

BAPTS

High-quality public transport services for Europe





LIEGE, BELGIUM

9TH BAPTS PARTNERSHIP MEETING, CONFERENCE ON ADVANCED URBAN BUS AND TRAM SYSTEMS, SYNAPTIC LAUNCH EVENT

8 - 9 June **2011**

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9th

BAPTS partnership meeting, conference on advanced urban bus and tram systems, SYNAPTIC launch event

The 9th BAPTS partner meeting took place in Liège, Belgium on 9 June 2011. The BAPTS partners took advantage of the opportunity offered by this meeting to organise a half-day conference on various aspects of the introduction of a tram network in the city and region of Liège, the hosting partner. In addition, the new Northwest Europe cluster project, SYNAPTIC – including BAPTS and three other NWE projects – was officially launched.

Liège, population 195,000 (750,000 in the metropolitan area) is the capital of the province of Liège in Wallonia, the French-speaking part of Belgium. The BAPTS partners were taken on a walking tour of the city on the evening before the conference for a firsthand look at some of the transportation issues faced by the city. As they witnessed, the bus system in Liège is extremely well used. While the city welcomes the popularity of the public transport system as a positive development, it also acknowledges that it creates challenges. The dedicated bus lanes in some central areas of the city create a "wall" of yellow buses during peak hours.

Partners also saw firsthand how the popularity of urban living is turning the trend away from suburban living in Liège. Historic narrow lanes and courtyards are being renovated and are becoming popular housing areas.





On the morning of 8 June, the City of Liège hosted presentations and a discussion on the plans for a new tram system to be developed in Liège. The event took place at the University of Liège and received high-profile political support from both the city and the Walloon region.

Participants were welcomed by the Dean of the University of Liège, Bernard Rentier. The mayor of Liège, Willy Demeyer, made a keynote presentation. Mr Demeyer listed his three goals for the city as:

- Making the urban environment pleasant
- Economic development and employment
- Developing culture (and the economic development that accompanies it)

He also noted that culture, education and sport centres and facilities would all be linked by the new tram system in Liège.

Three speakers then presented preliminary conclusions from three different aspects of a study into the

reintroduction of a comprehensive tram network for Liège and the surrounding area. The session enabled the city to present its results and to receive feedback from an international audience. It also gave the visiting BAPTS and SYNAPTIC partners insight into the process required to reach such a decision.

Three speakers addressed three aspects of the tram study carried out in Liège:

- Context and methodology: Yves Hanin, Director, CREAT, Belgium
- Mobility: Laurent Bourg, Transport Engineer, EGIS Rail, France
- Urban planning: Bernardo Secchi,
 Director Architect, Studio 011, Italy

Context and methodology: Yves Hanin



Yves Hanin

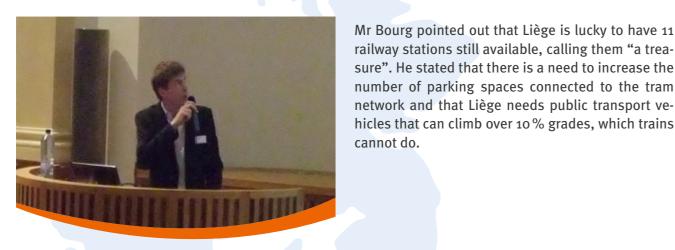
It is a goal of the city to maintain population predominance in the urban centre. Mr Hanin noted that the bus network is good but it is saturated with a bus arriving every 35 seconds at Place St. Lambert in the city centre. For this reason, other possibilities

needed to be considered, including more buses, a bus rapid transit system (BRT), a tram, or some combination or hybrid of these.

Mr Hanin also talked about the state of urban transport, about the dynamic process of land use, and about how to translate an image into reality. He pointed out that the creation of two axes — with a 500 metres catchment area on each side — could theoretically serve 75% of Liège's population. Indeed it would be theoretically possible to increase the population of the city by 100,000 if compared against other cities in Europe of a similar size.

