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Including EVERyone in GREEN Data Analysis (EVERGREEN)

2022-1-SK01-KA220-HED-000089149

Dissemination Plan

December 2022

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EverGreen

Including EVERyone in GREEN Data Analysis

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Identification Sheet

Project Code	**2022-1-SK01-KA220-HED-000089149**
Project Acronym	**EverGreen**
Project Full Title	**Including EVERyone in GREEN Data Analysis**

Keywords	Communication, awareness-raising, dissemination, use, mainstreaming
Abstract	This Dissemination Plan of the EverGreen project covers the main framework of the dissemination and exploitation activities. It defines the guidelines, which will be followed during the project implementation. It will define tasks and provide key dates for the planned events to ensure all the target groups will be properly and timely covered.
Disclaimer	The European Commission has funded this project. This publication reflects the author's views only, and the Commission cannot be held responsible for any use that may be made of the information contained therein.

Content

1. INTRODUCTION 6
2. PROJECT RESULT PLAN 8
3. TARGET GROUPS OF THE PROJECT 9
4. DISSEMINATION METHODS AND COMMUNICATION CHANNELS 10
4.1 Logo 10
4.2 Document templates 11
4.3 Recognition of Commission funding and use of Erasmus+ logo 11
4.4 Communication channels 12
4.5.1 Project website 12
4.5.2 Project partner websites 13
4.5.3 Banners, bulletins, posters 13
4.5.4 Social networks 14
4.5.5 Project events, research conferences and workshops devoted to the data analysis 15
4.5.6 Conference on environmental data analysis 17
4.5.7 Multiplier events 19
5. OTHER PLANNED PRESENTATIONS AND DISSEMINATION ACTIVITIES 21
6. TEACHING AND EXCHANGE OF EPERTISE FOR EDUCATIONAL STAFF 21
7. DEVELOPMENT AND PILOTING OF BACHELOR´S LEVEL EXTRA-CURRICULAR

COURSE WITH DIGITAL MODULE ON (ENVIRONMENTAL) DATA ANALYSIS 22
CONCLUSIONS 24

1.INTRODUCTION

According to the European commision, making Europe greener and more digital are the twin challenges member states need to address and resolve in the coming decades to ensure the quality of life of European citizens. These two challenges are interrelated, and advancements in technology are frequently cited as (possibly) the only way to achieve a balance between economic progress and environmental sustainability. It is expected that the annual grow of the data will be more than 11% in the period 2021-2025. This increase has necessitated a higher dependence on data analytics and machine learning as the need for machines for data processing purposes has grown, and it has become evident that data without analysis has very little value. Data & Business Analytics technologies, and AI-powered algorithms are the key "ingredients" which enable the transformation of raw data into useful information. These help companies, but also governments and societies to understand trends and threats, construct predictive models, and identify solutions to local and global challenges. Data analytics thus holds the potential to solve issues related to climate change and global warming, but also to other social challenges. Environmental data analysis can be used to collect and analyze data on an array of environmental topics, and use it as an evidence for making management, financial & community decisions (Data-Driven Decision-Making).

The EverGreen project started on September 2022. It focuses on the environmental data analysis. It will drive you through the process of collecting data, evaluating its relevance, consistency and usability. The main contribution of the project is related to the data analysis itself. There are various concepts, approaches and techniques, which will be described on multiple levels, based on the target audience. The project aims to bring and explain the concepts of data analytics to a wider range of people. First and foremost, these are the university students, like IT specialists, but also ordinary students of any field. Besides, we will also primarily focus on the NEETs. Our presentations and dissemination activities will be, however, spread wider. Namely, the results and outputs will be shared among business communities and secondary school students. The presentations, discussions and provided materials will be always adapted to the target audience. To do that, we will use the unique expertise of the project partners.

