

# 1 Publishable Summary

## 1.1 Scope and Objectives

OpenTransportNet (OTN) is an open innovation project designed to revolutionise the way transport related services are created across Europe. By bringing together open geo-spatial data within City Data Hubs and enabling it to be viewed in new easy to understand ways, OpenTransportNet will enable:

- Anyone to have fun with data, by viewing data mash-up's in maps and graphs and be able to use and embed these maps in their own websites
- Public Sector users to gain insights from linking and visualising different data sets and be able to make better public service decisions based on the findings
- Businesses and entrepreneurs to use the data to enhance existing services and build new transport-related services
- The wider open community to benefit from the project outputs and findings to advance geospatial data standards such as INSPIRE



To achieve this aim, OTN has to overcome three key challenges:

### 1. Data Challenge - Harmonise data from a wide range of sources

- 1.1 Use existing research, previous project outcomes and end user feedback to understand the main challenges SMEs face in exploiting GI for business activities
- 1.2 Collect, process and aggregate GI, VGI and Open Data from a variety of sources into common, usable, harmonized formats and make them available through OTN Hubs.
- 1.3 Use a Semantic tools to enable interoperability between spatial (GI) and non-spatial open data sets

### 2. Technology Challenges - Combine data to extract new information and insights

- 2.1 Involve end-users in the Hub design process to ensure the platform meets their needs and requirements
- 2.2 Protect the privacy of users through the development of a sophisticated Access Control Management System
- 2.3 Build upon current Open Innovation & GI projects by adapting and integrating existing technical components and methodologies into the OTN Hub and solution
- 2.4 Visualise full range of GI data using a series of creative layers and applications

### 3. Innovation Challenge - Provide tools and skills for using GI in rapid service creation

- 3.1 Deploy the local OTN hubs using a pilot methodology that (a) creates a feedback loop for continuous improvement and (b) shows significant impact on the GI business ecosystem of a city through cross-border scenarios
- 3.2 Bring together Sponsors and Innovators through the OTN Hubs and encourage participation and innovation through a range of gamification and engagement tactics
- 3.3 Evaluate the pilot's success and ensure an exploitation plan is in place to ensure sustainability is achieved by the end of the project.

## 1.2 Work Performed and Results Achieved

### 1.2.1 Work Performed

OTN has just completed its first year of operations. During this time all the work packages from data management to hub integration, pilot deployment and communications were live and operational. Even the one work package that was not officially live (Evaluation) was in action supporting pilot work.

Work began at a fast pace with **WP1: Project and Quality Management** leading an interactive workshop to capture and document the vision for OTN. This vision formed the high level blueprint for every single OTN partner to work towards, and all outputs of OTN must help advance this goal.

The OTN Hub network advances the use of GI and transport-related information by opening, harmonizing and promoting a full range of data to stimulate new service ideas, improve decision-making, create new business opportunities, and enhance the quality of applications and services in the transport domain



At the same time **WP2: Open Innovation, User Requirements & Design** launched its 6 month co-design process with a benchmarking study to capture a snapshot of GI and Open Data use across Europe, before coming up with recommendations for all the other work packages to think about as their work got underway. Developments continued within this work package with the identification of key stakeholder groups in the pilot sites, and the soliciting of their involvement in individual user scenarios creation and user requirement gathering. These user requirements were then ranked by priority order before being translated into the technical requirements and technical architecture for OTN.



**WP3: Adaption of Hub Components** used the outcomes from WP2 to bolster their research around spatial data infrastructures in order to create a specific OTN methodology/approach. Key components of the Hubs infrastructure – for metadata management, collection, harmonization, visualization and processing of data to extract useful information for decision making - were installed onto a development server to begin exploring and testing how these elements could work together.



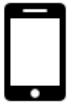
Taking the datasets initially identified in WP2, **WP4: Management of Data: Formats, Interoperability and Security** worked with the pilot sites to undertake a privacy assessment for data use. The outcomes of this assessment informed the overall plan for the collection of data for the Hub, and helped create an OTN methodology for data publication. Its imperative that data is aggregated and published in a way that enables multiple datasets to be visualized together on one interface. A catalogue of the available datasets was developed, and these datasets will be used to further drill down into pilot use cases to enhance user journey development.



