WP3-A6. Participation in a congress to disseminate the results of WP3.

Contents

1. INTRODUCTION

Objectives

Task A6 within WP3 was implemented to ensure that the intermediate results produced under Work Package 3 were effectively disseminated to both the academic community and relevant professional audiences. Beyond simple visibility, congress participation was used as a structured mechanism to validate the project's approach and to position RockChain within current international discussions on sustainability, circular economy, and the digital transformation of waste-management practices.

In this context, international congresses were considered particularly suitable because they brought together multidisciplinary profiles—ranging from legal and policy experts to engineers and environmental specialists—thereby reflecting the cross-cutting nature of WP3 outputs (technical innovation, regulatory framing, and practical implications). The objective was therefore not only to communicate WP3 findings, but also to encourage informed dialogue with external stakeholders and to obtain scientific feedback that could reinforce the clarity, relevance, and transferability of the results reported in this deliverable.

Activities

To meet these objectives, the consortium carried out a targeted set of dissemination and engagement activities. First, suitable congresses were identified and selected based on their thematic alignment with WP3 priorities, including sustainability, construction and demolition waste, circular economy implementation pathways, innovative technologies (with an emphasis on blockchain), and related legal perspectives.

Following selection, project partners prepared and submitted abstracts and conference papers grounded in WP3 intermediate results, ensuring that contributions were framed in a manner accessible to diverse audiences while remaining scientifically rigorous. Participation in scientific sessions was then undertaken through formal presentations delivered by project team members, complemented by professional exchange activities such as networking, discussions with researchers and practitioners, and knowledge-sharing opportunities that supported visibility and potential future cooperation.

As documented in the Results section of this report, these actions were operationalised through concrete conference contributions addressing (i) legal perspectives on construction and demolition waste management and (ii) a blockchain-driven framework for circular waste management in construction.

In summary, the following steps were taken:

- identification of suitable congresses aligned with WP3 topics (sustainability, construction waste, circular economy, innovative technologies (blockchain) and legal perspectives);
- preparation of abstracts and conference papers;
- participation in scientific sessions, with presentations delivered by project team members;
- networking and exchange of knowledge with international researchers and practitioners.

Impact

Overall, Task A6 increased the visibility of WP3 results within international academic and professional forums and reinforced their credibility through presentation in established dissemination channels. It also strengthened the dissemination of legal and technological perspectives on construction and demolition waste management, supporting a more integrated understanding of regulatory requirements alongside digital traceability solutions.

Importantly, the congress format fostered interdisciplinary dialogue between law, engineering, and sustainability experts—an outcome directly aligned with RockChain's cross-sector scope—and provided opportunities to capture external scientific feedback that could inform refinement, communication, and uptake of WP3 outputs. In doing so, these dissemination actions supported the broader Erasmus+ objectives by promoting structured knowledge exchange and embedding sustainability challenges and digital innovation topics into international research and professional agendas. In conclusion: the following impacts were achieved:

- increased visibility of WP3 results in international academic forums;
- strengthened the dissemination of legal and technological perspectives on construction and demolition waste management;
- fostered interdisciplinary dialogue between law, engineering and sustainability experts;
- supported the Erasmus project objectives by promoting knowledge exchange and integrating sustainability challenges into international research agendas.

2. RESULTS

2.1. 17th International Conference Exploration, Education and Progress in the Third Millennium: Challenges in Law and Public Administration

Title: *Legal Perspectives regarding the Construction and the Demolition Waste Management.*

Presented at the 17th International Conference Exploration, Education and Progress in the Third Millennium: Challenges in Law and Public Administration (15-16 May 2025, Galați, Romania – online).

Abstract:

Protecting the environment remains one of the burning desires of our times and people has begun more and more concerned with finding concrete solutions in the direction of identifying, collecting and recycling different types of waste, including construction and demolition waste. All these public policies are based upon a principle in the European Union according to which the polluter is the one who pays, wanting responsibility for all those who generate residues. Therefore, in the framework of this analysis, the identification and the presentation of the main legal regulations regarding the construction and demolition waste management are necessary steps for improving the public awareness on the matter.

