



CIVITAS PORTIS INNOVATION

INNOVATIVE AND SUSTAINABLE URBAN MOBILITY SOLUTIONS

PORTIS Innovation E-Brochure 1 | November 2017



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**EDITORIAL
INNOVATION**

Dear Reader!

We *Homo sapiens* are naturally innovative, constantly questioning how we can better organise our societies, inventing new gadgets to make our lives easier, and of course, seeking ways to improve how we move about. In the PORTIS project we are fortunate to be working with five particularly ambitious and creative cities, Aberdeen, Antwerp, Constanta, Klaipeda and Trieste.

Not only are these cities committed to implementing more than 40 sustainable mobility measures, which are already innovative in their regions, but they have also accepted the challenge of applying an Innovation Process to selected measures. The objective? – to generate new ideas and Innovation that will further increase the beneficial impacts of the measures, and to implement measures based on a long-term business plan for success.

Phase 1 of the PORTIS Innovation workstream has involved exploring what exactly we mean by innovation, establishing the Innovation Process, and designing an approach for evaluating our Innovation efforts. In this first edition of the annual PORTIS Innovation E-brochure, we are pleased to present a summary of our approach. We also provide some examples of how PORTIS cities are working with Universities to strengthen their collective capacity for sustainable mobility planning and Innovation. Finally, an important aspect of the PORTIS Innovation workstream is to encourage knowledge exchange between cities, and we are pleased to report on the City Exchange visit involving Antwerp and Constanta, which took place earlier this year in June.

We hope you will find this brochure an interesting introduction to our work and that you will contact us for more information!

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CIVITAS PORTIS is testing innovative and sustainable urban mobility solutions in five European port cities, and will also exchange knowledge and experience with follower city Ningbo, China. For an overview of the project, as well as further news and resources, please visit <http://civitas.eu/portis>

**INTRODUCING THE
PORTIS INNOVATION PROCESS (PIP)**

The overarching objective for CIVITAS PORTIS is to design and demonstrate integrated sets of innovative sustainable mobility measures that address the problems of port cities in Europe. A unique aim of the project is that there will be a concerted effort to maximise the beneficial impacts of the measures, and to plan for their long-term success, by embedding an Innovation Process in the measure planning cultures of PORTIS project partners. In this article, we provide an introduction to the core concepts and approaches being applied.

INNOVATION IS A WORD USED OFTEN AND BOTH A VERB, DESCRIBING THE PLANNING AND IMPLEMENTATION PROCESS, AS WELL AS A NOUN, REFERRING TO AN INNOVATIVE PRODUCT OR SERVICE

Since the spring 2017, a team of Local Innovation Managers from Aberdeen, Antwerp, Constanta, Klaipeda and Trieste have been working with the Innovation workstream leader (Vectos) to design and set in place an Innovation Process. As a first step, it was important to reach a joint understanding of what is meant by “Innovation”. It is, after all, a word used often and in various related contexts:

- **Public policy promoting Innovation** – The EU’s *Innovation Union Pocket Guide* (2013) states that “Innovation is our best option to help get the European economy back on track”, highlighting the link between national investment in Research & Development (R&D) activities and economic growth. Concepts such as Triple Helix Systems, which encourage cooperation between industry, government and universities, have underpinned public policy approaches to stimulating Innovation.
- **Innovation processes** – Large and complex organisational structures can create barriers to Innovation, by

preventing the value of people’s ideas from being recognised and developed. Innovation processes, such as the innovation cycle described in *The Public Innovator’s Playbook* (Deloitte, 2009), seek to open up communication channels and provide more structure to idea generation and decision-making.

- **Innovative products and services** – This is perhaps what people most commonly think of as Innovation: a new smartphone app, an improved vehicle or other leading technology.

Within the PORTIS workstream we are seeking to address all of these aspects of Innovation: for instance, recognising that Universities can play an important role in mobility measure design, planning, and evaluation (see the article below *Invigorating mobility Innovation by strengthening links with Universities*); by introducing and testing an Innovation Process; and, of course, by seeking to deliver innovative mobility measures!



