

THE ISSUE PROJECT OVERVIEW

INTRODUCTION

THE ISSUE is identifying innovative technological solutions, using ICT and Space Data Products and Services, to address some of the key transport and urban mobility-related challenges impacting on the economy, environment and health of citizens in cities and regions across Europe. It is harnessing the research and technological capabilities within European regional research-driven clusters to support smart, green, integrated transport and urban mobility.

THE ISSUE is a three-year *Regions of Knowledge* initiative, funded through the European Commission's Seventh Framework Programme. Launched in January 2012, it is being delivered through a Consortium of 'triple-helix' research clusters in the East Midlands (UK), the Midi-Pyrenees and Aquitaine Regions (France), the Molise Region (Italy) and Mazovia Region (Poland). The Consortium has been further strengthened by the recent inclusion of 8 associate regions from across Europe.

THE ISSUE JOINT ACTION PLAN

THE ISSUE's **Joint Action Plan** sets out a **roadmap** for taking forward a coordinated programme of Research and Technological Development (RTD) actions that address six key "**Societal Challenges**" in transport and urban mobility (see Figure 1).

This **roadmap** is presented as a "**Model Programme for 2014 to 2020**" for Traffic, Health & Environmental applications in cities and regions across Europe. It identifies 20 priority RTD actions for 2020 (see overleaf), drawing on the RTD expertise within THE ISSUE Consortium, which have been mapped against the highest priority problems facing local and regional transport authorities across Europe.

Implementing this **roadmap** will offer urban and transport planners new, innovative, viable, evidence-based and sustainable solutions to tackle many operational transport and urban mobility challenges impacting on the economies, environment and health of citizens in cities and regions across Europe.



Figure 1. THE ISSUE's "Model Programme (2014-2020): A Roadmap for RDT Traffic, Health and Environmental Applications in Urban and Regional Economies Across Europe"

THE ISSUE's "Model Programme (2014-2020): A Roadmap for RDT Traffic, Health and Environmental Applications in Urban and Regional Economies Across Europe"

1. Addressing Traffic Congestion and Associated Impacts on the Urban Environment and Infrastructure

The Challenge:

- Transport infrastructure reaching capacity in many cities.
- Intelligent Transport System (ITS) solutions as alternatives to major capital investment in new infrastructure.
- New solutions for efficient and effective management of existing urban networks, balancing the impact of increasing demand, delivering positive environmental impact and facilitating urban mobility.

THE ISSUE Priority RTD Actions:

1. Advanced Urban Traffic Management and Control systems.
2. Intelligent Traffic Systems for safety and incident management.
3. Intelligent Traffic Systems in transport planning.

2. Managing Urban Air Quality and Greenhouse Gas Emissions

The Challenge:

- Meeting EU directives and government regulations for air quality and greenhouse gas emissions.
- Increasing emissions from long distance HGV transport and urban traffic are major contributors to localised air pollution problems.
- Urban and regional climate change impacts - traffic emissions account for 25% of GHG emissions across urban Europe.

THE ISSUE Priority RTD Actions:

4. New integrated systems using space, airborne and in situ sensors to monitor air quality and identify sources of emissions in urban environments.
5. New tools to support the regulation of emission levels.
6. Satellite technology to determine greenhouse gas emissions.
7. Advanced sensor monitoring and model forecasting of emission levels.

3. Improving the Utilization, Planning and Optimization of Urban and Regional Road Networks

The Challenge:

- European Environment Agency forecasts 80% of European citizens will live in urban areas by 2020.
- Growing urban sprawl, traffic congestion, overloaded infrastructure, noise and air pollution.
- Sustainable development of existing and planned road networks.
- Safe and efficient transport of people and goods, ensuring priority of public transport and counterbalancing the prevailing urban sprawl.

THE ISSUE Priority RTD Actions:

8. Integrated technologies and techniques for transport and physical planning.
9. Innovations in data gathering, fusion and processing from multiple sources.
10. Satellite and airborne-based technologies and Open Source GIS for transport and physical planning.

THE ISSUE's "Model Programme (2014-2020): A Roadmap for RDT Traffic, Health and Environmental Applications in Urban and Regional Economies Across Europe"

4. Promoting Urban Transport, Mobility, Intermodality and Interoperability

The Challenge:

- Improvements in cost effectiveness and attractiveness of public and "soft" (cycling) transport modes.
- Seamless travel in the urban environment for all users, especially young people, elderly, disadvantaged and less able persons.
- Modal shift towards public and soft transport modes.
- Reduction in carbon footprint, noise and congestion; thereby enhancing the quality of urban life.

THE ISSUE Priority RTD Actions:

11. Localisation-based services for mobile citizens.
12. Tracking services for freight transport.
13. Predicting and managing the behaviours of crowds.
14. Innovative travel planning tools based on GIS Technologies.
15. Smart integrated ticketing.

