

PROJECT

## ECOMPASS

### eCO-friendly urban Multi-modal route PIAnning Services for Mobile uSers

**Funding:** European (7th RTD Framework Programme)

**Duration:** Nov 2011 - Dec 2014

**Status:** Complete

**Total project cost:** €4,075,024

**EU contribution:** €2,650,000



**Call for proposal:** FP7-ICT-2011-7

[CORDIS RCN : 100714](#)

#### Background & policy context:

The demand for mobility of people and goods in urban environments steadily increases raising long-term sustainability, quality of life and environmental concerns. While ICT's have established the ground for developing intelligent transport services and applications, their effective use for supporting cleaner urban mobility still represents a major research challenge.

The eCOMPASS project addresses high-demand urban mobility aspects, primarily aiming at reducing the environmental footprint related with the mobility of people and goods in the urban space. In this context, eCOMPASS primarily investigates two mobility scenarios with significant contribution to urban CO<sub>2</sub> emissions and energy consumption: mobility of humans using private vehicles and mobility of goods (i.e. delivery, distribution and collection) through fleets of vehicles carrying light or heavy freights.

eCOMPASS introduces new mobility concepts and establishes a methodological framework for route planning optimization following a holistic approach in addressing the environmental impact of urban mobility.

#### Objectives:

eCOMPASS aims at delivering a comprehensive set of tools and services for end users to enable eco-awareness in urban multi-modal transportations. eCOMPASS involves a generic architecture that will consider all types and scenarios of human and goods mobility in urban environments minimizing their corresponding environmental impact.

The main objectives of eCOMPASS project are:

1. Optimization of private vehicles navigation with respect to environmental footprint
2. Optimization of vehicle fleets route planning with respect to the environmental footprint
3. Optimization of route planning over urban multi-modal public transportation networks
  - Optimized origin-destination multi-modal public transportation route planning
  - Optimized, personalized daily multi-modal public transportation routes for tourists

#### Methodology:

eCOMPASS is composed of three main vertical phases that concern the technical work as well as the pilots, assessment and evaluation of the project, and two horizontal phases that include dissemination and project management activities.

The three main vertical phases of the project (illustrated above) are:

1. The Requirements analysis and conceptual design phase, whose goal is to elicit information about

user requirements and to conceptually design the use cases and application scenarios to be implemented. This phase includes work to be conducted in WP1.

2. The Technical development phase, which includes all technical activities in the project: investigation, and design of efficient algorithmic solutions (for routing private vehicles, fleets of vehicles and individuals using multi-modal public transportation) and implementation of the respective software components; design and implementation of the Content Gateway Module to enable interoperability between the eCOMPASS framework and external data sources; integration of individual modules into a unified framework. This phase includes work undertaken in WP2-WP5.
3. The Pilots phase that aims at developing usage scenarios applications for the different user target groups in order to implement the concept of eCOMPASS in various real-world situations. This includes work to be done in WP6.

### **Parent Programmes:**

[FP7-ICT - Information and Communication Technologies](#)

**Institute type:** Public institution

**Institute name:** European Commission

**Funding type:** Public (EU)

### **Lead Organisation:**

#### **Institouto Technologias Ypologistonkai Ekdoseon Diofantos**

**Address:**

N Kazantzaki Odos  
26504 Patras  
Greece

**EU Contribution:** €577,464

### **Partner Organisations:**

#### **Ethniko Kentro Erevnas Kai Technologikis Anaptyxis**

**Address:**

Charilaou Thermi Road  
57001 Thermi Thessaloniki  
Greece

**Organisation Website:**

<http://www.certh.gr>

**EU Contribution:** €377,723

#### **Ptv Planung Transport Verkehr Ag**

**Address:**

Stumpfstrasse 1  
76131 KARLSRUHE  
Germany

**Organisation Website:**

<http://www.ptv.de>

**EU Contribution:** €365,270

#### **Tomtom International Bv**

**Address:**

DE RUIJTERKADE 154  
1011 AC AMSTERDAM  
Netherlands

**Organisation Website:**

<http://www.tomtom.com>

**EU Contribution:** €546,625

### **Karlsruher Institut Fuer Technologie**

**Address:**

Kaiserstrasse  
76131 Karlsruhe  
Germany

**Organisation Website:**

<http://www.kit.edu>

**EU Contribution:** €439,660

### **Eidgenoessische Technische Hochschule Zuerich**

**Address:**

Raemistrasse 101  
8092 ZUERICH  
Switzerland

**Organisation Website:**

<http://https://www.ethz.ch/de.html>

**EU Contribution:** €343,258

### **Technologies:**

Information systems  
Sustainable urban mobility planning

**Development phase:** Research/Invention

Documents:

 [A New Dynamic Graph Data Structure for Large-Scale Transportation Networks \(Other project deliverable\)](#)

**STRIA Roadmaps:** Network and traffic management systems, Smart mobility and services

**Transport mode:** Multimodal transport

**Transport sectors:** Passenger transport, Freight transport

**Transport policies:** Decarbonisation, Digitalisation

**Geo-spatial type:** Urban