Innovation Union

Providing the right conditions: from Idea to Innovation

Until a sustainable mobility Idea delivers desirable results and growth in the long-term, it cannot be considered a successful innovation.

Creativity is undoubtedly a key ingredient of Innovation, but a good idea for a product or service can still fail if it does not benefit from political support and careful implementation planning and marketing. An important aspect of the PORTIS Innovation Process, therefore, is to encourage and recognise innovative measure planning processes, as well as products and services.

From the outset of the project, we were clear that a series of **Conditions for Innovation** need to be put in place if innovative measures are to be delivered and successful in the long-term:

- **Organisational and institutional framework** – finding the best ways to work with partners
- **Capacity to assess, plan and implement** – ensuring training and capacity building
- **Social and political acceptance** – understanding the needs of citizens and businesses
- **Legal and regulatory competence** – procedural planning and avoiding costly delays
- **Transport systems and technology** – knowledge of appropriate technical solutions
- **Finance and investment planning** – adopting a robust business planning approach

Nevertheless, it was also clear that these “conditions” cannot be immediately changed. An approach is therefore needed that allows for the planning process for mobility measures to be incrementally improved, as well as the final product or service.

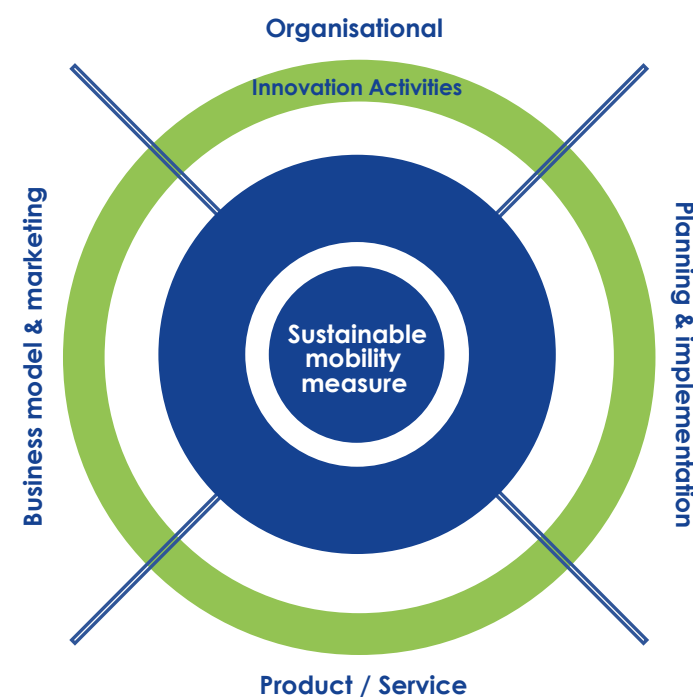
The OECD and Eurostat *Oslo Manual: Guidelines for collecting and interpreting innovation data* (3rd Edition, 2005) recognises four **Types of Innovation**: product, process, organisational and marketing innovations. These provided the inspiration and basis for our approach to introducing innovation to the mobility measure planning process. Now all that was required were the innovative ideas...

The Innovation Mapping Diagram: an open canvas for ideas

But our measures are already innovative...!?

The PORTIS cities are naturally aspiring and committed to delivering the best mobility measures, so all that was needed to spark the Idea Generation process was a light structure, that encourages colleagues to think about different dimensions or Types of Innovation. The Innovation Mapping template below has therefore provided the basis for brainstorming activities, placing a specific mobility measure centre stage, and inviting ideas for possible **Innovation Activities**.

In this process, it is important to recognise that the mobility measures proposed in PORTIS are already innovative in the context of the city, region or country. For this reason the template allows innovative aspects of the measure already foreseen to be recorded, around the blue inner ring. Ideas for new innovation activities are added around the green ring. At this early stage, the emphasis has been on generating ideas, while decisions regarding which of these will be pursued during the timeframe of PORTIS are the subject of separate Idea Selection meetings.



