Corridor A / IQ-C

International Group for Improving the Quality of Rail Transport in the North-South Corridor and Executive Board ERTMS Corridor A

4th Progress-Report

May 2009

prepared in collaboration with the Dutch Ministry of Transport, Public Works and Water Management, the German Ministry of Transport, Building and Urban Affairs, the Italian Ministry for Infrastructures and Transport, and the Swiss Federal Office of Transport.

Appendices:

0. Management Summary

The **I**nternational Group for Improving the **Q**uality of Rail Transport in the North-South**-C**orridor (IQ-C) has intensified the way of cooperation and has thus brought about some remarkable results. The volume of rail freight on the corridor increases annually by 6-8%. However, considerable efforts are still necessary in order to further improve the quality and punctuality standard in transalpine rail freight transport.

- In January 2003 the Memorandum of Understanding (MoU) was signed by the Ministers of the four corridor countries namely Italy, Germany, the Netherlands and Switzerland. This scheme includes a range of quality improving short term measures which focus on actions not only from Infrastructure Managers but also measures that have to be implemented by the Ministries.
- In July 2004 an agreement was reached for facilitating EU-CH transit customs procedure benefiting all railway undertakings;
- In 2005 the Netherlands-German agreement was reached between the railway safety inspectorates on mutual recognition of drivers where possible;
- In March 2006, the Ministers signed – as a result of a mandate of the Ministers to the IQ-C Working Group – the “Letter of Intent ERTMS deployment on Rotterdam – Genoa corridor” (LoI) with the aim to complete the ERTMS/ETCS infrastructure on the corridor until 2015.
- In May 2006, the Ministries agreed upon a new Action plan 2006-2010 to focus and amend the actions of the MoU of January 2003.
- In June 2007, the Ministers agreed on and signed a Memorandum of Understanding on the implementation of approval procedures for rolling stock and cross acceptance of approval procedures of the competent supervisory authorities.
- In July 2007, corridor A funding requests had been submitted to the EC for subsidies of the TEN-T funding for ERTMS deployment on the corridor. In December 2007 the EC decided to grant € 89 million subsidies for corridor A (track side and rolling stock)
- In June 2007, the opening and beginning of operation of the Betuwe Route and the Loetschberg Base Tunnel stand for important steps on the way to an upgraded rail corridor with increased capacity and high quality performance.
- During 2007 and 2008 all fields of activities were further developed. The organisation for the deployment of ERTMS/ETCS in the corridor was established. The Infrastructure managers have set up the Management Committee and founded the EEIG Corridor Rotterdam-Genoa EWIV to steer the overall improvement program integrating all ERTMS

and other improvement activities of IQ-C, whereas the Ministries have created the Executive Board supervising the ERTMS implementation on the corridor. Since 2008, the IQ-C Working Group of the Ministries of Transport and the ERTMS Executive Board are working together in very close cooperation and coordinate their actions and time schedules.

- In February 2009, the Infrastructure managers Management Committee presented their ERTMS implementation plan for the realisation of ETCS on the whole corridor until 2015 to the Executive Board.
- The Infrastructure Managers have further developed their quality improving actions, such as development of harmonised key performance indicators (KPI) concerning traffic volume, modal split, punctuality and commercial speed. Common deadlines for the planning and allocation process for timetabling, the development of customer relationship, the establishing of common and harmonised operations management processes as well as the further development of infrastructure and an international process of coordinated bottleneck elimination have been initiated. Great efforts have been made to improve punctuality and analysis of the causes for delays.

Conclusions

The market for international rail freight traffic on the North-South-corridor is growing further and still has a big potential. The quality improving scheme, established by the Ministers of Italy, Germany, the Netherlands and Switzerland is affecting results due to the created network of the relevant stakeholders. The close monitoring of volumes, punctuality and costs shall be continued from 2008 onward and shall be made available to all interested stakeholders. Development of ERTMS in the focus of work

1. Background information

A range of competitive rail services in the North-South-Corridor in terms of both quality and quantity is the key to a successful policy aimed at shifting the highest possible volume of goods transport from road to rail.

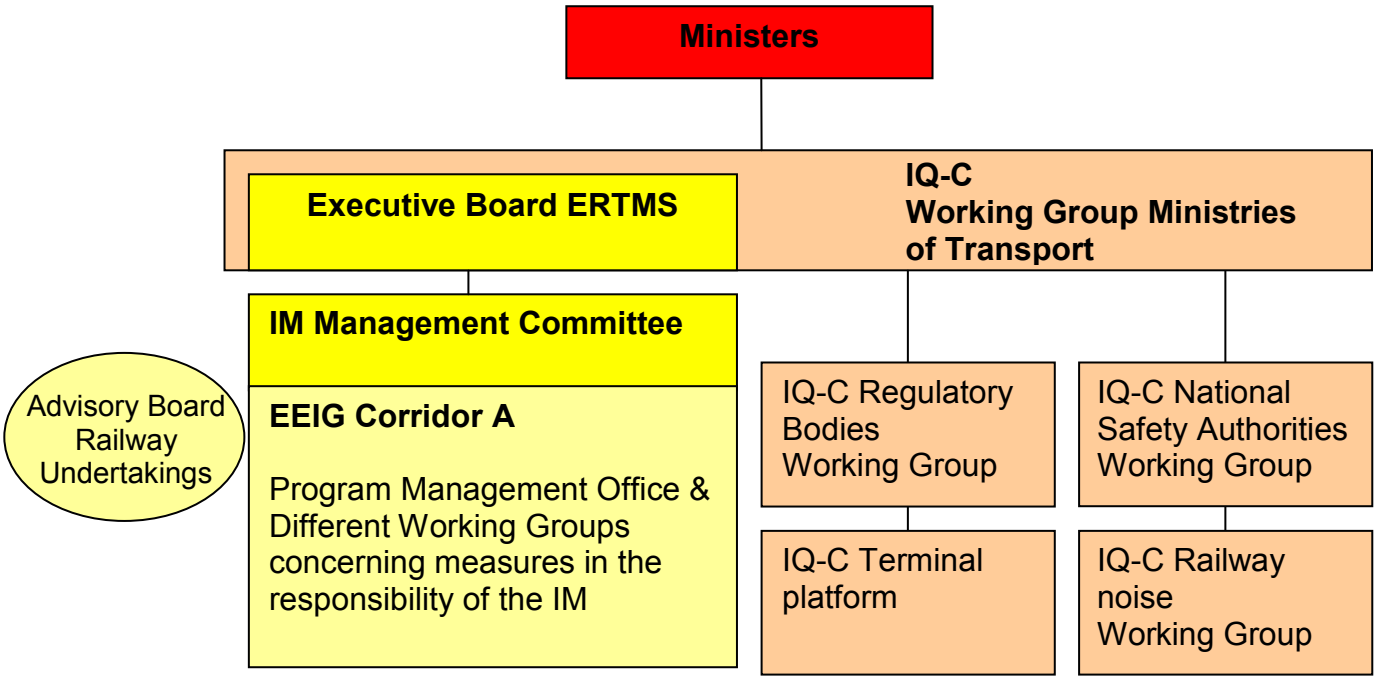
On 9 January 2003 the transport ministers of Germany, Italy, the Netherlands and Switzerland signed a joint “Memorandum of Understanding” in Lugano aimed at enhancing the quality of cross-border freight transport by rail on the North-South-Corridor (see appendix I). The Ministers entrusted an international working group with the task of implementing a package of specific measures that were defined following a prior analysis of the main problems relating to freight transport by rail in the North-South-Corridor.

In July 2004 the first progress report was submitted to the Ministers. They took note of the report and gave the mandate to continue with the work and to carry out a study about the

implementation of the ERTMS/ETCS in the North-South-Corridor. Together with the signing of the "Letter of Intent ERTMS deployment on Rotterdam – Genoa corridor" in Bregenz, 3 March 2006 (see appendix II), the second progress report was presented to the Ministers. Based on the requests of the Ministers, the working group agreed upon an action plan 2006–2010.

Herewith the working group is submitting the fourth report to the Ministers. This report reflects on the issues of the IQ-C Action plan 2006–2012 (see appendix IV), the status of the activities, and the progress that has been achieved in specific areas to date.

The corridor organisation including ERTMS and the different Working Groups of Infrastructure Manager, National Safety Authorities and regulatory Bodies can be pictured as follows:



With the year 2009, the corridor organisation includes a “Terminal platform” and a Working Group on Railway noise as new parts of the organisation from ministerial side. These new working groups will get in full operation during 2009 with respect to the aim of the Action plan (especially concerning Railway noise and Terminal issues).

2. Implementation of the IQ-C Action plan 2006–2012 for rail freight corridor Rotterdam-Genoa

The Working Group IQ-C decided upon the Action plan 2006-2010 on 30th May 2006[1]. In August 2008 the Action Plan was updated, concretised and prolonged until 2012 by the Ministries due to the following reasons: (1) delays in the implementation of the improvement measures, (2) new schedules of the business plan of the infrastructure managers and (3) the overall consensus to take on board new actions regarding the objective to harmonize the

[1] Published on website www.minvenw.nl/ and www.bav.admin.ch

technical characteristics of the corridor. This point includes the exchange of information and coordination of measures concerning railway noise abatement to enable a further growth of rail freight transports in the North-south-corridor without plaguing bordering population with growing noise pollution and to increase the acceptance of railway transport.

The action plan is based on the requests from Ministers as expressed in the second progress report March 2006 in the Bregenz meeting (3 March 2006). The latest action plan has been discussed and accepted by the involved Infrastructure Managers, rolling stock and safety authorities and regulatory bodies. The original action plan from 2003 is in this way amended.

The IQ-C Action plan 2006 - 2012 comprehends several actions which will be extended or optimised focusing on:

- *Digital coordination:* The focus is now on an IT data exchange mainly based on implementation and follow up of Europtirails and Pathfinder which are systems managed by the RailNetEurope cooperation scheme of Infrastructure Managers. Furthermore these systems have in future to be coordinated with TAF/TSI development to avoid parallel activities and redundant processes.

- *One Stop Shop Optimisation:* with focus on the full use of organisational and technical possibilities to shorten response times for international train paths and ensure convenient response times.

- *Monitoring Allocation and Performance:* with focus on the monitoring process of the allocation of train paths, performed speed and punctuality of freight services.

