

Press Release

Reviving the Silk Road

PTV develops a large and comprehensive freight transport model for Central Asia and the Caucasus as part of the EU project TRACECA-IDEA

Karlsruhe, July 8, 2010. Visions of caravans filled with spices, perfumes and fine fabrics are conjured up by any mention of the Silk Road, a term coined in 1877 by Ferdinand von Richthofen, a German geographer. For centuries, this overland corridor seemed to have been swallowed up by the desert sand. Now, a vast EU project aims to revive the route, encourage trade between East and West, and promote the development of regional infrastructure. PTV's experts are helping by developing a freight transport model on a truly grand scale.

Now, the EU has launched a new project, entitled "TRACECA-IDEA" (Interoperability and Transport Dialogue between the EU, its neighbouring countries and Central Asian Countries), to improve commerce between the continents. It focuses on harmonising transport policies and legislation and developing multimodal supply chains. Barriers to crossing borders will be reduced; free trade will be encouraged. The project will also strengthen relationships between TRACECA countries, contribute to political stability in the region and encourage economic development.

The European Commission has engaged a consortium to implement TRACECA-IDEA, which will run until May 2012. The consortium is led by the Italian firm TRT (Trasporti e Territori Milan), with support from Dornier Consulting, PTV AG and Alfen Consulting in Germany.

PTV is providing transport planning expertise for TRACECA-IDEA. This involves quantifying the current transport flows, forecasting future trends and identifying bottlenecks and obstacles. Necessary projects and activities will be drawn up and their impacts assessed. This final step will provide a basis for investors and partners to analyse the projects in the public-private partnership process.

Largest-ever freight transport model

Since the existing transport models were inadequate for the task at hand, PTV set about creating a new freight transport model of the region.

The primary geographical scope of the model encompasses not only the 13 participating countries, but also southern Russia. The surrounding area includes the rest of Russia, Iran, China, Europe and, as trip origins and destinations, the other continents as well. This is thus the largest freight transport model ever developed by PTV in terms of its geographical scope and route network.

The model area extends slightly more than 5,000 km East-to-West, and 2,300 km North-to-South. Over 250 million people live within this area of nearly 5,500,000 km². The area is divided into 172 traffic zones: 123 in TRACECA countries and 13 in the Russian territory between Ukraine and Kazakhstan to the north of the Caucasus. The area is particularly challenging to model since it exhibits considerable variation in population density, income distribution, economic development and, most importantly, transport infrastructure.

The route network was completely remapped using the VISUM module from the PTV Vision transport planning suite. It includes the main interregional links for each mode of transport and is extremely extensive: 470,000 km of roads, 300,000 of railroads, 190,000 km of sea routes and pipelines in total. Besides the TRACECA countries, the route network also extends to all adjoining regions and countries at an adequate level of granularity in order to model alternative routes for freight flows.

A pathway of ideas

The TRACECA-IDEA freight transport model was developed as a strategic planning tool for decision-making that would help with assessing the impact of future infrastructural improvements. The model calculates multimodal freight flows (domestic, import, export, and transit flows) and provides insights into shortcomings in the route network, such as missing network links, capacity bottlenecks at ports and cargo handling points, capacity problems at border crossings, and so on.

"The project offers countless benefits," explains Dr. Uwe Reiter, Director International Consulting at PTV and the project manager. "They range from analyses of the current transport situation to forecasts of future traffic flows. Training TRACECA employees in the fields of transport planning and modelling will deliver long-term benefits. Other important aspects include

project financing and idea-sharing between participating countries."

Looking ahead

The future will hopefully bring closer ties between the TRACECA countries and between TRACECA and the EU. With secure overland routes, reduced or predictable costs and transit times, the corridor will become a viable alternative to transport by air, ocean or via Russia. Shortening the routes also lowers energy consumption. And that is a major plus for the environment and the region's inhabitants. Local populations will benefit handsomely from the development of transnational infrastructure. In short, the Silk Road is not a relic of a bygone era, but the motor for future economic progress.

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Background information:

The freight transport model

There is no finished, standardised software application for modelling multimodal freight transport – in contrast to, say, passenger travel demand. Instead, the transport experts developed their own solution to address the special needs of freight transport modelling based on PTV's transport planning software VISUM and VISEVA.

Their basic approach is to sort the complex, heterogeneous freight transport flows into different classes of goods, and then calculate trip generation, trip distribution and assignment (simultaneous route and mode choice) for each class. The TRACECA model covers around 50 different commodities of goods: from agricultural and food products to raw and building materials to chemical products, crude oil, natural gas, petroleum products and consumer goods. The team generated not only a base year model for 2008, but also forecast models for 2020 and 2030. The base year model is calibrated and validated with empirical data and can be used to identify current capacity problems, while the forecast models serve to predict future freight flows and the impacts of planned improvements.

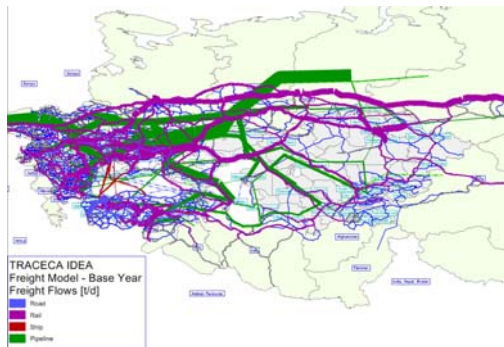
The TRACECA project

The effort began in 1993, with the creation of the TRACECA programme (Transport Corridor Europe – Caucasus Asia) with the support of the EU and countless countries along the former route. The participating nations include Armenia, Azerbaijan, Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Romania, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan. The programme represents a continuation of the EU's efforts to strengthen its neighbourly relations to countries in the Caucasus and Central Asia. Early on, it became clear that strong transportation links were essential to enabling free trade. An important part of this approach involves reviving the Eurasian land bridge to allow greater utilisation of economic and trade opportunities between Europe and Asia.

Please read more information about this project in our background report:
<http://www.ptvag.com/company/news/press/background-reports/> under Traffic

Images:

Download under <http://www.ptvag.com/company/news/press/images-and-photos> chapter Traffic



Calculated flow of commodities in tonnes per day for the total amount of all classes of goods covering road, rail, waterways and pipeline transport.



The main route of the ancient Silk Road ran some 8,450 km from Xi'an to Antakya. A difference in altitude of 4,900 metres between Turfan and the Taldyk Pass had to be mastered. In addition to the main routes there was a comprehensive network of trade routes linking Asia and Europe. It even reached Japan.

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PTV Planung Transport Verkehr AG

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Strong international demand has fuelled dynamic growth: We currently have over 700 employees worldwide crafting innovative solutions for our customers. Our Karlsruhe headquarters acts as a development and innovation centre with tight links to research and educational institutions. We additionally maintain shareholdings and subsidiaries in Germany, Europe and every continent in the world.

In the Traffic Software, Transport Consulting and Logistics business fields, PTV technology forms the foundation of a host of brand-name products and our own leading map&guide and PTV Vision product lines.

PTV. The transportation experts.