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Rail network across the Alps

The project AlpFRail

You still remember? Munich – Verona within six hours, also known as MUCVR6. This has been the first project of the Logistik-Kompetenz-Zentrum (LKZ) Prien which was integrated into the practical railway traffic with noticeable success. Politics favourably attended the project, but did not participate as active partner. With respect to the great project Alpine Freight Railway (AlpFRail) the situation has changed in that regional and international politics have taken over tasks being defined between each other and in most close cooperation with economics. At short notice first concrete results could be achieved because of this border crossing and interdisciplinary collaboration on an European basis and further partial projects for the Alp crossing freight railway traffic are being launched.

Nearly each eighth ton of European commercial goods has to cross the Alps, merely on the roads. Each year 100 Million ton cross the inner Alp Bow – as much as the yearly turnover of the Harbour of Rotterdam. A further increase has to be expected not only because of an enlarged domestic market due to EU expansion to the east. Results are a higher pollution penetration for the air, a higher noise annoyance for the population and drastically increasing heavy cargo traffic on the transit routes. Switching to railway freight traffic is difficult not only because of the differing prescriptions and traditional structures within the countries concerned. What is missing is the product “RAIL” out of one hand like it is offered self-evidently by the road freight traffic. There is no railway network between the North-South- and the East-West-Connections. The harbours on the Adriatic and Liguria Sea are nearly not connected to the international freight railway net although they present themselves with a good infrastructure.

A further problem present the changed frame conditions like the dismissal of the previous regulation for ecological-points in Austria in 2004. This resulted for example in a shipment reduction in favour of the rolling road (164.000 trucks p.a. have been reallocated from rail to road). Furthermore the weight restrictions in Switzerland have been watered by the increase from 28t to 40t total weight leading to a considerable productivity gain for the road.

The project AlpFRail within the EU-programmes Interreg IIIB/Alpine Space is aiming for the organisation of a cross-national freight railway traffic and accelerated relocation of the freight traffic onto the rail. To this effect the railway network within the Alpine Space ought to be combined most intelligently in order to ensure an optimal freight transport and the connection of the Mediterranean harbours. Instead of thinking in axes like the Brenner or Gotthard / Lötschberg and Tauern the European dimension should have priority. In favour of this European dimension regional and national main issues should be combined into one European network. For the future one railway network is necessary allowing connections into all directions. Furthermore it is essential that the project participants no longer differentiate between conventional wagon load traffic, containers, and swap trailers but aim at combined trains to achieve economical interesting solutions.

Until 2015 AlpFRail will relocate part of the envisaged traffic increase within the Alpine Space onto the rail: this is hoped by the initiators of the project installed for four years,

finishing in 2007 and executed with 4 Mio. Euro. 2 Mio. Euro are carried by the 17 partners from the total Alp Bow and further 2 Mio. Euro are contributed by the European Union. The project analyses the available freight traffic streams and the existing infrastructure within the Alpine Space and evaluates by simulation processes. On the basis of these results the traffic streams are going to be optimised and proposals issued for the complete alpine railway net applying newest technologies. Concretely the actual freight flow, to a large extent confirmed in direct interviews, is being compared with the present and future railway infrastructure. Economically competitive alternatives are asked for as long as they are in line with ecological aspects. Emphasize is laid on an intelligent networking of already existing infrastructure. Decision on the realization of the developed ideas will then be taken by an international steering committee.

In order to provide customers with transparent information about available offers on the railway system, which would also present on one or the other route alternatives in case of eventual bottleneck, a common information and quality management systems is under development and will be approved by pilot projects. With the establishment of a partner network all over the Alp Bow the first determining step has been realized (see box). "It really is a European Project. From all regions impulses are presented by the work package-leaders discussing and harmonizing with each other" explains Karl Fischer, project leader AlpFRail within Logistik-Kompetenz-Zentrum (LKZ) Prien. Focus is laid on the improvement of the train systems as well as on elimination of bottlenecks in the railway infrastructure, which has to be tackled by regional politics, in order to be in a position to offer market driven railway products. Solutions are elaborated and agreed upon in dialogs between experts and politicians and, therefore, can be realized at short notice.