Working closely with WP3, **WP5: Hub Integration**, created an integration work plan that guides the integration of the various modules into the Hub. Work started and is ongoing in setting up the back-end infrastructures, as well as creating an accessible and easy to use frontend interface – market place, business support forum, etc. Moving forward this work package will link closely to WP6 to keep reviewing and drilling down into user requirements to ensure the end Hub result will achieve expected impacts.



**WP6: Pilot Deployment and Validation** took over the work of WP2 and is working with the Pilot and Tech teams to further expand the business case for using OTN, and understand how the platform can and will be used within each city. Use journeys for the Hubs based on roles were created to help inform development, and these are now moving a step further to be based on specific real-life scenarios. These in-depth scenarios will be



Underpinning all the development activities this year was **WP8: Communications and Commercialisation** who created a three-year communications plan based on traditional marketing/commercialisation phases. The aim of the first year was to raise awareness of the OTN brand name across Europe, an effort that resulted in OTN developing a range of dissemination material that was used to introduce the project to stakeholders at over +20 presentations at major Smart Cities / Transport conferences, in 18 press publications and across 3 social media channels.

### 1.2.2 Results Achieved

On a project management level, all deliverables have been completed on time, keeping project progress on track and to budget. The diagram below shows the key outcomes from each work package that contributed to meeting the first Milestone – Project Architecture. Achievement of this Milestone enables OTN to move from a research and planning phase into a development and rollout phase.

