DEVELOPMENT OF AN EXPERT SYSTEM FOR OPTIMIZING THE EVALUATION AND SELECTION OF RISK BASED APPROACHES AND TECHNOLOGIES FOR BROWNFIELD REHABILITATION: PERSPECTIVES FROM TIMBRE PROJECT

LISA PIZZOL[1], ELISA GIUBILATO[1]*, ANDREA CRITTO[1], ANTONIO MARCOMINI[1], MARTIN BITTENS[2], STEPHAN BARTKE[2]

[1]*Department of Environmental Sciences, Informatics and Statistics, University Ca' Foscari Venice, Venice, 30123, Italy*
[2]*Helmholtz-Centre for Environmental Research – UFZ, Leipzig, 04318, Germany*
lisa.pizzol@unive.it

Brownfield regeneration plays a key role in sustainable land use management. The 7th Framework Programme project TIMBRE (Tailored Improvement of Brownfield Regeneration in Europe) starts from the observation, that many useful and innovative remediation technologies as well as methods to support risk assessment and decision making processes for an optimized brownfields' regeneration have been developed, but are only rarely applied using their full potential. Identified obstacles for an effective regeneration are (i) the abundance of strategies, tools, documented case studies and remediation technologies available at the EU level as well as (ii) the difficulties in adapting them to cultural, regional and site-specific requirements. TIMBRE's main objective is to overcome these barriers by providing brownfields' owners, local authorities and stakeholders with a web-based problem- and target-oriented customizable decision support toolbox. This contribution features the methodological approach and designed activities of TIMBRE Work Package 1 that focuses on the development of a web-based Expert System. As a crucial part of the TIMBRE toolbox this online information centre will provide access to proven state of the art solutions for brownfield regeneration. This requires the collection, analysis and classification of accessible literature, methodologies and tools. Particular efforts will be devoted to collect and review the ecological and human health risk assessment and management methodologies and tools recognizing their key role for the evaluation and rehabilitation of brownfields. The Expert System will offer a multi-criteria methodology for the evaluation and ranking of the collected information providing end-users with the most suitable instruments for each phase of the brownfield regeneration process. Results will be tailored to the site-specific needs taking the local priorities and requirements into account. This approach involves local experts, site owners, public authorities and engineering companies in the definition of evaluation criteria.

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