Innovation Activities can include ideas for how other staff, stakeholder groups and citizens can also become involved in the Idea Generation process in the future, through online platforms, workshops, hackathons and more... In this respect, the Idea Generation process is cyclical, with the potential for more ideas to be added once the Innovation Process has been broadened to involve additional people.

People often think of Innovation as radical new products or services, however, in reality (and by definition!) these come along relatively rarely. While ideas for totally new products and services are welcome, the value of incremental improvements that collectively help to enhance the mobility product / service should not be underestimated. The City of Antwerp's PORTIS measure “Approach for employers” provides an excellent example of how a pilot commuter travel planning approach is now being substantially scaled up and enhanced through a range of Innovation adding Activities. For some time, the city's mobility department has been advising companies on how they can develop their own commuter travel plan.



But now the City of Antwerp has begun elaborating full commuter plans for companies in transitional phases (e.g. moving offices) and those that face disruption from the major roadworks currently taking place in and around the city.





Innovation Activities (shown around the green ring in the diagram), the majority of which are scheduled to be taken forward during the timeframe of PORTIS.

These included ideas relating to all Types of Innovation:

- **Organisational and Marketing** – organising events for the CEOs of participating companies could lead to greater interest and involvement in the scheme, as well as beneficial marketing material for these businesses and the City of Antwerp.
- **Planning and Implementation** - The smartphone app made available to scheme participants will undergo ongoing improvement, both through a procurement process (potentially bringing in new ideas from local tech companies), but by also allowing feedback direct from the app users.
- **Product / Service** – Providing incentives for sustainable mobility behaviour, by offering bike discounts (including for e-bikes) and membership of rewards schemes, is an important new aspect of the scheme. The “Mobilotheek” concept allows people to try new ways of travelling to work for free.

The intention for the four years of the PORTIS project is that 40 large companies in the northern part of Antwerp will be targeted. As shown in the Innovation Mapping Diagram on page 5, the travel planning approach benefits from a series of core elements: the “mobility scans” for companies, giving them an overview of the existing travel patterns of their employees; as well as the provision of company mobility guides and personalised travel plans for their employees (see the baseline “innovative aspects” shown around the blue inner ring). Idea generation meetings held as part of the PORTIS Innovation workstream led to a host of potential new



- **Business Model & Marketing** – The City of Antwerp are convinced that the benefits of the scheme will far outweigh the costs, so have concentrated at this stage on exploring ideas that could improve the positive impacts. A sustainable mobility competition between companies will therefore be introduced, and the provision of “Logistics scans” for companies is also currently being planned as a service that could help retain and attract participants, and deliver further positive results.



commuter mobility management measures, and complex traffic management initiatives relating to the smooth operation of the city ports.

In all of these cases, the Innovation Mapping Diagram has provided a basis for exploring the different aspects of measure planning and final product where Innovation could be introduced. The Innovation framework diagram shown on page 6 gives an overall impression of the categories of Innovation arising from our discussions.

The PORTIS Innovation Process is itself in the process of being tested and refined, and includes an approach to Evaluation of Innovation that will be presented in a forthcoming issue of the PORTIS Innovation E-Brochure. Additionally, we are excited to present further measure Innovation stories from the project in the annual brochure over the coming years!

PORTIS MEASURES INCLUDE SCHEMES TO REFURBISH MAJOR CITY CENTRE BOULEVARDS, THROUGH TO PROVISION OF BIKE-SHARING SCHEMES, COMMUTER MOBILITY MANAGEMENT MEASURES, AND COMPLEX TRAFFIC MANAGEMENT INITIATIVES RELATING TO THE SMOOTH OPERATION OF THE CITY PORTS.

The significance and effects of these Innovation Activities varies, with some being relatively minor, but collective implementation is expected to lead to a substantial strengthening of the measure. Moreover, some ideas are not yet ready mature enough for implementation, but can be picked up again in future cycles of measure evolution.

