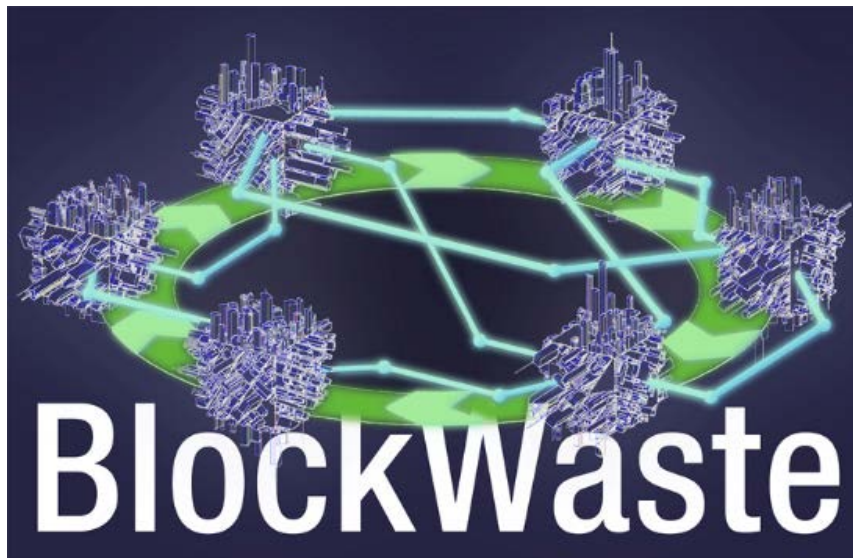


O4.A2 IT production of Open Educational Resource



[Disclaimer](#)

This project has been funded with support from the European Commission. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



Co-funded by the
Erasmus+ Programme
of the European Union

Output factsheet:

Funding Programme	Erasmus+ Programme of the European Union
Funding NA	EL01 Greek State Scholarship's Foundation (IKY)
Project full title	Innovative training based on Blockchain technology applied to waste management - BLOCKWASTE
Field	KA2 - Cooperation for innovation and the exchange of good practices KA203 - Strategic Partnerships for higher education
Project Number	2020-1-EL01-KA203-079154
Project Duration	24 months
Project Start Date	01-10-2020
Project End Date:	30-09-2022

Output details:

Output title: O4: BlockWASTE Open Educational Resource (OER)

Task Title: A2 - IT production of Open Educational Resource.

Output leader: CTM

Task leader: CTM

Author(s): David Caparros Perez, Centro Tecnológico del Mármol, Piedra y Materiales, david.caparros@ctmarmol.es, Spain, Juana Llorente, Centro Tecnológico del Mármol, Piedra y Materiales, juana.llorente@ctmarmol.es, Spain

Reviewed by: Maria Menegaki, National Technical University of Athens, menegaki@metal.ntua.gr, Greece

Document Control

Document version	Version	Amendment
V0.1	29/07/2022	Final Version – 30/09/2022

Contents

Executive Summary	ii
1 Introduction	1
1.1 Brief project description.....	1
1.2 Objectives of the document.....	1
2 BlockWASTE website	2
2.1 Development of BlockWASTE website.....	2
2.2 Presentation of BlockWASTE website	3
2.2.1 HOME	3
2.2.2 PROJECT.....	4
2.2.3 REPORTS.....	5
2.2.4 OER.....	6
2.2.5 E-LEARNING TOOL.....	7
2.2.6 NEWS.....	8
2.2.7 CONTACT	9
3 BlockWASTE Open Educational Resource (OER).....	10
3.1 Presentation of the BlockWASTE project.....	10
3.1.1 Direct access.....	11
3.1.2 Collaborative Platform	11
3.1.3 MOOC.....	13



Co-funded by the
Erasmus+ Programme
of the European Union



Executive Summary

This document outlines the development of the Open Educational Resource (OER) platform. The OER was produced under the Intellectual Output 4 " BlockWASTE Open Educational Resource (OER)" of the BlockWASTE project. The document describes the steps taken for the development of the BlockWASTE project website and the various sections/pages. Finally, it presents analytically the OER platform and the training material that was developed.



Co-funded by the
Erasmus+ Programme
of the European Union



1 Introduction

1.1 Brief project description

BlockWASTE aims to implement transnationally new educational contents with the goal of training its students in the partner countries and providing them with the necessary basic skills that allow them to act professionally as future workers in the sector, adding digital competences required by companies that are embracing the process of digital transformation. In this sense, the project is addressed to:

- Enterprises and SMEs, IT professionals, urbanisms and waste management professionals.
- Universities (professors, students and researchers).
- Public bodies

The project includes four Intellectual Outputs as follows:

- O1. Learning materials for interdisciplinary Blockchain-MSW
- O2. European common curriculum on MSW applying Blockchain technologies to Circular Economy strategies
- O3. E-Learning tool based-on Blockchain-MSW focused on Circular Economy
- O4. BlockWASTE Open Educational Resource (OER)

1.2 Objectives of the document

This report is included in the task “O4-A2. IT production of Open Educational Resource”, corresponding to Intellectual Output 4 " BlockWASTE Open Educational Resource (OER)" of the BlockWASTE project.