The project's overall purpose is to contribute to the digital and green transformation of higher education through crosssectoral transnational cooperation and IT curriculum modernization. This will be carried out through the achievement of 3 general objectives on project level: 1. To develop the digital and sustainability competences of educators in higher education and trainers working with NEETs through educator training and expertise exchange, 2. To increase IT students' employability and environmental consciousness through the development of a joint course curriculum and learning and teaching materials on data analysis of environmental issues in partnership with the business sector. 3. To make higher education more inclusive of diverse groups of learners through cross-sectoral partnership, and the offering of more modular and flexible forms of education. All objectives will contribute to the better integration of higher education institutions in local communities, and improve their social and environmental footprint on local and EU level. The project will produce the following concrete results:

- improved digital and sustainability competences of 10 educators (8 in higher education and 2 working with NEETs),
- improved employability and knowledge of data analysis, in particular of environmental issues, of 60 undergraduate students (15 students from each of the higher education institutions included in the project) & 8-10 NEETs,
- created blended model of learning in higher education through cross-sectoral transnational cooperation among 4 higher education institutions, 2 companies from the IT and green production sectors, and a NEET academy.

The project is implemented by 4 universities, NEET academy and two associated partners (Knauf Insulation providing the environmental data and Oracle serving technological background for the project):

Organization ID	Legal name	Country	City
E10209360	University of Žilina	Slovakia	Žilina
E10070906	University of Šibenik (Veleučilište u Šibeniku)	Croatia	Šibenik
E10209163	University of Maribor	Slovenia	Maribor / Kranj
E10206864	University of Pardubice	Czech Republic	Pardubice
E10277275	Inkubator za nove tehnologije Trokut Šibenik d.o.o.	Croatia	Šibenik

2. PROJECT RESULT PLAN

The project results will be continuously and intensively shared within various channel during the whole run of the project. Furthermore, project results will also be presented, shared and improved after the project is officially ended. It will primarily focus on the target groups specified in the project proposal, but will also focus on other groups, mostly defined by the research community.

Dissemination, encompassing both information diffusion and awareness-raising, can commence at the outset of the project and increase in intensity as results emerge. Utilization, however, is a process that extends beyond the duration of the project and occurs only when it becomes feasible to translate results and lessons learned into enhanced practices or policies.

The objectives of the Dissemination plan are following:

- Present and share information about the project to the target groups, showing them advantages and applicability of the project in the real world.
- Present the outputs and study materials for the wide spectrum of categories, like university students, vocational students, teachers, business and research community. Each group will get different presentations and formats, specifically served for the target audience.
- Raise awareness and importance of the environmental data analysis served by the EverGreen project.
- Real applicability of the results to the target group spheres.

The Dissemination plan is designed to ensure that the target groups will continue to utilize the project outcomes beyond the confines of the project itself. It has been structured around key principles that emphasize strong relationships with the target groups and stakeholders, the activation of both national and international networks of all partners, and the utilization of the project website as a crucial channel for dissemination. By leveraging the varied experiences within the European partnership, dissemination activities will be systematically developed throughout the project's duration to enhance their impact on the target groups and to ensure ongoing engagement among project partners, target groups, potential beneficiaries, and end-users. In alignment with these principles, the Plan will assist partners in creating focused and effective dissemination activities while preparing to capitalize on the project results.

3. TARGET GROUPS OF THE PROJECT

The following target groups will be reached:

- **10 ICT professors, lecturers, postgraduate teaching assistants and trainers** (2 per partner institution) will participate in training and expertise-exchange in the form of 2 three-day trainings on (environmental) data analytics. Educators will be selected locally based on their expertise, experience and interest. All would need to speak English and possess complementary expertise as the objective of the educational activity is capacity building through the exchange of expertise. Educators will volunteer to participate in activities and they will need to submit an application form comprising a CV and explaining their interest in the project and the expertise they will bring in.
- **60 bachelor-level students registered in IT programs at 4 higher education institutions** (15 per institution) will participate in a piloted extra-curricular course on data analysis, in particular of environmental and sustainability issues. Students will not need to have previous advanced IT knowledge. They will enroll the extra-curricular course on their own, based on their academic and professional interests. The course will develop their technical skills, such as how to analyze a complex set of data and design and implement analysis-based solutions. Because of the importance of environmental issues for their

generation, students will be also educated about the impact of the environment on the quality of life in their communities, and how data analytics could be used to resolve environmental challenges.

- **8-10 young people (18 to 29-years old) who are not in employment, training or education (NEET)** will be included in the project as a supplementary group. They will be enrolled locally and will complete the course on data analytics through blended learning: attending theoretical lectures at universities and completing practical exercises independently online. The SME partner Trokut will coordinate the process of selection of NEET participants.