The City of Liège is made up of the historic heights, the river, the old mines and the areas along the highway. A wide variety of projects exist within these different parts. The idea is to connect them with the centre as well as to unify the periphery with the centre.

Mobility: Laurent Bourg



railway stations still available, calling them "a treasure". He stated that there is a need to increase the number of parking spaces connected to the tram network and that Liège needs public transport vehicles that can climb over 10 % grades, which trains cannot do.

Laurent Bourg

Urban planning: Bernardo Secchi

Mr Secchi offered a critique of public space in general, saying that attention needs to be paid to the quality of a city. He noted that Liège has lots of public space but much of it is poorly used. It is disconnected by car infrastructure and priority is given to car traffic.

Mr Secchi said that we need to ask the question, "What type of city do we want to have?"

He referred to Liège's history as a steel city and the importance of not losing this history. He also referred to the increase in density in the city centre and noted that it's important to match higher density with public transport improvements. He believes there is a possibility to connect green spaces and to create a dense, compact inner city and that connecting the upper and lower parts of the city is an important challenge.



Bernardo Secchi

Mr Secchi stated that three facets of designing a city are mobility, social inclusion, and the environment. He further noted that urban plans are not just for public transport but they must include public transport.

Urban development: Philippe Henry

Following the presentations on the Liège tram study, Philippe Henry, the Minister of Environment, Landuse Planning and Mobility from the Government of Wallonia presented. He spoke about the value of transnational exchange among the BAPTS partner cities and about the specific challenges facing Liège with regard to traffic congestion and urban sprawl. He noted that the Liège tram study was an excellent step toward addressing the challenges and that it is crucial to address urban development and mobility issues together rather than isolated from one another.

THE **SYNAPTIC** MOBILITY CLUSTER **LAUNCH EVENT**

The official launch of the Synergy of Advanced Transport Solutions (SYNAPTIC) cluster project (more details later in this report), bringing together representatives of four INTERREG NWE projects, took place following the presentations on the Liège tram project. The launch of the strategic cooperation initiative brought together partners from all four projects as well as other representatives of the Northwest Europe public transport community to discuss current developments in advanced public transport systems and to celebrate this new initiative.

The aim of the launch event was to outline cluster activities, to identify and discuss the interfaces, similarities and differences among different public transport systems, to provide input to the SYNAPTIC best-practice inventory and to contribute to the NWE master plan for seamless, integrated mobility networks.

The SYNAPTIC mobility cluster launch featured contributions from the INTERREG programme, the SYNAPTIC cluster partners, the Walloon Minister for International Affairs, a moderated round table discussion on advanced urban tram and bus systems, and culminated in the signing of the joint SYNAPTIC declaration.

Ruut Louwers of the INTERREG Joint Technical Secretariat opened the afternoon session talking about the value of European projects. He noted that they enable innovation, provide participants with opportunities to learn transnationally and carry out projects locally that create positive change, and offer Θ project partners the chance to contribute to the development of sustainable transport in Europe.

Joost Helms, Councillor from the City of Eindhoven, spoke about the goals of Eindhoven to be "the smartest region in the world" and how it is going about that by using good practices, and sharing knowledge and expertise. He commented on the need to close gaps and remove barriers internationally, offering two concrete examples:

- In the region where the Netherlands, Belgium and Germany meet, ticketing across borders and revenue sharing need to be addressed.
- For diesel electric hybrids, EU regulations on diesel motors create problems in rural areas

where full electrification is not feasible and diesel motors do not meet the latest emission standards.

The afternoon included a roundtable discussion involving members of all four SYNAPTIC project consortia as well as the signing of the SYNAPTIC declaration by the project partners (more details later in this report).