An Open Educational Resource has been designed and produced to support the implementation of the produced BlockWASTE Course. Training materials have been produced for the Open Educational Resource (OER).

Specific multimedia materials have been created for the REA, which serve as an informative basis so that all students and professionals from the sectors involved have the necessary teaching methodologies to implement blockchain technology in waste management.

The training materials are open to any user. It is totally intuitive, in order to make the user take part in the learning process as much as possible.

The BlockWASTE OER and all the information about the project are available in the following url:

- BlockWASTE project web: <https://blockwasteproject.eu/>

- BlockWASTE OER: <https://blockwasteproject.eu/oer/>

The content of this document can be found in each of the partners' languages on the website.

2 BlockWASTE website

2.1 Development of BlockWASTE website

This website of the BlockWASTE project was created by CTM during the first period of the project and it is used as a common place to share the products of the project and base of the dissemination activities.

The first steps for the creation of this web page were taken in the first meeting of the project held online, where CTM, as the partner in charge of the development of the web page and the platform, proposed some of the web addresses which were valid for the project and which were available. Between all the partners they decided that it would be <https://blockwasteproject.eu/>

Decisions were also made about the logo of the project that would appear on the website. As it can be seen in the image below, the logo of the project appears on the main screen of the web page.



Once all the graphic details of the website, the menu and the logos were decided, designed and implemented, basic information about the project, such as the summary, the objectives, the list of reports developed during the project, etc., started to be included. Subsequently, the finalised documents resulting from the research and studies carried out by the project partners have been uploaded.

The BlockWASTE website includes the main intellectual outputs of the project, such as the E-Learning Tool (<https://blockwasteproject.eu/elearning-tool/>) and the OER (<https://blockwasteproject.eu/oer/>).

It should be noted that the entire website is available in all the languages of the project partners. For the translation of the available contents, all project partners participated by providing translations into their mother tongues, as well as making corrections to the English translations.

2.2 Presentation of BlockWASTE website

In the following imagen, it should be seen the different section in which the BlockWaste project website is divided and the links to each of these sections.