4. DISSEMINATION METHODS AND COMMUNICATION CHANNELS

A combination of mechanisms and tools was identified to facilitate dissemination and subsequent utilization among the target groups. These mechanisms and tools were categorized as follows:

- Project website - https://evergreen.uniza.sk/
- Communication channels on social media – Facebook and LinkedIn
- Project partner web sites
- Dissemination and promotion materials (leaflets, press releases, bulletins, demo USBs,...),
- Exploitation channels and materials,
- Presentations to the Oracle Academy community,
- Presentation to the business and research communities during the high rated conferences.
- Specific conference on environmental data analysis organized by the project team.

4.1 Logo

A visual identity will be developed to effectively communicate and promote the project, thereby reinforcing the Evergreen project identity. This visual identity will guarantee a cohesive

presentation of all documents and promotional materials associated with the project. The created logo was approved by the project team and should be mandatorily used in all project documents, promotional materials and outputs.

4.2 Document templates

To ensure the consistency of the graphic image, all documents (e-documents and printed materials) will be based on a standard corporate design with the logos.

The templates for Reports (Word Document) and Presentations (PowerPoint Document) follow this document's basic layout graphic rules. The are available in the MS Teams channel.

Templates will also save time and effort for the partners since no further design work will be required.

4.3 Recognition of Commission funding and use of Erasmus+ logo

Beneficiaries shall always use the European emblem (the 'EU flag') and the name of the European Union spelled out in full in all communication and promotional material. The preferred option to communicate about EU funding through the Erasmus+ Programme is to write 'Co-funded by the European Union' next to the EU emblem. Examples of acknowledgment of EU funding and translations of the text are available at http://eacea.ec.europa.eu/abouteacea/visual-identity_en. The brand name of 'Erasmus+' shall not be translated.

Guidelines for beneficiaries on using the EU emblem in the context of EU programs are available at https://commission.europa.eu/resources-partners/european-commission-visual-identity_en.

