Ways2go – R&D funding program as an instrument to stimulate mobility technologies for the cities of the future

Walter Wasner

(Dipl.-Ing. Walter Wasner, Bundesministerium für Verkehr, Innovation und Technologie, Renngasse 5, 1010 Wien, walter.wasner@bmvit.gv.at)

1 ABSTRACT

The Austrian Federal Ministry for Transport, Innovation and Technology has launched the research and development (R&D) funding program in 2007 to stimulate the development of new products and services for improved personal mobility in a holistic approach. Related changes in societal systems and spatial patterns are closely examined and build the foundation to tackle transport related problems and utilize new mobility options for the future.

Providing satisfactory mobility options for all groups of our society is a major challenge of transport policy, both in urban as well as in rural environments. Innovative technologies can significantly contribute to sustainable, more user friendly, barrier free and inclusive transport systems by taking into account new mobility demands.

2 BACKGROUND

While modern telecommunications technologies can only partially replace trips, it is clear that physical mobility will remain an essential prerequisite for a socially and economically viable society in the future. In addition, our mobility demands are based on social conditions (for example socio-demographics, new lifestyles, socio-economic conditions, spatial structure), but these conditions are changing rapidly. It is precisely due to the close relationship between transport and society that future transport systems are facing great challenges. New findings from research and development can make a significant contribution towards the development of sustainable mobility solutions for the future.

The demand for mobility is growing and mobility behavior is changing significantly in its spatial and temporal patterns. Development trends, such as more flexible lifestyles and working hours, high automobile availability, and the increasing number of single-person households, significantly influence mobility behavior and create serious environmental problems. The expansion of cities and the de-population of rural areas not only creates suburban congestion, but makes it difficult to sustain rural transport services thus reducing mobility opportunities for rural residents. For example, public transport in rural areas is often limited to the main routes and operated at very low frequencies.

The demographic trends are clear. By the year 2030, every third Austrian will be over 60 years old (compared with 22 percent in 2007, source: STATISTIK AUSTRIA - Population Forecast 2007). Due to growing mobility needs and the high availability of driver licenses, it is likely that older people will make more and more private automobile trips. At the same time, a significant share of elderly will need public transport due to physical impairments or economic barriers. Fully considering the specific mobility needs of a rapidly aging population in the design of our transport systems while keeping in mind ecological and economic sustainability, is therefore, a problem of growing relevance. Since all Europe is undergoing similar demographic change, there is great market potential in this line of research for developing innovative product solutions with a wide market.

There are significant information and knowledge gaps regarding the current and future mobility needs of individual user groups. It is important that these gaps be filled and that efficient forms of transport are developed to meet these needs. It is particularly important to give attention to the specific needs of mobility disadvantaged groups - thus helping to provide everyone with equal mobility opportunities. Mobility must be strengthened throughout society and should not become a privilege for certain population groups. Inclusive comprehensive transport strategies as well as specific services that meet the demands of very different transport users (including the elderly, women, children, young people, mobility-impaired and less mobile persons) must be prepared. The needs of all these groups must be explicitly considered - more strongly than in the past - in the design of a sustainable transport system. This goal is consistent with the vision of a comprehensive transport system usable by all.

3 THE AUSTRIAN TRANSPORT TECHNOLOGY FUNDING PROGRAM FRAMEWORK "INTELLIGENT TRANSPORT SYSTEMS AND SERVICES PLUS"

A bunch of activities for promoting research and development in the field of mobility and transport technologies of the Austrian Federal Ministry for Transport, Innovation and Technology have brought forward a very meaningful and active Austrian research community. Activities from 2007 to the year 2012 are carried out under the umbrella of the Austrian strategy program "Intelligent Transport Systems and Services plus". Subordinated programmes address different research priorities like alternative propulsion systems and fuels, intermodality and Interoperability or prepare new fields of research like the use of bionic knowledge in transport.

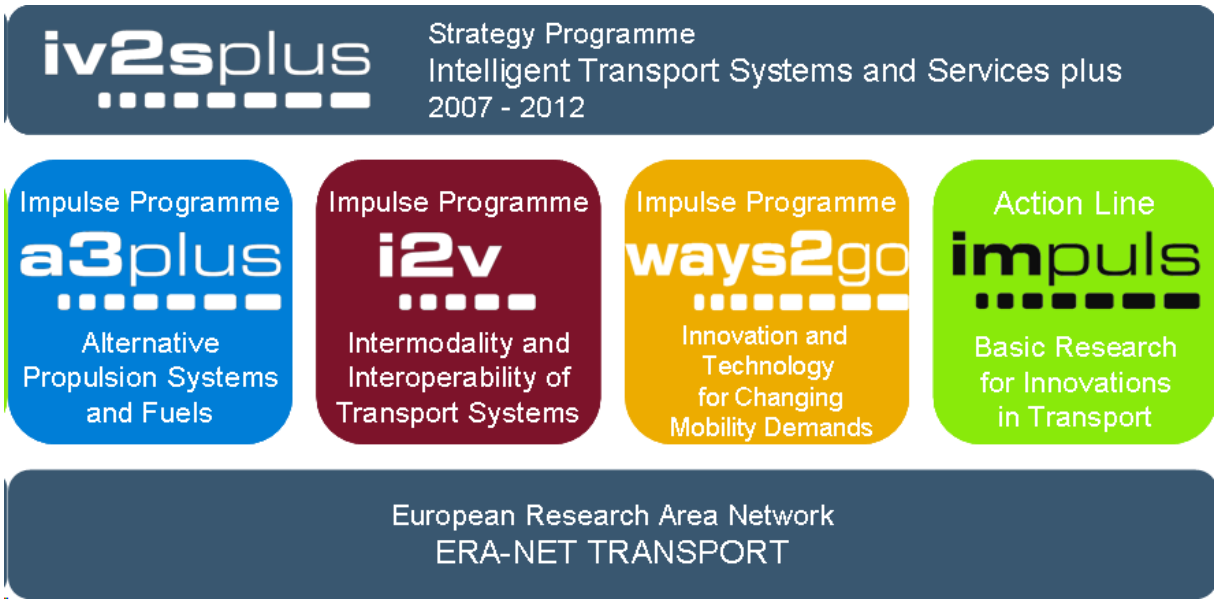

Fig. 1: The Strategy Programme iv2splus.