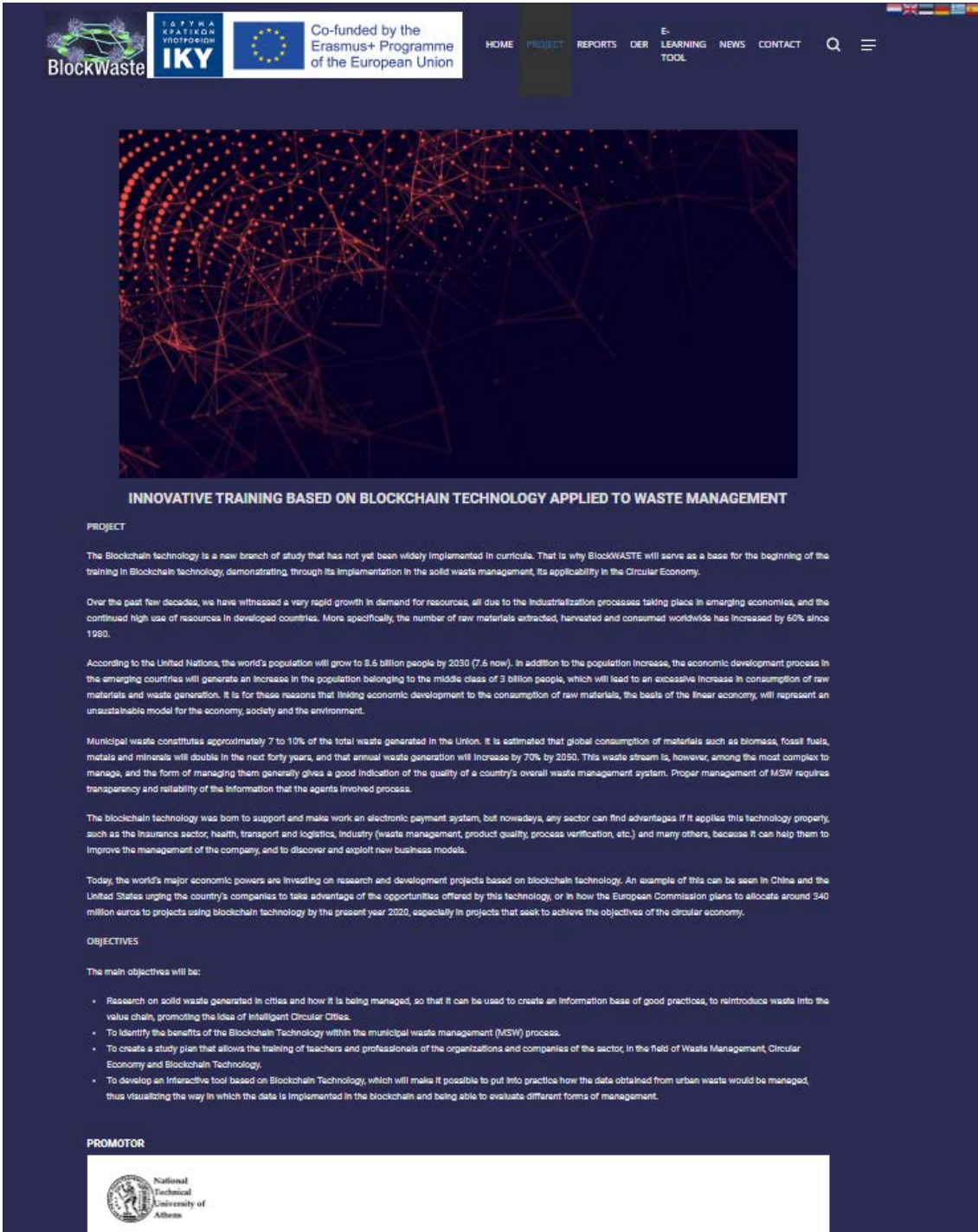
2.2.1 HOME

Link: <https://blockwasteproject.eu/>



2.2.2 PROJECT

Link: <https://blockwasteproject.eu/project/>



BlockWaste **IKY** **Co-funded by the Erasmus+ Programme of the European Union** HOME PROJECT REPORTS DIER E-LEARNING TOOL NEWS CONTACT Q ≡

INNOVATIVE TRAINING BASED ON BLOCKCHAIN TECHNOLOGY APPLIED TO WASTE MANAGEMENT

PROJECT

The Blockchain technology is a new branch of study that has not yet been widely implemented in curricula. That is why BlockWASTE will serve as a base for the beginning of the training in Blockchain technology, demonstrating, through its implementation in the solid waste management, its applicability in the Circular Economy.

Over the past few decades, we have witnessed a very rapid growth in demand for resources, all due to the industrialization processes taking place in emerging economies, and the continued high use of resources in developed countries. More specifically, the number of raw materials extracted, harvested and consumed worldwide has increased by 60% since 1980.

According to the United Nations, the world's population will grow to 8.5 billion people by 2030 (7.6 now). In addition to the population increase, the economic development process in the emerging countries will generate an increase in the population belonging to the middle class of 3 billion people, which will lead to an excessive increase in consumption of raw materials and waste generation. It is for these reasons that linking economic development to the consumption of raw materials, the basis of the linear economy, will represent an unsustainable model for the economy, society and the environment.

Municipal waste constitutes approximately 7 to 10% of the total waste generated in the Union. It is estimated that global consumption of materials such as biomass, fossil fuels, metals and minerals will double in the next forty years, and that annual waste generation will increase by 70% by 2050. This waste stream is, however, among the most complex to manage, and the form of managing them generally gives a good indication of the quality of a country's overall waste management system. Proper management of MSW requires transparency and reliability of the information that the agents involved process.

The blockchain technology was born to support and make work an electronic payment system, but nowadays, any sector can find advantages if it applies this technology properly, such as the insurance sector, health, transport and logistics, industry (waste management, product quality, process verification, etc.) and many others, because it can help them to improve the management of the company, and to discover and exploit new business models.


Today, the world's major economic powers are investing on research and development projects based on blockchain technology. An example of this can be seen in China and the United States urging the country's companies to take advantage of the opportunities offered by this technology, or in how the European Commission plans to allocate around 340 million euros to projects using blockchain technology by the present year 2020, especially in projects that seek to achieve the objectives of the circular economy.

OBJECTIVES

The main objectives will be:

- Research on solid waste generated in cities and how it is being managed, so that it can be used to create an information base of good practices, to reintroduce waste into the value chain, promoting the idea of Intelligent Circular Cities.
- To identify the benefits of the Blockchain Technology within the municipal waste management (MSW) process.
- To create a study plan that allows the training of teachers and professionals of the organizations and companies of the sector, in the field of Waste Management, Circular Economy and Blockchain Technology.
- To develop an interactive tool based on Blockchain Technology, which will make it possible to put into practice how the data obtained from urban waste would be managed, thus visualizing the way in which the data is implemented in the blockchain and being able to evaluate different forms of management.

PROMOTOR



National Technical University of Athens

2.2.3 REPORTS

Link: <https://blockwasteproject.eu/reports/>



BlockWaste **IKY** Co-funded by the Erasmus+ Programme of the European Union

HOME PROJECT **REPORTS** OER E-LEARNING TOOL NEWS CONTACT

HERE YOU WILL FIND ALL DOCUMENTS AND REPORTS OF THE BlockWASTE PROJECT

01. Learning materials for interdisciplinary Blockchain-MSW

- 01/A1. Comparative study of municipal solid waste (MSW) management regulations in each country.
- 01/A2. Comparative study of Information technologies applied to waste management at international level.
- 01/A3. Handbooks of Circular Economy strategies applied to Municipal Waste Management using Blockchain technology.