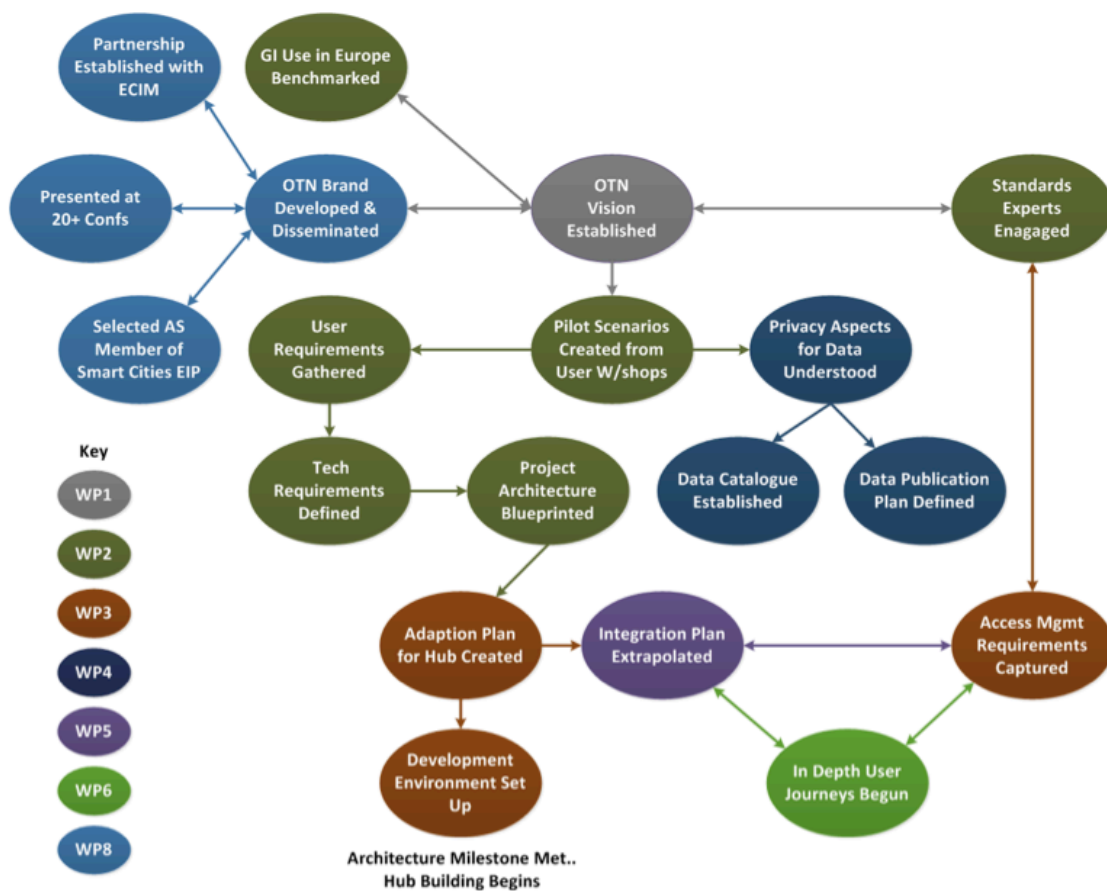





Figure 1: Key Results from OTN

On an impact level, OTN has been introduced to relevant stakeholders in the pilot sites in order to build a trusted relationship with end-users before the Hub launch. The focus on engaging users in the co-design of the project is aimed at mitigating later take-up challenges. OTN has also been building its brand name across Europe through presentations at events (to attract cities who could potentially replicate OTN), and publications in industry magazines (to attract attention of transport SMEs). Sustainability work to date has focused on a partnership with another project ECIM (OTN could potentially provide data to power transport services in their Cloud) and the project was also selected as a Smart City EIP project for Transport giving OTN opportunity to work with a range of other projects in the domain to share knowledge and results.

## 1.3 Expected Final Results, Potential Impact and Use

The table below highlights how the results from the first year of the project contribute to the overall expected impact and benefits of OTN.

Main Outputs	Main Outcomes	Expected Impacts/ Benefits of OTN	Results achieved in Period 1
<b>Practical visualisation tools and easily accessible harmonised data for stakeholders</b> to use to gain new information and insights from open and GI data	 <b>Open Experimentation</b>	<ul style="list-style-type: none"> <li>• Advances in standardization processes for combining and viewing spatial and non-spatial data</li> <li>• Greater adoption of GI standardization processes through Involvement of W3C and OGC communities</li> <li>• Enhanced opportunities for all stakeholders to extract greater value from data through linking and analysis</li> <li>• Ability for other domains to benefit from OTNs solution through open source code adoption</li> </ul>	<ul style="list-style-type: none"> <li>• Current Situation Analysis captured State-of-Art in GI use to provide recommendations to all work packages</li> <li>• W3C, OGC and other data experts engaged and providing feedback to the Consortium on ACM recommendations</li> <li>• Meetings with non-open data providers to explore inclusion in Hubs e.g. UK Met Office</li> <li>• Use of user-friendly metadata tools to help cities upload data easily</li> <li>• Focus on front-end simplicity to ensure value from data can be gained without advanced analytical skills</li> <li>• Inclusion of API feed in solution to help developers</li> </ul>
<b>A European wide network for transport innovation</b> to help rapidly and cost effectively develop new services and business activities	 <b>Open Innovation</b>	<ul style="list-style-type: none"> <li>• New collaborative ways of working for value chains to deliver innovation using GI and open data</li> <li>• Greater peer2peer business support for the transport network who can share ideas and experiences</li> <li>• Economic enhancements to transport areas such as logistics, safety, emissions etc. through new innovative service</li> <li>• Opportunity for SMEs to cost effectively reach new and wider markets across borders, and across Europe</li> </ul>	<ul style="list-style-type: none"> <li>• Capture of range of stakeholders (Cities, SMEs, Data Owners, Communities etc.) in contact register in all pilot sites</li> <li>• Engagement and inclusion of end-user value chain of in shaping Hub design</li> <li>• Inclusion of peer-2-peer sharing and comms channels in user and tech requirements</li> <li>• Stimulation of new opportunities through engagement of new cities and their stakeholders at conferences, through publications</li> <li>• Knowledge sharing with other transport initiatives in Smart Cities Transport EIP</li> <li>• Exploring links to serve data to other service clouds eg. ECIM project (European Cloud Marketplace for Intelligent Mobility)</li> </ul>
<b>New location-based services</b> that make full use of the potential offered by GI and open data	 <b>New Services</b>	<ul style="list-style-type: none"> <li>• Improved capacities for SME's to use GI and open data to develop and validate new ideas and rapidly scale up services and products</li> <li>• Potential for the creation of new jobs and opportunities as a result of the news services and business opportunities</li> <li>• New high quality location-based and therefore more personalised services will improve the quality of life for citizens</li> <li>• Enhanced visibility of the benefits of open GI to encourage data owners to make their sources available</li> </ul>	<ul style="list-style-type: none"> <li>• New service ideas captured during co-design purpose with the intent of using them as testing scenarios during Hub rollout.</li> </ul>

**Table 1: Expected Outcomes and Benefits of OTN**

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