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Conference program:
https://www.fdsa.ugal.ro/images/UPDATE_DANA/Program_EEP_2025_6.pdf

Figure 1: Conference program of 17th International Conference Exploration, Education and Progress in the Third Millennium

Timeline of Outputs

Title	Type	Date	Status	Dissemination Channel
Legal Perspectives regarding the Construction and Demolition Waste Management	Conference paper	15 - 16 May 2025	Presented	EEP Conference, Galați

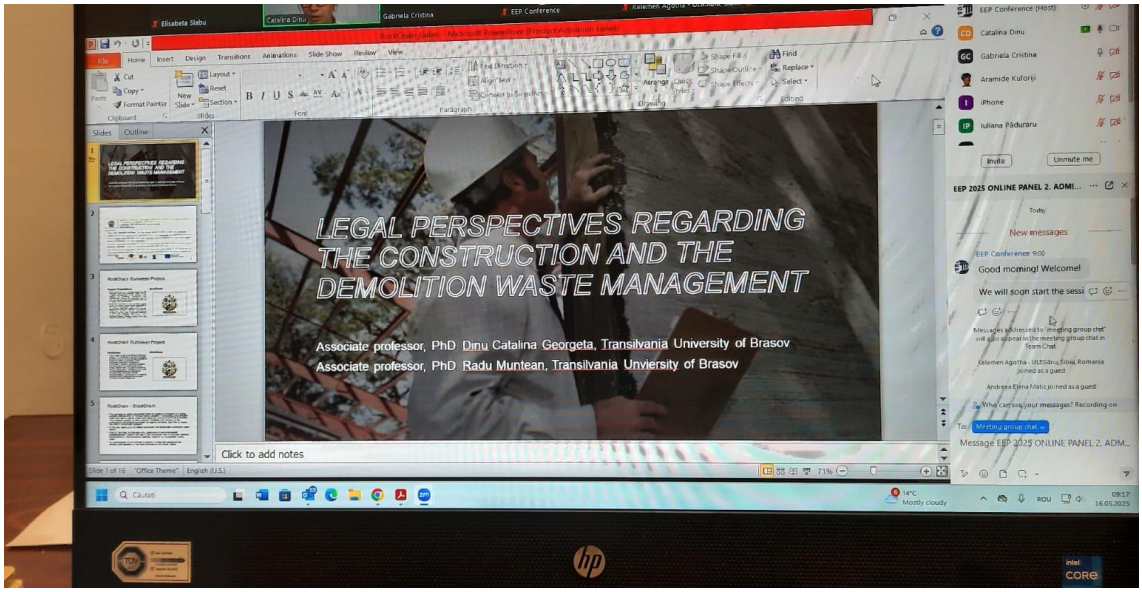

Figure 2: Pictures of the online presentation.