02. European common curricular on MSW applying Blockchain technologies for Circular Economy strategies

- 02/A1.1. Comparative study of the curricula focused on Blockchain technology in the participating countries.
- 02/A1.2. Comparative study of the curricula focused on municipal waste management (MSW) in the participating countries.
- 02/A2. Production of a municipal waste management curriculum using blockchain technology.

03. E-Learning tool based-on Blockchain-MSW focused on Circular Economy

- 03/A1. Production of the database for the E-Learning Tool.
- 03/A2. Guideline notes and functional specifications.
- 03/A3. Interactive BlockWASTE Tool.
- 03/A4. Technical test and implementation of IT improvements Interactive BlockWASTE Tool.
- 03/A5. Pedagogical test and implementation of IT improvements of Interactive BlockWASTE Tool.

04. BlockWASTE Open Educational Resource (OER)

- 04/A1. Building the Collaborative Platform.
- 04/A2. IT production of Open Educational Resource.
- 04/A3. Pilot BlockWASTE Course implementation: environment test and technical improvements.

2.2.4 OER

Link: <https://blockwasteproject.eu/oer/>

BlockWaste IKY Co-funded by the Erasmus+ Programme of the European Union

HOME PROJECT REPORTS OER E-LEARNING TOOL NEWS CONTACT

OPEN EDUCATIONAL RESOURCE

In this open-access platform, you can access all the information collected during and beyond the end of the project. The platform provides more information for self-learning education.

COLLABORATIVE PLATFORM

DIRECT ACCESS PRIVATE AREA

National Technical University of Athens Centro Tecnológico del Mármol, Piedra y Materiales SAKION UNIVERSITY OF APPLIED SCIENCES TAL TECH FH Bielefeld University of Applied Sciences

Project code 2020-1-EL01-KA203-079154



"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein".

© 2022 BlockWaste, by Centro Tecnológico del Mármol, Piedra y Materiales - All rights reserved

2.2.5 E-LEARNING TOOL

Link: <https://blockwasteproject.eu/elearning-tool/>

The screenshot shows the homepage of the BlockWaste E-Learning Tool. At the top left, there are logos for BlockWaste, IKY (Instituto Tecnológico y de Estudios Superiores de Occidente), and the Erasmus+ Programme of the European Union. A navigation menu includes links for HOME, PROJECT, REPORTS, DIER, E-LEARNING TOOL (highlighted), NEWS, and CONTACT. A search icon and a hamburger menu icon are also present. The main content area features a large image of a person's hands holding a tablet with a futuristic, glowing globe interface. Below the image, the text "E-LEARNING TOOL" is displayed, followed by a prominent "LOG IN" button. At the bottom, a row of partner logos is shown: National Technical University of Athens, Centro Tecnológico del Mármol, Piedra y Materiales, SAXION UNIVERSITY OF APPLIED SCIENCES, TAL TECH, and FN Waterford University of Applied Sciences.

Project code 2020-1-EL01-KA203-079154



"This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein".

© 2022 BlockWaste. by Centro Tecnológico del Mármol, Piedra y Materiales - All rights reserved

2.2.6 NEWS

Link: <https://blockwasteproject.eu/news/>



BlockWaste **IKY** **Co-funded by the Erasmus+ Programme of the European Union**

HOME PROJECT REPORTS DIER E-LEARNING TOOL **NEWS** CONTACT

NEWS AND EVENTS

Save the date! The BlockWaste consortium holds its first project seminar
November 26, 2021
Recycling your mindset? You can make a difference. On 10 December next, the First International Online Seminar of European common curricular on MSW applying Blockchain technology for Circular Economy strategies

[Read More >](#)

Seguimos trabajando en el proyecto europeo BlockWASTE
April 21, 2021
El pasado lunes 12 de abril, la Asociación Empresarial Centro Tecnológico del Mármol, Piedra y Materiales asistió a la reunión online de seguimiento del proyecto europeo BlockWASTE "Innovative training"

[Read More >](#)

Reunión técnica online del proyecto europeo BlockWASTE
March 9, 2021
La Asociación Empresarial de Investigación Centro Tecnológico del Mármol, Piedra y Materiales asistió el pasado lunes 1 de marzo a la reunión técnica del proyecto BlockWASTE bajo el título

[Read More >](#)

Celebrada la segunda reunión online del proyecto europeo BlockWASTE
February 9, 2021
La Asociación Empresarial de Investigación Centro Tecnológico del Mármol, Piedra y Materiales asistió el pasado 1 de febrero a la segunda reunión del proyecto BlockWASTE bajo el título "Innovate"

[Read More >](#)

Celebrado el primer encuentro online del proyecto europeo BlockWASTE
November 30, 2020
La Asociación Empresarial de Investigación Centro Tecnológico del Mármol, Piedra y Materiales asistió el pasado 26 de noviembre a la primera reunión online del proyecto "BlockWASTE: Innovative training based on"