- *Improving punctuality:* to ameliorate the still not satisfying punctuality standard in the corridor to make transports on the corridor more reliable and attractive. The Infrastructure Managers have to develop a performance regime on the basis of punctuality measurements and a broader shared analysis of causes of delays. This includes the implementation of European Performance Regime on the corridor.

- *Improvement International Capacity Allocation process:* with the goal of a new common planning concept for the implementation of equal dates for final capacity allocation by harmonising national laws and introducing authorised applicants on cross border basis.

- *Integrated elimination of infrastructure bottlenecks:* includes the monitoring of actual traffic flow and a common planning of capacity development (e.g. number of available train paths and standardised infrastructure parameters) for medium and long term due to a still growing traffic volume on the corridor.

- *Mutual recognition of engine drivers:* has to be continued with focus on new possibilities of ETCS.

- *Mutual recognition of locomotives:* has to be continued with focus on development and implementation of IRL list with the aim of a multilateral agreement.

- *Monitoring of market regulations:* to continue the cooperation of the Regulatory Bodies for issues of common interest on the corridor.

- *ETCS implementation:* with the aim that international locomotives can use the corridor with just ETCS on-board by completing ERTMS/ETCS infrastructure in 2015. With ERTMS/ETCS, infrastructure managers can improve traffic management and enable safe and interoperable international rail freight traffic.

- *Terminal issues:* with the aim to improve the interfaces between terminal operators, intermodal operators, railway undertakings and infrastructure managers.

- *Harmonisation of operational rules:* rules necessary for train operation – ETCS and non ETCS mode – will be analysed and proposed to ERA for harmonisation on the European and corridor level.

- *Railway noise:* to realise harmonised and coordinated national approaches to cope with railway noise and to find proposals at corridor level.

3. Implementation of ERTMS/ETCS in the North-South-Corridor

The Executive Board for ERTMS has met 4 times in 2008 to discuss with the Infrastructure Management Committee the progress on ETMS implementation. The Executive Board has been assisted greatly by the efforts of EU ERTMS TEN-T coordinator Karel Vinck in this period. General objective is to develop, within the mandate of the letter of Intent on ERTMS stemming from 2006, the ERTMS implementation strategy for the corridor. The strategic questions for the corridor that have been addressed are:

A. The requirements of the various parts of the corridor for the development of the ERTMS technology in Europe and on the corridor;

B. The implementation for ERTMS approach for each section of the corridor, which version of ERTMS and level 1 or level 2. This question is related to performance, impact on rest of the railway network, financial aspects and migration risks;

C. The financing of the implementation plan;

D. The dialogue with railway undertakings;

E. The need for cooperation for testing, certification and homologation of ERTMS equipped rolling stock

A. ERTMS development

In January 2008 the Executive Board of corridor Rotterdam-Genoa sent a letter to Mr Vinck stating the needs for development of ERTMS technology in Europe and, where this is necessary to fulfil the requirements of the deadline of the LOI, asking for development of an interim interoperable version of ERTMS in advance of the full development of baseline 3 of ERTMS. The newly ERTMS functionalities, which are part of baseline 3 of ERTMS, are required for the corridor to secure a cost-effective migration approach (Limited Supervision), sufficient performance and capacity of the rail corridor at least matching with existing signalling technology in place. The reason the executive board asked for the intermediary version of ERTMS was that there was not sufficient commitment from industry and EU for a timely development of ERTMS baseline 3 at the beginning of 2008.

At 4 July 2008 the European Commission together with ERA, the IMs and railway industry concluded a MoU on the timely development of ERTMS baseline 3 per 2012/2015. This breakthrough is very important for the corridors' timely and cost-effective way of implementation of ERTMS. This MoU also set the ground for the IM management committee to complete the ERTMS implementation plan for the corridor.

The Executive Board is satisfied with the cooperation between the corridor and the European Commission in this respect to foster timely and cost-effective implementation of ERTMS on the corridor.

B. Implementation for each section of the corridor

The IM Management Committee has developed and proposed a detailed implementation plan for ERTMS for the whole corridor in line with the time-planning on the development of ERTMS baseline 3. Some sections will be using ERTMS baseline 2. The interoperability for locomotives equipped with at least ERTMS baseline 3 will be garantueed.

This means that the overall planning to install ERTMS over the entire corridor by 2015 is still intact whereas the intermediary milestone that was set in the Letter of Intent for 2012 (Rotterdam – Oberhausen and Mannheim – Genoa) will be postponed to 2013 respectively 2015 for the benefit of the immediate deployment of the economical ERTMS baseline 3. For details see the Infrastructure Managers ERTMS implementation plan (separate document that will be put to the Ministers at the Genoa conference 26th May 2009).

Because the Infrastructure Managers closely cooperate regarding functionalities of ERTMS and ways of implementing it, the Infrastructure Managers are assessing the possibilities of combined preparations of procurement for ERTMS equipment, e.g. with the aim to facilitate common testing, certification procedures.

The Infrastructure Managers are asked to put a proposal for possibilities of cooperation in ERTMS procurement to the Executive Board.

C. Financing

The investments for ERTMS implementation on the corridor are related to:

- Infrastructure ERTMS investments
- Infrastructure investments necessary for ERTMS (''electronic interlockings'')
- ERTMS investments in rolling stock (in the responsibility of railway undertakings).

Based on the coordinated request for TEN funding in 2007 the European Commission decided to fund the ERTMS corridor project close to maximum permitted levels for the period 2007-2013 (for details see appendix VIII). Scope of TEN-T financing for the cost made after 2013 is unclear given the EU decision making process to establish the 2014-2020 budget.

During the course of 2008 and early 2009 also the financial commitments from the respective national governments have been negotiated to meet and reinforce the well prepared implementation plan for the corridor.

The financing of the considerable level of investment needed is now sufficiently clear to start the implementation plan.

D. Dialogue with railway undertakings

In 2008 the Executive Board decided to set up the railway undertakings advisory board. The purpose is the existence of a consultation mechanism between Infrastructure Managers and railway undertakings on improvement plans for the corridor.

In the railway undertakings advisory board there are 2 representatives from railway undertakings per country (nominated by the Ministries) and 1 from CER and 1 from ERFA. The advisory board will not only address ERTMS issues but also other (quality and infrastructure) measures on the corridor.

One important condition for the railway undertakings is that Infrastructure Managers do not require compulsory retrofitting of rolling stock. Only when (newly built) infrastructure is equipped

with ERTMS only (Betuweroute, Mattstetten-Rothrist, Loetschberg) rolling stock must be equipped with ERTMS. Specific support schemes for these ERTMS retrofitting projects have been put in place by the Swiss and Dutch government, complemented by the European TEN-T support scheme for retrofitting.

The ERTMS implementation plan for the corridor from IM management committee assumes that ERTMS on-board equipment will be backwards compatible starting from version 2.3.0.d. this means that rolling stock equipped with ERTMS baseline 3 will be able to make use also of infrastructure equipped with version 2.3.0.d such as Betuweroute, Mattstetten-Rothrist, and Loetschberg.

The first meeting of the advisory board was in February 2009.

E. The need for cooperation for testing, certification and homologation of ERTMS equipped rolling stock

In 2008, the national safety authorities of the corridor countries started on an informal basis to discuss and prepare their involvement in ERTMS implementation for the corridor, i.e. testing and cross-border certification of ERTMS rolling stock.

Experience with other (cross-border) ERTMS projects clearly showed the need for a well prepared testing and certification approach by the safety authorities / infrastructure managers and involved railway undertakings. The positive experience gained with the MOU cross-acceptance 2007 for the corridor is of great use here. Without an integrated well prepared testing and certification plan there is a serious risk of unnecessary delays in getting ERTMS operational on a cross-border basis. One of the ideas to support this approach is to use a common testing area to be defined as the European reference which comprises and can simulate all different national ERTMS signalling parameters of the systems installed in the infrastructure for testing the ERTMS products of all future suppliers. In this way testing and certification can be facilitated greatly.

The IM management committee / National Safety Authorities will be asked to prepare a testing and certification plan.

European progress

The corridor is a central part of the European approach to roll out ERTMS. The following developments contributed largely to the corridor implementation plan of ERTMS:

- Preparation of the EU ERTMS implementation plan with deadlines for 2015 for the corridor and 2020 for further connections to ports and industrial areas;

- Adoption by ERA December 2008 on basic parameters ERTMS baseline 3 in line with the MOU between EC and industry from July 2008

Outlook

Based on the substantial progress reached in 2008 on ERTMS on the corridor all participants need now to work closely together on a number of key areas:

- Continued involvement of ERTMS baseline 3 development in line with MOU EC / Industry stemming from July 2008. An MOU between corridor IM and UINIFE is underway;

- prepare infrastructure works in advance of ERTMS (interlockings, Limited Supervision base etc.);

- prepare possibilities for cooperation in procurement of ERTMS equipment;

- prepare a common testing and certification approach by NSA / IM / railway undertakings.

- facilitate the required funding by finalising the funding agreements for ERTMS and the related infrastructure provisions by the national governments

In 2009 also cooperation between corridor A and other corridors will be on the agenda. In fact corridors C (Antwerpen – Basel/Lyon), D (Valencia - Lyon – Torino - Budapest) and F (Duisburg – Warsaw) are (partly) linked to the corridor Rotterdam-Genoa. All of these corridors need to implement ERTMS by 2015. In cooperation with EU ERTMS coordinator Mr Vinck cooperation needs and possibilities will be assessed here. For corridor A Rotterdam – Genoa it is not the intention to change the well functioning governance structure of the corridor.

4. Status of implementation of measures in the responsibility of Infrastructure Managers

The IMs consolidated the corridor organisation by implementing the Programme Management Office as one common corridor management board, which develops, steers, monitors and reports all the corridor activities as integrated action and like one company.

In 2008, the corridor organisation could be finalised by the foundation and registration of the EEIG Corridor Rotterdam – Genoa EWIV as the last formal step. The corridor can now act as a legal entity, financially borne by its members and associates. The corridor organisation has been notified by the EC that it will be supported in a first tranche with TEN-T funding for the timeframe from 2007 to 2009 (1.13 million €). The ETCS projects in the Netherlands, Germany and Italy in total will receive TEN-T subsidies of 89 million € for the 2007-2013 period (track side and rolling stock).