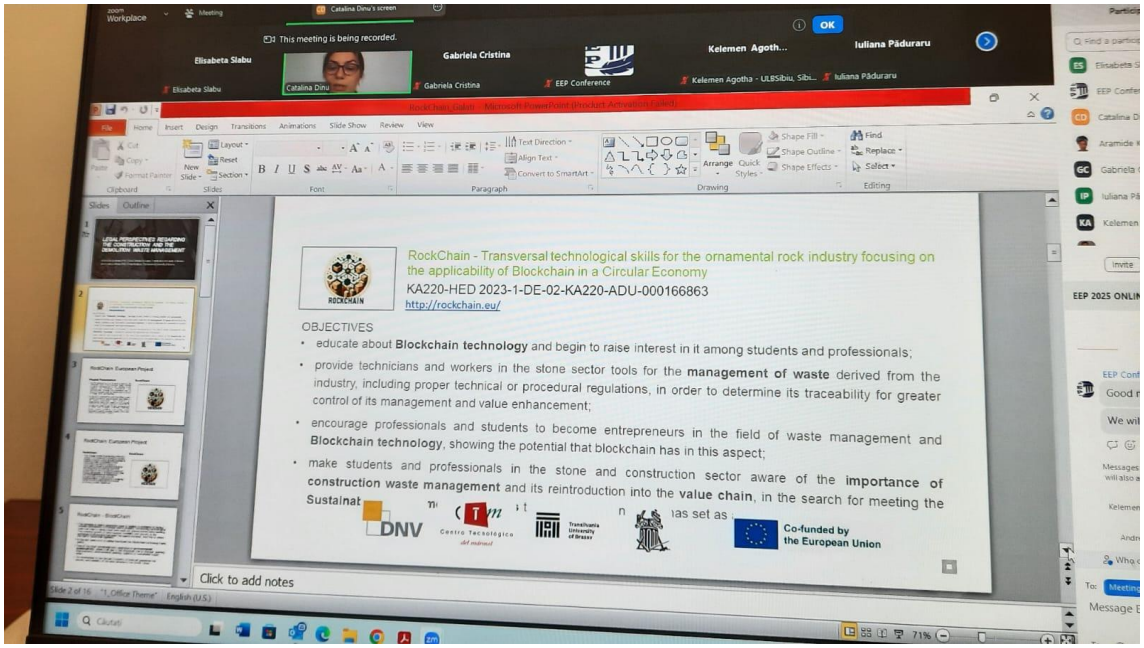

Figure 3: Pictures of the online presentation.

INTERNATIONAL CONFERENCE
EXPLORATION, EDUCATION AND PROGRESS IN THE THIRD MILLENNIUM: CHALLENGES IN LAW AND PUBLIC ADMINISTRATION
(EEP 2025)

UNIVERSITAS GALATIENSIS

THE CHALLENGES OF PUBLIC ADMINISTRATION
09:00-11:00

KEYNOTE SPEAKERS:

VASILICA NEGRUȚ, "Dunarea de Jos" University of Galati, Romania

MĂDĂLINA ELENA MIHĂILESCU, "Dunarea de Jos" University of Galati, Romania

ELISABETA SLABU, "Dunarea de Jos" University of Galati, Romania

Theoretical and Practical Aspects regarding the Duties of the Ethics Advisor

Andreea Elena Matic, "Dunarea de Jos" University of Galati, Romania

Rule of Law, Politics and Governance in Nigeria's Fourth Republic

Cletus Egugbo, Department of Public Administration, Olabisi Onabanjo University, Ago-Iwoye, Nigeria

Rethinking Contractual Risk in Public Administration: Lessons from Microsoft ECIF Operations

Constantin Plamadeala, University of Debrecen, Debrecen, Hungary

Legal Perspectives regarding the Construction and the Demolition Waste Management

Catalina Georgeta Dinu, Transilvania University of Brasov, Romania

Radu Muntean, Transilvania University of Brasov, Romania

Citizens' Right to Freedom of Expression vs. States' Obligation to Combat Disinformation

Elisabeta Slabu, Dunărea de Jos University of Galati, Faculty of Law and Administrative Sciences, Legal and Administrative Research Center, Galati, Romania

Figure 4: Agenda of the presentation.

Cite of the article:

Dinu, C. G. and Muntean, R. (2025) "Legal Perspectives Regarding The Construction And The Demolition Waste Management", *The Annals of "Dunarea de Jos" University of Galati. Legal Sciences. Fascicle XXVI*, 8(1), pp. 184-193.

