



Immersive Design  
and New Digital  
Competences for the  
Rehabilitation and  
Valorization of the  
Built Heritage

**ID4Excellence**

# GREEN PRACTICES FOR THE PROJECT MANAGEMENT



*Immersive Design and New Digital Competences  
for the Rehabilitation and Valorization of the Built  
Heritage*

**PROJECT START AND END DATE:**

01-11-2021 - 01-01-2024

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# Introduction

Achieving sustainable development of project activities, integrating business, social and environmental perspectives, is a very demanding goal for organizations and companies around the EU.

To achieve it, we can start with small steps. The environment can be supported by using simple but effective solutions. This study aims to provide examples of good work practice and project management tools to work in a more environmentally sustainable way.

**This document is a set of recommendations for responsible and sustainable project management.**

## Objectives

- Raise awareness of the possibilities of green project management.
- Establish good practice examples for ecologically sustainable project management.
- Enable project working groups and stakeholders to make more conscious decisions with the environment in mind.
- Enhance ecological sustainability in European Union-funded projects.



# ABOUT THE PROJECT

## ID4Ex

ID4Excellence project intends to **digitalize** and **modernize** the **construction sector** by **updating skills and competencies** through an inclusive approach to the built heritage intervention, by the **utilization of new digital technologies** and the combination of **Key Enabling Technologies, (KETs), Virtual Reality (VR), Immersive Interactive Experience (IIE) and advanced 3D modeling.**

### SPECIFIC OBJECTIVES:

- upgrading and innovating existing training programs with up-to-date Immersive Design methods and tools for the built heritage interventions with both virtual and dimensional environments and time-based narrative and story space;
- improving the effectiveness of teaching and learning through the application of an inclusive, immersive design approach to the project;
- increasing the synergetic use of up-to-date technologies, in an integrated way, with a teamwork approach and personal development;
- increasing the cooperation among educational institutions and enterprises in the EU for better employability.

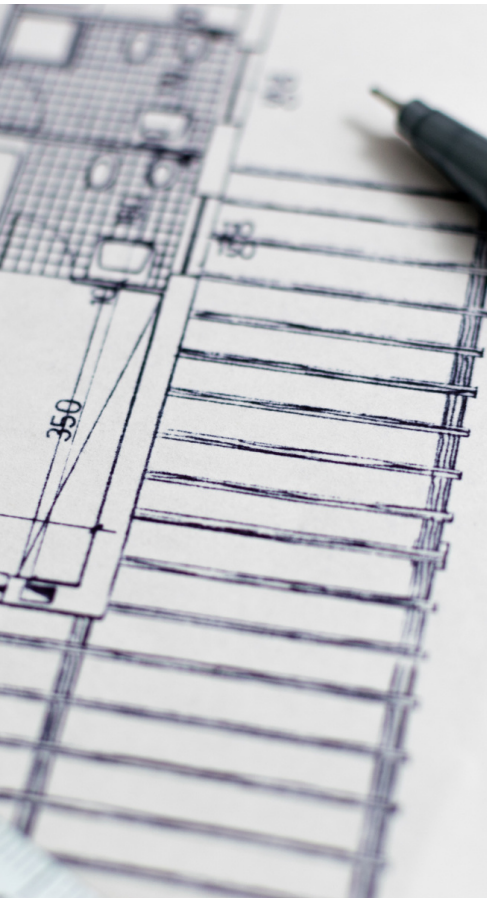
## MAIN ACTIVITIES THAT ARE FORESEEN IN THE PROJECT

IO1 - Comparative research on VR technologies applications for the rehabilitation and valorization of the built heritage

IO2 - Training modules for immersive design experts

IO3 - Digital training toolkit for immersive design experts

IO4- Report on pilot actions for immersive design experts



# THE TEAM

The projects consortium is composed of **eight partners**.

All partners have been selected in a complementary way to cover each section of the project in order to ensure the best possible sustainable outcome at the end. Some partners have already had the opportunity to work together within the Erasmus+ projects, through the ID4EX project they will have the opportunity to further reinforce their cooperation.

The extensive and complementary expertise of the partners and acquaintance of Erasmus + projects allow the development of immersive experience training in the building and construction sector to meet the needs of the project's target groups.



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# GREEN PRACTICES



Supporting the environment can happen at different levels. The EU introduced the Green Deal, individual countries implement their strategies, companies implement their green policies. Everyone can help in their own way and to the extent suited to their own abilities.

Projects of the ID4Ex size do not have the direct possibility of reducing fuel consumption by heavy construction machinery or building wind farms during their duration. The effects of digitization and modernization of training related to immersive design will be significant but will be felt only in a few years.

However, regardless of the size of the project, it is possible to implement certain applications that will reduce the carbon footprint and increase the care of our planet. It is often a matter of building appropriate habits and attitudes among employees.

This document breaks down such practices into four key project-related steps:

- Management,
- Implementation,
- Dissemination,
- Evaluation.



# MANAGEMENT

## Developing green policy

This is the first step to running a green project. To be able to run such a plan, you must first have a plan and then implement and monitor it. This document is such a plan. Additionally, the partnership will be supported by external practices presented later in the document.

## Maximizing telecommunication

This will ensure that the environmental effects of commuting will be reduced, employees will save expense (and time). Reducing travel will also affect air quality and road maintenance. Face-to-face meetings are crucial for the quality of the project and the well-being of people, however, in our project traveling will be reduced to an absolute minimum.

## Raising awareness and making sustainability every employee's responsibility

One cannot manage a green project without the help of others. Making sustainability a collective responsibility will not only help to generate fresh ideas on how to improve processes but will also make all implementation activities more environmentally friendly.