[Read More >](#)

Comienza el proyecto europeo BlockWASTE del programa Erasmus+
November 1, 2020
La Asociación Empresarial de Investigación Centro Tecnológico del Mármol, Piedra y Materiales participa en el proyecto "BlockWASTE: Innovative training based on Blockchain technology applied to waste management", que será coordinado

[Read More >](#)

2.2.7 CONTACT

Link: <https://blockwasteproject.eu/contact/>

BlockWaste IKY Co-funded by the Erasmus+ Programme of the European Union

HOME PROJECT REPORTS OER E-LEARNING TOOL NEWS CONTACT

CONTACT

Your name (required)

Your email (required)

Subject

Message

Please enter the CAPTCHA code **KFHU**

Send

You consent, by checking this box, to receive commercial and courtesy communications related to our entity through the telephone, ordinary postal mail, fax, email or equivalent electronic means of communication.

National Technical University of Athens Centro Tecnológica del metal, plomo y materiales SAXION UNIVERSITY OF APPLIED SCIENCES TAL TECH FN Bielefeld University of Applied Sciences

3 BlockWASTE Open Educational Resource (OER)

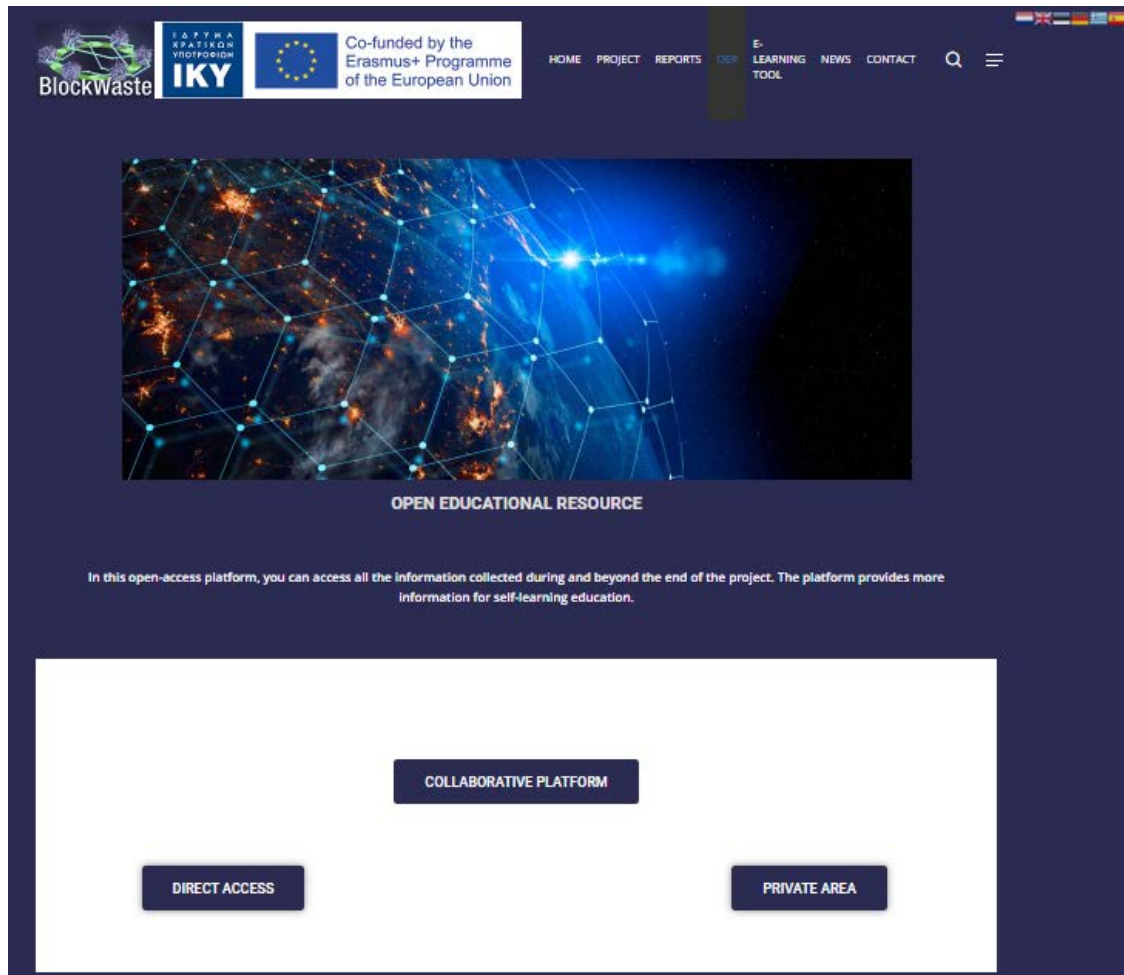
This Open Educational Resource was designed and produced to support the implementation of the BlockWASTE Course and Interactive BlockWASTE Tool. It is available for free on the project website for being used as a supporting material in the numerous courses.