Patterns of Innovation

The types of Innovation Activities identified in the PORTIS idea generation sessions cover a wide range, depending on the type of mobility measure. PORTIS measures include schemes to refurbish major city centre boulevards, through to provision of bike-sharing schemes,

INVIGORATING MOBILITY INNOVATION BY STRENGTHENING LINKS WITH UNIVERSITIES

As centres of teaching, research and innovation, universities have a lot to offer to city authorities with a desire to rejuvenate their planning approach, re-cast future mobility scenarios, and pick-out innovative products and services for development. This is why PORTIS partners have been exchanging information on initiatives already in place in their cities that help to strengthen links with universities. In turn, this could help them to identify new ways they could involve educational institutions in the design and implementation of mobility projects and initiatives.

A city's collective capacity to assess, plan and implement is identified in the PORTIS project as one of five 'Conditions for Innovation', and there are numerous ways in which universities and other educational institutions can contribute:

Provision of professional services / consulting

Where local authorities do not have the staff capacity or skills to undertake all mobility planning tasks, universities can provide the expertise and staff time to help fill these gaps, as well as contribute to vision development and innovation.

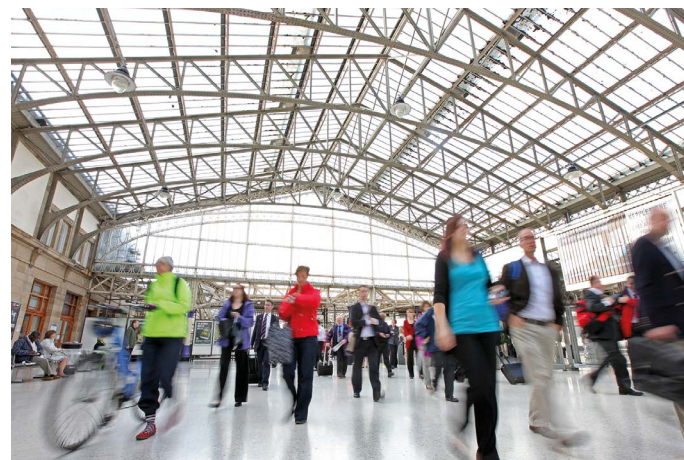
To provide an example, Constanta Municipality and the Ovidius University of Constanta have now taken the step of formalising their partnership by signing a long-term partnership agreement, further building on a history of cooperation. During the preparation of the Constanta Sustainable Urban Mobility Plan (SUMP) the two organisations worked together closely, with the University involved in managing parts of the communication and public participation processes.

Further initiatives undertaken in the PORTIS cities include the following:

- The City of Antwerp has worked with Belgian universities on an ad hoc basis, creating focus groups to debate specific topics relating to mobility and city logistics.

- Aberdeen University's Centre for Transport Research (CTR) is the evaluation leader for the PORTIS project, and more generally, has a strong profile for transport research and industry-focussed knowledge exchange. The University is a designated partner of the Transport Systems Catapult (the UK's Innovation Centre for Intelligent Mobility) and has organised a number of knowledge exchange events in which PORTIS partners have participated.

- Aberdeen City Council has also involved Robert Gordon University (a second local institution) in the PORTIS project. RGU will act as the Local Evaluation Manager.



Working with students and researchers

Educating the next generation of mobility planners, while also providing an outlet for their ideas and research work, is a worthwhile area for cooperation between city authorities and universities:

- The City of Klaipeda offers an award to University students for the best Masters degree research project. In recent years winners have covered the topics: "The problem of the lack of parking spaces in the residential areas of Klaipėda"; and "Energy consumption and optimizing the power supply of electric buses: evaluating energy recovery".

- Staff from the City of Antwerp are invited to take part in the

defence of Doctoral theses relating to city and mobility planning, providing them with insights into the latest research.

- In Aberdeen, through the Knowledge Transfer Partnership programme, recent university graduates are given the opportunity to gain work experience at a public authority.

- A similar scheme also operates in Trieste, where the Municipality (Office of Territorial Planning, Mobility and Traffic) regularly hosts students of the University of Trieste Department of Engineering and Architecture. Usually each student works at the Municipal offices for a period of 6-9 months.

