyond achieving the objectives of WP3, the implementation demonstrates the University's commitment to digital transformation and the modernization of higher education administration. The EPIR information system establishes a sustainable foundation for future enhancements and continued development of digital services supporting academic administration.