To increase efficiency of R&D and to enhance cooperation options for researchers Austrian Federal Ministry for Transport, Innovation and Technology has developed a coordination network with funding bodies in other European countries. Joint research funding activities are carried out under the frame of ERA-NET TRANSPORT (www.transport-era.net).

4 ORIENTATION AND PRIORITIES OF THE WAYS2GO R&D FUNDING PROGRAMME

The impulse progarme ways2go is focused on the mobility of persons by expanding the knowledge base for future mobility and transport issues and by using this knowledge to develop sustainable and attractive transportation systems and mobility solutions. ways2go supports project approaches for combining knowledge in the many scientific disciplines (including sociology, cultural and social anthropology, demography, psychology, spatial and transport planning, medicine, cognitive sciences, telematics, vehicle and environmental engineering) that affect mobility demand - into future transport solutions. The knowledge developed as part of this research will include new technical, but also non-technical, products, applications and services. The content may comprise innovative individual components or technical solutions, organizational forms, methods and processes, design and design innovations (such as industrial design, communication design, interface design, interaction design, axiomatic design), as well as awareness-raising measures that support and promote sustainable mobility.

The program will focus on socially inclusive, environmentally sound and safe transport systems. Results will make a significant contribution to the realization of the barrier free transport systems called for in the Austrian Disability Equality Act (for example through implementation of innovative solutions using the multi-sense principle or technologies to reduce physical and/or informational barriers in the transport system). Projects will be oriented towards addressing both current and future user needs and to the principles of "universal design" (design for all) - a prerequisite for making transport system improvements that benefit all users.

In order to make substantial improvements in the transport and mobility system, not only will it be necessary to develop innovative technologies, but these technologies must be reinforced in the spatial planning and decision-making processes. New technological applications and methods can be used to better integrate spatial and transport planning. Spatial structure depends directly on transportation systems and vice versa, therefore they must be planned together to optimize outcomes. ways2go therefore supports an integrative approach towards transport technology, spatial planning and transportation planning, so that new and improved planning approaches for future transport systems can be realized.

Funded projects will be designed to improve the physical mobility of persons in the public sphere (outside the home), focusing on the transport modes they use to accomplish particular activities (activity paths) - but not on mobility as a goal in itself (for example physical activity). The transportation of goods is only considered in the program when it is directly linked to personal mobility (for example baggage), or when an innovation can be used to create a major reduction in passenger traffic (for example innovative delivery technology).

An especially important program result will be the establishment of new national research capabilities in the area of mobility technology and support of new trans-national research cooperation projects.

5 GOALS

The ways2go program goals and objectives can be summarized as follows:

5.1 Broadening the scientific knowledge base in mobility and passenger transport by considering innovations in the socio-technical transport system

- by linking related scientific disciplines and through the development of skills needed to become an international technology leader in the field of daily, age independent and barrier-free mobility,
- by closing existing knowledge gaps, rapidly identifying emerging trends, and analyzing future requirements for the elimination and comprehensive prevention of dangers,
- by improving strategies and awareness-raising activities for the development and use of improved transportation systems and future mobility technologies.

5.2 Encouraging the development and implementation of accessible, inclusive and sustainable (ecologically and economically) transport systems and mobility technologies

- by improving the accessibility, availability, usability, reliability and security of transportation systems including transport technologies (modes), transport infrastructure and accompanying mobility services for all users,
- by focusing special attention on groups of people with special needs (for example elderly, children and immigrants), people with mobility restrictions (for example persons with motor and / or sensory disabilities, people with learning disabilities) and on gender issues in transport,
- by developing innovative mobility tools and/or organizational forms that help to secure and improve the mobility of all users.

5.3 Increasing innovation and technology transfer in transport planning and integrated spatial-transport planning

- by new technologies for improving mobility pattern data bases,
- by developing innovative planning tools and techniques,
- by integrating the application of innovative technologies into transport planning measures.

6 PROGRAMME INSTRUMENTS

A broad portfolio of project funding instruments (project types with different funding ratios) are applied within the ways2go program, related to the position of the projects within the innovation cycle and the constellation/nature of applicants. The main aim is to stimulate cooperative research projects between industry and universitary/non-universitary research institutes (oriented basic research, industrial research and

experimental development). “Concept funding” opens easy access to funds for first project ideas from small enterprises as well as private persons.

7 PRELIMINARY RESULTS AND OUTLOOK

82 proposals with a total requested funding volume of more than 12 Million Euros have been submitted for the first call for proposal of ways2go in the year 2008. 36 projects were selected for funding by the jury with a total funding volume of 5.3 Mio.€. Further calls for proposals are planned for 2009 and 2010.

8 FURTHER INFORMATION

Further information: http://www.ways2go.at/

Project descriptions: http://verkehrstechnologien.at/subprogram_/_/prog18/subprog34/umb7