



**PE3 – EXTENDED PARTNERSHIP (EP) RETURN - MULTI-RISK SCIENCE FOR RESILIENT COMMUNITIES UNDER A CHANGING CLIMATE**

**Spoke 5 - TS1: Urban and metropolitan settlements** - (Spoke: UNINA, supported by Eurac)

**WP2 – Multi-risk-oriented modeling of urban systems** (Lead.: UNINA, Part.: Eurac, OGS, UNIBO, Eng, UNIFI, UNIGE)

*Towards a multi-scale knowledge framework for holistic understanding and modelling of complex urban and metropolitan systems for disaster risk reduction and climate change adaptation: combining quantitative and qualitative methods to describe functions, interactions, urban metabolism and derive exposure of systems.*

T 2.1 - Holistic understanding and dynamic modeling of urban and metropolitan systems (TS2, TS3, VS\*)

DV 2.1 - Risk-oriented taxonomy and ontology of urban subsystems and functional models

T 2.2 - Integrated physical and socio-ecological exposure to multiple hazards (TS3)

DV 2.2 - Multi-criteria metrics and methodology for integrated exposure assessment

T 2.3 - Models and methods for urban multi-risk data management (VS\*, TS2, DS)

DV 2.3 - Review of relevant data sources and methods/algorithms for urban multi-risk data fusion and integration

DV 2.4 - Template and smart data models for data interoperability and pre- and post-event phase collection (including example datasets)

T 2.4 - Best practices for urban and metropolitan risk management

DV 2.5 - Repository of national and international good practices, projects and policies

**WP4 – Mitigation and adaptation for more resilient and livable cities** (Lead.: Eurac, Part.: UNINA, UNIBO, UNIFI, UNICA, UNIGE, POLITO, CàFoscari, ENI)

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*Strategies and proposals of actions for climate change adaptation and mitigation to risk drivers, by enhancing the urban resilience with respect to multi-hazard risk and climatic type hazard interaction*

T 4.1 - Comprehensive Risk Management for urban settlements

DV 4.1 - Multisectoral comprehensive planning and design along the Disaster Risk Management cycle

DV 4.2 - Governance guidelines and policy recommendations for multi-scale integration of DRR and CCA

T 4.2 - Urban systemic transformation including multi-side risk mitigation and adaptation measures

DV 4.3 - Urban Roadmap to resilient and climate-neutral cities: 2030 and 2050 visions

T 4.3 - Green transition towards resilient and regenerative urban eco-districts (TS3, DS)

DV 4.4 - Concept guidelines, design proposals and assessment protocols to monitor urban integrated resilience in compliance with NEB – New European Bauhaus principles

T 4.5 - Towards a circular metabolism for urban and metropolitan settlements (TS3)

DV 4.5 - Evaluation framework for monitoring circularity, sustainability and resilience of urban metabolism

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