



Building Tomorrow's  
Community Disaster  
Resilience

## Current Challenges

In the past two decades, the international disasters database EM-DAT has recorded 7,348 natural disasters resulting in the loss of 1.23 million lives and affecting over 4 billion others. These environmental catastrophes have caused a total of €2.77 trillion in economic damages worldwide, without even including biological or technological disasters.

At present, the field of community resilience management is diverse yet fragmented, as current methods are not readily applicable or measurable. Collaboration for successful practical implementation of an ecosystem of tools in at-risk communities is not currently promoted, and systematic research and development of policies are stalled.

Community-Based Smart City  
Digital Twin Platform for Optimised  
Disaster Risk Management operations  
and Enhanced Community Disaster  
Resilience

## The PANTHEON approach

The PANTHEON consortium will focus on developing a Community-based Digital Ecosystem for Disaster Resilience utilising Smart City Digital Twin (SCDT) technology and other emerging innovations to...

- advance the existing risk assessment methods
- mitigate potential vulnerabilities
- build a strong community disaster resilience foundation



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## THE PANTHEON tech

To achieve the above improvements, PANTHEON will provide the following:

- A smart city digital twin environment entailing components suitable for simulations, training and evaluation of the behaviour of sub-systems, threats and the human factor.
- An early Detection and Situational awareness environment that can assist authorities with being alert about imminent incidents, even in remote and hazardous locations.
- An integrated intelligent subsystem employing collaborative sensing from earth observations and drone technology.

## Project Objectives

- ✓ PANTHEON Disaster - Resilient Communities Model
- ✓ Decentralised and Participatory Governance & Tools
- ✓ Development of a Smart City Digital Twin (SCDT) for Community Disaster Risk Management (DRM)
- ✓ Development of a Synthetic Environment for training purposes
- ✓ Interactive User Interface for a Holistic Simulation Environment
- ✓ Intelligence, CM-SCDT Processes and Optimal Disaster Risk Management Operations
- ✓ Data Delivery Scheme and Remote Sensing for Community-based SCDT

## The PANTHEON Consortium

To materialise the PANTHEON ambitious goals, a consortium of partners from European and associated countries has been assembled with the purpose of designing and developing a Community-based Digital Ecosystem for Disaster Resilience based on Smart City Digital Twin (SCDT).



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