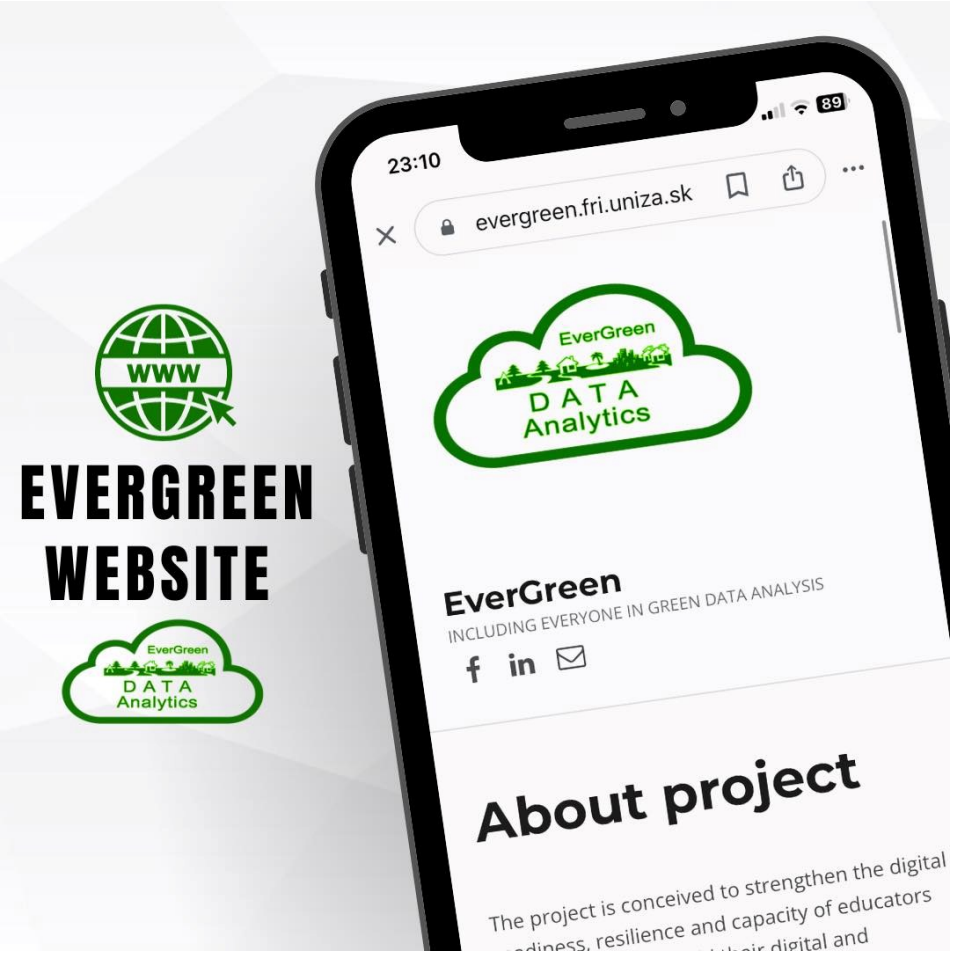
4.4 Communication channels

To engage the target audiences effectively, EverGreen project will employ a range of communication channels and collaborate with pertinent national and international organizations and initiatives that have aligned goals. The subsequent channels will be utilized for the communication and dissemination of project activities and outcomes:

- Project website
- Project partner websites
- Banners, bulletins, posters
- Social networks – Facebook and LinkedIn
- Project events (workshops)
- Conference on environmental data analysis
- Mutlitplier events

4.5.1 Project website

The project website https://evergreen.uniza.sk/ will serve the platform for storing and accessing project outputs, teaching and training materials, as well as the promotional materials and references.



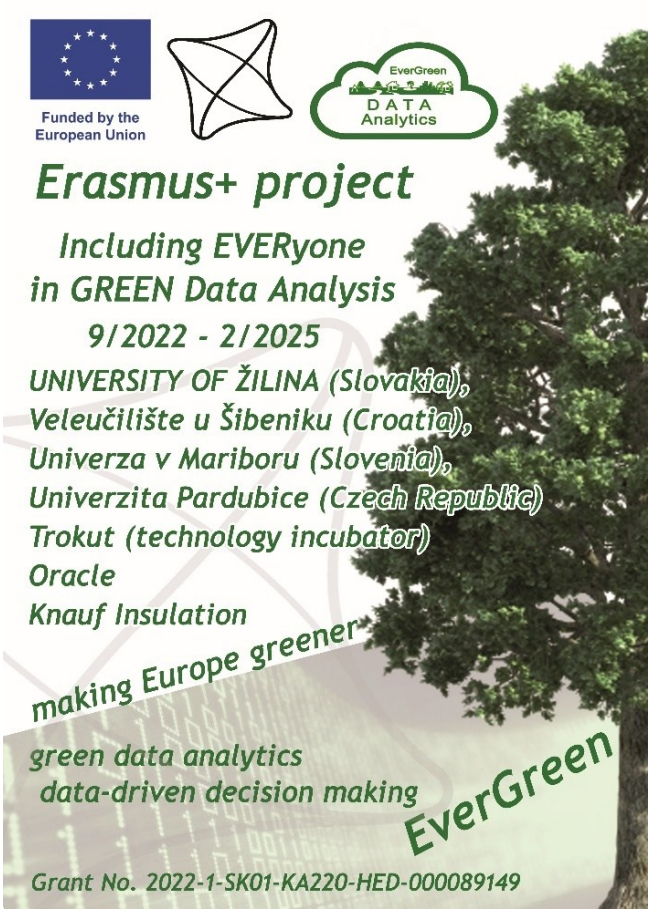
4.5.2 Project partner websites

Each partner will share the results and present outputs and dissemination activities locally through their websites, bulletins, posters, etc.

4.5.3 Banners, bulletins, posters

Project partners coordinated by the consortium Leader will prepare and update posters for sharing the project information during the implementation. These materials will be used during each event. Besides, each partner will create own banner, which will be used during the multiplier events, but

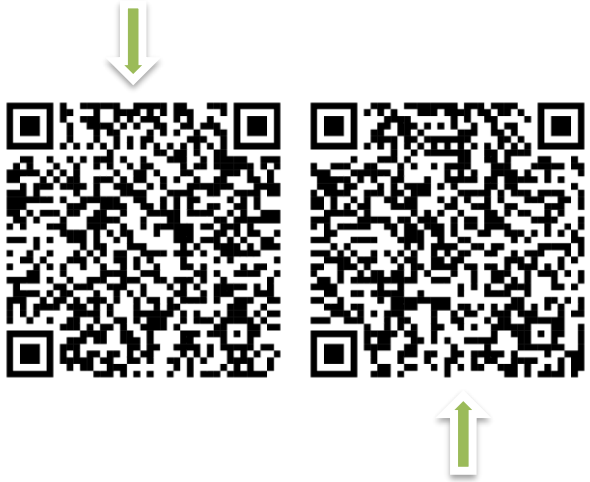
will be visible in the particular insitution in a publicly available space.



