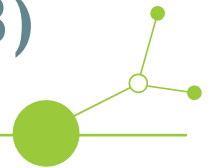


SuPeRBE e-learning platform (D3.2.3)



ACTIVITY 3.2

SuPeRBE Training System and e-learning platform





Project no. CE0200768
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CONTRIBUTORS

All partner contributed to the development and translation of SuPeRBE e-learning platform and related training material

Dissemination level

PU	Public
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History

Version	Date	Reason	Revised by
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Disclaimer

*The SuPeRBE e-learning courses and related training materials referred to in this document has been developed within the **SuPeRBE** project, supported by the Interreg CENTRAL EUROPE Programme with co-financing from the European Union. Its content is the sole responsibility of the authors and the project partnership and does not necessarily reflect the views or positions of the Interreg CENTRAL EUROPE Programme, its programme bodies or the European Union. Neither the programme authorities nor the European Union can be held responsible for any use that may be made of the information contained herein.*



SuPeRBE e-learning platform

Three SuPeRBE e-courses are provided to raise the knowledge and skills of decision-makers, technicians of public authorities and professionals in relation to climate change adaptation and risk management at building and neighborhood scale, focusing, in particular, on how to effectively use the SuPeRBE methodologies and tools.

The e-courses guide learners from understanding the basic concepts of climate change's impact on the built environment to illustrating methodology and tools for assessing the climate risks, up to learn how to undertake proactive climate adaptation actions.

The three identified roles (decision-makers, technicians of public bodies and professionals) are closely interrelated in the process of defining, implementing, and monitoring climate adaptation plans.

The competence to be acquired by each target group must be strongly interconnected, even though each role requires different levels of knowledge and expertise to adequately perform their specific functions.

The e-courses contents are structured into varying degrees of complexity to match the specific expertise, needs, and roles of the three different target groups.

The e-courses are available online on the open-access e-learning platform named European Skill Registry (<https://skillsregistry.eu/>) developed in the frame of the Horizon TRAIN4SUSTAIN project.

The SuPeRBE e-courses can be freely accessed by registering to ESR platform and enrolling in the course corresponding to the concerned role.

In addition, the full set of SuPeRBE training material is available in five languages (English, Croatian, Czech, German, Italian) and is downloadable from the following shared area: <https://superbe.felicity.tools/Training>

SuPeRBE online courses are self-paced, flexible, and fully customizable. Their duration adapts to each target audience, matching prior experience, individual needs, and specific roles.

Estimated course durations are as follows:

- 8-12 hours for decision-makers;
- 20-24 hours for technical coordinators;
- 28-36 hours for professionals.

When entering the e-course, the learner can select the desired language from the five available and thus access the various thematic modules that compose the e-course. For each training module, the user has the opportunity to evaluate the learning progress using the self-assessment tests (closed-ended questions test).



The table below summarizes the contents of the SuPeRBE e-learning courses.

1 Climate Change and Built Environment
1.1 Fundamentals of climate change This module presents the key concepts (sustainability, resilience, mitigation, adaptation) and the IPCC AR6 evidences. It deals with the social and ethical dimensions: social vulnerability, climate justice, the responsibilities of scientists, policymakers, architects, planners and engineers. The module then briefly illustrates the regulatory references (European Climate Law, NECPs, Adaptation Strategy, EU Taxonomy).
1.2 Policies and governance for climate adaptation The module analyzes the structure of climate risk (the interaction between hazard, exposure, vulnerability, and adaptive capacity) alongside the complementarity between mitigation and adaptation. It examines global, European, and local governance frameworks (Paris Agreement, IPCC, Covenant of Mayors, SECAPs, NAPs, and NECPs), featuring emblematic city case studies and financial incentives.
1.3 Methods and tools for climate risk assessment and management The module explores Climate Risk and Vulnerability Assessment processes. It provides a general presentation of building rating and certification tools (such as Bat-ADAPT and the IFC Building Resilience Index), EU guidelines, ISO 14091 standards, and the application of GIS for spatial risk mapping.
1.4 Climate adaptation strategies and solutions The module classifies solutions (infrastructural, institutional, behavioural, nature-based and technological) grouped into structural and non-structural, with selection criteria (local risk, costs, co-benefits, a mix of measures, flexibility). It then presents multi-sectoral plans and in particular the SECAP.
2 RBE Assessment System
2.1 RBE Method This module presents the Resilient Built Environment (RBE) method, the overarching methodological framework for climate risk assessment at the building and neighbourhood scale, based on the IPCC AR6 model (Hazard, Exposure, and Vulnerability). It structures the analysis across 5 hierarchical levels and defines a 7-step calculation process to normalize indicators (0–1 scale) and derive aggregated risk scores in support of urban adaptation strategies.
2.2 RBTool-CE The module presents the RBTool (Resilient Building Tool) Central European version, the framework that applies the RBE Method at the building scale. The RBTool for Central Europe Area supports climate risk assessment based on 7 Hazards and 12 Building Components and related Risk Categories and assessment criteria. The module also explains the contextualisation process, which transforms the generic framework into a local operational assessment tool tailored to specific buildings and territorial needs.
2.3 RNTool-CE The module explores the RNTool (Resilient Neighbourhood Tool) Central European version. The RNTool applies the RBE method at the neighbourhood scale, evaluating



the impact of 7 climate hazards (Issues) across 8 key urban sectors and 84 risk categories through over 1,000 assessment criteria.

