

## DELIVERABLE D2.4

### REPORT OF ESTABLISHED UNIVERSITY REPOSITORY (UR)

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<b>Abstract of deliverable:</b>	<p>This deliverable describes EDUCONS University's newly established institutional repository, aptly named REDUN (<b>R</b>epository of <b>EDUCONS U</b>niversity), its legal framework, setup, and current state of operation. It also details its complex structure, functionalities, technical aspects and offers brief information on the Computer Centre of Belgrade University (RCUB), which was instrumental in developing the repository, providing continuous technical support as well as training. A segment on staff training is also included in this report.</p>
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Table 1 List of abbreviations

REDUN	Institutional Repository of Educons University
EDU	Educons University
UR	University Repository
OSS	Open Science System
AWI	Alfred Wegener Institute
UG	University of Galway
RCUB	Belgrade University Computer Centre

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## EXECUTIVE SUMMARY

GREENLand project implements an innovative strategy for transforming to a digital Cloud-Based System with the education of staff for research of microplastics in soil, water, and microorganisms, as well as networking with the institutions and stakeholders who are interested in the results of scientific research. The essence of GREENLand is to change the system in which a significant contribution will be made to ameliorating the impacts of microplastics by working on preventive measures, innovations, and a plan for remediation. With the help of new digital tools, trained professional staff will also be able to be more efficient, resulting in closer collaboration between academia, industry, and institutions.

A significant part of the project aims at building capacity by way of digital modernization, including digitization of the library. Hence, the development of an institutional repository is essential for the establishment of an e-Library and, more broadly, of the Open Science System (OSS) thereby optimizing GREENLand's impact.

The aim of this report is to present EDUCONS University's newly established institutional repository, REDUN (**R**epository of **EDUCONS U**niversity), its legal framework, setup, and current state of operation, as well as next steps. The Serbian legal framework governing the institutional repository includes two documents: EDUCONS University Rulebook on Open Science, which outlines responsibilities, measures and procedures aimed at implementing the second document, the Open Science Platform of the Ministry of Education, Science and Technological Development of Republic of Serbia, primarily through digital institutional repositories.

As laid out in the Description of Deliverable 2.4, the librarian and researchers need to be educated on the use of the system, and such training has been provided by Belgrade University Computer Centre (RCUB) in the form of a Train-the-Trainer module. Upon completion of this course, the librarian began delivering training on the use of REDUN for the faculty and these sessions will continue in the future, both at a basic and advanced level, as needed.

Bearing in mind that REDUN is a newly established repository, further instructions on how to use it, more information-sharing about its role and benefits, and continued campaigning for its visibility is needed to enable it to reach its full potential and optimal performance.

## 1 INTRODUCTION

The present document, Deliverable 2.4, a report on the established University Repository (UR), was developed within the framework of Task 2.3, Establishing Open Science system (OSS), WP2, Creating and efficient workflow, and aims to provide an overview on the status, set-up and use of the newly established institutional repository of EDUCONS University named REDUN. The repository was developed by the University of Belgrade Computer Centre (RCUB), which is a computer centre whose primary function is to provide computer and information-communication services to faculties belonging to the University of Belgrade, as well as to other institutions of higher education. RCUB has extensive experience in developing tailor-made institutional repositories and REDUN is modelled along the lines of common practices in institutions with long established repositories. As such, REDUN adheres to the following practices as laid out by RCUB in their general User Manual<sup>1</sup>:

- An electronic copy of the published version (if allowed by the publisher's policy) or the peer-reviewed version (accepted for publication) of every scholarly publication is deposited in the institutional part of repository, usually immediately after publication to facilitate open access to scientific publications.
- Entries without full text are not accepted, i.e. entries without a file and entries with a file containing only part of the publication (e. g. only the first page of an article, or only the preliminary pages of a monograph, etc.).
- If there are no legal restrictions, the deposited publications will be in open access.
- If the author has transferred the rights to the publisher, and the publisher does not allow open access, the right to access the published version is limited to employees of the institution. In that case, the peer-reviewed manuscript accepted for publication is deposited in the repository, in an embargoed access regime, and the embargo requested by the publisher

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<sup>1</sup>

[https://repowiki.rcub.bg.ac.rs/index.php/Koja\\_verzija\\_publikacije\\_sme\\_da\\_se\\_deponuje\\_u\\_repozitorijum%3F](https://repowiki.rcub.bg.ac.rs/index.php/Koja_verzija_publikacije_sme_da_se_deponuje_u_repozitorijum%3F) (available only in Serbian)

is applied. After the expiration of that period, the publication (full text) automatically becomes publicly available.

