BUILDERS D5.5 RECOMMENDATIONS ON ETHICALLY ACCEPTABLE TECHNOLOGIES AND TOOLS TO IMPROVE RISK AWARENESS AND RESILIENCE IN VILNERABLE CIRCUMSTANCES

Project acronym: BuildERS

Project title: Building European Communities' Resilience and Social Capital

Call: H2020-SU-SEC-2018-2019-2020/H2020-SU-SEC-2018

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Executive Summary

D5.5 consist of one scientific publication of WP5. The article is based on the contents of *D2.4 Catalogue of tools, technologies and media opportunities for disaster management* and *D6.4 End-user assessment of the new tools and technologies for disaster management.* The article *Evaluation of the emerging technological opportunities for improving risk awareness and resilience of vulnerable people in disasters* has been submitted to the journal *International Journal of Disaster Risk Reduction* (on 31.03.2022) by the main author (JL).

On the next page, the abstract of the article can be found.

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Article

Evaluation of the emerging technological opportunities for improving risk awareness and resilience of vulnerable people in disasters

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Abstract
The main contribution of this research is the evaluation of emerging technological opportunities for improving risk awareness and resilience of vulnerable people in disasters. The evaluation considered a survey, end-user evaluation and co-creative workshops on technologies, and was targeted to estimate the innovation potential, usefulness, importance, applicability, risks for vulnerable people, and ethical acceptability.
The capabilities of Mobile Positioning Data tool 1) to increase risk awareness in rescue planning and emergency management under cyber-hazard, and 2) to help in locating and evacuating tourists and other vulnerable groups in disasters was evaluated. The capabilities of Trasim tool to help in crisis communications training for improving preparedness and tackling mis/disinformation through simulated responses. The evaluation indicated that there are a lot of innovation potential and useful technical enablers for improving disaster risk awareness and resilience, but there are also ethical challenges, and risks for misuse.
The digital divide between people related to unequal distribution of skills, access to technological means and tools stays to be an essential future challenge, especially with vulnerable people in a crisis. Issues of fairness and inclusivity need great attention in the application of these technologies in crises or disasters in order not to oversee such vulnerable people. The failure in critical infrastructures (e.g., energy, communications) seem to increase risks and exacerbate situation of vulnerable people in crisis. However, the potential of technological opportunities for improving operation in disasters is so essential that significant investment on research and development actions is recommended.

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