Legal Sciences. Fascicle XXVI, Vol. 8, no. 1/2025 ISSN: 2601-9779

PRIVATE LAW

Legal Perspectives Regarding the Construction and the Demolition Waste Management

Catalina Georgeta DINU[1]

Radu MUNTEAN[2]

Abstract: *Protecting the environment remains one of the burning desires of our times and people has begun more and more concerned with finding concrete solutions in the direction of identifying, collecting and recycling different types of waste, including construction and demolition waste. All these public policies are based upon a principle in the European Union according to which the polluter is the one who pays, wanting responsibility for all those who generate residues. Therefore, in the framework of this analysis, the identification and the presentation of the main legal regulations regarding the construction and demolition waste management are necessary steps for improving the public awareness on the matter.*

Keywords: *waste; management; construction; demolition; rock materials*

1. Argumentation

Protecting the environment remains one of the burning desires of our times and people has begun more and more concerned with finding concrete solutions in the direction of identifying, collecting and recycling different types of waste, including construction and demolition waste.

All these public policies are based upon a principle in the European Union according to which the polluter is the one who pays, wanting responsibility for all those who generate residues.

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Figure 5: Publication. Source: https://www.gup.ugal.ro/ugaljournals/index.php/als/article/view/9140

Construction and demolition waste is among these types of debris left over from various construction site activities and many others, emerging the need to collect and recycle them in order to be reused and to successfully replace natural resources. Local public authorities, sanitation operators and economic operators must know the legislation and how to manage construction and demolition waste, so that nature does not suffer.

Construction and demolition waste results from the construction of buildings, roads, from the total or partial demolition of some buildings, but also from the activities of renovation, rehabilitation, repair or consolidation of various civil or industrial constructions or dredging and unclogging activities. The composition of these wastes is heterogeneous (material scraps, chemical products, auxiliary materials). In recent times, there is a growing emphasis on recycling and reuse, because they save the natural resources.

In this context, the concept of circular economy and waste management appears as an opportunity to change the current production and consumption model.

This is where Blockchain technology finds its utility. It initially appeared within electronic payment systems, but currently, the advantages of applying the technology can also be found in other sectors, such as insurance, healthcare, transport and logistics, industry (waste management, product quality, process verification, etc.) and many others, as it can help improve company management and find new business models.

For example, The RockChain is a co-funded project by the European Union that proposes basic training in waste management in the building stone industry, for students, technicians and professionals, through the combined use of new technologies such as Blockchain, Internet of Things (IoT) and Big Data.

In the EU, construction and demolition waste (CDW) represents approximately one third of all waste generated. The situation is exacerbated when this waste is not properly treated and managed, making it impossible to re-enter the value chain. Proper management of CDW and recycled materials, including proper waste handling, can bring major economic benefits, increase quality of life and reduce environmental impact.

2. Types of Construction and Demolition Waste according to Legislation

In order to manage waste as well as possible, it is mandatory to know closely all types of residues that come from constructions and demolitions. Thus, the following types can be highlighted:

Figure 6: Publication. Source: https://www.gup.ugal.ro/ugaljournals/index.php/als/article/view/9140

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improvements since its implementation, but it must be constantly modernized to adapt it to the circular economy and the digital era.

The increase in waste generation rates is leading to problems in finding suitable destinations to manage waste properly. Introducing technological tools that help to obtain more data does not ensure correct data handling. The massive growth of data requires credibility and security in the exchange of information between the agents involved. And this is where the role of Blockchain appears.

In the last years a lot of utilities has found the Blockchain technology being useful.

One of the most remarkable is its application in environmental sustainability, where it will play a very important role in strategic planning improvements, environmental planning, logistics or sustainable supply chain.

Its involvement in the Circular Economy of cities will guarantee the security and reliability of the data obtained in the Smart Cities.

4. Objects of the European project "RockChain - Transversal technological skills for the ornamental rock industry focusing on the applicability of Blockchain in a Circular Economy"

The project educates about Blockchain technology and begin to raise interest in it among students and professionals.