- Metadata are publicly visible even when the full text is not.
- Verification is mandatory: when a researcher deposits a publication, even the metadata are not publicly visible until an administrator (usually a librarian) verifies the entry.
- The administrator checks the publication itself, on the publisher's website and in other services, such as <https://v2.sherpa.ac.uk/romeo/> , whether the access rights during the deposit are properly defined, and, if not, corrects the data.

Providing a legal framework for the operation of REDUN is EDUCONS University's Rulebook on Open Science, which regulates the obligations, responsibilities, measures and procedures aimed at implementing the Platform for Open Science of the Ministry of Education, Science and Technological Development (<https://open.ac.rs/images/doc/Open-Science-Policy-Serbia.pdf>). The Platform for Open Science, in turn, rests on the fundamental principles of open science as defined by the European Commission.<sup>2</sup>

The Rulebook was adopted on July 14, 2023 and applies to all full-time employees at the University of EDUCONS from Sremska Kamenica whose research output (scientific publications) are the product of programs and projects that are fully or partially financed from the budget of the Republic of Serbia or by other research funders.

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<sup>2</sup> Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020, [http://ec.europa.eu/research/participants/data/ref/h2020/grants\\_manual/hi/oa\\_pilot/h2020-hi-oa-pilotguide\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilotguide_en.pdf)



## 2 REDUN – EDUCONS UNIVERSITY INSTITUTIONAL REPOSITORY

REDUN (<https://redun.educons.edu.rs/>) is the institutional digital repository of all departments of EDUCONS University, and was established with the aim to provide open access to publications and other research output from projects implemented by EDUCONS University and its departments. It has been fully operational since July 31, 2023.

