



REsilient REtrofitting and REuse of Water heritage and
built environments: multi-objective Optimization
for RiSk mitigation and cultural enhancement

T1.4. CLASSIFICATION OF RECURRING AND REPRESENTATIVE SCENARIOS OF SUDDEN ONSET RISKS AND THEIR EFFECTS ON THE WATERBE

D.1.4.1. Identification of the most representative rapid-occurrence risk scenario for
each project target on which to conduct subsequent research activities

Abstract

The document focuses on the characteristics of the WATER Built Environment (WaterBE), with the aim of identifying potential recurring and intrinsically correlated risk types. To this end, an analysis is conducted with reference to the three project areas —ports, arsenals, river factories —and the sites identified in the Level 1 sheets in document D1.1.1. This analysis is performed through the consultation of sector-specific databases (Geoportale MASE, EM-DAT, Global Terrorism Database) with respect to the following categories:

- (i) Natural risks, understood as events of environmental, geophysical, and climatological manifestation closely related to the site or territory's surrounding characteristics (earthquake, landslide) or the effects of human activity (heat waves, wildfires) on a large scale;
- (ii) Anthropogenic risks determined by human activity, as the relationship between environmental or site use and the phenomenon without direct human intentionality (explosion, fire, oil spills);
- (iii) Anthropogenic risks directly induced by humans (armed conflicts and terrorist attacks) due to specific socio-cultural and politico-economic conditions of the site and/or its context.

The study outcomes enable the identification of the following associations:

- ❖ Ports: (i) Flood; (ii) Explosion, fire, maritime incident; (iii) Terrorist attack with a car bomb;
- ❖ Arsenals: (ii) Maritime incident, oil spill, explosion, fire, collapse/abandonment; (iii) Terrorist attack with a car bomb and to the Infrastructure;
- ❖ River facilities: (i) Flood, earthquake; (ii) Spill, collapse/abandonment; (iii) Terrorist attack with a car bomb.



Finanziato
dall'Unione europea
NextGenerationEU



Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



Politecnico
di Bari



SAPIENZA
UNIVERSITÀ DI ROMA