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Enhancement of local community resilience to natural and man-made disasters through the application of co-created novel technological tools

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Natural and man-made disasters are associated with significant impacts on society, economy and the environment and are considered an issue of national priority at a global level. Further to that, such disasters are exacerbated by climate change (*EC DG-ECHO, 2021*) and their frequency of occurrence and impact intensity is expected to increase significantly, further affecting the countries' interlinked economies. The standard practice adopted to mitigate risks includes the undertaking of measures, customized to the needs, particularities and socioeconomic features of the area under threat (*Papathanasiou et al., 2015*). Informed policy- and decision-making processes need to be outlined from relevant stakeholders. However, this top-down approach, which currently involves policies and measures decided by relevant authorities is not only outdated, but has also been proven to be insufficient. Currently, there is a justified tendency to actively include citizens in disaster management, fostering thus a more citizen-oriented, bottom-up approach. State-of-the art technological tools with advanced functionalities offer extended capabilities towards this direction. RiskPACC project brings together researchers, practitioners and first responders from nine European countries in at least 21 co-creation workshops at 7 case studies, enhancing the communication between local Civil Protection Authorities (CPAs) and citizens and bridging the risk perception-action gap (RPAG) (*Michalis et al., 2022*).

This work outlines the co-creation approach adopted for the Municipality of Rafina-Pikermi (MRP) use case workshops that focus on wildfires and floods. The functionalities of the AR Aeolian mobile application were defined based on feedback by CPAs and citizens, as provided during workshops, successive iterations and response to appropriate questionnaires posed by the tool providers. User-friendliness was a core design element of the tool to ensure its easy applicability by citizens and control by CPAs, meeting at the same time the need to train the local community how to effectively manage disasters. The process of familiarizing CPAs and citizens with such solutions and encouraging their active participation in relevant training sessions supported them to better understand their particular role in disaster risk reduction, fostering improved situation awareness

and risk perception, which is strongly encouraged by immersive technologies. Lessons learnt from citizen empowerment to adopt technical solutions for disaster risk management can be replicated to other use cases with similar population features.

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