The BlockWASTE OER is considered as one of the core tasks of the project and therefore need the special attention in its correct development and design. For that reason, CTM was the developer of this OER counting with the support and contribution of rest of partners.

3.1 Presentation of the BlockWASTE project

The OER of the BlockWASTE project is available in the link: <https://blockwasteproject.eu/oer/>

In order for this Open Educational Resource to contain all the information and contents of the project in an orderly and intuitive way for consultation, it was decided to divide it into as many sections as it contains different contents.



The different sections created were:

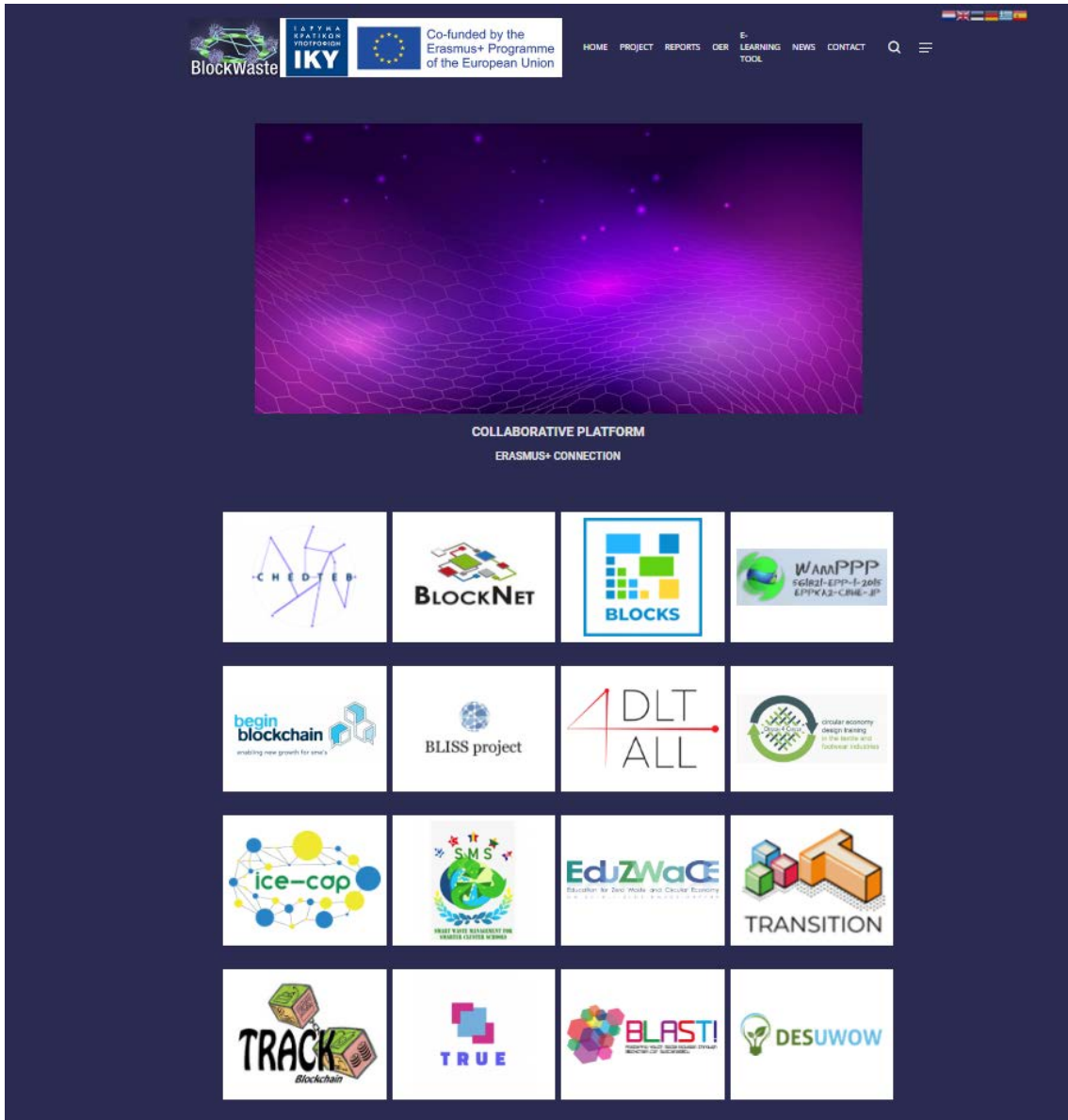
3.1.1 Direct access

Within the Direct access section , we can find 3 sub-sections , :

- **Regulations** (<https://blockwasteproject.eu/oer/regulations/>). This sub-section contains the documents that contain regulations related to the project's subject matter, be it blockchain, waste management or circular economy.
- **Technical documents** (<https://blockwasteproject.eu/oer/technical-documents/>). In this sub-section we can find the reports of the different tasks of the BlockWASTE project.
- **Dissemination** (<https://blockwasteproject.eu/oer/dissemination/>). In this last sub-section, you can view the report of the dissemination actions that have been carried out for the BlockWASTE project.