Exploitation of existing capacities:

The example Tauern Rail

An important tessera and the first step in the project AlpFRail is the Tauern Rail. That is the route Salzburg-Villach-Triest. The economic areas Bavaria and Salzburg get a good connection to the Mediterranean ports over this route. Two years ago Austrian Railways (ÖBB) claimed this route to be "full" meaning utilized fully. The specialists of the LKZ in close cooperation with the ÖBB experts optimised technically the trains in this project, found 9 free tracks (corresponding to 18 additional trains each day) and proved that there are very large optimizing potentials in the rail traffic. Definitely five tracks per day have been sold equalling an additional relocation of more than 50.000 lorries p.a. onto rail on this transit route, according to Fischer. Private railway companies already deal with the technical requirements and the necessary route concessions. On the Tauern axe the difficulties with different electricity systems will be solved still this year by the application of a locomotive for multiple electricity systems. Fischer: "You see there are really trains going. Within AlpFRail we are not only engaged in studies or stop after one pilot project. This gives us good arguments for new projects and the basis that after conclusion of the project the economical railway offers will also be presented in future."

Pilot relations between Augsburg/Ulm/Stuttgart and Lombardy/Veneto

The upper Italian regions Lombardy and Veneto with more than 13 million habitants and with a high GDP of about 26 000 Euro per habitant generate 53% of the complete volume of the freight traffic from Italy to Germany and with it to Baden Württemberg's provincial capital Stuttgart and its adjacent regions. Between these economic areas approx. 2 Mio. tons of freight and chemical goods are carried over the Alps yearly (Stuttgart 700.000t, Ulm 500.000 t and Augsburg 650.000 t).

Until September 2005 there were no direct connections of the combined rail traffic between these trade regions; therefore the quote of the rail is merely 12%. Studies about the installation of pilot relations in the framework of AlpFRail show that direct trains for the sea traffic to Asia can be operated commercially between the existing Terminals Augsburg, Ulm and Stuttgart as well as Brescia, Mantova and Rivalta Scrivia close to Genoa. The Swiss operator Hupac offers first direct connections between Kornwestheim and Milano Certosa since October 2005.

Furthermore, the implementation of a ring train system based on the diesel network in the Allgäu of Bavaria and Württemberg as well as in Oberschwaben as a “feeder” to the terminals in Singen and Wolfurt/Vorarlberg are being analysed in detail within the project at the moment. There is great interest with national and regional railways as well as with Europe oriented operators specialised on combined traffic.

Freight directly onto the rail:

Example Bavarian Chemistry Triangle

The future rail network in Europe is not possible without new terminals. In Italy new and technical very good facilities are being built already. They enable the realisation of a great AlpFRail target: displace the freight traffic onto the rail right after the goods have been produced. The importance of such a terminal shows the Bavarian Chemistry Triangle: A terminal will be built there in 2007, allowing for a turn over up to 50.000 containers per year. But in this area between Burgkirchen and Burghausen in Upper Bavaria there is only one track, which is not electrified. Furthermore the connection to the continuous motorway is missing. Between Munich and Burghausen 1,5 percent of the German rail freight traffic takes place on one track over a distance of 100 kilometres. Therefore, the building of the terminal and the improvement of the rail infrastructure have top priority.

Overcoming regional oriented space planning

Within the project AlpFRail regional concepts should be integrated in supra-regional overall concepts. Therefore, all regional political decision makers have to come together at one table. The common inventory of all regional plans and the identification and the elimination of overlaps are important. Then these supra-regional harmonised concepts have to be communicated to the international partners.

In the Project AlpFRail conferences and workshops about this subject took place already. Further to the planned freight connections between Baden Württemberg and Italy the project partners also concentrate strongly, for example, on a freight train from Nuremberg to Mantova which will then connect two domestic ports.