4.5.4 Social networks

For disseminating activities and project presentations, additionally to the project website, two omst popular social media will be used – Facebook and LinkedIn. The content will be coordinated by the Trokut. All partners are invited to prepare ideas and content for those media to promote outputs and results.

https://www.facebook.com/profile.php?id=100089499622431



https://www.linkedin.com/company/projectevergreen/

4.5.5 Project events, research conferences and workshops devoted to the data analysis

Additionally to the project proposal itself, our target group will also be research community, various workshops will be organized, part of the well-known and established world conferences for presenting the outputs and creating a platform for sharing, investigating and discussing the project outcomes, data insights and overall environmental topics. One of the key conference will be FRUCT, which is organized twice a year as a hybrid event. There will be a separate track for the conference run dealing with the DataWorld workshop (https://www.fruct.org/conferences/33/6th-dataworld-workshop/) focusing on the database approaches in a more generalized manner. Honestly, when dealing with the complex environmental data, it is necessary to point to the whole process and ensure efficiency of the processing. Therefore the topics of smart cities, SQL tuning, cloud computing, data-driven application development, workload managent ordatabase analytics, marts and warehouses are also included.

33rd FRUCT conference: 6th DataWorld workshop

The 6th Workshop on the Databases Worldwide will be held on the main days of the 33rd FRUCT conference on May 24-25, 2023. The workshop will be held as a mixed of onsite and online participation, i.e., distant participation is allowed. We welcome you to submit your papers.

Call for papers, posters and demos

The workshop aims to provide complex discussion capability about the current problems and trends in the database systems. Over the years, it is evident, that the amount of the data was significantly changed. Almost every system, every device produces data that needs to be processed, evaluated, stored, and analyzed, with an emphasis on quality, reliability, temporality, and spatial determination. Complex decision making is possible only if the particular data are available, mostly produced by the database environment. This workshop will be concerned with the architecture of individual systems and approaches, performance optimization, transformation techniques, indexes, reliability of the processed values, as well as analytics. It will highlight performance, limitations, and new perspectives dealing with the data, mostly in cloud environment. Data retrieval, indexing process, and performance can really become strong issues if the amount of data is rapidly changed. Scalability and data distribution techniques will be concerned by the workshop, as well. Currently, each of us feels the importance and necessity of moving to an online environment where data efficiency is an essential element. We are looking forward to proposing the environment under the FRUCT organization and conferences to provide valuable contributions and discussions.

The topics of interest include, but are not limited to, the following areas:

- relational databases, architecture enhancements,
- autonomous databases in cloud, cloud computing, data driven applications and systems,
- blockchain,
- SQL tuning,
- spatial databases,
- temporal databases,
- non-relational approaches, indexing, and transformations,
- reliability of the data,
- databases and ad-hoc networks,
- cloud database environment,
- indexing in multiple database structures,
- data distribution techniques,
- smart city,
- workload management,
- database efficiency,
- database analytics, warehouses, marts,
- optimization in databases,
- complex data driven database applications in education, health-care systems, and transportation,
- usage of complex sensorial networks supervised by the databases in the industry and mobile environment,
- monitoring database,
- machine learning and artificial intelligent in database systems.

During the project implementation, project team will also find other conferences to propose a separate workshop dealing with the environmental data.