3.1.2 Collaborative Platform

The Collaborative Platform hosted within the OER, (<https://blockwasteproject.eu/oer/collaborative-platform/>) showcases numerous projects related to the main topics of the project (waste management and blockchain) in order to establish synergies with other previous projects and to take advantage of the training materials that have been developed in those projects to be able to complement and extend the knowledge.



By clicking on the logos you can get more information on each of the projects and go to their website (if available).



Begin

"Instead of putting the taxi driver out of a job,

3.1.3 MOOC

The MOOC (Massive Open Online Course), hosted by the OER (<https://class.blockwasteproject.eu/>), supports teachers and learners in the delivery of courses. It is a flexible learning modality as participants can access it from anywhere and at any time.



Discover Our Programs



You Can Enroll Wide Range Of Courses In This Canvas To Full Fill Your Dreams.



Test

Municipal waste management using blockchain technology

Prueba

By accessing the programme "Municipal waste management using blockchain technology" we can see the materials created in the project, as well as complementary material (regulations, videos and related articles, etc.) for the expansion of users' knowledge.



Block Waste Project

BASED ON BLOCKCHAIN TECHNOLOGY APPLIED TO WASTE MANAGEMENT

Dashboard / Courses / BlockWASTE Course

Turn editing

Navigation

- Dashboard
- Site home
- Site pages
- Courses
 - BlockWASTE Course
 - Participants
 - Badges
 - Competencies
 - Grades
 - General
 - UNIT 1. Municipal solid waste
 - UNIT 2. Existing MSW management strategies
 - UNIT 3. CIRCULAR ECONOMY
 - UNIT 4. Circular Economy and MSW management
 - UNIT 5. Introduction to the Blockchain
 - UNIT 6. Transforming Municipal Waste Management wi...
 - UNIT 7. Guidance for starting Blockchain based Was...
 - UNIT 8. Blockchain based Waste Management Game
 - handbook 1. Waste management and Circular Economy
 - HANDBOOK 2.

GENERAL

Announcements

Brief project description

Mark as done

UNIT 1. MUNICIPAL SOLID WASTE

Presentation of the unit 1.

Mark as done

Video 1. Environmental impacts of landfill leachate.

Mark as done

Video 2. How does a landfill work?

Mark as done

Video 3. Learn the Principles of Landfill Gas Generation.

Administration

- > Course administration
 - ⚙ Edit settings
 - ⚙ Course completion
 - > Users
 - ⌵ Filters
 - > Reports
 - ⚙ Gradebook setup
 - > Badges
 - 📁 Backup
 - ↕ Restore
 - ↕ Import
 - 📄 Copy course
 - ↶ Reset
 - > Question bank
 - 🔊 Accessibility toolkit

> Site administration

Search in settings 🔍

📄 Video 4. How gases and liquids are drained from landfills.

Mark as done

📄 Video 5. Advantages and Disadvantages of Waste Incineration.

Mark as done

📄 Video 6. Impacts and limitations of recycling.

Mark as done

📄 Video 7. What a Waste 2.0: Everything You Should Know About Solid Waste Management.

Mark as done

📄 Video 8. Why don't we just burn our trash?:

Mark as done

UNIT 2. EXISTING MSW MANAGEMENT STRATEGIES

📄 Presentation of the unit 2.

Mark as done

📄 Video 1. Video on Waste Hierarchy

Mark as done

📄 Video 2. Brief introduction to landfills


Mark as done

📄 Video 3. Organics Decomposition in a Landfill


Mark as done

📄 Video 4. Landfill leachate


Mark as done

 Video 5. Landfill gas


Mark as done

 Video 6. Waste to Energy - process explanation


Mark as done

 Video 7. Waste to Energy: Inside the SYSAV Plant in Malmo, Sweden


Mark as done

 Video 8. Waste-To-Energy Pyrolysis Conversion Process


Mark as done

 Video 9. Waste to Energy by Advanced Gasification


Mark as done

 Video 10. Lecture "RDF from municipal solid wastes" by Dirk Lechtenberg

Mark as done


 Video 11. Organic waste treatment

Mark as done


 Video 12. Recycling municipal waste


Mark as done


UNIT 3. CIRCULAR ECONOMY


 Presentation of the unit 3.


Mark as done


 Video 1. Linear Economy Model.

 Video 2. Explaining the Circular Economy and How Society Can Re-think Progress | Animated Video Essay:


 Video 3. Circular Economy: Beyond Recycling.


 Video 4. What is a linear economic model?


 Video 5. Defining linear vs circular economy.


 Video 6. How to move from a linear economy to a circular economy.


UNIT 4. CIRCULAR ECONOMY AND MSW MANAGEMENT


 Presentation of the unit 4.

 Video 1. Webinar: Introduction to Smart Waste Management | WasteHero


 Video 2. Circular Economy and solid waste management.

