

# A tool or a toy?

**I**N 2014, the University of Žilina (UNIZA) in Slovakia, a hotspot in Intelligent Transport Systems (ITS) research, was awarded with an ERA Chair in order to foster excellent research and to strengthen not only the Žilina convergence region, but also to impact on ITS in Europe. The research areas for this initiative, known as the ERAdiate project, are co-operative and complex mobility systems, smart solutions, such as smart cities, access and pricing, the decarbonisation of mobility, business models for ITS and ICT, inclusive mobility and societal effects of ITS deployment.

When Pan European Networks asked the ERA chair, Dr Karl Ernst Ambrosch, about the initiative, he explained that it will go some way to helping Slovakia “catch up” with other EU member states with regard to ITS, which, currently, has “a very limited number of stakeholders as well as a limited number of governmental activities,” which, he said, is the case for many countries who have recently joined the bloc.

This situation is changing, and, in the last 10-20 years, discussions around the interoperability of transport systems (which led to a number of actions being taken by the European Commission) have continued to develop.

## Priorities

Many of the ERA Chair's priorities are closely tied to those identified by the European Commission. According to Ambrosch, one of the initiative's main aims is to garner an adequate support for Intelligent Transport Systems from across the board in order to make the best choice of transport modes and the combination of transport modes available to citizens.

Ambrosch said: “Of course, this is closely linked to the question of how to best organise the mobility of people and goods in the urban centres as well as better exploitation of public transport, which is therefore closely related to the concept of smart cities. Here, areas such as electromobility (which has an important role to play in decarbonisation) and autonomous driving become important.



**Ambrosch highlighted the need to satisfy the personal and economical need for mobility in a world that has to reduce energy consumption and decarbonise all of its processes**

“We approach these issues from a user perspective – exploring things such as the benefits to citizens, what the requirements are from an end-user point of view, and what the business cases are – rather than from a technology perspective because the technology solutions in these areas have been investigated for some time now and, in most instances, the technology is there.”

According to Ambrosch, added emphasis is also placed on the issues of availability (working towards 24/7 service delivery) and inclusivity, that is ensuring the services are available to all groups of society.

## Smart cities

Given the way in which smart and intelligent transport fits into the concept of smart cities more generally, a multidisciplinary approach needs to be taken and, of course, the inclusion of a wide variety of stakeholders is crucial. This ranges from researchers exploring the technology aspects, to citizens, transport providers and to policy makers, but also to those involved in city and urban planning.

As Ambrosch explained: “It is important that the layout of an urban area is such that it works to implement transport solutions that make it as easy as possible to travel from A to B – whether by public or private transport, on foot or by bicycle – as well as providing adequate infrastructure such as parking facilities. This will not only help to reduce the environmental impact of the transport sector, but will also have a positive effect on the health and wellbeing of citizens.”

He also highlighted the need to satisfy the personal and economical need for mobility in a world that has to reduce energy consumption and decarbonise all of its processes. Asked how he thought these seemingly disparate objectives – increased need with less (carbon) resources – can be achieved, and what more needs to be done with regard to the development of ICT-based approaches (perhaps including systems of systems and embedded systems) for this to be realised, he explained that the potential

problem with a system of systems approach stems from standardisation, which is quite difficult to achieve and which is typically done for less complex systems.

“Dealing with systems of systems can be quite tricky and it requires the participation of a higher number of stakeholders,” he said, “And, what is more, very often the business case isn’t particularly good for this or, even worse, those who pay for it don’t benefit, which reduces motivation even further.”

This could be addressed, he went on, by arguing that standardisation is of public interest and so should be paid for with public money, but the long-term effect of this type of approach is perhaps questionable. However, with a stronger business case for smart transport solutions evolving, and with a new emphasis being placed on ‘Mobility as a Service’ by the ERAdiate project, Ambrosch said, it is to be hoped that public money will not be needed for mobility solutions moving forwards.

### **A tool or a toy?**

In November 2016, the ‘Intelligent Transport Systems: a Tool or a Toy?’ conference will take place at Slovakia’s University of Žilina, where Pan European Networks is acting as media partner. The event, co-organised between the COST Association and the University of Žilina as European Research Area chair (of the ERAdiate project) on ITS, and is held under the auspices of the Slovak Presidency of the Council of the European Union.

The aim of this event is to bring special attention to the role of research organisations in providing evidence to the policy makers for shaping the right ecosystem in ITS, and to the role of the industry, and in particular small and medium enterprises, in delivering innovative, sustainable and interoperable solutions. Particular attention will be given to two important pillars of future mobility: autonomous driving and mobility as a service.

Discussing the conference, Professor Tatiana Kovacikova, the ERA chair’s senior researcher, told PEN: “It is not sufficient to push for technology progress alone. It is also necessary to define the challenges that we are currently facing in the field of Intelligent Transport Systems, such as data security, safety, reliability, legal issues, social and economic aspects and so on.

“In this context, the concept of ‘mobility as a service’ can be seen as a new paradigm, transforming both the customer experience and the utilisation of physical resources. It also

**In November 2016, the ‘Intelligent Transport Systems: a Tool or a Toy?’ conference will take place at Slovakia’s University of Žilina and will pay special attention on two important pillars of future mobility: autonomous driving and mobility as a service**



brings into play new transportation alternatives and new transport mixed modes, whilst also having an impact on city planning, land use, and the role of public organisations. User acceptance is also crucial here.”

### **Co-operation**

Kovacikova also highlighted the importance of taking a multidisciplinary approach and of collaborative working, explaining that the event will seek to address researchers, technology developers, public administration, policy makers and transport operators.

“From the conference,” she continued, “we hope to be able to bring special attention to the role that research organisations and research bodies – including the many COST Actions that will be involved in the event, as well as others – play in providing evidence to policy makers and public administrations when it comes to the ITS ecosystem. We also hope to showcase the role of industry and SMEs involved in innovative and sustainable and interoperable solutions and who are ready to address local needs either by introducing new mobility solutions or by adapting existing ones.

“We hope that the diverse stakeholders who travel to Žilina will share their ideas and best practices, learning from each other.”

According to the European Commission’s White Paper on Transport, new forms of mobility have to be proposed for overcoming reliability, environmental safety and affordability issues towards sustainable solutions for the transport of people and goods. Until now, advancements in research and technology have significantly contributed to this recommendation by integrating multidisciplinary approaches, and having addressed the fragmentation of knowledge in ITS.

However, the deployment of widely used interoperable and seamless ITS solutions is still lagging behind the expectations, both in terms of their sustainability and competitiveness, as well as integrating their socioeconomic impact at regional, national and pan-European level.

The ERAdiate project and the Žilina event will certainly go some way to addressing some of these challenges, with the January 2017 edition of *Horizon 2020 Projects: Portal* featuring coverage of the conference and interviews with some of the delegates.

**Dr Karl Ernst Ambrosch**  
**Professor Tatiana Kovacikova**  
**ERAdiate Project**

<http://www.erachair.uniza.sk/>