

Effective Logistics Is an Essential Factor Affecting the Finnish Economy

One of the general trends of the transport and logistics sector is the growing demand for mobility. In the EU area transport has a total expenditure of around 1000 billion euros, generating over 10 % of the Union's GDP. It is also a very vital issue for Finland's economy. The following brief article illustrates logistics questions from the Finnish point of view and gives some examples of the current logistics R&D activities of VTT, the Technical Research Centre of Finland.

REMOTE POSITION CREATES CHALLENGES FOR THE VALUE CHAIN IN FINLAND

Because of Finland's geographical location, maritime transport is vital to the Finnish economy. Maritime transport is by far the most important form of transport in the Finnish export trade. The Baltic Sea provides a transportation route that connects Finland with other parts of Europe, our most important market. About 70 % of Finnish imports and about 90 % of Finnish exports use seaborne transport. Thus it is vital for the Finnish economy to find sound and reliable solutions for year-round service. Here the winter provides challenges for Finnish society due to the fact that our coast-line is ice covered for several months every year.

Competitiveness in logistics is an important factor for us, and all means to improve our effectiveness are vital. The high price of oil is also significantly affecting the profit margins of the transport sector.

GENERAL DRIVERS AFFECTING THE LOGISTICS AND TRANSPORT FIELD

When trying to identify major drivers affecting the development of the logistics field, several items can be listed. Globalization is perhaps the most dominant driver which influences all the basic transport modes. The EU's White Book can also be recognized as a driver identifying the goals of the Union. There are also a lot of transport-mode-specific factors giving an indication of the future prospects and logistics potential in the future.



Photo: VTT

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In the shipping sector the high volatility and declined profitability is a fact which, especially in the Baltic Sea area, is expected to influence the shipping companies for a short period: one good example of this development is the competition in the ferry business, where some of the players are expected to be dropped down or to be united to increase the competitiveness. The US Terrorism Act is also a significant factor which, due to the international character of shipping, will carry a set of implications for shipping.

Other major drivers are stricter environmental and safety standards and economic recession shifting the global trade patterns: shipping markets will turn more market-oriented, and shipping is foreseen as a part of the global logistics supply chain. Intermodalism, containerization and the intensive growth of Far East markets are the current issues in the shipping business.

Shipping and port development can be seen as developing hand in hand. However, there are port-specific factors influencing logistics. Privatization, the increased emergence of global ports, specialised terminals, increased automation and containerization are current hot issues in port development. In the Baltic Sea area the new Russian ports and terminals, together with the active port and terminal development of the Baltic countries, have been the most significant drivers in our area.

Telematics is a key issue in the whole logistics chain. New electronic tools have been developed for data handling, cargo identification, tracking, etc., thus increasing stakeholders' business possibilities through the whole value chain. RFID, electronic seals, and security-related solutions are aspects of this stage of rapid development in containerization and cargo handling.

In the trucking sector the general trend has been the increased volume of road freight haulage, which in turn has led to increased demand to improve waterborne solutions in EU area. In the last five years the improvement of road safety has been one of the most significant R&D

issues in the EU, whereas multimodalism, telematics and faster connections have perhaps been more characteristic of the railroad business.

Finally, when focusing on the drivers of airborne logistics, the most significant fact is the saturation of the skies and airports, increasing delays and pollution worldwide.

VTT'S LOGISTICS RESEARCH

The main focus areas at VTT's logistics research are related to the enhanced usage of modern telematic tools and the discovery of new solutions to improve the profitability of the whole value chain of our clients. The operational requirements of freight transport and logistics are seen as a part of the intermodal transport chain, where various modes of transportation form a baseline field for R&D activities. Together with the operational models, VTT has quite a lot of activity in industrial logistics, where environmental logistics research is one of the key factors.

During recent years a lot of emphasis has been placed on the evaluations of transport telematics architectures. The objective of the architecture definition is to provide the opportunity to improve the organisation's competitive ability in the market in the form of more efficient operations, a more versatile service supply or better compatibility. The architecture describes open interfaces between the actors without binding them to specific technologies and without intervening in the internal systems of companies.

VTT has completed many evaluations of telematics architecture covering railroads, road and seaborne transport. An interesting task has been to study cross-border transport between Finland and Russia: at this very moment Russia is, after Germany, Finland's largest foreign trading partner, and a lot of goods are transported across the border. Timber, chemicals and oil are transported to Finland; cars and electronics, food supplies, etc. to Russia. Truck queues close to the border can sometimes be 30-40 km long, which has caused a lot of additional media coverage

in the south-eastern part of Finland. New telematic solutions, increased automated cargo handling with RFID technology, harmonisation of the data handling systems of both countries may perhaps give some relief to the situation in the future. Another fact is that Russia is building new port and terminal capacity, which in the longer term may change the logistics picture of the Northern Baltic Sea a lot.

FUTURE LOGISTICS FOCUS AREAS

Future areas of focus in R&D are new technological solutions to track and identify cargoes, such as RFIDs in container handling, AIS (automatic identification system) in maritime transport improving safety, and other electronic means to enhance data transfer between the stakeholders related to the supply chain. At the EU level, the competitiveness of Community enterprises, regionally balanced development and sustainable development must be supported by a long-term logistics strategy. A new Finnish initiative launched by the Finnish Ministry of Transport and Telecommunications lists a set of concrete logistic factors to be taken into account when enhancing global European transport policy.

The main emphasis here should be the shift from individual transport modes to a transport system and to the full opening of the logistics market. EU transport policy also needs a holistic and multimodal approach at the operational level: the implementation of official statements should be more transparent and active.

Other issues in the above-mentioned initiative are related to the effectiveness measurements of logistics chains, enhancements of border-crossing activities within the EU, as well to third countries, rules of supply and logistics services, security and training. Special attention here should be paid to the establishment of European centres of excellence in logistics. ■

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