It provides technicians and workers in the stone sector tools for the management of waste derived from the industry, including proper technical or procedural regulations, in order to determine its traceability for greater control of its management and value enhancement;

It encourages professionals and students to become entrepreneurs in the field of waste management and Blockchain technology, showing the potential that blockchain has in this aspect;

The project makes students and professionals in the stone and construction sector aware of the importance of construction waste management and its reintroduction into the value chain, in the search for meeting the Sustainable Development objectives that the European Union has set as a goal.

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Figure 7: Publication. Source: https://www.gup.ugal.ro/ugaljournals/index.php/als/article/view/9140

5. Conclusion

Builders, individuals or legal entities, must be guided to know and apply the legal regulations regarding the management of waste from constructions and demolitions. We note that Romania has implemented the European legislation on the matter, but it must improve its application by developing procedures for builders, in order to indicate the steps they must follow. Identifying the transposition of European legislation in the national legislation of the other member states that are participating to the project needs to be analyzed.

6. Aknowledgement

RockChain - Transversal technological skills for the ornamental rock industry focusing on the applicability of Blockchain in a Circular Economy, KA220-HED 2023-1-DE-02-KA220-ADU-000166863, http://rockchain.eu/

7. References

Botezatu, E. (2016). The industrial NORM residues - radioactive waste or building material? *Proceed of the 8th EANNORM WORKSHOP. Three years into the new EU BSS: How far have we come with the transposition and what is the impact on NORM industrial activities?* Stockholm, Sweden, 5-7 December 2016.

Meita, V. (n.d.). *Planning, Architecture, Seismic, Construction and Energy-Related Criteria for Sustainable Spatial Development in the Danube Delta Biosphere Reserve Area,* https://www.academia.edu/105763507/Planning_Architecture_Seismic_Construction_and_Energy_Related_Criteria_for_Sustainable_Spatial_Development_in_the_Danube_Delta_Biosphere_Reserve_Area

Swelling and shrinking soils [Internet]. British Geological Survey. Available from: https://www.bgs.ac.uk/geology-projects/shallow-geohazards/clay-shrink-swell/

https://environment.ec.europa.eu/topics/waste-and-recycling/construction-and-demolition-waste_en

Figure 8: Publication. Source: https://www.gup.ugal.ro/ugaljournals/index.php/als/article/view/9140

2.2. International conference "Biological Sciences and Environmental Solutions for the Achievement of Sustainable Development Goals (SDGs)"

Title: *RockChain: A Technological Framework for Blockchain-Driven Circular Waste Management in Construction.*

Submitted to the international conference "Biological Sciences and Environmental Solutions for the Achievement of Sustainable Development Goals (SDGs)" – Yerevan State University.

Abstract:

The construction industry is a major contributor to global resource consumption and waste generation, posing significant environmental challenges. Traditional waste management (WM) practices often fall short in ensuring transparency, traceability, and efficiency, which are essential for advancing sustainability. This paper introduces "RockChain," a technological framework that leverages blockchain technology to drive circular waste management in construction. By integrating blockchain with circular economy (CE) principles, the proposed framework addresses critical barriers such as data fragmentation, lack of accountability, and limited cross-industry cooperation. The study reviews the current state of construction waste management, explores the potential of blockchain-enabled solutions, and highlights the synergy between blockchain and digital innovations like Building Information Modeling (BIM) and the Internet of Things (IoT). The results demonstrate that blockchain can enhance transparency, automate waste tracking, and facilitate secure information sharing, thereby supporting the transition to a circular built environment. The paper concludes that adopting blockchain-driven circular waste management systems can significantly reduce environmental impacts, promote resource efficiency, and foster sustainable practices in the construction sector.

