South-East Transport Axis (SETA)
European Project from South-East Europe Programme (SEE)

The SETA project is related to the significant needs of transport linking of the north and south Europe by a corridor between the Baltic and the Adriatic Sea.

The City of Rijeka and Croatian Academy of Engineering (Center for Traffic Engineering) are professional and consultative partners (i.e. 10% partners) from the Republic of Croatia. Other partners include institutions from Austria, Slovakia, Hungary, Slovenia, the Czech Republic and Italy, the project manager being the Government of the Province of Burgenland, Austria. Duration of the project is set from January 1st, 2011 to December 31st, 2013.

Croatia, as the South-Eastern, Mediterranean and Danube European country with outstanding traffic and geostrategic position, represents an important road bridge in this part of Europe and the area of connection of the TEN (Trans-European Network – EU project) and PAN (Pan-European) transport corridors.

Therefore, the optimum transport link between the Adriatic and the Baltic Sea is considered in the area of the north Adriatic ports in the direction of Zagreb and western Hungary east of the Alps and Central Europe (Vienna, Bratislava), and further to the Baltic ports of Germany and Poland (Figure 1).

Figure 1. *European region for optimal connectivity of the Adriatic and the Baltic east of the Alps*

The SETA transport corridor is essentially the first stage of research and development of important European traffic route Adriatic – Baltic, i.e. south-north Europe within which solutions are elaborated and sought for a significant part of the general European traffic route going from the north Adriatic ports, Croatian areas in particular and the port of Rijeka via Zagreb, Koprivnica, Varaždin and western Hungary east of the Alps to the MEGA hub of central Europe in the area of Vienna-Bratislava based on modern and fast rail transport network (Figure 2).

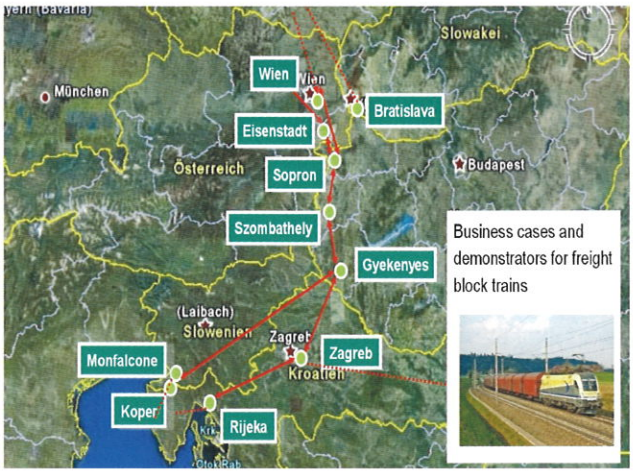

Figure 2. *SETA Transport Corridors*

At the same time the modernization of the railway line Rijeka – Zagreb and on to the Hungarian border is among top economic priorities of the Croatian Government.

With regard to the current traffic situation in Croatia, the EU-project SETA is a complete package which examines regional planning, infrastructure, intermodal sea/rail transshipment, development of the Adriatic ports, particularly the port of Rijeka, container terminals, warehouses, transport in the inner harbor with terminals in the hinterland in order to increase the capacity of the ports, modern train infrastructure towards Zagreb and the Hungarian border, marshalling facilities, connection to the river transport, optimal logistics solutions for the flow of goods and passengers within Croatia, as well as the inclusion in the network of European transport corridors.

At this stage of the project analysis of the transport infrastructure of the corridor in Croatia is being carried out, both of the current situation and the plans for improving the alignment of the corridor, intermodal transshipment and marshalling nodes, terminals, logistics and organization of the ratio in marine, rail and road transport, and databases for their processing are formed within a common transport model of all partners in the project.

Further considerations of transport needs and current requirements of individual users in the freight and passenger traffic are made along the corridor in sections from Rijeka via Zagreb to the Hungarian border, in order to align the traffic demand with the real supply of transport services in freight and passenger traffic.

At the same time the reasons for the emergence of bottlenecks in the intermodal hub for transshipment of cargo in

the maritime port of Rijeka are being examined, analyses are being made of the functionality of the logistics chain from the boat to warehouses and landfills or in particular the containers in the port (Figure 3), as well as further connections with dry terminals in the hinterland in order to reduce pressure on the environment and urban structure of the city of Rijeka and increase the flow of goods by land route corridor in the direction of Zagreb and the Hungarian border.

Figure 3. *Container Terminal in the Port of Rijeka*

Based on these studies, next steps in collaboration with other partners will be to define common methods for evaluation of proposed solutions and measures to remove bottlenecks, development of measures to increase capacity and efficiency in the freight and passenger traffic, as well as the feasibility and estimated degree of risk with continuous evaluation of environmental, energy, economic and financial parameters.

In order to raise the competitiveness of the transport route from the port of Rijeka, which has –with a natural depth of 20 meters – tremendous advantages for receiving the biggest ships in the Adriatic Sea, towards central and northern Europe to a higher level, it is necessary to develop the port of Rijeka and dry terminals in its surroundings in close relation to the modernization of the railway line to Zagreb and the Hungarian border, and to improve logistics and organization of transfer processes, thus increasing the efficiency of the entire multimodal transport chain.

Required research is also related to the parameters that are the basis for the definition and justification of realization of a modern railway transport corridor the starting point of which being a seaport. Key issues are related to the infrastructure, management of the road, taking the land and its impact on the environment, protection of existing facilities, used vehicles, energy consumption, technical and technological innovations on transshipment points in the port and dry inland terminals, logistics of intermodal connections of the maritime and rail traffic, port development, and statistical forecasts of expected development and justification of significant investments.

The participation of the Croatian Academy of Engineering on the SETA project has been motivated by several reasons. As an institution that brings together top experts in various technical disciplines it is extremely suitable for multidisciplinary projects, and in this particular case the area of transport, which has great significance in the economic development of Croatia. In connection with above mentioned a collaboration of the Center for Traffic Engineering of the Croatian Academy of Engineering has been established with the industry of railway vehicles Gredelj in Zagreb on the implementation of its prototype diesel-electric motor train for the Croatian Railways (Figure 4) as a pilot of passenger vehicles at the proposed SETA railway route Zagreb – Vienna.

Figure 4. *Diesel-electric motor train of TZV Gredelj, Zagreb*

In order to promote and introduce potential users in Croatia with the meaning and goal of the SETA project, such as national and regional institutions, the Croatian Railways, the Port of Rijeka, transportation companies, freight forwarding, freight terminals, etc., a national workshop on the topic has been organized and successfully held in the organization of one of its partners – the City of Rijeka.

Figure 5. *National workshop to introduce and promote the objectives of the SETA project in the City Council of the City of Rijeka on November 11th, 2011 under the auspices of the Mayor Vojko Obersnel, MA*

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