Based on the strategic decision of the CEOs of Corridor A from 18 June 2008, a common concept for deploying ERTMS baseline 3 was developed and coordinated by the corridor organisation. The concept was finally approved by the CEOs of all five IMs of Corridor A in October/ November 2008. Besides this important landmark, a first draft for an ERTMS roll out plan for the corridor was developed. It will be refined and detailed in 2009. The Working Group ERTMS also worked on a common technical annex for ERTMS components, systems, projects and services, as well as a common cost structure for call for tenders. The Working Group Capacity conducted a detailed study about essential train parameters on the corridor including levers for quick wins when seeking for a harmonisation. The Working Group Traffic Quality made progress in harmonising the small international time table adjustments throughout the year which leads to considerable simplifications in planning the traffic. The terminal study of the IQ-C Ministries of Transport was accompanied and supported intensively by the Working Group Terminals and their own data collection.

With regard to the projects of the IMs, the technical study about ETCS and traction power systems in the Netherlands is of utmost importance to take the right decisions regarding the most beneficial implementation and deployment concept. The study applies to all ETCS and traction power projects on the corridor in the Netherlands as well as the planning activities of the 3rd track in the border section between Zevenaar and Oberhausen. As such, also the German part of the project will benefit from the study as it will eliminate technical risks during the implementation phase. In Germany, DB Netz is still conducting a planning permission for the Emmerich – Oberhausen project. All other ETCS related planning activities are progressing on time, e.g. the tendering of the port line in Netherlands. The plan studies for the ETCS projects in Italy were completed on time. The major infrastructure projects – mainly tunnel works at the Katzenberg tunnel (Germany), Gotthard and Ceneri (both Switzerland) – are on time. In total 15 risks, of which 6 had been closed, are reported. The risks are primarily rated of a low probability and impact for the corridor. One risk still rated with high impact could not yet been closed and needs to be monitored carefully. It is about the CR 595 (braking curves for ETCS L1 LS mode) which still lacks of an agreed solution. The original proposal jeopardises the performance and capacity of lines operated in ETCS L1 LS mode in Switzerland. As the corridor migration strategy in Switzerland and Germany is primarily based on L1 LS, the entire ETCS migration on the corridor is put at risk. An ERA working party shall solve this problem by mid of 2009.

In total, the achieved work progress until 2008, together with the new integrated corridor organisation provides first evidence for the fast and controlled growth of the corridor implementation from now onwards, and represent an important step towards the future corridor success (see appendix V).

Despite all achieved progress, strong efforts in the field of capacity management and punctuality improvements are still necessary. A few milestones could not be realised until today because the effort calculated in the beginning was underestimated. This requires an adaption of the timetable of the action plan as well as enhanced resources from the infrastructure managers of the corridor countries.

5. Status of implementation of measures in the responsibility of the National Safety Authorities

Mutual recognition of rolling stock

The *Task Force of Interoperability* (TFI) was founded to enforce the mutual recognition of rolling stock. Five authorities/ministries are involved: Austria: BMVIT (Federal Ministry of Transport, Innovation and Technology), Germany: EBA (Federal Railway Authority), Italy: CESIFER – Technical Directorate, Netherlands: IVW (Dutch Transport and Water Management Inspectorate), Switzerland: BAV (Swiss Federal Office of Transport), and three infrastructure managers: ÖBB Infrastruktur Betrieb AG, DB Netz AG and RFI S.p.A.

The results of the work of TFI group are the technical basis for the MOU on 7 June 2007 among the 5 Member States (N-D-A-CH-I, see appendix III). Regular TFI meetings are held with manufacturers of multi-voltage/multi-system locomotives.

The TFI group applies to a common requirement list and categorizes each item according A, B, C. Thanks to this work the Group has achieved a high level on expertise and trust among each other. Certificates according to the MOU were already delivered. The authorities provide each other with the results of their approval about the applicant's reliability and if he might be able to take his responsibility for the safety of the vehicle at the state of authorization and throughout the lifetime of the vehicle. Procedures for authorization will be laid down within 2008 among TFI group.

The most important tool for the TFI group is the International Requirement List (IRL). IRL is a database which matches the regulation for authorization of vehicles of each Member State against the regulation of the others. It is planned to have access to IRL via Internet. The definitions and classification of A, B and C categories for locomotives will also be developed.

In January 2008, TFI presented their results to ERA, CER, and UNIFE. TFI will regularly update the IRL and improve the scope of vehicles and the A-B-C classification in order to increase the number of A-categories. The next step will be taken in 2008 for train sets and passenger coaches. These activities are driven by current requests of the market within framework of certain projects.

The approach will anticipate the implementation of European directive on cross acceptance 2008/57/EC published on 18 July 2008. There should be good migration planning towards the new role of the European Railway Agency envisaged in this directive. Dialogue is ongoing.

Enlargement towards ERTMS

The cooperation of TFI group and ETCS corridor group is planned and will be applied among both groups to coordinate the ERTMS procedures for authorization of ERTMS on infrastructure and on vehicle issues. The migration of class A and B systems and old and new and border transitions have to be taken into account as difficulties coming form the vehicle subsystem. Especially for this issue TFI and ETCS corridor group could support the migration steps in a positive way.

Beside of the coordination among the TFI group and the ETCS corridor group actions have to be taken to coordinate the operational issues on the corridor. ETCS corridor group will raise this issue during their next meetings and will report on the results.

Enlargement towards other countries

Several states have expressed their interest to join the MoU: Sweden, Denmark, Belgium, Luxembourg, France and other interested countries. The new interoperability directive gives the legal framework for states to apply to the cross acceptance method. The directive must be implemented 2 years after its publication (18 July 2008), the practical application may take more time. Therefore as long as there is no legislation which allows Member States to apply to the cross acceptance method, MoU will further on be the regulatory basis for it. The technical work as laid down in the Annex to the MoU could be done by corridor groups like TFI group by expanding the reference list with bi- or trilateral negotiations of the corridor members' authorities.

To accelerate the spread of the cross acceptance method among Member States is seen as an advantage not only for the sector itself, but especially for IQ-C-Partners to improve cross border traffic on the corridor. Therefore it is suggested to invite interested Member States to join the MOU. This enlargement of the scope of the MOU must be closely coordinated with the European Commission / ERA in order to migrate smoothly to the European framework.

Mutual recognition of engine driver licences

The mutual recognition of engine driver licences is furthermore one important action point of the IQ-C project. Qualifications of train drivers have partly a general character (for example eye tests) and partly a specific national character (for example track knowledge). National qualifications like track knowledge cannot be a subject for cross border recognition. The general qualifications can however be subject of cross border recognition. Germany and the

Netherlands have developed a model for cross border recognition on these issues. This model will also be implemented at the borders Germany-Switzerland and Switzerland-Italy in a bilateral way. Germany and Switzerland have achieved good progress and there is the perspective for the recognition of several licence categories in 2008. The recognition between Switzerland and Italy is still not completely solved.

The approach on mutual recognition of drivers intends to be in line with and prepare the way for a full implementation of directive 2007/57/EC dated 3 December 2007 for international and at later stage national drivers (see also appendix VII).

6. Enhanced cooperation of the Regulatory Bodies: Monitoring of market regulations

The concern of the IQ-C Regulators was mainly directed towards the functioning of the international allocation process on the corridor in the last year. Therefore the IQ-C Regulators have decided to start a closer look on the actual allocation of train paths on the corridor. Therefore, the Regulatory Bodies are in discussion with the different actors in the corridor (see appendix VI).

The regulatory bodies of the corridor are working together both on the basis of complaints received and on the basis of ex-officio investigations.

7. Status of implementation of measures in the responsibility of the Ministries

Terminal platform

According to the action plan 2006-2012 a study on terminals of combined transport was realised in 2008[2]. The aim of the study was to asses the interface between terminal operators, infrastructure managers and railway undertakings. By increasing overall quality, efficiency and capacity of intermodal terminals, the competitiveness of the international rail freight transport on the corridor can increase considerably.

The following recommendations are provided:

- Synchronisation and coordination of infrastructure extension along the whole corridor
- Monitoring of the realisation of all foreseen and planned measures
- Improvement and intensification of the cooperation between all actors to optimise efficiency and quality
- Implementation of a Terminal Operator Panel to improve the efficiency of terminal operation
- Development of an “incentive” program for the investments in terminals
- Implementation of a “Pushing group/concept” to extend the general logistics operation time

[2] Published on website www.bav.admin.ch/verlagerung/01510/02367/index.html?lang=de

along the whole corridor towards “7/24” (7 days per week and 24 h per day)

- Implementation of a terminal platform

The results of the study were presented in a workshop in Milan–Busto 24 June 2008. One agreed follow-up item is to set-up a corridor terminal platform which develops a common approach to improvements on both capacity and quality aspects of terminals on the corridor in collaboration with Infrastructure Managers. The first meeting of the terminal platform took place in March 2009 in Berne.

Customs transit procedure

In February 2004, a simplified procedure for customs transit was laid down between the customs authorities of the participating countries on the basis of a Memorandum of Understanding („Swiss Corridor T 2“). This procedure grants considerable facilitations especially to railway enterprises which carry out transit operations not on the basis of the traditional cooperation procedure (“CIM consignment note”), but – as provided for as the regular case in EU Law – on their own behalf. As a matter of fact these transit transport operations already make up about 6 % of the rail transit transport through Switzerland, according to statements of the Swiss customs authorities.

The new customs law (Regulation 1875/2006/EC) envisages especially in case of third countries an electronic advance notification of security data which presents a considerable difficulty for the railway enterprises. EU and Switzerland have reached agreement that there is no prior notification requirement in the transfer of goods between Switzerland and the EU even after the introduction of the new EU security regulations. This has been made possible due to the contracting parties recognising the equivalence of their standards. This means, the corresponding Memorandum of Understanding can be prolonged and the procedure Swiss Corridor T 2 can be applied after June 2009 until 2011 as alternative to the NCTS (New Computerised Transit System).

