



## **GENERAL THEMES AND TOPICS:**

- 1. Engineering surveys and design of engineering structures using 3D technologies**
  - Design quality increase and risk prevention. Soft transition from surveying toward BIM-based design
  - Design of capital construction facilities and engineering structures
- 2. Territorial development management**
  - Master plans, large metropolitan areas, and rural settlements
  - Comprehensive territorial development. Risk management in large metropolitan areas, health protection zones, green zones and urban forests, and environmental aspects
- 3. Architecture and design, application of digital technologies**
  - Façade certificates
  - Historical and cultural heritage sites, recreations, visitor streets, and urban territories
  - Real properties design by laser scanning data
- 4. Advanced measuring and geospatial data collection tools**
  - Robotic systems, laser scanners, and UAVs
- 5. Construction and reconstruction of buildings and structures**
  - Construction compliance monitoring. Construction verification
  - Complete geometry control. Transparent construction
  - Construction of suspended facades
  - Building survey by laser scanning data
  - Virtual and augmented reality
  - Bank supervision in construction. Construction risk management. Risk insurance
  - Construction project management
- 6. Road construction and operation**
  - Automated technologies for road construction
  - Regulatory and engineering provision
  - Road construction compliance monitoring
  - Application of laser scanning in road construction and operation
- 7. Facilities Management (buildings, structures, industrial facilities and territories, housing and utilities facilities)**
  - Generation of 3D and BIM models of industrial facilities (industrial estates, workshops, energy supply facilities, communications)
  - Effective management of residential buildings, social and public buildings and structures, application of smart management systems
  - Geotechnical monitoring of buildings and structures. Implementation of automated monitoring systems
  - 3D modelling of oil and gas industrial facilities
  - BIM-based housing facilities management
  - Application of 3D and BIM in property accounting
- 8. Digital technologies in mining**
  - Generation of digital mining models
  - Mine management
  - Determination of mine output and mine stripping
  - Wall stability observations
  - Mining documents
  - Resloping of pit shafts
  - Application of laser scanning and UAVs