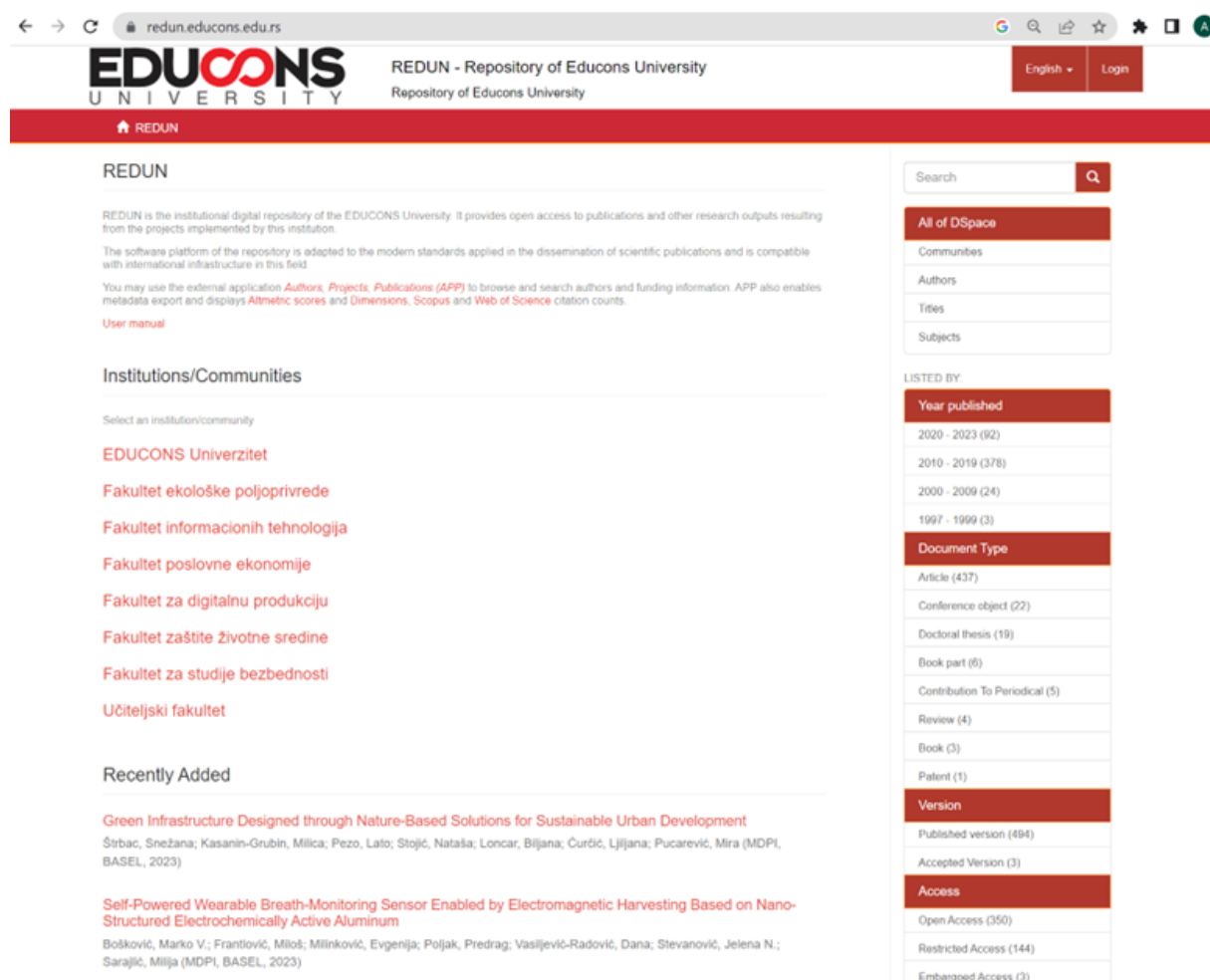


FIGURE 1. REDUN LANDING PAGE

The repository uses a [DSpace](#)-based software platform developed and maintained by the Belgrade University Computer Centre (RCUB). The software platform is compliant with the [OpenAIRE](#) Guidelines for Literature Repositories v3.

The repository is supplied with an external application called Authors, Projects, Publications (APP), which was developed by the RCUB. In APP, authors and funding information are presented as normalized entities. APP also enables metadata export and displays Altmetric scores, Dimensions, Scopus and Web of Science citation counts.

## 2.1 FAIR PRINCIPLES

REDUN adheres to the FAIR principles, which means the following:

### 2.1.1 DATA CAN BE FOUND AND SEARCHED (FINDABLE)

Records in the repository have permanent identifiers (PID, in this case called a *handle*). Metadata are created in accordance with the standardized Qualified Dublin Core Schema. Metadata can be exported through the user interface in BibTeX and RIS format and are embedded in HTML meta elements, making them machine-readable. The repository has a machine-readable sitemap in XML format. Aggregators and search engines download metadata through the OAI-PMH Protocol making, thereby, the content of the repository available in different databases.

### 2.1.2 DATA ARE AVAILABLE (ACCESSIBLE)

Bibliographic metadata is publicly available under the CC0 1.0 Universal license (CC0 1.0). It is transferred to the public domain to all users, without prior registration, both through the user interface and through the OAI-PMH Protocol. Documents (files) in open access are available to all users without prior registration, whereas certain documents can only be accessed by registered users after logging in.

### 2.1.3 DATA ARE INTEROPERABLE (INTEROPERABLE)

Metadata is mapped in accordance with the Dublin Core, which is an official, accessible and widely accepted standard that ensures machine readability. Different types of attachments/documents (research data, surge versions) can be linked to the base record through the dc. relation + qualifier field.

### 2.1.4 DATA CAN BE USED MULTIPLE TIMES (REUSABLE)

There is a rich bibliographic description in the form of metadata. The terms of use of the content are clearly stated: each record contains information about the license as metadata. An automated file integrity check (md5 checksums) is performed.



## 2.2 SUBMISSION POLICY

### 2.2.1 WHO MAY DEPOSIT?

To deposit content in the repository, one must be affiliated with the EDUCONS University and have valid credentials, which are assigned by the repository administrator upon registration. All submissions must be approved by the administrator.

### 2.2.2 SCOPE OF DEPOSITED CONTENT

Deposited content must be in a digital format. It can include, but is not limited to, the research outputs of the staff of EDUCONS University in any media and format, the publications of EDUCONS University, grey literature, and other content relevant for EDUCONS University. In addition, it should be in a completed state, and not a dynamic document. If changes need to be made, then the changed electronic document needs to be deposited as a new document.