8. General Development of the rail freight transport on the North-South-Corridor

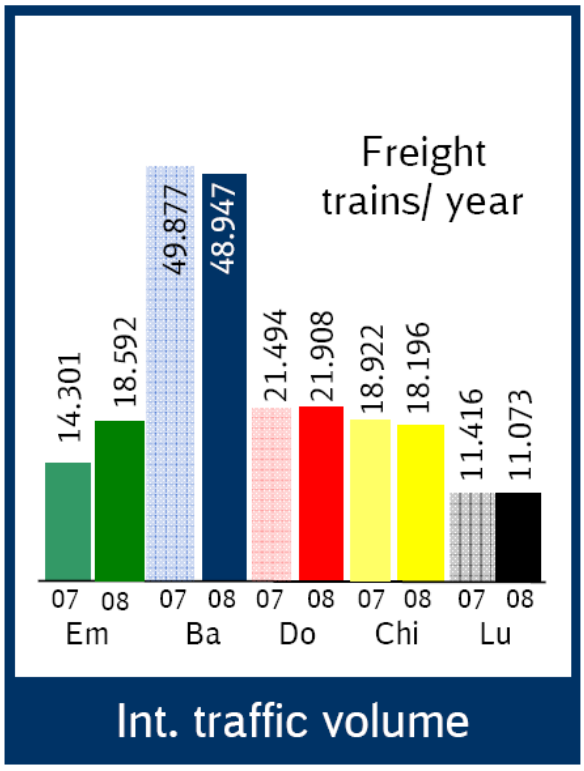
Infrastructure improvements, two new line sections of paramount importance had been taken into service, the Loetschberg base tunnel in Switzerland and the Betuwe line in the Netherlands. With a volume of about 9 bn € of investment, both projects implied a tremendous political and financial effort, and the very high technical standards a real challenge for the project teams in charge, which have timely completed the projects. Both openings had been celebrated in outstanding inauguration ceremonies and represented real highlights in 2007. The 140 km of new corridor lines sum up to additional capacities of about 100 train paths between Rotterdam and Zevenaar, as well as from Frutigen to Raron. However, this additional capacity does not yet

fully contribute to the corridor capacity due to the limited connecting line capacities. Further projects on the corridor advanced, respectively started or even completed initial plan studies, approvals of building licences etc.

The increase of transport volume in the corridor is a result of the efforts in the different fields of work of the working group IQ-C, but as well a challenge for future actions of the working group.

International traffic volume

The international traffic volume on Corridor A is rising – comparing the 2008 figures with 2007 figures (see figure below). However, the overall picture is heterogeneous: Emmerich faces a strong growth, whereas Domodossola shows a moderate growth. Basel, Chiasso and Luino even faced a decrease of international freight traffic volume. The picture shown here is also reflected by the economical growth figures in 2007 and 2008. A slow down on Corridor A could already be recognised in the 4th quarter of 2008. The figures measured by the WG Capacity underline this development in 2008. The global financial and economical crisis will result in less freight volume in the near future and the competition between road, air, waterways and rail will become harder.



Definition: number of international freight trains crossing one (or more) of the border stations of Corridor A in both directions, regardless from origin or destination, per month. Border stations of Corridor A are: Zevenaar/ Emmerich (NL - DE); Basel (DE - CH); Domodossola (CH - IT); Chiasso (CH - IT) and Luino (CH - IT).

The growing market asks the ministries and all actors on the North-south-corridor to provide sufficient capacity and high qualitative products. Especially the growing importance of combined transport and the interfaces of multimodal transport have to be taken into account. An increasing number of railway undertakings and intermodal operators operating on the corridor

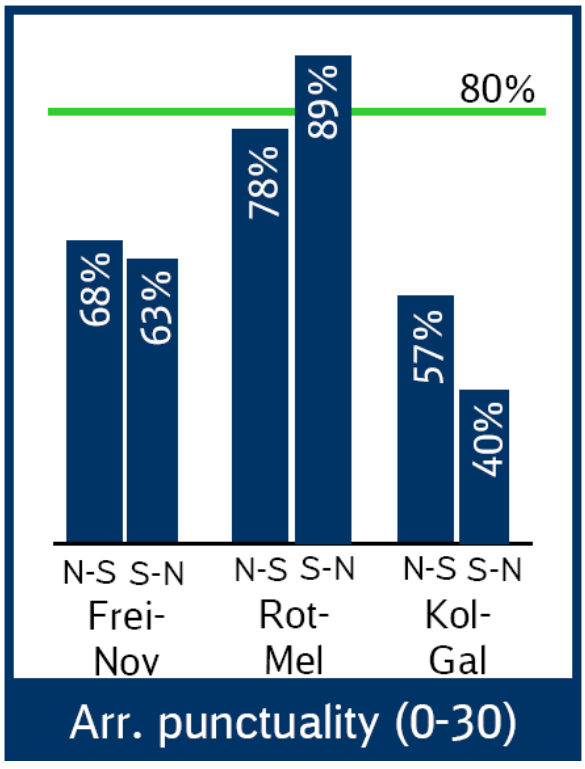
can be observed. This proves that market access and competition rules on the corridor are successfully working.

Intramodal competition

Intramodal competition is well established on the whole corridor Rotterdam – Genoa. The activities of a rising number of railway undertakings and intermodal operators in the rail freight market are a good sign for an open market access and functioning competition between railway services. The existing intramodal competition enhances the productivity of the freight rail market and stimulates new market activities. In 2008, e.g. there were 7 railway undertakings active on the Swiss part of the corridor.

Arrival punctuality

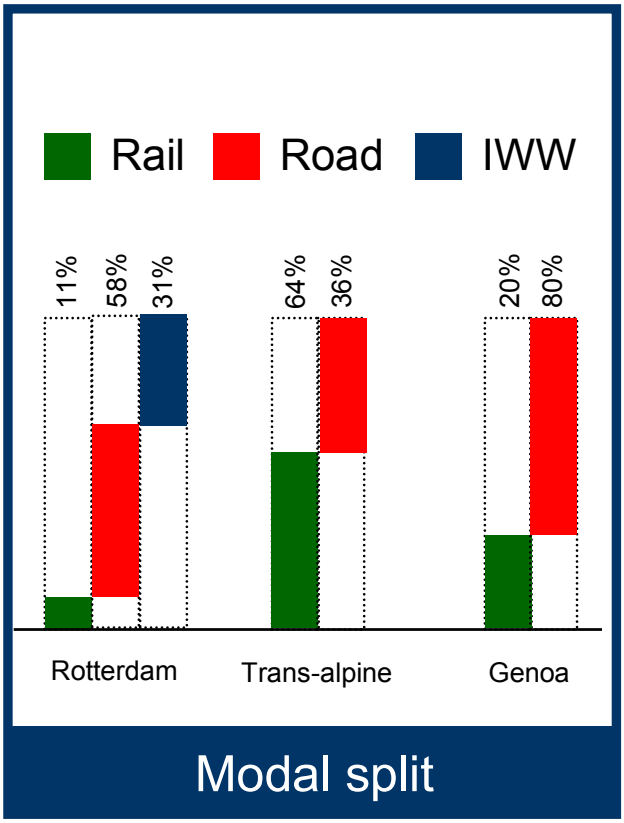
The arrival punctuality for freight trains on selected traffic relations can be seen in the figure below. In general, freight trains which arrive within 30 minutes with regard to their schedule are in average about 60%. The traffic relation Rotterdam – Melzo (and v.v.) shows a more satisfying picture, reaching (North-South direction) or even exceeding (South-North direction) the desired punctuality level of 80%. Besides infrastructure reliability, punctuality of freight trains depends on many factors such as rolling stock reliability, availability of rolling stock staff, timetable constraints and overtakings, availability of terminals, weather conditions etc. In the figure below, all delays for what reason ever are taken into account for the measuring of punctuality.



Definition: average punctuality level (arrival at destination within a 30 minutes time span) for selected relations of: Freiburg - Novara; Rotterdam - Melzo and Köln - Gallarate (all start/ end points of these transport relations are directly located on Corridor A). A level of 80% is the target.

Modal split

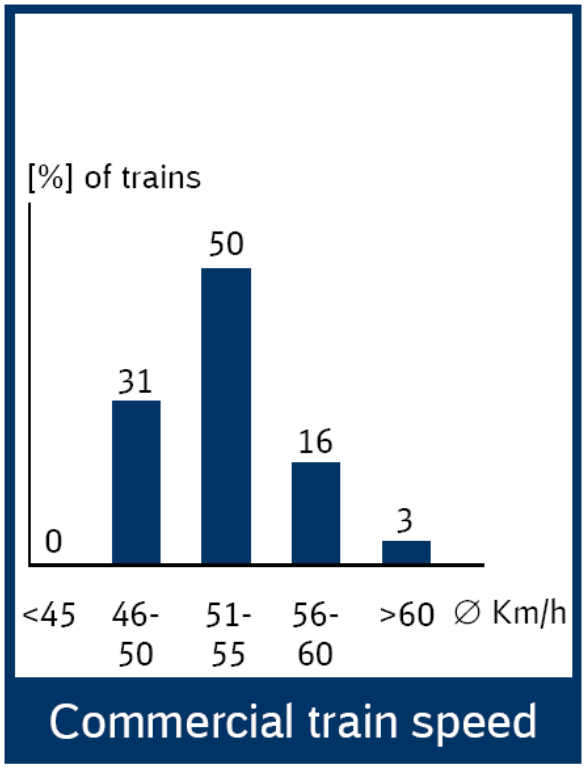
To measure the modal split (see figure below) three decisive locations had been chosen on the corridor. The sea ports of Rotterdam and Genoa (based on TEU) as the start/ end points of Corridor A as well as the trans-alpine traffic (based on tons). In Rotterdam, rail has a share of the container specific Hinterland traffic of 11% in 2007. This value is remaining on an almost constant level in comparison to the recent years. 58% of the containers are transported by trucks. A considerable amount of 31% of the containers is transported via inland waterways underlining the competitiveness of this means of transport. The port of Genoa shows a modal split for the container traffic of 20% rail vs. 80% road. Regarding the modal split for land bound freight traffic crossing the Alps; rail has a considerable share of 64% vs. 36% of road.



Definition: modal split [%] of freight traffic at sea port of Rotterdam, sea port of Genoa and trans-alpine. For Rotterdam and Genoa the modal split is calculated based on TEUs (containers) for the Hinterland traffic. For the trans-alpine freight traffic the basis is net tons. It is separated by rail, road and inland waterways (if applicable). Measured on an annual basis.

Commercial train speed

The transport time is a very important factor with regard to the performance and competitiveness of rail bound freight services. The actual time table data show that 69% of the customers are given a train path with an average commercial transport speed of 50 km/h or more. Even train path offers with more than 60 km/h in average are possible. Further it is noted, that in general, the fastest train runs are available at night time, which clearly indicates the direct dependency of rail freight transport quality from sufficient network capacity and impact by mixed traffic operation.



