



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

TRANSPORT SYSTEMS

The design, realization and integration of advanced and innovative Transport Systems have a great impact in the achievement of strategic objectives ranging from the satisfaction of economically affordable users' needs, up to the reduction of congestion, energy, fatalities or risks and clean emissions.



Transport Systems research addresses the performance analysis, performance engineering, systems design and prototypical realization, integration and management of transport systems, in a tradeoff of ideal transport services' support and their sustainability. Transport systems should be safe, environmentally and economically sustainable, scalable, integrated, efficient and socially accessible.

Research at the University of Bologna covers a wide range of issues:

- Development of methodologies and tools for sustainable transportation systems' engineering and performance planning and analysis
- Integration of multi-modal and heterogeneous transport networks for people and goods. New approaches for design, support and integration of sustainable and scalable transport systems, involving multiple networks, new technologies, new paradigms and new resources
- Scalable transport systems, dynamic demand/supply, scalable green energy sources, services' customization and adaptation towards environmental impact reduction and economic sustainability
- Financial and social impact analysis and design support of transport systems, including micro/macrosopic impacts, models, costs/opportunities, accessibility/availability, accidents/fatalities, efficiency, value added services, user awareness and acceptance
- Safety engineering in transport systems and emergency response, from design to operation. Transport systems risk analysis, safety requirements, (critical) infrastructure monitoring, emergency response, etc
- Intelligent Transport Systems, through pervasive ICT-based technologies, monitoring and Big Data, services and solutions

HIGHLIGHTS

Advanced methodologies and tools for design, modeling, planning and evaluation of transportation systems, from their engineering and performance planning to operative environment.

Intelligent Transportation Systems, ICT-based systems for advanced services' support, connected vehicles (V2V and V2I).

Environmental impact analyses of transport systems.