The Vision:

The product RAIL out of one hand

The big target of AlpFRail is to offer logistics companies and forwarders a complete product „rail“ out of one hand with its plurality of possibilities both in routing and in competing with other railways. Different responsibilities in many countries and lack of transparency with respect to offers still prevent customers from using the railway as alternative to the road. Much to the contrary, hauling by truck operates well: a forwarding agency gets an order, the truck picks up the product from the storage and drives it cross over the Alps directly to the customer. Modern information systems allow for precise tracking of goods in real time during the transport. The rails freight traffic is still far away from this target.

In order to put AlpFRail’s vision into practice, following fundamental conditions have to be realised in a marketable way:

1. The forwarder finds out at one glance all possibilities like at which cargo terminal his load unit can be put onto the train and at which destination it can be collected
2. The forwarder can see immediately by internet, when and which capacities are free on the trains, he can reserve these and book the transport order.
3. List prices for transport executions according to providers are transparently available via internet
4. The tracking and tracing can be done in the same internet system as follows: Load unit delivered to departure station, loaded onto train, actual time of departure, planned time of arrival, estimated time of arrival in case of a disturbance, arrived at destination station, load unit ready for pick up, load unit picked up by the receiving forwarder
5. Monthly the forwarder obtains by internet information about the actual quality of the specific routes respectively rail providers. Rates of punctuality are indications of the likely quality which the forwarder can provide his customers with in future.

Most forwarding agents respectively carriers but also consignors are not very familiar with the product range the railway offers. Partly some doubts result out of bad experiences with respect to quality as well as irreproducible price jumps in the past.

The vision to offer a complete product “rail” to potential customers aims at two directions: on one hand the railway facilities should be at least at equal efficiency as non stop truck transport. On the other hand there should be a simply described transparency of all available offered possibilities of railway and an easy handling of this transport alternative.

The simulation system for the overall Alp Space from network point of view Fischer regards as cherry on the cake. It is essential to find out which routes could be used as an alternative in case a section is disabled. Without permanently functioning routes respectively alternatives you will not win any prizes, knows Fischer. At least, on the road a deviation of bottlenecks will be found anyway. But it is especially important for Fischer to bring all together at one table: “Then it will also work out with the solution!” is one of his slogans.



AlpFRail

Project partner and observer

The project is unique within the EU transport politics. For the first time state ministries, regional governments, provinces, regions, chambers of commerce and associations as well as freight carriers from Germany, Austria, Italy, France, and Switzerland co-operate in order to reorganise the freight traffic on rail. At present the data of a route inquiry of 32.000 truck drivers in 2004 are evaluated. The results shall be published in January 2006 and should give information on the goods flow, which eventually could also be relocated onto the rail.

Project partners are:

Logistik-Kompetenz-Zentrum (LKZ) Prien as Lead-Partner, regional association Danube-Iller, German association for housing, urban and regional development e.V., Deutsche Bahn Net AG; Country Vorarlberg, Austrian Federal Ministry for Transport, Innovation and Technology Vienna, Country Salzburg, Country Kärnten; Region Rhône-Alpes; Harbour

Authorities of Venice, Italian Ministry for Environment and Territory, Province of Alessandria, Autonomic Region Friuli Venezia Giulia, Region of Veneto, Veneto Union Chambers of Commerce, Province of Brescia, and Province of Mantua.

Observers are: Swiss Federal Ministry for Transport; Italian Ministry for Infrastructure and Transport; Italian Federation of Shipping Agents; Interporto Rivata Scriva Italy; Public Administration of Region Elsass, France; Bavarian State Ministry for Economics, Infrastructure, Traffic, and Technology; Harbour of Nuremberg; Regional Planning Association Allgäu and Interporto Campano.

Correction:

Unfortunately there is on mistake in the article regarding the shipment reduction on the rolling road: In 2004, 84.000 trucks instead of 164.000 trucks, how is it written falsely in the article, have been relocated from rail to road.