Staging **Hackathons** is becoming an increasingly popular way to engage a range of stakeholders, including university students, in a multi-disciplinary and competitive problem-solving process. Codethecity.org is a civic initiative based in Aberdeen, which organises hack weekends and open data workshops. The aim of the volunteer group is to build new tools and services that help people in the community access existing services and even start new ones. Codethecity has four trustees, representing the City Council, the University of Aberdeen Department of Computing Science, and two ITC related businesses. While Codethecity is not an initiative specifically aimed at students, it provides a great example of how volunteer experts of all ages and from a range of professions can be given encouragement and the opportunity to contribute to ITC service development.

A **Port Hackathon** was organised in Antwerp in September 2016 to kick-start idea generation and innovation relating to the port. This was a great success and attracted 200 participants organised into 30 teams. The team "Book-a-lock" came out as winner, based on their idea for an app that allows vessels to book a place in a lock. The teamleader, Valetin Carlan, said "Our team was a unique collaboration of the FlexsoGroup, the University of Antwerp and the Artesis-Plantijn Hogeschool." The winner gets the opportunity to further develop the idea into a working app.

Continuing professional development

As institutions of education and training, universities are clearly well placed to provide short training courses for staff at mobility planning authorities. In addition to core competencies relating to transport planning, other sub-

jects relating to the successful implementation of measures can be covered – e.g. marketing, project management, law.

For many city authorities, budget constraints have reduced opportunities for training, so events such as the "Intelligent Mobility Skills Event", organised by the University of Aberdeen, provide valuable opportunities for exchange and learning at local and national levels. The University of Antwerp also regularly gives lectures for the public on mobility and logistics, to which staff at the City of Antwerp are invited as guests.

Towards a Quintuple Helix approach to Innovation

This article has focussed on the links made between city authorities and universities to strengthen mobility planning and innovation, but this represents only one side of the well-known Triple Helix Innovation concept that promotes joint-working between universities, government and industry.

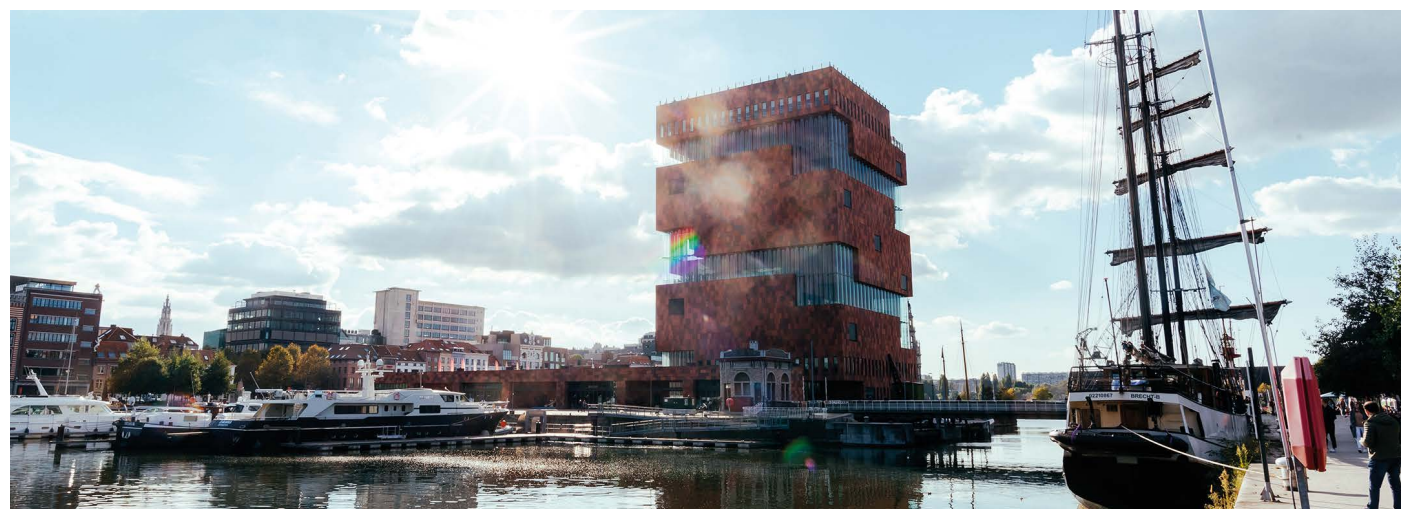
Amongst the PORTIS cities there are examples of this approach being applied, such as the MedGreen Cluster based in Constanta, which is a partnership formed to promote cooperation between businesses, research and educational institutions, as well as regional and local authorities. The **Knowledge Transfer Partnership (KTP)** initiative in Scotland enables Universities and industry to work together to encourage the competitiveness and productivity of local businesses, by supporting them to make better use of the technology and skills residing in universities.