4.5.6 Conference on environmental data analysis

Conference on Environmental Data Analysis will be part of the main 2024 IEEE 17th International Scientific Conference on Informatics giving room for scientists, experts in computer science and professionals in data analysis. The conference aims to provide complex discussion capability about the current problems and trends in the database systems and data analytics. Over the years, it is evident, that the amount of the data was significantly changed. Almost every system, every device produces data that needs to be processed, evaluated, stored, and analyzed, with an emphasis on quality, reliability, temporality, and spatial determination. Complex decision making is possible only if the particular data are available, mostly produced by the database environment. This conference will be concerned with the environmental data analysis, data warehouses, lakes,

marts, transformation between OLTP and OLAP, indexes and process of data processing and retrieval. All these factors strongly impact the usability of the systems and real applicability. Besides, new study materials and textbooks will be presented. This conference will provide a perfect place for the discussions. We are looking forward to proposing the environment under the Informatics conference to provide valuable contributions and discussions.

4.5.7 Multiplier events

Work package 5 is directly devoted to the multiplier events by defining following quantitative and qualitative measure levels:

Quantitative

- the number of reached secondary vocational IT school pupils (the target value is 48),
- the number of reached secondary vocational IT school teachers (the target value is 8),
- the number of reached female NEETs (the target value is 10),
- the number of reached female learners in IT (the target value is 28),
- the number of reached members of the local business communities in the IT and green sectors (the target value is 28),
- the number of reached higher education faculty/members of the academic community on local, national and EU level (the target value is 40),
- the number of organized multiplier events (the target value is 13),
- the number of requests for use of project outputs and for replication of project results.

Qualitative

- The (positive) evaluation of the work package by project team members,
- The (positive) evaluation of the work package by the three members of the Quality Assurance Team,
- The (positive) peer review of all developed project outputs,
- Participants' interest in multiplier activities and use of available outputs,
- Participants' interest for future collaboration and project work.

The multiplier events can be divided into several categories based on the target audience. Each mutipliter event defines the leading organization, participating organisations and expected results:

- Cross-sectoral conference on environmental data analysis – supervised by the University of Žilina – 40 participants.
- Meeting with vocational secondary school teachers and pupils (expected number of events: 4)
    - University of Žilina
    - University of Šibenik
    - University of Pardubice
    - University of Maribor

  Organized meeting with 14 vocational IT secondary school pupils and teachers.
- Meeting with girls in IT (expected number of events: 4)
    - University of Žilina
    - Trokut Šibenik
    - University of Pardubice
    - University of Maribor

  Organized meeting with 7 girls in IT.
- Presentation to business community (expected number of events: 4)
    - University of Žilina
    - Trokut Šibenik
    - University of Pardubice
    - University of Maribor

  Delivered presentation to 7 representatives of local IT and green businesses.

5. OTHER PLANNED PRESENTATIONS AND DISSEMINATION ACTIVITIES

During the project implementation, we would like to provide a keynote during the conference FRUCT presenting the project deliverables, aims, target groups and one real use case. Although the main focus is on environmental data processing, ***our emphasis is to bring the data analysis to the wide audience, to teach everyone that each of us can optimize processes on a daily basis and reduce the burden and negative impacts on the planet and the environment. It is important to understand that each of us matters and each of us, in our own, albeit small, environment, can decide how it will look like and what the future will be.***

Besides, we would like to present the the project and one use case to the Oracle Academy community, which combines academic, professional and business environment. It is expected to be organized during the second half of the year 2024.

6. TEACHING AND EXCHANGE OF EPERTISE FOR EDUCATIONAL STAFF

The whole team consists of 4 universities, technological incubator Trokut and two associated partners – Knauf Insulation and Oracle. There will be two organized trainings, each will last 3 days. To reduce costs and environmental impacts, one training will be organized in Šibenik, which covers two partners (University of Šibenik and Trokut). Analogously, the second training will be located in Kranj. Even by choosing the location of the meetings, we emphasize the environmental aspect of the entire project. Each partner is assigned to prepare presentations and discussions for one day, supported by the teachning materials and presentations. There wil be informal conversation and discussions on the lectured topic and practical exercises and tasks during the evening.

Knauf Insulation and Oracle will share a common day together.