3-9 Risk Assessment at small urban scale

This macro area of expertise is devoted to explain with a practical approach the assessment of climate risk at small urban scale. The training material here included present in detail the calculation of the risk value for different risk categories in relation to different hazards.

Each training material is intended to explain the assessment method through the three core calculation components: hazard, exposure, and vulnerability. The objective is twofold:

- to clearly illustrate the step-by-step calculation procedure for each risk category indicator;
- to develop a coherent real-case example showing the application of the full methodology (i.e. normalization, aggregation, and overall risk calculation).

The hazard and risk categories covered in the training material of this macro area, namely the Key Risk Categories (KRCs) at small urban scale, are the ones considered more relevant for the Central Europe territories involved as pilots in the SuPeRBE project,

The Key Risk Categories explained in the training material in relation to the concerned hazards are the following:

Heavy precipitation - Buildings

- A1.1 - Damage risk for residential buildings
- A1.2 - Damage risk for public buildings

Heavy precipitation - Water

- A4.3 - Damage risk for sewage system

Flooding - Buildings

- B1.1 - Damage risk for residential buildings
- B1.2 - Damage risk for public buildings

Flooding - Transport

- B2.2 - Damage risk for road transport network
- B2.5 - Damage risk for bicycle and pedestrian paths

Flooding - Health

- B8.1 - Health risk for population

Flooding - Emergency Services

- B9.1 - Efficiency risk for civil protection service

Extreme heat - Health

- C8.1 - Health risk for population

Extreme heat - Emergency services

- C9.1 - Efficiency risk for emergency medical services

Drought - Water

- D4.2 - Damage risk for water supply network

Drought - Environment & Biodiversity

- D7.1 - Damage risk for Urban green spaces
- D7.3 - Damage risk for Street Trees



10 Risk Assessment at building scale

This area of expertise is devoted to explain with a practical approach the assessment of climate risk at building scale. The training material here included present in detail the calculation of the risk value for different building elements in relation to different hazards.

The risk categories covered in the training material of this area, namely the Key Risk Categories (KRCs) at building scale, are the ones considered more relevant for the Central Europe territories involved as pilots in the SuPeRBE project. Each KRCs training material is intended to explain the assessment system through the three core calculation components: hazard, exposure, and vulnerability.

The Key Risk Categories presented in relation to concerned hazards are the following:

Heavy precipitation

- A4.2 - Façade openings
- A5.2 - Roof Weatherproofing
- A13.1 - Landscaping - Paving and other hard surfacing

Flooding

- B4.2 - Façade openings
- B8.3 - Electricity generation and distribution
- B10.4 - Drainage systems
- B14.1 - Location – Proximity

Extreme heat

- C4.1 - External wall systems, cladding and shading devices
- C4.2 - Façade openings
- C5.1 - Roof structure
- C15.1 - Comfort

Drough

- D6.1 - Sanitary fittings
- D10.1 - Cold water distribution

Storm

- E4.2 - Façade openings
- E5.1 -Roof Structure

Wild fire

- F4.1 - External wall systems, cladding and shading devices
- F11.2 - Firefighting installations
- F13.2 - Fencing, railing and walls
- F14.1 – Location - Proximity

Mass movement

- G2.3 - External wall systems, cladding and shading devices
- G14.1 – Location – Proximity

11 Decision Making for climate adaptation

11.1 Decision Making for climate adaptation at building and small urban scale

The module outlines the SuPeRBE Decision-Making Model, a comprehensive framework designed to help municipal planners and stakeholders address climate



change adaptation at both the small urban and building scales. It details an eight-phase process—beginning with initiation and preparation, moving through diagnosis and strategic definition, and culminating in implementation and monitoring—to evaluate environmental risks and vulnerabilities.

12 Digital tools for climate adaptation

12.1 SuPeRBE Platform

This module provides a guide to use the SuPeRBE Platform, serving as the primary digital toolkit that operationalizes the RBE-CE Assessment System to help regional authorities navigate the complete climate adaptation cycle. Furthermore, the manual explains structured Multi-Criteria Analysis workflows, enabling users to evaluate buildings and neighborhoods, manage indicators, assign specific roles, and prioritize interventions.

13 Policy instruments for climate adaptation

13.1 Local climate adaptation planning

This module explains how to integrate the SuPeRBE instruments in developing local action plans in order to:

- evaluate ex-ante the impact of potential measures
- monitor the impact of the measures implemented through the action plan
- set measurable and verifiable climate adaptation performance targets in climate adaptation plans

13.2 Climate resilient spatial planning

This module explores how to integrate the SuPeRBE instruments in spatial planning to:

- evaluate ex ante the impact of potential measures;
- monitor the impact of the measures implemented through spatial plans;
- set measurable and verifiable climate adaptation performance targets in spatial plans.

13.3 Climate adaptation in Strategic Environmental Assessment

This module explains how to integrate the SuPeRBE instruments in Strategic Environmental Assessment in order to evaluate the impact of spatial plans on climate change adaptation and monitor over time the impacts.

13.4 Climate adaptation in Urban Health

This module presents the assessment criteria and indicators for the Urban Health tool, showing how to correctly interpret and use the calculated data, in order to enable an adequate analysis and monitoring of urban environmental factors impacting individual health and well-being.