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Conference link:

https://www.ysu.am/en/conference/869

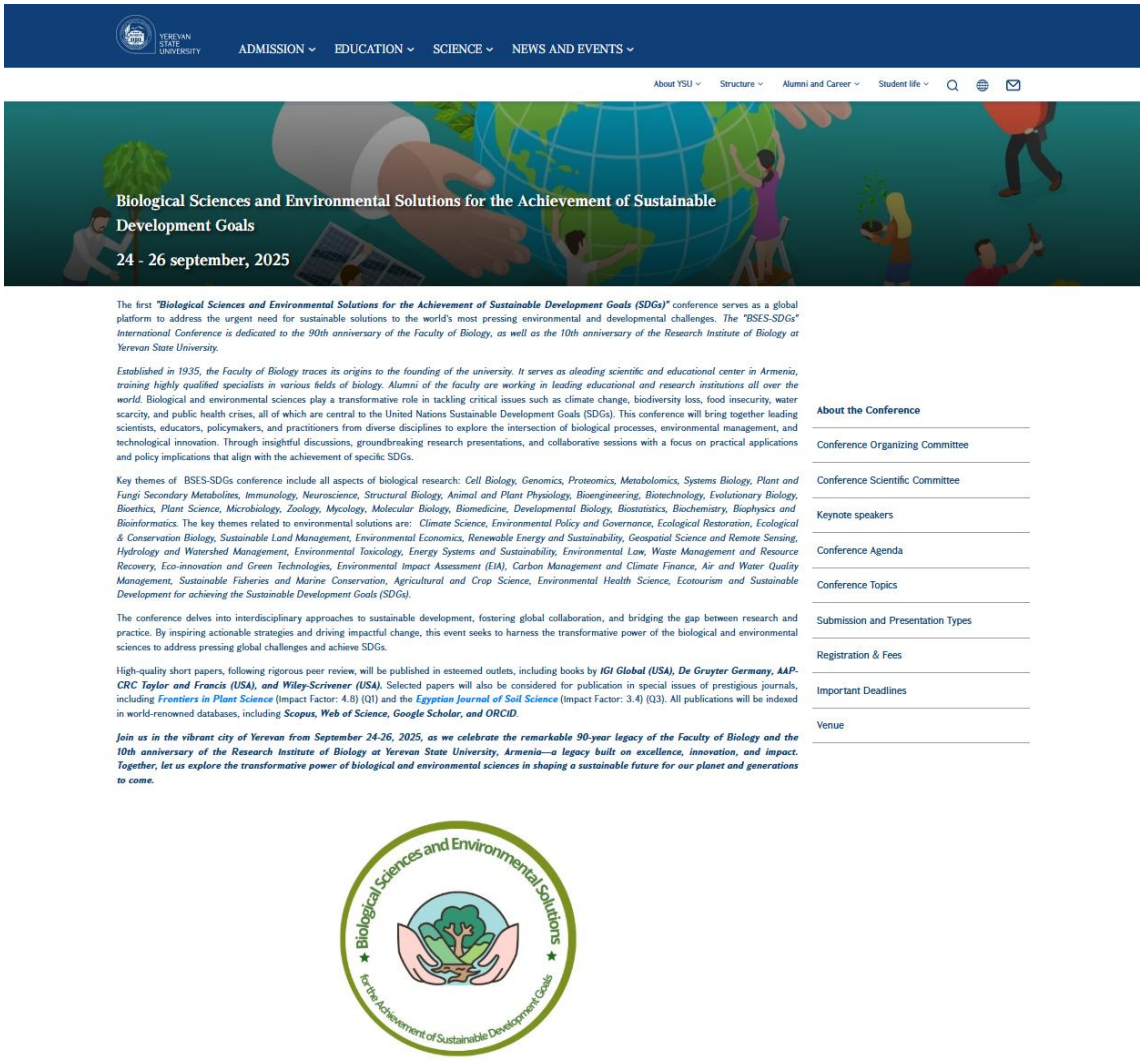

Figure 9: Website of the International Conference.