The round table discussion, entitled Innovative bus and tram systems in Europe, included four panellists representing four different kinds of public transport systems (or hybrid systems). A UITP representative had an eye on the larger public transport picture and helped us put the examples in context and, because public transport systems also have to fit into the fabric of the communities they were built to serve, an urbanist was also invited to help place large scale transportation infrastructure in the context of the cities and towns in which it is built and for the people it is intended to serve.

Round table participants:

- ♦ Vincent Colombo, Transport Department, Nantes Metropole (the Chronobus system in Nantes)
- Arnulf Schuchmann, Trolley Motion (Trolley bus schemes as ready-to-use e-bus technology)
- Sascha Derenek, Nordhessischer VerkehrsVerbund (RegioTram in North Hesse: connecting the urban and the regional)
- Paul Mathieson, Southend-on-Sea Borough Council (South Essex Rapid Transit (SERT))
- Sebastian Emig, UITP (the global transport perspective)
- Bernardo Secchi, Studio 011 (the urban perspective: implications of large-scale public transport interventions)

The discussion was moderated by Siegfried Rupprecht of Rupprecht Consult and conclusions were drawn and further SYNAPTIC actions outlined by Stuart Murray of Transport for Greater Manchester (and ICMA project coordinator).

In the first round of questions, the panellists representing the different systems each described them briefly.

Chronobus (Nantes, France):

Technically speaking the system manages the traffic flows before and after the bus in order to allow only as much traffic within the "moving/temporary bus corridor" as possible to keep both the bus and
The innovative characteristics of the Chronobus the other traffic running at maximum speed. Although the total traffic amount isn't reduced significantly, because of the buses and the better overall Θ management, many more passengers can be transported within the same time using the same amount of urban space.

Eventually, through its traffic management system, Chronobus will provide bus services at a quality and regularity similar to tram schemes but with much lower infrastructure costs while keeping other transport running too. The system will be the missing link in the existing highly structured transport network

comprising three tram lines, the BusWay system, and 56 flexible bus lines.

lines are:

- Remodelled roads and new traffic plans to favour the lines to guarantee an improved commercial speed and a very good regularity;
- improved frequencies of 6 minutes during peak hours and 10 during off peak hours;
- extended hours similar to a dedicated lane transport scheme;
- specifically marketed buses and lines;
- real time information panels;
- integrated traffic management.

Trolley (various locations):

are not new technology but pointed out that that doesn't reduce from their value in today's transport environment. Indeed, as he noted, trolley buses may have more of an image problem than anything else. If we were to call them "e-buses," they would fit perfectly into current discussions

Mr Schuchmann acknowledged that trolley buses on green and e-mobility. Indicating a photo of a modern trolleybus from Salzburg, Austria, he also noted that trolley buses no longer look like their ancestors from the early 20th century, and noted that the EU TROLLEY project was planning an image campaign for later in 2011 called "e-bus the smart way".

RegioTram (North Hesse, Germany):

Making use of underused stations in hilly areas, the region of North Hesse welded together the different worlds of railroading and the tramway to create a tram-train called the RegioTram. The RegioTram connected a high-density standard gauge tramway network with tram services on secondary railway lines using new vehicles that fit both systems and could operate on a high-density rail network.

Four lines connect the city centre of Kassel with the surrounding region. Six new stations have been created and tram-trains run every 60, 30 or 15 minutes, paralleled by express trains, providing rapid transit service for Kassel's northwest. The RegioTram behaves like a locomotive, providing a fast gateway to the city, but then it goes a step farther, taking passengers directly "from the country to the shop window."

Necessary changes included linking the railway and tramway networks by a tunnel, widening bottlenecks, purchasing new cars, and the implementation of electric and diesel dual mode units.

The effects of the RegioTram have included:

- Increased ridership in city and region;
- stable or increasing real estate prices near the RegioTram despite overall decreases in North
- North Hesse got a new high-quality rapid transit rail system for both city and region – for less than 15% of the cost of a conventional rapid transit system.

