Digital Tools for Urban Change: Empowering Local Governance through the new software IBTool

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Abstract Urban areas play a pivotal role in driving multi-dimensional transitions, yet local administrations often lack the appropriate knowledge and tools to assess the impacts of projects and plans, including those related to energy investments or associated sectors.

The impact of digital decision-support tools on urban transitions can be understood as the process leading to the reorganisation of Public Administration (PAs) work at tactical and operational levels through the use of technology. Digital assessment tools, such as Decision Support Systems (DSS) or Group Support Systems (GSS), enable local administrations to manage socio-technical transitions in urban settings due to their capabilities in real-time data visualisation and processing, scenario simulation, and performance-based decision-making.

Addressing this knowledge gap, among various objectives, the GLOSSA research project (GLOcal Knowledge-System for the Sustainable Assessment of Urban Projects), funded as a Project of Relevant National Interest (PRIN), has developed the Indicators-Based Tool (IBTool), an innovative DSS designed to assist public PAs in the impact evaluation and monitoring of urban regeneration projects. This is aligned with the 2030 Agenda guidelines, with a particular focus on SDG 11 targets and indicators.

IBTool functions as an open-source, modular software platform that integrates qualitative and quantitative methods to generate composite indices of territorial performance and project impacts. By combining multi-group and multi-criteria decision analysis (MCDA) techniques with locally adapted indicators, the tool enables context-sensitive project appraisal, long-term monitoring, and the integration of sustainability, equity, and resilience goals into planning and decision-making processes.

As part of the GLOSSA project, training activities have been designed to test the tool's functionality, explore its potential and limitations, and engage users from diverse backgrounds and levels of expertise. These activities serve a dual purpose: improving the tool's usability and fostering dialogue on the role of indicators as key instruments for advancing urban transition processes aligned with SDG 11.

Preliminary findings from beta tests conducted in multi-stakeholder settings reveal the tool's effectiveness in aligning policy design with shared priorities, enhancing transparency in project evaluation, and supporting sustainability principles linked to equity, democracy, and participation. This contribution presents the theoretical foundations, methodological framework, and initial results from GLOSSA's training

programme, offering insights into the indicator selection process and its relevance for financing, governance, and evaluation strategies in the context of resilient and low-carbon urban systems.