5. Increasing Safety, Security and Health for Urban Communities

The Challenge:

- Safety, Security and Health are at the heart of policies for Europe 2020.
- Reducing accidents, making streets safer and creating a better urban environment.
- Economic benefits from reduction in workloads in health services in accident and emergency centres and reductions in traffic congestion arising from incidents.

THE ISSUE Priority RTD Actions:

16. New monitoring and mapping systems to extend the amount and type of information that can be collected as inputs for road safety enhancement tools.
17. New systems to control and manage the road network before, during and after incidents.
18. Traffic systems that respond to community health issues.
19. Security and location tracking for freight road traffic, including driver safety.

6. Recognising disruptive innovation is able to deliver a step-change in sustainable urban mobility

The Challenge:

- Urban transportation decisions generally made vertically, with insufficient collaboration between political decision makers, users and system providers.
- More effective consultation between stakeholders leading to greater technical compatibility and integration of different transport modes and improved policy making and planning for sustainable urban transport.

THE ISSUE Priority RTD Actions:

20. SMART solutions for sustainable cities, regions and transport networks, including:
 - Triple-helix collaborations (industry, universities, public sector) to foster more effective organisational collaborations;
 - ITS solutions for changing user behaviour and overcoming barriers to modal shift;
 - Measures to overcome existing barriers and improve uptake of Low Carbon Vehicle Technology.



THE ISSUE

Traffic Health Environment
Intelligent Solutions for Sustaining Urban Economies

D7.4 THE ISSUE Project Overview



IMPLEMENTING THE JOINT ACTION PLAN MODEL PROGRAMME 2014-2020

THE ISSUE **Model Programme** provides a *roadmap* for new innovative RTD Traffic, Health and Environmental Applications in urban and regional economies across Europe. Implementing the **Model Programme** will enable the innovation, application and exploitation of RTD capabilities within THE ISSUE Consortium, particularly within the fields of ICT and Space Data Products and Services. This will lead to major advances in operational implementation and market growth of innovative new technological solutions. The close academic-industry partnerships and alignment with the transport strategies of local and regional authority end-users ensures a strong regional focus to the priority RTD actions in THE ISSUE's **Model Programme**.

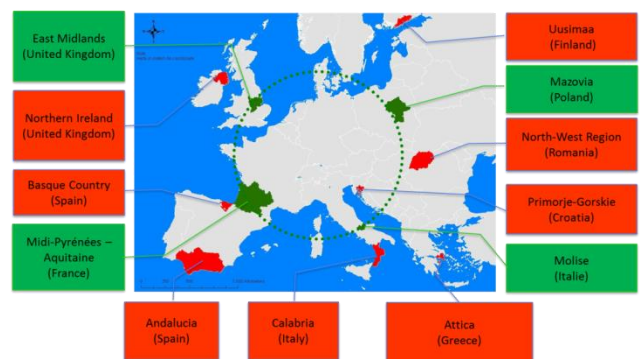
Many of the relevant technologies identified in the **Model Programme** are already at high technology readiness levels, which demonstrate the high potential for their exploitation in the transport and urban mobility sectors. However, in some cases barriers to uptake exist through resource limitations, lack of innovation and the need for definitive demonstration of operational capability. THE ISSUE will seek to address these barriers through pilot studies, demonstration programmes and pre-operational roll-out at regional levels.

New enabling and cross-cutting technologies, accessible through the industry landscape and business partners within THE ISSUE Consortium, will support the delivery of the **Model Programme**. Furthermore, the research excellence of the universities and research institutes in THE ISSUE regional clusters provides access to a wide range of innovative research and blue skies thinking that will also be brought to bear on the objectives of the **Model Programme**.

The delivery of the **Model Programme** will be primarily through the research clusters of THE ISSUE Consortium, but the outcomes are widely transferable. The Joint Action Plan incorporates plans for accessing funding sources to support delivery of the **Model Programme**, particularly through calls from **Horizon 2020, Structural and Investment Funds** as well as national and regional programmes.

THE ISSUE PROJECT CONSORTIUM

THE ISSUE Project is being implemented by a Consortium of 13 core partners in **four** European regional research-driven clusters (illustrated in green, below). These are all "Triple Helix" cluster partnerships from business, academia and local/regional authorities. THE ISSUE Consortium has recently expanded through the involvement of **eight** additional European regions, which have joined as associates to the Project as a step towards building their own research clusters.



FURTHER INFORMATION

40 Case Studies of current RTD actions by THE ISSUE Consortium is published in THE ISSUE-NEREUS joint publication. "Space and ICT Applications Supporting Smart, Green, Integrated Transport and Urban Mobility". Further information at www.theissue.eu