# MANAGEMENT

## Green file sharing policy

Working online is more energy-consuming, and it also emits more CO<sub>2</sub>. Additionally, according to the latest research, sending large emails with big attachments can have a significant impact on the environment. Although each individual attachment does not itself produce much CO<sub>2</sub>, this amount can be multiplied by the number of attachments sent within a year. The project will save energy consumption and decrease CO<sub>2</sub> emissions by working offline and then sharing documents on a dedicated online drive once finished.

## The best European practices

The partnership will use the recommendations discussed and developed during the meeting in February 2022 with the National Agency of the Erasmus+ program as well as documents issued by the European Commission (e.g., JRC Science for Policy Report, Best Environmental Management Practice). These practices will be used during all phases of the project in terms of management. Additionally, the practices advised by the European Commission for the construction sector will be used during the creation of project results.





# IMPLEMENTATION

## OFFICE SUPPLIES AND STATIONERY:

- Eliminating waste in printing: the target groups and working groups will reduce printing.
- Using digital materials: digital materials will be used as often as it is possible.
- Using environmentally friendly paper.
- Adjusting photocopier and printer settings: for example, reducing colored and single-sided printouts.
- Using smaller font.
- Responsible office supplies management, reducing waste, and increasing the number of recyclable materials.

## POWER AND LIGHTING SAVINGS:

- Powering down the equipment instead of using standby modes.
- Ventilation and air-conditioning green management.
- Boiling only as much hot water as is needed.
- Using natural light as much as possible.





# IMPLEMENTATION



## **Non-motorised and public means of transport**

Public transport reduces air pollution, increases fuel efficiency, reduces traffic congestion, saves money, increases mobility, frees up time, is safer than driving a car.



## **Carpooling**

If driving by car is necessary, carpooling can still generate CO2 savings and help to decrease the demand for petrol.



## **Encouraging work from home and casual clothing**

Such actions will be advised when possible. They can generate savings e.g., travel and dry-cleaning.



## **Using recycling bins in the workplace**

Regardless of whether working in the office or at home, the workplace should be equipped with proper recycling bins.

# IMPLEMENTATION

## Reducing water consumption at workplace

### Checking taps for leaks and fixing them promptly

Dripping taps can contribute to huge waste of water. See for example: [drinktap.org](http://drinktap.org) .

### Proper Signage

Hanging signs which remind co-workers to turn off the water while lathering and scrubbing hands, then turning it back on to rinse.

### Reusable containers

Using workers' own reusable cups or glasses for water, coffee etc.

### Sweeping

Some tasks do not require water for cleaning. The demanded effects can be achieved with other tools. For example, one can sweep pavements and floors instead of pressure washing them.





# DISSEMINATION

## Encouraging online dissemination

Online dissemination events and multiplier events save CO2 compared to physical meetings. They save time and are faster and easier to organize. Additionally, more people from distant parts of the country/world can attend the event than would usually have attended a physical event - easier access. Of course, sometimes physical meetings are required, but it is best to reduce their number.

## Using digital materials

Digital materials will be used as often as it is possible.

## Eliminating waste in printing

The target groups and working groups will reduce printing.

## Choosing sustainable services

The partnership will opt for sustainable services while organizing the dissemination events. For example, the right catering provider can be chosen to reduce the negative impact on the environment. Subcontracting local caterers and suppliers will positively impact the local/regional economy.

# DISSEMINATION

## Using digital marketing in a greener way

Digital marketing is considered a green practice as it is believed that because digital appears to be less physical it is also greener. It is mostly true. However, it is known that any digital action can be hurtful for the environment, both in terms of energy expenditure (and consequently CO2 emissions) and in terms of the material inputs used to manufacture the necessary hardware.

That is why the partnership should take further steps. Prefer “green” servers for websites, e-mail, etc.



# EVALUATION

## Using online-based monitoring and evaluation questionnaires

- Reduced resources, increased sustainability.
- Increased impact/range.
- The time span needed to complete and check an online survey project is much shorter than that of traditional research methods.
- The results of the online survey are ready to be analysed at any time.
- Using online questionnaires reduces research costs.
- The margin of error is greatly reduced with online surveys because participants enter their responses directly into the system.

## Including sustainability-related questions into evaluation

- Stimulating thinking and self-reflection about sustainability and CO2 reduction.
- Easy to include.
- Important for the overall goals of the project.





# PROJECT RESULTS - IMPACT



The European Commission adopted a set of proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, the European Green Deal will transform the EU into a modern, resource-efficient, and competitive economy, ensuring:

- no net emissions of greenhouse gases by 2050
- economic growth decoupled from resource use
- no person and no place left behind

The climate crisis facing humanity is now demanding bold steps from businesses, governments, and society at large. The ID4EX project is directly influenced and specifically designed for this coming adaptation.

VR/AR is ecologically beneficial to reduce carbon emissions. Moreover, it is currently becoming a necessary part of every industry that allows reducing the impact on the environment. Communication and collaboration in virtual environments have the power to significantly reduce emissions within all kinds of organizations, along with excess costs. real-world one is facilitating this transition to help move towards a more sustainable global society.

The ID4EX approach could be applicable for the reconstruction of a lot of old buildings helping to their effective renovation contributing to several European Green Deal aims.



# References and further reading

[30 easy ways to go green in the office](#)

[Green workplace initiatives](#)

[EU Science Hub](#)

[JRC - Best environmental management practice](#)

[Think twice management toolbox](#)

[Guide to running green meetings and events](#)

[How to engage staff in "going green"](#)

[Water usage calculator](#)

[GreenComp The European sustainability competence framework](#)

[Learning for environmental sustainability](#)