Timeline of Outputs

Title	Type	Date	Status	Dissemination Channel
RockChain: Blockchain-Driven Circular Waste Management in Construction	Conference paper	24 - 26 September 2025	Submitted	YSU Conference on SDGs

Parallel Session 3 Topic: Environmental Solutions for the Achievement of Sustainable Development Goals	
Moderator: Syuzanna Esoyan **Venue:** Faculty of Oriental Studies, 2nd floor, Ferdows hall, Yerevan State University	
13:45-14:00	**Presentation 6:** Green synthesis of Silver Nanoparticles with Antimicrobial Activity Using Biomass of Microalgae **Speaker:** Lilit Gabrielyan, Yerevan State University, Armenia
14:00-14:05	**Flash talk 7:** Influence of Intercropping and Arbuscular Mycorrhizal Fungi (AMF) on Growth and Yield of Cauliflower **Speaker:** Nikhil Malav, ITM University Gwalior, India
14:05-14:10	**Flash talk 8:** RockChain: A Technological Framework for Blockchain-Driven Circular Waste Management in Construction Sector **Speaker:** Moutaman Mohammed Ahmed Abbas, Transilvania University of Brașov, Romania
	Flash talk 9: Assessing Soil Quality Using Minimum Data Set Under Prevalent Cropping Systems in Low Hills Subtropical Zone of

Figure 10: Agenda of he conference.

Figure 11: Pictures of the presentation.

Cite of the article:

RockChain: A Technological Framework for Blockchain-Driven Circular Waste Management in Construction Sector. (2025). *Journal of Innovative Solutions for Eco-Environmental Sustainability*, 123.

Abstract Accepted – Early Bird Registration Link for BSES–SDGs 2025 Conference

From Bio Env
to mohammed.abbas@student.unitbv.ro

vin. 13.06.2025 11:51

You forwarded this message on miercuri, 25 iunie 2025 11:21:00.

Dear Participant,

We are delighted to confirm that your abstract has been officially accepted for presentation at the International Conference on **"Biological Sciences and Environmental Solutions for Achieving the Sustainable Development Goals (SDGs),"** to be held on **September 24–26, 2025**, at **Yerevan State University, Armenia**.

Thank you for confirming your mode of participation ([online/in-person]).

Figure 12: Acceptation of the publication.

DOI: 10.46991/JISEES.2025.SI1.123

RockChain: A Technological Framework for Blockchain-Driven Circular Waste Management in Construction Sector

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ABSTRACT

The construction industry is a major contributor to global resource consumption and waste generation, posing significant environmental challenges. Traditional waste management (WM) practices often fall short in ensuring transparency, traceability, and efficiency, which are essential for advancing sustainability. This paper introduces "RockChain," a technological framework that leverages blockchain technology to drive circular waste management in construction. By integrating blockchain with circular economy (CE) principles, the proposed framework addresses critical barriers such as data fragmentation, lack of accountability, and limited cross-industry cooperation. The study reviews the current state of construction waste management, explores the potential of blockchain-enabled solutions, and highlights the synergy between blockchain and digital innovations like Building Information Modeling (BIM) and the Internet of Things (IoT). The results demonstrate that blockchain can enhance transparency, automate waste tracking, and facilitate secure information sharing, thereby supporting the transition to a circular built environment. The paper concludes that adopting blockchain-driven circular waste management systems can significantly reduce environmental impacts, promote resource efficiency, and foster sustainable practices in the construction sector.

Keywords: blockchain, circular economy, waste management and recycling, construction waste, sustainability

References:

1. RockChain. Transversal technological skills for the ornamental rock industry focusing on the applicability of Blockchain in a Circular Economy. https://rockchain.eu/
2. Transilvania University of Brașov, Faculty of Civil Engineering. RockChain – Transversal technological skills for the ornamental rock industry focusing on the applicability of Blockchain in a Circular Economy. Retrieved May 26, 2025, from https://constructii.unitbv.ro/en/research-outputs/rockchain-transversal-technological-skills-for-the-ornamental-rock-industryfocusing-on-the-applicability-of-blockchain-in-a-circular-economy.html

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Figure 13: Publication. Source: https://journals.ysu.am/index.php/jisees/article/view/SI_1_2025_p123