SERT (Southend-on-Sea, England):

SERT is a high-quality bus rapid transit system being developed in South Essex, England, that will deliver most of the features of a tram at a lower cost. The SERT network will comprise a series of high quality corridors which will be developed to a common level of service and marketed as a single entity and brand.

SERT will use modern, high quality, environmentally-friendly vehicles with level boarding, GIS and CCTV and, where necessary, will run on dedicated lanes. Vehicles will be able to send a signal to traffic lights to change to green when SERT approaches to ensure fast and reliable journey times. Services will be frequent so that passengers can just "turn up and go" without checking timetables. High quality, easily-identifiable SERT stops will have real time information displays and advance ticket purchase will minimise delays at stops. SERT will have a control

centre to allow constant monitoring of the position of the vehicles and adjustments to services to bring vehicles back to schedule should delays occur.

SERT will be developed on a ,hub and spoke' basis with later phases linking to new areas. The SERT network will serve key existing rail and bus interchanges so it is fully integrated with other public transport in South Essex. It will have the flexibility of being a permanent system, but with the possibility to adapt to serve changing circumstances like new developments, jobs, health or leisure services, and offering frequent service throughout the whole day (not just in peak periods).

Southend-on-Sea has been working with its BAPTS partners to select the best mode for its SERT service, which is expected to lead to regeneration of the area and the generation of thousands of homes and jobs.

There is no silver bullet:

To the general question of innovative public transport services, Sebastian Emig of UITP noted that there is no silver bullet solution and Bernardo Secchi added that a good measuring stick of comfort in public transport is to ask the question, "Can you read a newspaper on the tram?" He also noted that trams are clean, quiet and reassure people through their travel on tracks that they are being taken where they want to go. He also commented on the excellent way that the City of Nantes was designing their public space with the bus integrated into it.

Subsequent rounds of questions centred on the four main topic areas:

- intermodality and integration,
- intelligent transport systems,
- from oil to electricity, and
- financing,

followed by a general question on the future of public transport.

Intermodality and integration:

When asked what is important with regard to the integration of the Chronobus into Nantes's existing transport network both from a technical perspective and from a passenger's perspective, Mr Colombo noted that it had been conceived to fit in the city and to complement the existing system. Heavy infrastructure was not possible in their local context so the bus system was chosen. The Chronobus allows connections that weren't possible without it, helps spread train passengers around the city, and allows for more pedestrian space.

The moderator observed to Mr Derenek that the RegioTram sounds like it requires a great deal of integration and asked what aspects needed to be considered. Mr Derenek acknowledged that many aspects needed to be adapted, including both technical and legal measures. He added that timetables must also be integrated every year. Overall, he noted that "train people had learned to speak the language of tram people and vice versa."

Mr Secchi was asked if urban development plans and regeneration strategies can integrate innovaschemes while still taking into account the social dimension so as not to jeopardise public space but to enhance it. Mr Secchi responded that the design of public space need not be dramatic (what he called an engineers' philosophy) but that we need simple spaces. He suggested that public transport providers should get away from the concept of hubs, where passengers are required to walk great distances, and instead keep systems simple.

The moderator observed to Mr Mathieson that intermodality and integration must be a particular challenge in a privatised multi-operator system such as the UK and that the SERT system must require a good deal of cooperation among different provi-

tive and sustainable inter-modal public transport ders. He asked how they had managed to accomplish it and if there are lessons for others in their experience. Mr Mathieson replied that they have a body called the Transportation Board that builds consensus, and that delivery of transport services is governed by the Transport Act. He added that the authorities provide infrastructure with a particular level of service in mind and, once the infrastructure is provided, they demand that operators meet established high quality standard in order to be able to continue holding their contract. With regard to the provision of passenger information, all operators contribute to it to make it comprehensive. Mr Mathieson said that in the UK, infrastructure, vehicles and services are all dealt with separately.