7. DEVELOPMENT AND PILOTING OF BACHELOR´S LEVEL EXTRA-CURRICULAR COURSE WITH DIGITAL MODULE ON (ENVIRONMENTAL) DATA ANALYSIS

One of the key tasks of the whole project is to increase IT undergraduate students´ and NEET´s knowledge in the areas of data analytics ad environmental data processing, to create a pool of knowledge and resources in higher education targeted at developing educational staff´s and students´ digital and environmental sustainability competences. The main results of the Work package 4 are:

- Increased knowledge in the areas of data analytics and environmental data analytics of **60 undergraduate level students** and **8-10 NEETs**,
- Developed digital and environmental sustainability competences of **10 educators** and **70 learners**,
- Strengthened ties between **4 higher education institutions**, one non-formal education institution (SME) providing training for NEETs, one IT corporation, and one large green business;
- Increased inclusivity of and introduced novel methods for blended learning in the the educational offer of 4 higher education institutions;
- Built capacity to work transnationally and cross-sectorally within the project consortium,
- Created new, original and joint **undergraduate level extra-curricular course** and **curriculum on data analytics and environmental data analytics**;
- **Created digital learning and teaching materials and assessments on data analytics and environmental data analytics in English with subtitles in 4 additional languages** (Croatian, Slovenian, Slovak and Czech),
- **Created digital module with practical exercises in the area of data analytics and green data analytics** in English with subtitles in Croatian, Slovenian, Slovak and Czech),

- **Completed pilot testing** of the developed course on data analytics and environmental data analytics (the curriculum and learning and teaching materials and assessments) on **60 undergraduate students** (15 per higher education institution) and **8-10 NEETs**,
- **Completed pilot testing** of the digital module with practical exercises on data analytics and environmental data analytics on **8-10 NEETs** (minimum 2 per partner country),
- **Created 4 local studies** on the use of data analytics for the resolving of local environmental challenges,
- **Written 5 academic articles** (1 per partner institution) on topics related to data analytics and environmental data analytics,
- **Completed work package evaluation by 10 educators, 60 students and 8-10 NEETs**.

As we can see from the above information, the main focus of this work package is on university students and NEETs. The teaching process is primarily associated with the universities of the project team. Our goal is to disseminate the created teaching materials wider. Namely, we will create an Moodle, which will be publicly available as a general export, which can be downloaded and imported to any LMS. In addition, the project team will offer opportunities for discussion and consultation with other universities and participants. This, however, limits the opportunities for self-study of the people, who are not enrolled at any university (no Moodle will be available). Therefore, the project team will find other possibilites to make the content completely publicly available.

CONCLUSIONS

The partnership will engage in various sharing and promotional activities, including academic publishing, direct communication, networking through social media and events, participation in collaborative initiatives, and the organization of specialized events. Additionally, on a local scale, all partner institutions will establish strong collaborations with vocational schools, IT companies, and public entities in the environmental sector within their communities. This collaboration will facilitate the dissemination of outputs to students, educators, employers, and public officials. The Oracle Academy network, which encompasses 120 countries and includes educators, researchers, and education administrators, will serve as a platform to connect with target audiences through the organization of webinars.

To share results effectively, two distinct strategies will be implemented at local, regional, national, European, and international levels. The project team's prior experience suggests that the most effective promotion and sharing of results occur through a variety of communication channels, particularly through direct engagement with target groups. The strategy for local, regional, and national dissemination will focus on more personalized approaches, utilizing direct contact to convey information through presentations, word of mouth, and participation in educational events.

Conversely, the strategy for dissemination at the European and international levels will depend on academic journals, social media, online communities and portals, international conferences, and webinars to spread information.

In particular, the following activities will be organized:

Local, regional & national activities:

- team members will disseminate information to colleagues in higher education through word of mouth and direct contact,
- team members will participate in physical and virtual events for the higher education sector (seminars, conferences, webinars) promoting the project outputs,
- team members will disseminate information to secondary vocational school teachers and

pupils through presentations and participating in national educational events (conferences, competitions, fairs, presentations),

- team members will disseminate information to representatives of the business community & the environmental sector through meetings and participation in cross-sectoral networking events,
- team members will share information about the project online,
- created and published use cases.

European & international activities:

- team members will publish a joint academic paper and case study,
- team members will present the project at international conferences, promotional materials will be shared on educational portals and online communities,
- a project website will be built,
- channels on social media – Facebook & LinkedIn,
- webinar with members of the Oracle Academy will be organized,
- a conference on Environmental data analysis,
- database workshops on the respected conferences (proceedings indexed in Scopus/ Web of Science)
- keynote talks during the IEEE conference.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