Definition: average speed [km/ h] of trains according to valid time table for selected relations: Freiburg – Novara; Rotterdam – Melzo and Köln – Gallarate (all start/ end points of these transport relations are directly located on Corridor A) in both directions. Measured based on annual time table and classified five different categories.

9. Recommendations

The international working group IQ-C recommends continuing with the quality improving scheme on an adapted basis. The established platform between the Ministries of the corridor countries is deemed valuable and necessary by all the participants and stakeholders as it contributes significantly to further improvement of the quality of the rail freight transport in the North-South-corridor. The Corridor approach is also in line with the European transport policy which sees corridors as an important mean to enhance international rail freight. The corridor approach is also reflected in the European proposal for a regulation ‘’towards a network competitive for freight’’ (COM(2008)852 dated 11 December 2008) proposing to make the setting up of corridor structures partly compulsory. Also rail freight corridors are reflected in the green paper to review the Trans-European Networks for the 2014-2020 period.

The key to success for rail freight on the corridor is the strong commitment of all parties involved to improve the quality of rail freight services and to make it competitive. Therefore it is highly recommended that infrastructure managers further develop their dialogue with all market participants and enhance the transparency of their own work for the corridor, whereas the other parties shall be invited with the support of the ministries to contribute with improvement works under their responsibility.

The Ministries recommend:

- to supervise the implementation of ERTMS on the corridor closely by the Ministries, , to follow the implementation plan presented by the Infrastructure managers Management Committee and to assure the financing of the implementation of ERTMS as part of the national budget programmes,

- to focus on the improvement of punctuality and traffic quality regarding all parties acting on the corridor and the harmonisation of technical characteristics of the corridor in the next stage of work- to supervise the implementation of the 2006-2008-2012 action plan for the corridor and update the action plan in 2010 where appropriate.

- to support efforts of all actors to obtain the realised traffic volumes and the rail traffic's share in the modal split of the corridor during the present economic crisis.

Therefore, the Ministries ask the Ministers of Transport in the Corridor for their approval of the 4th Progress Report 2009 and its recommendations.

Memorandum of understanding

Schaffung einer internationalen Arbeitsgruppe zur Analyse der Probleme im Nord-Süd-Güterverkehrskorridor und zur Lösung derselben.

Der Staatssekretär im Bundesministerium für Verkehr, Bau- und Wohnungswesen der Bundesrepublik Deutschland, Herr Ralf Nagel, der Minister für Infrastruktur und Transport der Republik Italien, Herr Pietro Lunardi, der Minister für Verkehr, Wasserwirtschaft und öffentliche Arbeiten der Niederlanden, Herr Roelf H. de Boer und der Vorsteher des Eidgenössischen Departements für Umwelt, Verkehr, Energie und Kommunikation, Herr Bundesrat Moritz Leuenberger bekräftigen

im Bewusstsein,

- dass der Güteraustausch wesentlich zum Wachstum der europäischen Wirtschaft beiträgt,
- dass der Güterverkehr nach den Kriterien der Nachhaltigkeit erfolgen soll,
- dass eine Optimierung des Modal-splits zwischen Schiene und Strasse im Güterverkehr mit Hilfe geeigneter Infrastrukturen und marktkonformer Anreize, ohne Diskriminierung und gemäss dem Prinzip der freien Wahl des Verkehrsmittels anzustreben ist,
- dass durch eine Stärkung des Güterverkehrs auf der Schiene die Funktionsfähigkeit der Strasse verbessert wird,

sowie aufgrund der Tatsache, dass

- der Güteraustausch zwischen den vier Ländern sowie im Transit durch dieselben ein stetiges Wachstum aufweist,
- die Güterverkehrsverbindungen auf der Schiene im Nord-Süd-Korridor ausgebaut und gestärkt werden sollen, um sie gegenüber der Strasse konkurrenzfähig zu erhalten,
- der Grenzübertritt im Schienengüterverkehr besondere Schwierigkeiten aufweist,
- die Bestrebungen zur Verwirklichung des freien Netzzugangs im grenzüberschreitenden Schienengüterverkehr unterstützt und gefördert werden müssen,
- zu diesem Zweck eine Harmonisierung der technischen Bestimmungen im internationalen Schienengüterverkehr anzustreben ist

Ihren grundsätzlichen Willen zur Schaffung einer internationalen Arbeitsgruppe zur Analyse der Probleme im Nord-Süd-Güterverkehrskorridor und zur Lösung derselben. Folgende Rahmenbedingungen werden gesetzt:

Geographische Abgrenzung

Das Augenmerk soll auf die Nord-Süd-Achse gerichtet sein. Es handelt sich dabei insbesondere um die Verbindung Niederlande/Nordhäfen/Rhein und Ruhrgebiet nach Italien (Raum Milano, ligurische und hochtyrrhenische Häfen mit Weiterführung nach den Verladeterminals in Campania, Gioia Tauro, Taranto und Palermo) durch die Schweiz.

Mitglieder der Arbeitsgruppe

Die Arbeitsgruppe setzt sich aus Vertretern der vier Verkehrsministerien zusammen. Diese ziehen nach Bedarf die Transportunternehmungen, insbesondere die Infrastrukturbetreiber bei, welche zur Erfüllung des Auftrages beitragen können.

Aufgaben der Arbeitsgruppe

Ziel

- Die Arbeitsgruppe soll den Weg bereiten für qualitativ und quantitativ konkurrenzfähige Bahnangebote, insbesondere einer bedarfsgerechten Bahninfrastruktur im Nord–Süd–Verkehr.

Massnahmen

- Die Arbeitsgruppe erhebt die bestehenden Angebotsmängel im Bahngüterverkehr (Kapazität, Verspätungen, Schwierigkeiten bei Grenzübertritten, Unterschiede in den technischen Vorschriften, fehlende Ressourcen usw.) und analysiert die Schwachpunkte.

- Die Arbeitsgruppe schlägt Massnahmen vor, um diese Schwachstellen so rasch wie möglich zu beheben und insbesondere dem freien Netzzugang auf den wichtigsten Güterverkehrsrelationen (siehe geographische Abgrenzung) zum Durchbruch zu verhelfen.

Umsetzung

- Die Arbeitsgruppe erarbeitet in Zusammenarbeit mit den Infrastrukturbetreibern unter allfälliger Anhörung übriger Interessierten (Eisenbahnverkehrsunternehmungen, Operateure, Speditionsunternehmungen), einen Massnahmenplan für Verbesserungsvorschläge und sorgt für die Umsetzung.

Zeithorizont

Vorbereitungsarbeiten

Ab Mitte des Jahres 2001 wurde eine Analyse der Probleme im Nord-Süd-Korridor durchgeführt und im Frühjahr 2002 wurde die Umsetzung des im erarbeiteten Analyseberichtes enthaltenen Massnahmenplans an die Hand genommen.

Weiteres Vorgehen

Die kurzfristigen Massnahmen sollen 2003, die mittelfristigen bis 2007 und die langfristigen bis 2015 umgesetzt sein.

Die vier Minister werden regelmässig über den Stand der Arbeiten orientiert.

Lugano, 9. Januar 2003

Herr Ralf Nagel

Staatssekretär im Bundesministerium für Verkehr, Bau- und Wohnungswesen der Bundesrepublik Deutschland

Herr Pietro Lunardi

Minister für Infrastruktur und Transport der Republik Italien

Herr Roelf H. de Boer

Minister für Verkehr, Wasserwirtschaft und öffentliche Arbeiten der Niederlanden

Herr Moritz Leuenberger

Vorsteher des Eidgenössischen Departementes für Umwelt, Verkehr, Energie und Kommunikation

LETTER OF INTENT ERTMS deployment on Rotterdam – Genoa corridor

Mr Moritz Leuenberger
Head of the Federal Department of Environment, Transport, Energy and Communications of Switzerland
Mr Pietro Lunardi
Minister of Infrastructure and Transport of Italy
Ms Karla M.H. Peijs
Minister of Transport, Public Works and Water Management of the Netherlands
Mr Wolfgang Tiefensee
Minister of Transport, Building and Urban Affairs of Germany

In agreement with the EU Trans-European Network - Transport ERTMS coordinator Karel Vinck

Background

The Rotterdam-Genoa rail freight corridor is continuing to develop rapidly and is one of the main rail freight axes in Europe. The Ministers signed a Memorandum of Understanding on 9 January 2003 to improve framework conditions for the development of rail freight services (the 'IQ-C project'). Following that Memorandum of Understanding the Ministers agreed in July 2004 to study the deployment of ERTMS on the corridor. A deployment strategy where ERTMS is implemented with priority on the main European rail corridors will improve the cost-benefit scenario considerably and can create a breakthrough for rail interoperability in Europe, which would facilitate integrated cross-border traffic. A cost-benefit analysis has been carried out, at the request of the Ministers, which showed, on the assumption of an annual 1.5-2.0% cost decrease of ERTMS equipment in the 2005-2015 period, a positive cost-benefit ratio in the medium-long term could be realised whereas the cost-benefit ratio would improve after more widespread ERTMS implementation on European corridors. Well targeted support can be justified to accelerate the roll out of the system. The cost-benefit ratio of ERTMS deployment on the corridor can improve considerably if ERTMS deployment is combined with a targeted programme of investments in infrastructure and of innovations in traffic management.

The Ministers,

Considering that:

- In the EU the interoperability standards for European Train Control Systems are being developed in the framework of interoperability Directives 96/48/EC and 2001/16/EC. The adoption of the TSI "Control-Command and Signalling" under Directive 2001/16 (interoperability of the trans-European conventional rail system) concerning ERTMS in the Committee on the Interoperability and Safety of the European Rail System from November 2005 should be respected. Also, Switzerland is going to adopt provisions which are equivalent to Directives 96/48/EC and 2001/16/EC as a separate package of the Swiss Railways Reform.
- The European Commision postulated a deployment strategy in the Member States in its Communication to the European Parliament and the Council on the deployment of the European rail signalling system ERTMS/ETCS (document COM(2005)298) in July 2005.
- The European Commission appointed in July 2005 Mr Karel Vinck as Coordinator for the deployment of ERTMS on the Trans-European Networks with special emphasis on major freight corridors such as Rotterdam-Genoa.
- The infrastructure managers involved have, at the request of the Ministers of Transport, developed a realistic implementation strategy on each section of the corridor for the deployment of ERTMS. DB NETZ is currently finalising its cost-benefit analysis regarding the fastest way to implement ERTMS on the section Oberhausen-Mannheim. The implementation strategy is further described in the project plan.
- The Infrastructure Managers have expressed their support for the Ministers' Letter of Intent.
- ERTMS is the backbone of an optimised corridor to realise a high increase of transport volume and quality. Implementation requires a joint effort from the Governments, infrastructure managers and railway undertakings.
- The European Commission proposed to support ERTMS deployment both for infrastructure elements and for on-board devices. For that purpose, the European Coordinator will make recommendations concerning the financing period 2007-2013.
- The draft resolution from the European Parliament supports the rapid implementation of ERTMS on the Rotterdam-Genoa corridor (2005/2168 INI, from rapporteur Cramer, 07.02.2006).
- Measures to improve quality on the corridor implemented in the framework of the IQ-C project should be continued and a work programme should be developed to facilitate the deployment of ERTMS on the corridor.