 Video 3. Circular Economy in Waste management.


 Video 4. Can A Circular Economy Make Trash Obsolete?

 Video 5. Towards a circular economy - waste management in the EU.


Mark as done

 Video 6. Waste management and Circular Economy at POLIMI (Part 1)


Mark as done

 Video 7. Waste Management 4.0 and Tech Trends – Waste Metering Powered by AI.


Mark as done

 Video 8. Recycling Robots - Companies Turn to Robots to Help Sort Recyclables & Waste - Waste Robotics.


Mark as done

 Video 9. Robotics & AI Innovation Network | Using RAI to support waste management.

Mark as done


 Video 10. Case study: IoT based waste management for Santander smart city.

Mark as done


 Video 11. A Novel IOT and AI based Smart Waste Management System.

Mark as done


UNIT 5. INTRODUCTION TO THE BLOCKCHAIN

 Presentation of the unit 5.


Mark as done

 Video 1. Blockchain In 7 Minutes | What Is Blockchain | Blockchain Explained | How Blockchain Works | Simplilearn

Mark as done

 Video 2. How does a blockchain work - Simply Explained.


Mark as done

 Video 3. What is A Smart Contract? | Smart Contracts Tutorial | Smart Contracts in Blockchain | Simplilearn.


Mark as done

 Video 4. Types of Blockchain Explained | Blockchain Types

Mark as done


 Video 5. What is a dApp? Decentralized Application on the Blockchain

Mark as done


 Video 6. Bitcoin SV massive open online course

Mark as done

UNIT 6. TRANSFORMING MUNICIPAL WASTE MANAGEMENT WITHIN THE CIRCULAR ECONOMY


 Presentation of the unit 6.

Mark as done

 Video 1. Circular economy in waste management | ACCIONA.


Mark as done

UNIT 7. GUIDANCE FOR STARTING BLOCKCHAIN BASED WASTE MANAGEMENT PROCESSES


 Presentation of the unit 7.

Mark as done

UNIT 8. BLOCKCHAIN BASED WASTE MANAGEMENT GAME


 Guideline notes and functional specifications

Mark as done


 Description of the interactive tool.

Mark as done

HANDBOOK 1. WASTE MANAGEMENT AND CIRCULAR ECONOMY

 Handbook 1.


Mark as done

 BlockWASTE Handbook No1 FV

Mark as done

Hidden from students

HANDBOOK 2. BLOCKCHAIN

 Handbook 2.

Mark as done

HANDBOOK 3. BLOCKCHAIN BASED MUNICIPAL WASTE MANAGEMENT

 Handbook 3.

Mark as done

Users can work their way through the programme by reading the topics and playing the accompanying videos.



Dashboard / Courses / BlockWASTE Course / UNIT 1. Municipal solid waste / Presentation of the unit 1.

Navigation

- Dashboard
- Site home
- Site pages
- Courses
 - BlockWASTE Course
 - Participants
 - Badges
 - Competencies
 - Grades
 - General
 - UNIT 1. Municipal solid waste
 - Presentation of the unit 1.
 - Video 1: Environmental impacts of landfill leachate.
 - Video 2. How does a landfill work?
 - Video 3. Learn the Principles of Landfill Gas Gene...
 - Video 4. How gases and liquids are drained from la...
 - Video 5. Advantages

Presentation of the unit 1.

Mark as done

The slide features a central graphic of a city with a green blockchain network overlay. The text 'UNIT 1. Municipal Solid Waste' is at the top, and 'BlockWaste' is in large letters below. A list of sub-topics is at the bottom: 1.1. Definition, 1.2. Classification, 1.3. MSW st... The slide also includes an Erasmus+ logo and a 'Pàgina 1 de 19' indicator.

Last modified: Monday, 6 June 2022, 9:20 AM



Co-funded by the Erasmus+ Programme of the European Union





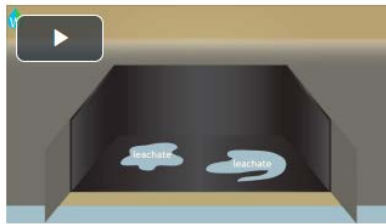
Dashboard / Courses / BlockWASTE Course / UNIT 1. Municipal solid waste / Video 1. Environmental impacts of landfill leachate.

Navigation

- Dashboard
- Site home
- Site pages
- Courses
 - BlockWASTE Course
 - Participants
 - Badges
 - Competencies
 - Grades
 - General
 - UNIT 1. Municipal solid waste
 - Presentation of the unit 1.
 - Video 1. Environmental impacts of landfill leachate.**
 - Video 2. How does a landfill work?
 - Video 3. Learn the Principles of Landfill Gas

Video 1. Environmental impacts of landfill leachate.

Mark as done



Last modified: Wednesday, 25 May 2022, 8:20 AM

◀ Presentation of the unit 1.

Jump to...

Video 2. How does a landfill work? ▶