The PORTIS Innovation Process encourages cities to go further than this, promoting Idea Generation processes that seek to enhance the involvement of other staff, stakeholders and citizens. In other words, it encourages a Quintuple Helix Innovation model that also involves civil society.

A CITY'S COLLECTIVE CAPACITY TO ASSESS, PLAN AND IMPLEMENT IS IDENTIFIED IN THE PORTIS PROJECT AS ONE OF FIVE 'CONDITIONS FOR INNOVATION'

PORT CITY PARTNERSHIPS

CONSTANTA'S EXCHANGE VISIT TO ANTWERP



During June 2017, representatives from PORTIS city Constanta had the opportunity to visit partners in Antwerp. With a two-day agenda covering everything from arrangements for institutional cooperation, through to site visits at the Port of Antwerp and traffic management centre, it was an intensive and inspiring learning experience. It is clear that PORTIS colleagues from Constanta were very impressed by what they saw and heard!

PORTIS Local Innovation Managers, Mihaela Stan and George Lupascu, were happy to talk about the experience.

The exchange visits are a fantastic opportunity for PORTIS cities to learn from one another. Which delegates from Constanta were able to travel to Antwerp?

In total 11 delegates from Constanta visited Antwerp, including Constanta's Chief Architect and representatives from the city authority, port authority, metropolitan area, the European Centre for Development, and European Integrated Projects. It was excellent that all these stakeholders were able to travel and learn direct from their counterparts in Antwerp.

What was your overall impression of urban mobility in Antwerp?

Well organised... and ahead of Constanta in terms of promoting environmentally sustainable transport modes. There are a lot of construction works going on around the city centre and port area, which include street refurbishment works. This does cause some congestion, but nevertheless the process is clearly well organised and communicated to people, in order to limit problems. It was insightful to learn how Antwerp use the construction works as an opportunity to promote more sustainable travel modes.

In Constanta we do have a lot of people walking in the city centre, but this is limited mostly to the pedestrianised central area, and during the summer season to the Mamaia Resort and town of Navodori on the Black Sea coast. In Antwerp we saw a lot more people walking in all areas of the city, and noticed that a lot of street crossings and signage are adapted to allow disabled persons to move around more easily also.

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There are a lot of cyclists in the city and we could see that everyone cycles – it is not discriminatory in any way. The cycle sharing scheme includes stations in both the city centre and neighbouring districts, including around the southern boundary of the port where the Port Authority's offices are located. These are well used and help to reduce barriers for moving between these different areas. Access to the Port of Constanta is a major issue for us to address, and we saw there are many ways we could improve access by walking, cycling and public transport. It was interesting to hear that this remains a challenge for Antwerp also due to the form and very large scale of the port, so within their PORTIS measures they will introduce collective transport to provide better coverage, supplementing existing public transport lines. They also plan to further encourage cycling by eliminating major land and water barriers (i.e. by introducing a ferry service). We could go on... provision for electric vehicle charging, better management of parking, use of some zero emissions vehicles for deliveries...



Overall there were more than 10 separate site visits, presentations and meetings packed into the agenda. What impressed you most about the Antwerp's approach to mobility planning and the projects being implemented?

All the presentations were good and full of information, so it is difficult to refer to just one or two highlights – but, the talk by BAM on governance structures in relation to major construction works included particularly helpful guidance for us. The Antwerp Steering Group for Impact Management and associated platform for institutional cooperation have clear structures and were established with the objective of streamlining the implementation of different works in the public domain. The city and port authorities

in Constanta have begun to put in place the foundations for this kind of cooperation, so it was very valuable to learn about a real-world example of how these can be developed further.