Aim:

- Implementing ERTMS on the Rotterdam-Genoa corridor as fast as possible at the least cost.

Recommend the following further steps and actions to the extent that these steps and actions will be supported by the ERTMS implementation plans of all countries involved in the Rotterdam - Genoa rail freight corridor:

1. ERTMS deployment on the corridor should be realised in 2012 except for the stretch Oberhausen–Mannheim, which will be fitted with ERTMS at the latest by 2015. In 2015 locomotives equipped solely with ERTMS should be able to run on the whole corridor. In Germany alternative technical solutions

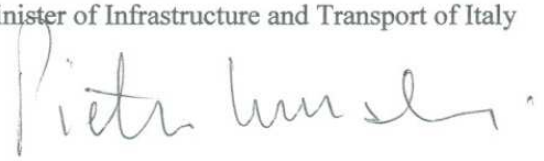
(STM/PZB-LZB) will be put in place to ensure interoperability along the whole corridor from 2012 in a non-discriminatory way.

2. The scope of the ERTMS project is described in the project plan.
3. A coherent programme of related infrastructure investments should be developed on the corridor. This programme should further improve the efficiency along the corridor owing to the fact that it delivers operational benefits to the railway undertakings concerned. The programme will be described in the detailed implementation plan. The EU Member States concerned will refer to the Letter of Intent and the project plan in their request for EU TEN financing.
4. Requests, submitted jointly where possible, from the EU Member States involved (except Switzerland) for EU TEN financing in line with this Letter of Intent must be prepared by 1 October 2006 at the latest by the EU Member States of the corridor for the financing period 2007-2013.
5. The Ministers concerned will take all the necessary measures, taking into account the national rules for budget allocation and, where applicable, the European rules for state aid and competition, for the required funding for the national parts of the ERTMS corridor.
6. The Ministers involved will set up an executive committee to steer the implementation of the project. The European Commission and infrastructure managers will also be invited onto the executive committee. The executive committee will adopt its mission statement as soon as possible. It may give advice to the Ministers regarding changes to national railway regulations if these regulations would hinder implementation of the project. The executive committee will not change the responsibilities and powers of the Ministers.
7. The infrastructure managers should create a common management committee to implement the project plan for ERTMS deployment on the corridor. The management committee will report to the executive committee in line with this Letter of Intent and the project plan. The management committee – acting as a permanent task force – has the function of developing the detailed implementation plan including measures to control different risks that may occur, organise where possible common purchasing of ERTMS equipment and organise financing of the implementation plan. The management committee should act as far as possible as a common body dealing with support groups of the European Railway Agency, the railway industry (UNIFE) and the railway undertakings (CER, ERFA, UIC) for the implementation of the project. Furthermore, the management committee ensures coordination with all other activities of the infrastructure managers for quality improvement on the corridor.
8. The safety authorities responsible for authorising the putting into service of ERTMS equipment on the corridor infrastructure and rolling stock will present to the Ministers and to the European Coordinator a cooperation agreement with practical measures to streamline the certification processes.

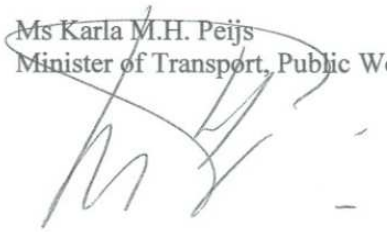
Done at Bregenz, 3 March 2006

Mr Moritz Leuenberger
Head of the Federal Department of Environment, Transport, Energy and Communications of Switzerland

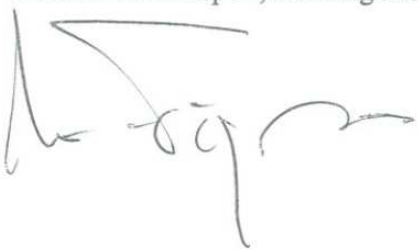
Mr Pietro Lunardi
Minister of Infrastructure and Transport of Italy



Ms Karla M.H. Peijs
Minister of Transport, Public Works and Water Management of the Netherlands



Mr Wolfgang Tiefensee
Minister of Transport, Building and Urban Affairs of Germany



Memorandum of Understanding
on the implementation of approval procedures for rolling stock
and cross-acceptance of approval procedures
of the competent supervisory authorities
between

The Ministry of Transport, Public Works and
Water Management of the Netherlands

The Federal Ministry of Transport, Building and
Urban Affairs of the Federal Republic of Germany

The Federal Department of the Environment, Transport, Energy
and Communications of Switzerland

The Federal Ministry of Transport, Innovation,
and Technology of Austria

The Ministry of Transport of Italy

Background

The goods rail transport in the European Union has been liberalised completely since 1 January 2007. With regard to international passenger transport, the European Council and the European Parliament have agreed the opening up of the market by 2010 in the framework of the negotiations on the third railway package. These measures and their expected acceptance by Switzerland present railway undertakings in the Participatory States with many and varied opportunities to achieve a favourable position with regard to other modes of transport and to exploit their special potential in the field of long-distance cross-border routes.

Despite the liberalisation, however, there still are obstacles which substantially hinder cross-border rail transport. The existing time consuming and expensive approval procedures to obtain a cross border approval for rolling stock considerably restrict international rail transport.

The European Commission has recognised the problem and in December 2006 has put forward proposals on the issue "Cross-acceptance" which aim at simplifying, accelerating and reducing the costs of approval procedures for internationally operated rolling stock, in particular locomotives.

The approach is based on the principle of mutual recognition of approval certificates for rolling stock which has already been put into practice successfully between some Member States by means of bilateral agreements.

It is a special concern of the States concerned to this Memorandum of Understanding to shift a considerable share of the trans-Alpine goods transport to the more environmentally-friendly railways. For this reason, the States concerned have already worked together intensively and confidently on different levels (ministries and infrastructure managers as well as supervisory, safety, and regulatory authorities).

In this context, the co-operation on the corridor Rotterdam-Genua within the framework of the "IQ-C project" and the measures implemented to improve the goods rail transport on the Brenner corridor deserve special mention.

Taking into account the following reasons:

- Rail transport in the Participatory States is characterized by very high safety standards. The safety standards are based on many years of confident co-operation between the competent authorities – the Inspectie Verkeer en Waterstaat Toezichtseenheid Rail for the Netherlands, the Eisenbahn-Bundesamt for the Federal Republic of Germany, the Bundesamt für Verkehr of Switzerland, the Federal Ministry of Transport, Innovation and Technology of Austria and the National Safety Authority/Ministry of Transport of Italy

- The principles for implementing the approval procedures for vehicles and the cross-acceptance of approval certificates are based on the basic ideas set out in the communication and the proposals for directives by the European Commission to the Council and the European Parliament of December 2006 regarding the facilitation of the movement of rolling stock across the European Union

- The present Memorandum of Understanding is completely consistent with the approach and the goals of the European Union and Switzerland. The Participatory States which are members of the European Union shall apply this Memorandum of Understanding in accordance with the EU directives 96/48/EC, 2001/16/EC and 2004/49/EC

- The goal is to intensify the current confident co-operation and accelerate and simplify the approval procedures while maintaining the high railway transport safety standards in the States concerned

- The chosen approach is not a closed shop. In the contrary the Participatory States wish to invite other European countries to follow the example

The Ministers recommend on

- applying the procedure of the competent authorities for the approval of the placing in service of rolling stock which is described in detail in the Annex to this Memorandum of Understanding;

- supervising the implementation of this Memorandum of Understanding and providing, on the basis of a proposal issued by the multilateral working group established between the experts of the competent authorities of the Participatory States, the updating of the Annex corresponding to the technical evolution.

Signed at Luxembourg on 7 June 2007

Mr Camiel Eurlings
Minister of Transport, Public Works and Water Management, Netherlands

Mr Wolfgang Tiefensee
Minister of Transport, Building and Urban Affairs, Germany

Mr Moritz Leuenberger
Director Federal Department of the Environment, Transport, Energy and Communications, Switzerland

Mr Werner Faymann
Minister of Transport, Innovation and Technology, Austria

Mr Alessandro Bianchi
Minister of Transport, Italy

IQ-C Action plan 2006-2008-2012 for rail freight corridor Rotterdam-Genoa

July 2006 (Initial Document)
August 2008 (Update)

The action plan has been decided upon by the Ministries of Transport from Germany, Italy, Netherlands and Switzerland in August 2008 and is an update from the May 2006 action plan for 2006-2010.. The action plan is based on the progress report 2008 on the Rotterdam-Genoa corridor. The progress report explains the renewed governance structure of the corridor with the executive board composed of representatives of the Ministries working together with the management committee composed of representatives of the Infrastructure Managers. The infrastructure Managers have set up a legal entity (EEIG) to organize the practical cooperation among infrastructure managers. The action plan has been discussed and accepted by the involved infrastructure managers, regulators, rolling stock & safety authorities. The action plan is based on the MOU "Lugano" for the Rotterdam-Milan corridor from 9 January 2003 which was extended to Genoa by decision of Ministers of 10 July 2004 at Rotterdam. The original action plan from 2003 is in this way amended. The current action plan takes into account the Letter of Intent for ERTMS deployment on corridor Rotterdam Genoa which was signed by Ministers 3 March 2006. On an annual basis the Ministries will report to the Ministers on the progress of the project.
Harmonized with baseline of the Infrastructure Managers and updated in August 2008.