Intelligent transport systems:

The moderator asked Mr Schuchmann how a trolley bus can be called an "intelligent transport system" since they've been around for 70 years. And what, he asked, is intelligent about all those overhead wires?

Mr Schuchmann replied with a question of his own, asking whether it is more efficient to carry a battery or 10 extra passengers. He went on to add that the technology on modern trolley buses allows the buses to bridge short distances without wires, making wires unnecessary in some city centre areas. This also means that one trolley bus can overtake another one rather than being caught behind it. With regard to capacity, Mr Schuchmann noted that double articulated trolley buses can be used even in hilly areas and that, interestingly, many Olympic cities have been trolley cities.

The moderator observed to Mr Derenek that North Hesse is a rural area with a relatively low population density but that the RegioTram is quite technology-intensive and asked how one justifies such a system in a rural area. Is it just "country kids playing with city toys"? Do you really need it? Does it pay off?

Mr Derenek noted that cars drive into the city and it probably made just as much sense for trains to do so as well.

Mr Mathieson was asked if the terms "ITS" and "bus" are incompatible. He noted that the word "bus" is never used to describe SERT but in fact it is a bus rapid transit system. He asked if there is something we can infer from this about buses and technology. Or perhaps about the public perception of buses.

Mr Mathieson talked about the "SERT brand" and noted that - for reasons often related to the age of vehicles, to service hours, or to quality of service there are too few examples of good bus systems in the world. As a result, buses often suffer from a poor reputation. With SERT, they are making an effort to give a modern brand to a new form of bus technology - and to avoid being labelled by inaccurate preconceptions.

From oil to electricity:

To Mr Schuchmann, the moderator noted that the leys in times of high oil prices and if trolley advoquestion of oil to electricity doesn't even really apply to trolley buses as they've always been electric. trolley buses and electric power. He asked if that has become a selling point for trol-

cates find ways to make the connection between

Mr Schuchmann noted that the way the power is produced is key. In Salzburg, for example, they use water power, making their trolleys truly zero emission. In places where other sources are used, those must be acknowledged. In one case, he noted that there was debate about whether trolley buses should run on coal power. In the end, the city voted to get rid of the trolley buses but the coal plant is still there today.

The moderator commented to Mr Derenek that with the question of oil to electric, he had been thinking more of a long-term switch but the RegioTram jumps back and forth between the two on a regular basis to adapt to existing tram and train systems. He asked if this combination is the "best of both worlds" or a "necessary evil"?

Mr Derenek replied that there were various combinations involved, including diesel + DC and AC + DC. He also noted that the multi-talented RegioTram diesel trams run electric in the city as well as on sections of the train line that are not electrified, making them extremely flexible.

Mr Emig was asked to talk about the role that local zero-emission policies will play for public transport planning and to describe one or two systems that he felt display future-readiness with regard to fuel.

Mr Emig's response: Banning conventionally-powered vehicles (including buses) from cities is not the silver bullet. The city of Paris, for example, claims costs of € billion/day lost due to workers arriving late at their workplaces, delayed freight deadlines, health, noise, pollution, etc. None of these are problems that can be solved by zero-emission vehicles. Interesting innovations he made mention of, however, were body heat to heat stations, geohydro, and one city in Canada that uses wind energy to power its light rail system.

Financing:

The moderator acknowledged that Mr Schuchmann may have convinced the audience that trolleys aren't yesterday's technology and that they can be "intelligent," but he noted that they're still more expensive than internal combustion vehicles. He asked how Mr Schuchmann justified the cost and if the extra investment is recovered in operation.

Mr Schuchmann acknowledged that trolleys do have higher fixed costs due to the overhead wires as well as to the buses themselves, but he noted that wires are not always needed everywhere, which can lower costs to a certain extent. And while lower electric costs don't yet make trolleys cheaper than diesel buses to run, when diesel prices go up, trolleys will be cheaper. He added that indeed, if all the costs are internalised, trolleys would already be less expensive.

