WP 2 – BE and SLOD: SoA, Risks and human behavior

T.2.1 – SoA-based definition and characterization of BE as network of buildings, infrastructures, connecting space in reference to SLOD occurrence and users' typologies

D2.1.1 – Built Environment prone to SLOD definition

ABSTRACT. Resilience of the built environment is a primary issue to provide the citizens users a high-quality environment and livable cities. The aim of this report is to critically analyze the state of the art in identifying the Built Environment (BE) typologies prone to the Slow-Onset Disasters (SLODs). A SLOD can be defined as an uninterrupted, gradual or variable, low intensity and high frequency event that generates a negative effect on population, which on the long term can generate significant health and environmental decay.

The results of the research have demonstrated that **some SLODs type are more impacting** within the built environment: the **air pollution concentration and** the **increasing temperatures**. In fact, these SLODs are more easily recognized and its evidence is progressively more frequent (increasing number of reported heat waves and poor air quality warnings).

Moreover, it has been demonstrated that some **urban archetypes:** the **Piazza, Piazzale and** the **canyon are more prone to generate negative effects on the population** by amplifying the thermal or pollution stress and their consequences of the exposure.

The report presents a straight-forward and generic **allocation of the SLODs risk severity given** certain **geometric and materiality properties of the assessed area**. And also, concludes with some insights (solar radiation and wind tunneling analysis) on the most critical archetypes, for understanding better how they perform under specific conditions.

The following steps of the work concerns a simplified process based on selected criteria to narrow down a meaningful built environment area to be analyzed in detailed, to investigate the potential effects and risk of the SLODs on this specific part of the city.