OVERVIEW 2006-2012 ACTION PLAN IQC
CORRIDOR ROTTERDAM – GENOA

MoT: cooperating ministries of transport
IM: cooperating infrastructure managers
RB: cooperating regulatory bodies
SA: cooperating safety and rolling stock authorities
S: to be started
O: ongoing
F: finished

#	Action	Body	Milestone	Year	Status
1	Digital coordination	IM	Development of Pathfinder, EICIS and Europtirails	2007	F
		IM	Implement additional functionalities and improvements in the tools	2008 – 2012	O
		IM	Presentation of an implementation plan on the corridor for the SEDP regarding TAF TSI	2007	F
		IM	TAF TSI implementation (follow the SEDP) Enhance and monitor the European implementation and among the corridor partners	2008 - 2014	O
2	One stop shop optimization: shortening response time	IM	Set up and implement measurement system for response time regarding international requests for train paths	2007	F
		IM	Ensure convenient response times* for international ad hoc path requests *target: 90% in half of the time between order entry and first day of train running, max. 20 working days	2008 - 2012	O
3	Monitoring traffic and performance	IM	Corridor Management Information System with performance indicators, e.g. number of train paths, speed of train paths, punctuality of freight services. Corridor dashboard operational	2008	O
		IM	Performance monitoring and improvement	2008 - 2012	O
4	Improving punctuality	IM MoT	Development of European Performance Regime including corridor aspects on the basis of punctuality measurements and broader shared analysis of causes of delay	2006	F
		IM	Pilot Phase European Performance Regime on Rotterdam – Genoa	2007 and	O

#	Action	Body	Milestone	Year	Status
				2008	
		IM	Supporting and enabling the implementation of European Performance Regime on Rotterdam – Genoa	2008	O
		IM	Check on installation of Performance Managers	2008 and 2009	O
5	Improvement international capacity allocation process	IM MoT	Introduction of authorised applicants on cross border basis on the basis of a feasibility study	2007	F
		IM	IMs fully apply common deadlines for elaboration of yearly timetable and bi-monthly timetable updates as well	2006 - 2012	O
		IM	Harmonized catalogue Corridor wide catalogue with harmonised continuous international freight train paths	2006 – 2012	S
		RB	Assessment of allocation for international freight train paths on the corridor by the IMs	2008 - 2012	S
6	Integrated elimination of infrastructure bottlenecks	IM	Development of actual traffic flow with saturation degrees	2006 – 2012	O
		IM	Planning for medium/ long term in scenarios related to financing state	2006 – 2012	O
		IM MoT	Annual analysis of all activities listed in 6) to ensure the financing of bottleneck removal projects at national and EU levels (e.g. bilateral level between countries, EU-TEN-T financing)	2006 – 2012	O
		IM	Research for production improvements (hard and soft factors as rerouting, faster, heavier, longer, larger, etc.)	2008	O
7	Mutual recognition of engine drivers	SA	Implementation of cross border recognition of general qualifications of engine drivers on a bilateral basis (D-CH, CH-I)	2008 and 2009	O
		SA	Scaling up to a corridor wide implementation in line with the new EU directive 2007/ 59 for engine drivers	2008 to 2010	S
8	Mutual recognition of locomotives	SA	Implementation of cross-acceptance MOU 7th June 2007 and communication with railway market	2008	O
		MoT SA	Implement the international requirements list for certification of locomotives in conformity with the EU guideline. Plus extension MOU with BE FR LU DK SE PL CZ	2008 and 2009	O
9	Monitoring of market regulations	RB	The regulatory bodies will report at least yearly about the result of their cooperation: Allocation of capacity and the concept of congested infrastructure	2006 – 2012	O

#	Action	Body	Milestone	Year	Status
			IQ-C and RailNetEurope The traffic monitoring system Europtirails The European Performance Regime to be tested (corridor) and introduced (across Europe) The EEIG established by the Infrastructure Managers with aim of implementing ERTMS on the corridor		
10	ETCS	IM MoT	Ministries, EU and IMs steer the implementation of the "project 2012" incl. budgets and European version management	2006 – 2012	O
		IM MoT	Adoption corridor implemenation plan	2008	O
		IM	Tendering of the project by the joint project organisations of the infrastructure managers	2010	O
		IM SA	Completion of ERTMS installations and operations on Corridor A	2012 and 2015	S
11	Terminals	IM MoT	Adoption with stakeholders of action plan based study on quality of interface of terminals with railways	2007 and 2008	O
		IM	Terminal study on capacity, access conditions, equipment and connection to the corridor	2007 – 2010	O
		'MoT-IM	Setting up of corridor platform with aim to define corridor terminal action plan by 2009	2008/ 2009	O
12	Operational Rules	IM SA	Harmonisation of essential operational rules	2010	S
13	Railway noise	IM MoT	Overview of national approaches to cope with railway noise and proposals for objectives and cooperation at corridor level	2008 and 2009	O
14	Customs	MoT/ customs	Agreement on how to implement 1875/ 2006/ EC for rail freight transiting CH	2009	O

EXPLANATION OF ACTION POINTS

1. Digital coordination

Aim
Infrastructure managers will optimize their IT support of business processes in such a way that virtual coordination of infrastructure management on the corridor is possible with one face towards the customers, especially for the RUs focused on international rail freight traffic.

Explanation
IMs as well as RUs operate proprietary IT systems and tools that support their processes and meet the needs or their business. Standardization, interoperability and stringent business processes are needed to enable a virtual (digital) coordination of the international (cross border) rail freight traffic. To reach this goal, two options should be followed:

- Tools like Pathfinder (capacity), EICIS (price levels) and Europtirails (traffic management and performance), which have been jointly developed, by RNE and its members shall be served with data from the IMs systems. The applications shall be developed and enhanced to customize them to the utmost extent to the business needs of the IMs and the RUs
- The digital corridor coordination should be in conformity with the TSI TAF. A strategic European deployment plan (SEDP) has been drafted. The corridor can play a leading role in the implementation of the TSI TAF, though it cannot implement TSI TAF decoupled from the European developments in this field. Under UIC umbrella it is planned to develop the TSI TAF common components from 2008 onwards and to steer the overall implementation of the project.

Milestones
- Full use of Pathfinder, EICIS and Europtirails among the corridor IMs (2007)
- Implementation of additional functionalities and improvements (2008 – 2012)
- Presentation of an implementation plan on the corridor for the SEDP regarding TSI TAF by upgrading of IT tools (2007).
- Implementation of TAF TSI according to the SEDP. Enhance and monitor the European implementation and among the corridor partners (2008 – 2014)

2. Shortening response time for train paths requests

Aim
Enhancing and shortening of the time-to-market process for ad hoc path requests of the RUs.

Explanation
The One Stop Shops (OSS) initiated by RNE in every EU member state and Switzerland are the face to the customers. They support the RUs in ordering an international freight train path as they do not need to address the IMs of different countries in different languages. The OSS provides a spectrum of advising, coordination and sales services, before, during and after the train journey. More in particular the response times to ad hoc requests for international rail freight paths to the IMs must be shortened.

Milestones
- Set up and implement a measurement system for response time regarding international requests for train paths (2007)

- Ensure convenient response times (time to an ad hoc train path request in half of the time between the path request and the desired departure of the train) at a service level of 90% (2008 – 2012)

3. Monitoring traffic and performance

Aim
Ensure by traffic monitoring on the corridor that usage, quality and performance of train paths for international freight is on the highest level possible.

Explanation
IMs are responsible for constructing and offering train paths that are in line with the requests from the RUs. Three aspects are most important here:
- Quantity: are the IMs able to offer a sufficient number of train paths to the RUs?
- Quality: are the IMs able to offer sufficient quality (transit time, commercial speed) of train paths?
- Reliability: is the performance of trains on the allocated train paths in practice as expected?

To implement this action the IMs will develop clear performance indicators based on figures from the IMs as well as from RNE. In addition to that, the corridor will support the introduction of European Performance Regime (EPR). Where the legal priority rules for cases of congested infrastructure would form an obstacle in achieving the desired improvement the infrastructure managers will report this to the ministries.

Milestones
- Design of a corridor specific system of key performance indicators (management information system) by Infrastructure Managers with performance indicators (2008)
- Performance monitoring and improvement (2008 – 2012)

4. Improving punctuality

Aim
Improve punctuality on the corridor by setting the right commitment and incentives by the IMs and the RUs

Explanation
Punctuality improved on the corridor in the recent two years, but has not reached a stable and satisfactory level. An economic model, identifying responsibilities, rewarding punctuality and fining delays has recently been developed in cooperation between RNE and UIC. The Corridor A served several times as a test field for the project EPR. The IMs will support the full introduction of EPR on the Corridor Rotterdam – Genoa.
In addition to that, the IMs will consider the inauguration of Performance Managers. This is a new role within the organisation of the IMs. It is a role fully dedicated to quality, punctuality and traffic performance. These persons should cooperate and network across borders and IMs to fulfil their task.

Milestones
- Development of European Performance Regime including corridor aspects on the basis of punctuality measurements and broader shared analysis of causes of delay (2006)
- Pilot Phase European Performance Regime on Rotterdam – Genoa (2007 and 2008)
- Support the implementation of European Performance Regime on Rotterdam – Genoa (2008)

- Consider the introduction of Performance Managers (2008 and 2009)

5. Improvement international capacity allocation process

Aim
Improve transparency and efficiency of the capacity allocation process for the annual time-table and the short-term requests for train paths (art 20 - 22 plus 23 2001/14/EC)

Explanation
IMs develop a cooperation scheme for the allocation of capacity on the corridor. At present railway undertakings ensure their international paths in very different ways, e.g. via the OSS, via combined national procedures or via RNE. It total, this leads to a non-transparent and less efficient process for all players. The cooperation shall result in more coordinated and harmonised train path allocation process for all RUs / applicants.
The introduction of the concept of authorised applicants (e.g. ports, logistics service providers etc.) on the whole corridor could be another possibility to improve the international capacity allocation process. A feasibility study shall analyse this.
The allocation of international train paths shall be assessed by the regulatory bodies on a yearly basis.

Milestones
- Introduction of authorised applicants on cross border basis on the basis of a feasibility study (2007)
- Implementation of the improved new capacity allocation process by the IMs. As part of this the IMs will introduce and apply common deadlines in the allocation process (2006 – 2012)
- Introduce a corridor wide catalogue with harmonised continuous international freight train paths (2006 – 2012)
- Assessment by regulatory bodies of international cooperation of ministries and IMs regarding allocation of capacity for international freight trains on the corridor (2008 – 2012)

6. Integrated elimination of infrastructure bottlenecks

Aim
Improvement of international traffic by analysing the existing infrastructure bottlenecks on an integrated basis

Explanation
For the time span between 2005 and 2020 the traffic volume is expected to double on the corridor. This may lead to new bottlenecks and may worsen existing ones. From the corridors point of view an integrated analysis is strongly desired. It will clearly indicate where and when infrastructure should be enlarged and enhanced. All bottlenecks (and the projects removing them) have an impact on the capacity and the performance of the entire corridor.

