

Institutional Capacity & Innovation Portfolio of Bulancak Municipality

1. Institutional Background

Bulancak Municipality is a strategic administrative authority located in the Eastern Black Sea region of Türkiye. Our institution is dedicated to ensuring public safety and fostering sustainable development through the management of complex coastal and rural infrastructures.

- **Administrative Strength:** Proven track record in international project cycle management, notably through the successful execution of large-scale investments such as the **€8 million EU-funded IPA I infrastructure project**.
- **Operational Scope:** Core mandates include disaster risk reduction (DRR), urban planning, environmental monitoring, and comprehensive emergency response management.

2. R&D and Technical Projects Unit

Distinguishing itself from traditional local government structures, Bulancak Municipality hosts a specialized R&D unit led by **MSc. Civil Engineer Recep Hıdır**. This unit bridges the gap between public service delivery and advanced engineering. Our high-tech patent portfolio, designed to address global challenges, includes:

- **Seismic Resilience & Construction Technology (Patent No: 2025/012404 - 2025/003718):** Advanced composite construction materials. The '**AERO-PET-MORTAR**', utilizing recycled polymers and nano-porous silica aerogels, provides **50% higher thermal insulation** and **15% increased mechanical strength** compared to traditional materials.
- **Civil Security & Healthcare (Patent No: 2025/009952):** Active tremor damping systems utilizing **Magnetorheological (MR) fluids**. This technology is specifically engineered for medical support and for personnel performing precision-critical tasks under high physical stress.
- **Modular Field Equipment (Patent No: 2025/011231):** High-efficiency pneumatic systems based on **Venturi/Eductor principles**, optimized for rapid field operations, tactical logistics, and agricultural productivity.

3. Pilot Site (Testbed) Opportunities

Bulancak offers a unique "geographical laboratory" for Horizon Europe consortia, featuring a diverse landscape that transitions from sea level to 2000-meter altitudes:

- **Real-world Testing Environments:** Ideal conditions for validating solutions against **multi-hazard risks**, including floods, landslides, and seismic preparedness.
- **Data-Driven Validation:** Access to comprehensive municipal datasets and infrastructure for the field-testing of emerging technologies.
- **End-User Leadership:** Strong institutional support for meeting "**End-User**" requirements in **Cluster 3 (Civil Security for Society)** calls, ensuring high-impact results for European consortia.