Contributors may deposit content created prior to joining EDUCONS University and they must be willing and able to grant EDUCONS University the non-exclusive rights to both preserve and make their work available through the repository.

### 2.2.3 SUPPORTED CONTENT TYPES

The following content types are accepted: publications (including preprints), dissertations, masters, and undergraduate theses, working papers and technical reports, white papers and reports, datasets, conference presentations, conference posters, course-based publications and training materials, images, audio, and video recordings.

### 2.2.4 SUPPORTED FILE FORMATS

Although all formats can be deposited, it is recommended to use formats that are open and sustainable. The following formats are preferred for preservation reasons:

Textual: PDF/A, TXT, HTML, XML, CSV

Images: TIFF, JPEG 2000

Audio: WAVE, AIFF

Video: MOV, Motion JPEG 2000

Database/Spreadsheet: CSV, XML

### 2.2.5 ACCESS

Each repository entry consists of a deposited document and the metadata describing it. Different access and reuse policies apply to metadata and deposited documents, respectively.

#### 2.2.5.1 METADATA POLICY

The metadata are freely accessible to all, and freely reusable by all, under the terms of the CC0 license.

#### 2.2.5.2 ACCESS TO DEPOSITED CONTENT

The deposited content (documents) is made available to the public, except when forbidden by contracts, rights, or when embargoed for a limited time. Each deposited item (document) is individually tagged with appropriate license.

## 2.3 PRESERVATION POLICY

Metadata and files deposited in the repository are stored permanently. Content may be removed only in exceptional circumstances. Records may be withdrawn from the repository in the following cases: proven copyright violation, plagiarism, falsified research, research containing major errors, threat to national security.

Withdrawn items do not become deleted *per se* but are removed from public view. The metadata of withdrawn items will not be searchable; however, their identifiers/URLs are retained indefinitely.

### 2.3.1 VERSION CONTROL

Changes to deposited items are not permitted. If necessary, an updated version may be deposited and the earlier version may be withdrawn from public view. If multiple versions of the same content are available in the repository, there will be links between earlier and later versions and the most recent version will be clearly identified.

## 2.4 LEGAL FRAMEWORK

By depositing their work, the contributors agree to give EDUCONS University only the non-exclusive right to disseminate and preserve the content. If the deposited content has already been published, copyright terms and other legal restrictions, such as publishers' embargo periods, must be respected. Any copyright violations are entirely the responsibility of the authors/contributors. If the deposited content is unpublished, the author retains copyright. EDUCONS University does not preclude

publishing the documents in journals, monographs, or in other repositories. If the researcher intends to publish the content, he/she needs to check the publisher's policy on prior or parallel publication.

## 2.5 HARVESTING POLICY

Metadata are made available to harvesters and aggregators under the Creative Commons CC0 Public Domain Dedication license. Data can be harvested by robots and aggregators for full-text indexing or analysis in line with the assigned license.

## 2.6 PRIVACY

Whenever a user visits the repository, certain information is gathered and stored automatically. This information does not generally identify the user personally. Information that is automatically collected and stored when visiting the repository site includes: the Internet domain and IP address from which the repository was accessed as well as the type of browser and operating system, and date, time and pages visited.

This automatically collected information is only used internally for technical troubleshooting, to improve the usability of the repository, and to record aggregate statistics.

Google Analytics and Google Search Console are used to analyse the use of this repository. Google Analytics generates statistical and other information about the repository use by means of cookies, which are stored on users' computers. The information generated relating to the repository is used to create reports about its use. Google will store and use this information.

### 3 STAFF TRAINING

To meet the demands of the day-to-day repository operations, an extensive one-on-one Train-the-Trainer course was provided to the librarian at EDUCONS University by the RCUB throughout April, May, and June 2023. The training encompassed the daily running of REDUN, managing metadata fields and quality of deposited research output, copyright requirements, Open Access policies, self-archiving policies, communicating with the faculty on a wide array of topics, from registration to general support tasks and information sharing. RCUB is also contractually obliged to provide continuous support to the librarian as needed.

As regards training for the researchers, a Google classroom on the use of REDUN was set up in June 2023 and an initial basic online training for the whole faculty was delivered on June 8, 2023, by the librarian. It was recorded and posted on Google classroom<sup>3</sup>, making it permanently available to the faculty. In addition, detailed instructions on how to fill out each field in the repository in the form of a hand-out was developed and posted.