Mr Secchi was asked how he reconciles the innovative urban transport "grand designs" of planners with the financial constraints of municipal authorities and what happens when you simply don't have the money to do it the way you want to do it?

Mr Secchi responded that cities need radical projects. He noted that we need to consider how much we spend daily for our mobility and to change the way we look at things. He believes that it is possible that in 10-20 years, we'll have no cars and that this is a direction we need to go in. Given this, he said, we need public discussion on how we spend our money.

To Sebastian Emig, the moderator noted that these are challenging financial times and it's difficult to convince decision-makers to make major investments in public transport infrastructure – even if the project is a valuable one. He said that doing more with less is one thing but asked if there is a point when cost cutting stops being smart and becomes counterproductive.

Mr Emig responded that it was important to internalise costs that are often externalised so that the true costs of the various modes of travel are recognised. He stated that it is UITP's goal to double the mode share for public transport by 2025.

The future of public transport:

The final question to all panellists was with re- The round table discussion was wrapped up by Stugard to their visions for the future of public transportation. Showing two images from the City of Vancouver, Canada, the moderator noted that the light rail system in Vancouver is called the Sky-Train and the suburban water bus is called the SeaBus and that someone once called Vancouver the only place where "trains fly and buses float." He asked if this was a fitting image for the way our public transport systems need to develop and if the lines between our traditional categories of "bus", "tram", and "train" prevent us from thinking creatively about solutions for the future. His question to all participants was: "In less than a minute, what is your vision for public transport in 20 years? Are we 'almost there' and just need minor variations on what we already have or do you foresee radical changes?"

Arnulf Schuchmann stated that the technical aspects are all needed as well as the willingness of politicians to change.

Sascha Derenek stated that he came from a rural Θ area and they have a down to earth approach. For him it was important that people seriously consider the options each time they travel: car or public transport?

Vincent Colombo's point was that public transport needs to be well integrated into the city as a whole.

Paul Mathieson claimed that simplicity and accessibility were keys to the future success of public transport and noted that from the economic perspective, we currently pay millions for car infrastructure when so many can't afford to drive.

Mr Secchi's vision of the future included no cars because, as he said, "they aren't convenient." He envisioned a public transport network that is so dense and convenient that it's the first choice for all and added that all non-car space can become people space.

art Murray of Transport for Greater Manchester and the SYNAPTIC project. The main points he drew from the discussion were:



Stuart Murray

- There is no prescription and no silver bullet for innovative public transport but we need to remain open-minded about possibilities.
- There is a diversity of choice.
- Choice must be made within the local context.
- We need to remember that transportation is all about everyday living; barriers to easy use must be removed.
- New services must be complementary to existing ones.
- There is value in tried and tested technology but we should continue to build on it.
- There is value in learning from others and collaborating with others.
- In some cases, it is valuable to "think tram" but "build bus".
- We should look back at the last 70 years to see what was innovative and try to derive lessons from that.
- We should appreciate how we use public space and look for opportunities to reclaim it.
- We need to secure funding and ensure a long life for our financial investments.
- We need to establish framework conditions for integrated transport.
- Creativity is important.



SYNAPTIC round table participants

SYNAPTIC DECLARATION

The day concluded with the signing of the SYNAPTIC declaration by representatives of the four SYNAPTIC projects. (http://www.synaptic-cluster.eu/wp-content/uploads/2011/08/SYNAPTIC_Declaration.pdf) The declaration was signed by:

- Ron Nohlmans (City of Eindhoven) for the RoCK project
- Ingeborg Grau (City of Bielefeld) for the BAPTS project
- Stuart Murray (Transport for Greater Manchester) for the ICMA project
- Colin Osborne (University College London) for the SINTROPHER project



Signing of the SYNAPTIC declaration





Following the tram conference and the launch of the SYNAPTIC cluster, the BAPTS partners held a management meeting to update one another on the state of their respective projects and investments, to discuss plans for their next meeting and conference, hosted by the Rhein-Main-Verkehrsverbund (Rhine-Main Transportation Association) in Darmstadt, Germany, and to discuss their participation in the SYNAPTIC cluster project.