We also found the 'Smart ways to Antwerp' initiative very impressive. Many examples of the city's awareness raising activities were presented, as well as the way in which citizens and businesses have been involved and offered smart mobility solutions for their day to day travel needs. It was clear that significant efforts and resources have been invested in these mobility management approaches, which was an important lesson for us in Constanta.

As part of the PORTIS project, Constanta will be integrating its SUMP with the Port Masterplan. Are there particular lessons from the Antwerp visit that will influence how this process is managed?

Well, the approaches to institutional cooperation used in Antwerp were certainly of interest and will be particularly important for Constanta. In Antwerp there are historic strong links between the city and port authorities at leadership levels. For Constanta, where the port is the responsibility of the national transport ministry and therefore the local connections are not as strong, closer liaison with the city authority will need to be gradually strengthened. CIVITAS PORTIS is an important facilitator for this process.

And are there specific port-related mobility measures that you would also like to see being implemented in Constanta?

We are definitely interested to provide bus routes to and within the port, as well as to establish a bike-sharing scheme that includes docking stations in the port area.





The Port of Constanta employs over 17600 people, so it is a priority for us to provide more sustainable forms of transport for port workers.

The Port of Antwerp has also implemented a teleworking initiative, which helps reduce the need for workers to travel so frequently. Our partners from Constanta were very impressed and are planning the implementation of a similar scheme for the city and port administrations, which does pose challenges, as the relevant rules for the public sector are restrictive. This will form one element of our PORTIS measure "Implementing virtual mobility", which also involves identifying public services that are suitable to be offered as online services.

Gathering and managing transport and mobility data is a very important aspect of the work to be undertaken by Constanta partners in PORTIS. Were Antwerp able to offer any useful guidance on this matter?

Yes, first of all, the City of Antwerp is collaborating with a lot of public and private partners in order to gather mobility data, to be used for different mobility products such as a smart travel planner, traffic monitoring, but also policy evaluation. Different sources of data varying from floating car data, user-generated data (i.e. via smartphone use), to real time data from public transport. In Constanta, the organisational structure of the city authority is now being changed to allow for the establishment of a data collection department, which will be able to begin some of the processes we saw in Antwerp.

We also visited the Traffic Management Centre, which operates 24hrs a day, 7 days a week. It was impressive to see how the team of people stationed there could respond immediately to any incidents on the highway network, working with the emergency services.

Will there be a return visit, with partners from Antwerp travelling to Constanta?

There is no visit planned at present, but we have many sustainable mobility initiatives underway now that could be of interest:

- **Improving mobility in the central area of Constanta municipality** through the redesign of the Alexandru Lapusneanu Boulevard, along with a number of other major routes through the city. We hope to deliver real transformation on these major routes through the city, which are now dominated by cars (both parked and moving). The main objectives are to bring a balance between all the road users, by providing dedicated bus lanes, cycle lanes and improved pedestrian areas, and to also adapt the streetspace to the needs of disabled people and create a vibrant urban environment.

- **Integrated refurbishment of the pedestrianised area of Constanta's historic city centre** (Stage II). This is the continuation of a project that aims to extend the city centre pedestrian area and connect this with other existing pedestrian routes around the city, providing a cleaner, safer and more attractive environment for walking and cycling.

- **Modernisation of Constanta's public transport fleet** through the acquisition of new EURO VI buses. With support from the European Bank for Reconstruction and Development, Constanta Municipality is in the process of procuring 90 new buses. We expect that the first tranche of low floor buses equipped with GPS systems, passenger information systems, audio-video systems and passenger counters will be delivered early in 2018.

- **Parking space outside the Port area.** The aim of this project is to provide a parking area and registration/booking system for freight vehicles, to avoid the congestion and air pollution caused by queueing lorries and also the current chaotic parking around the Port streets. This can be especially bad during the cereal harvest season, when some Port entrances and terminals are almost completely blocked.

We would therefore be delighted to welcome our Antwerp partners to the city!

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