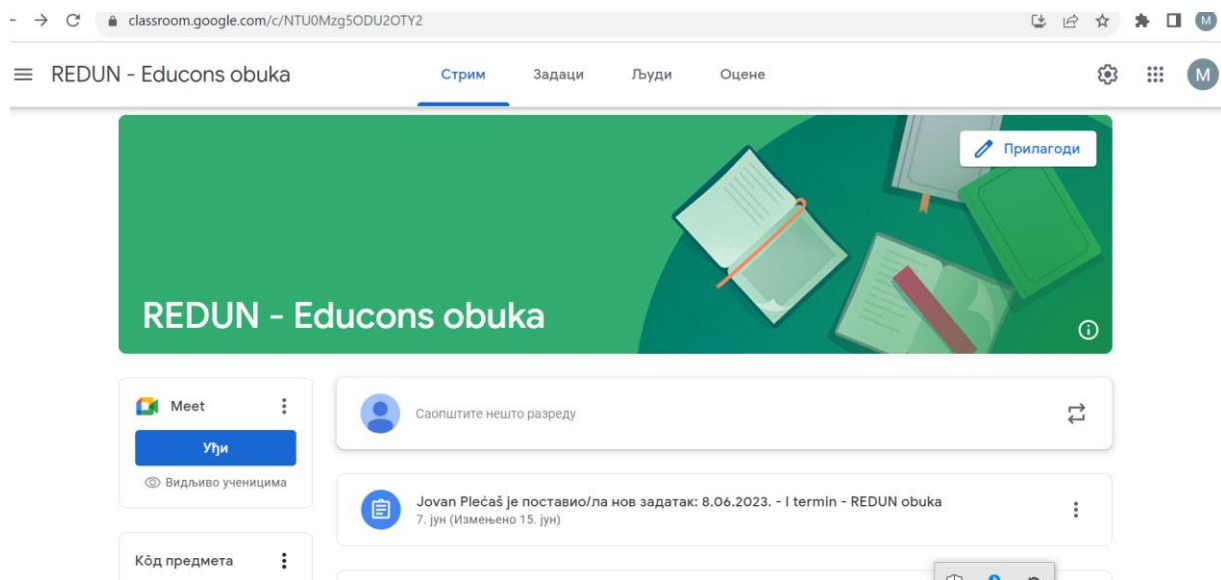


FIGURE 2. GOOGLE CLASSROOM FOR REDUN

Following the initial introductory online training, one-on-one sessions with researcher and librarian, were held as requested. All researchers opened their profiles, onto which they will upload all their publications to the repository.

<sup>3</sup> <https://classroom.google.com/c/NTU0Mzg5ODU2OTY2/a/NjEzMzU5NzAwMDk5/details>

## 4 CONCLUSION

Institutional repositories play a critical role in the research lifecycle, and they are equally vital to the Open Science policy as laid out by the European Commission in its campaign to have the scientific process focus on sharing and disseminating knowledge as soon as it is available using digital and collaborative technology.<sup>4</sup>

Prompted by this campaign, the Serbian Ministry of Education, Science and Technological Development introduced its Platform for Open Science in 2018, thereby providing a legal framework in this area. The Platform stipulates that open access must be provided to an electronic copy of the published version (if allowed by the publisher's policy) or the peer-reviewed version (accepted for publication) of every scholarly publication and calls for the development of a digital infrastructure to facilitate open access to scientific publications.<sup>5</sup>

The digital infrastructure in this case is REDUN, which was developed and established at EDUCONS University within the GREENLand project, WP2: Creating an efficient workflow, Task 2.3: Establishing Open Science system (OSS), to meet all international requirements for a trusted, institutional repository. As envisaged by the GREENLand project, this segment of capacity building will facilitate openness, knowledge sharing and collaboration in the academic world, and contribute significantly to a thorough modernization of the library at EDUCONS University. With further promotional and educational activities aimed at the optimal use of REDUN, it will be a significant contributing factor to the overall success of the project.

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<sup>4</sup> [https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science\\_en](https://research-and-innovation.ec.europa.eu/strategy/strategy-2020-2024/our-digital-future/open-science_en)

<sup>5</sup> <https://open.ac.rs/images/doc/Open-Science-Policy-Serbia.pdf>