THE SYNAPTIC MOBILITY CLUSTER

The SYNAPTIC mobility cluster is a strategic cooperation of four successful INTERREG mobility projects in Northwest Europe:

- Improving Connectivity and Mobility Access (ICMA – www.icma-mobilife.eu)
- Boosting Advanced Public Transport Systems (BAPTS www.bapts.eu)
- Regions of Connected Knowledge (RoCK www.rock-project.eu)
- Sustainable Transport for North-West Europe's Periphery (SINTROPHER www.sintropher.eu)

This strategic cluster is intended to capitalise on and network the project results across the four projects and draw on internal expertise from all four projects to pave the way towards technology-led seamless integrated public transport hubs and connections in Northwest Europe.

Using an approach of transnational cooperation, the common denominator across all four projects is the shared desire to develop better public transport systems for cities and regions in Northwest Europe and to develop new approaches to make this happen more effectively.

Based on the participating project partners' expertise and experience, and on the provisions of related policy documents, the specific objective of the strategic cluster is to enhance the framework conditions for and promote the development of seamless and integrated mobility networks to facilitate door-to-door journeys by public transport in Northwest Europe in the present and next programming period.

Within the four projects, SYNAPTIC represents more than 50 partners. A SYNAPTIC website has been set up (www.synaptic-cluster.eu) that will allow information to be shared among all 50.



Providing attractive and effective alternatives to the private car for the "first and last mile" of journeys is a key to bridging the mobility gap and unlocking "amobilife" in Northwest Europe. 11 organizations from 7 Northwest European countries are creating the first transnational platform for sharing and transferring innovative and sustainable approaches to meet this challenge. To cover the social, economic, technological and organisational aspects of the mobility supply chain, the project's actions focus on:

- building a transnational competence centre for many solutions to amobilife challenges
- modelling prices and costs of demand responsive transportation
- development of communication technologies for more attractive and effective solutions
- training the customer and mobility management staff
- implementing demand responsive services and connections for a more efficient use of resources



The BAPTS mission is to implement an integrated package of high-quality public transport systems and services as models for efficient, accessible and sustainable mobility in Northwest Europe. To give public transport a boost is the main ambition of nine regions from six countries in the NWE programme area. The project partners are implementing advanced high-quality public transport systems and services for an efficient, accessible and sustainable

mobility in Northwest Europe. BAPTS' main fields of activity are:

- Multimodality & interoperability
- Integrated mobility planning
- Marketing & mobility awareness
- Intelligent transport systems
- Transnational learning and knowledge exchange



All of RoCK's work is motivated by the overarching aim to develop sustainable, cost-effective solutions to improve accessibility to, from and within peripheral regions in Northwest Europe. This includes four specific objectives:

- Promote best possible cost-effective technological solutions in regions based on successful experience
- Overcome economic obstacles, develop business cases and improve the appraisal of regional tram systems
- Achieve high-quality, seamless intermodal transfer between regional tram systems and major regional rail and air hubs
 - Promote and market the shift to regional tram systems to various users to make these systems a sustainable success.



The aim of SINTROPHER is to assess and promote development of new or improved tram services, linked to national rail systems (and, where relevant, regional airports) as one way to improve access into and out of EU regions which are disadvantaged by reason of being geographically peripheral within the context of Northwest Europe.

SINTROPHER focuses on five in-depth regional demonstration projects with sub-projects that are configured into four cross-cutting work areas:

- Technical and legal challenges in the application of new local transport systems;
- Appraisal of economic feasibility and territorial impacts;
- Nnowledge transfer in improving the interoperability and accessibility of transport hubs;
- Marketing strategies.





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