HIGH-TOOL Optimizes European Transport Planning

KIT Coordinates Development of a Strategic Transport Model – Project Is Funded by EU with about EUR 2.5 Million

The input and output indicators of HIGH-TOOL are based on the "White Paper on Transport" and other important European strategy documents. (Photo: R. Török/KIT)

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Scientific competence supports politicians in making sustainable transport planning decisions: Within the framework of the HIGH-TOOL project coordinated by KIT, researchers develop a model to estimate impacts of political decisions on transport, economy, society, and the environment until the year of 2050. The project of three years' duration is funded by the European Union with about EUR 2.5 million. Eight partners from five countries are involved in the research project.

How does the development of energy costs influence the market shares of road transport and railway transport? Will the Europe-wide introduction of motorway charges for private cars reduce carbon dioxide emissions? Decisions made in the transport sector have impacts for many decades. It is therefore important to plan measures over a long term and to estimate the impacts at an early point of time. This is done with the help of models that reproduce the impacts of transport policy measures on the computer. Such a model is now developed by scientists under the European project HIGH-TOOL (Strategic high-level transport model). In this way, the Direc-

torate General for Mobility and Transport (DG MOVE) of the European Commission will be provided with a quantitative tool to assess the impacts of political measures on transport, economy, society, and the environment in the long term.

The project of eight partners from Germany, the Netherlands, Belgium, Spain, and Hungary is coordinated by the Network Economy Division of the KIT Institute for Economic Policy Research (ECON). HIGH-TOOL is funded by the European Union under the 7th Research Framework Programme with a total of EUR 2.5 million. The project of three years' duration started this spring.

"The prognosis horizon of HIGH-TOOL is the year 2050," explains project coordinator Dr. Eckhard Szimba, Section Head of the Network Economy Division of ECON. The EU plans to reduce emissions in the transport sector by 60% until 2050. Other strategic objectives are the creation of a single European transport area, further increase of transport safety, and the promotion of innovations in the transport sector. These goals are defined in the "2011 White Paper on Transport" and in the "Roadmap for Moving to a Low-carbon Economy in 2050". They are the basis of the input and output indicators of HIGH-TOOL. The model is to help pre-select political options. The options selected will then be evaluated with the help of more detailed models.

HIGH-TOOL is supplied as an open-source model and shall also be used by non-experts. The tool will consist of the modules of transport offers, transport demand, demography, and economy and of several assessment modules. "Apart from its coordinating role, KIT is involved in all areas of development," Project Coordinator Szimba says. In addition, KIT is responsible for the module considering passenger transport demands. The model is developed successively in close cooperation with future users. In an extensive validation phase, quality of the results, robustness, accuracy, and consistency of the prognosis, and user friendliness will be tested. The development of HIGH-TOOL is accompanied by a scientific advisory board of experts in transport policy, transport modeling, and the assessment of transport policies.

Karlsruhe Institute of Technology (KIT) is a public corporation according to the legislation of the state of Baden-Württemberg. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. Research activities focus on energy, the natural and built environment as well as on society and technology and cover the whole range extending from fundamental aspects to application. With about

9000 employees, including nearly 6000 staff members in the science and education sector, and 24000 students, KIT is one of the biggest research and education institutions in Europe. Work of KIT is based on the knowledge triangle of research, teaching, and innovation.

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