Milestones
- Annual monitoring of developments of capacity and actual traffic flow (2006 – 2012)
- Planning for medium and long term for the corridor by the IMs (2006 – 2012)
- Annual analysis between Infrastructure Managers and Ministries to ensure the infrastructure bottlenecks are discussed at the right places (e.g. bilateral level between countries, EU-TEN-T financing, ERTMS corridor group) and take into account the corridor perspective (2006 - 2012)
- Research for production improvements with regard to train parameters (2008)

7. Mutual recognition of engine drivers

Aim
Mutual recognition of general qualifications of train drivers on the whole corridor

Explanation
Qualifications of train drivers have partly a general character (for example eye tests) and partly a specific national character (for example track knowledge). The general qualifications can be subject of cross border recognition. This is foreseen in the new EU directive that will be implemented around 2010. It is important to undertake action sooner for the corridor in order to prevent that trains must stop at borders to change drivers. The general qualifications fit for cross border recognition are: medical examination, psychological examination, language examination, examination and monitoring of knowledge of locomotive types, examination and monitoring of general professional knowledge.

Germany and the Netherlands have developed a model for cross border recognition on these issues. This model will also be implemented between Germany-Switzerland and Switzerland-Italy.

Milestones
- Implementation of cross border recognition of general qualifications of engine drivers on a bilateral basis (D-CH, CH-I) (2008 and 2009)
- Scaling up to a corridor wide implementation in line with the new EU directive for engine drivers (2008 – 2010)

8. Mutual recognition of locomotives

Aim
Mutual recognition of certification processes for locomotives on the whole corridor

Explanation
Certification of locomotives is a long and expensive process due to hundreds of items that must be checked and tested while there is no cross border recognition. The result is that locomotives must pass the whole expensive procedure in every country again. This is not at all necessary as can be seen in the automotive sector. First steps are already made for cooperation of authorization bodies regarding certification for new locomotives on the corridor. The next step will be to draw up an International Requirement List (IRL) specifying more in detail which requirement exists currently on the corridor per country. In 2006 this work was carried out. The IRL needs to be analyzed whether there are parts which are appropriate for mutual recognition. The work on this issue shall be closely coordinated with the ongoing EU work on principles of cross-border certification of locomotives. Another issue that will be treated is mutual recognition of maintenance facilities for locomotives. This will be increasingly important the more locomotives are internationally used.

Milestones
- Implementation of cross acceptance MoU 7th June 2007 and communication with railway market (2008)
- Extending cross-acceptance MoU with Belgium, France, Luxemburg, Sweden and Denmark and finalize migration agreement (2008 and 2009)
- Transition to European directive on cross/acceptance 2008-57-EC with roles for NSA's and ERA

9. Monitoring of market regulations

Aim
Ensure cooperation of regulatory bodies for issues of common interest on the corridor

Explanation
The regulatory bodies of the corridor have developed their cooperation for issues that are related to international freight transport on the corridor. Within this framework they will exchange information on their current work and work together on issues of mutual interest like access to services and capacity allocation process. RUs can address the cooperation of regulators for concerns that they may have.

Milestones
- The regulatory bodies will report at least yearly about the result of their cooperation: concept of congested infrastructure, IQ-C and RNE, Europtirails, EPR, EEIG (2006 – 2012)

10. ETCS implementation

Aim
Install ETCS on the corridor by 2012 (Rotterdam - Oberhausen and Mannheim - Genoa) respectively by 2015 (Oberhausen - Mannheim) to enable safe and interoperable international rail freight traffic to enhance modal shift from road to rail and support the future market demands and development of the European market.

Explanation
Due to different national technologies with regard to ATC systems, international rail freight traffic requires loco changes at the borders or expensive multi-equipment locos. Both options are workarounds, whereas ETCS tackles the problem by its cause by creating an interoperable and powerful European standard. Operating trains beyond ETCS will result in less stand-still times, enhanced reliability and partially in increases track capacity. In the long-term perspective (>20 years) ETCS will also contribute to a cost decrease in train operations and the maintenance of ATC systems, as soon as ERTMS will remain as the only ATP in use. The corridor A as one of the first freight corridors of major importance is pioneering the introduction and deployment of ERTMS in Europe.

Milestones
- Adoption of corridor implementation plan ERTMS by executive board (2008)
- Ministries, EU and IMs steer the implementation of the "project 2012" incl. budgets (2006 – 2012)
- Tendering of the project by the joint project organisations of the infrastructure managers (2010)
- Completion of Corridor A (2012 and 2015)

11. Terminal issues

Aim
Improve the interface between terminal operators and IMs

Explanation
Quality of the corridor is not only dependent on infrastructure but also on terminals and how they are handled. Information from the Netherlands shows that delay in terminal operations has a

dramatic impact on punctuality on the whole corridor. Better cooperation in the logistical chain can lead to great improvement of punctuality on the terminal level with positive effect for the whole corridor.
The terminals are mostly nationally organised and it remains to be seen what can be improved at corridor level and who should be addressed. Therefore as a first step it is envisaged with IMs and terminals operators along the corridor to do a benchmarking study to define common problems and common areas of improvement. The action is dependent on the cooperation of IMs and terminal operators.

Milestones

- Study on quality of interface of terminals and infrastructure managers, taking into account other parties in the logistical chain like railway undertakings and intermodal operators (2007 – 2008)
- Setting up terminal platform with aim to define corridor action plan terminals (2008 and 2009)
- Terminal study by IM on capacity, access conditions, equipment and connection to the corridor (2007 – 2010)

12. Operational Rules

Aim

Harmonise a number of operational rules among the corridor (or on the European level)

Explanation

The rules for the safe and efficient operation of railway services follow and meet the national requirements. Anyhow, for a RU performing multinational train services the variety of different national rules leads to a number of disadvantages, inefficiency and higher costs. The personnel needs to be trained to handle identical operational situations in different countries, locos and on-board equipment (e.g. safety and recovery devices) need to meet the national requirements. The aim of the group is to identify operational situation with a potential for the harmonisation among the corridor IMs or even on the European level (in cooperation with ERA).

Milestones

- Identification and analysis of operational situations to be harmonised, including a list of proposals for a harmonised solution. Escalation to ERA (TSI level) for a solution on European level and coordination with other corridors (2010)

13. Railway noise

Aim

Harmonised and coordinated national approaches to cope with railway noise and proposals for cooperation at corridor level

Explanation

It is the explicit goal of the EC and the ministries of transport to minimise the noise emissions caused by railways, especially by rail freight trains. To reach this goal, a number of measures is foreseen which effect RUs, IMs and the corridor programme as a whole: incentives to retrofit the rolling stock with wheels and brakes that lead to less noise emissions, total noise contingencies for certain network or corridor sections, noise mitigation works such as noise barriers along the trackside etc. For the corridor, a sound and coordinated concept is required to avoid island solutions.

Milestones

- Overview of national approaches to cope with railway noise and proposals for objectives and practical cooperation at corridor level (2008 and 2009)

14. Customs

Aim

Efficient and stable implementation of directive 1875/ 2006/ EC by 1 July 2009

Explanation

The directive amends regulation EEC 2454/ 93 laying down provision for the implementation EEC 2913/ 92 establishing the Community Customs Code. With regard to Switzerland as a non-EC country and its significant role as a transit country especially on the North-South axis (Corridor A) a proposal for the practical handling of day to day operations is required.

Milestones

- Agreement on how to implement 1875/ 2006/ EC for rail freight transiting CH (2009)

Corridor A

Rotterdam – Genoa

Programme Management Office

Rotterdam – Genoa Corridor A
Programme Management Office

ProRail DB RFI SBB CFF FFS bls

Co-financed by the European Union
Trans-European Transport Network (TEN-T)

Annual Progress Report
2008

Table of Content

0 Executive Summary

In 2008, Corridor A has done a major step forward, which succeeded in a considerable enhancement of the overall corridor management and the development of decisive strategic orientation for the corridor. Joint team spirit has strengthened the organisation towards a targeted corridor management, the WGs considerably improved their working efficiency after the difficult start in 2007, and considerable commitment and backing of the corridor activities could be achieved from the top management level of the IMs. Furthermore, the very positive working culture on the level of MC, ExB, EC, ERA and with UNIFE supported the common understanding and development of beneficial and creative solutions. The organisation of Corridor A is regularly represented in the corridor meetings hosted by the European ERTMS coordinator Karel Vinck.

0.1 Management Dashboard

Figure 1 displays the Management Dashboard of Corridor A. It shows the overall corridor development related the progress of the implementation (input KPIs, see figure 1) and the progress of performance (output KPIs, see figure 2).

Progress of the corridor implementation (input)

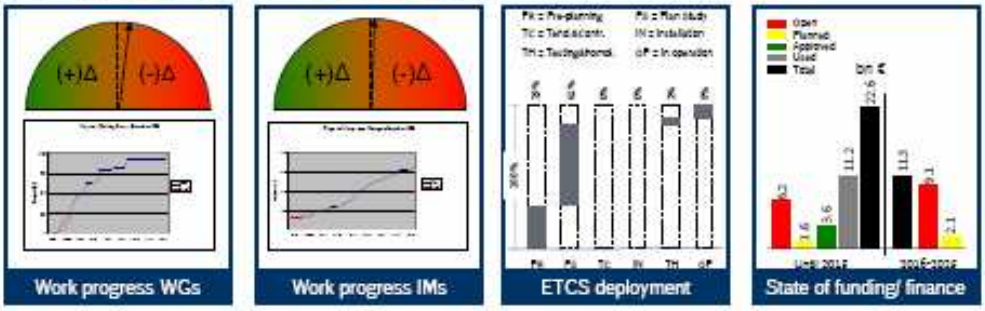


Figure 1: Management Dashboard 2008 (part 1)

The actual work progress of 25.8% across all six WGs has reached a quarter of the total work planned. Despite this remarkable result it is still about 16% behind the planned progress of 41.3%, mainly due to the backlog resulting from the delayed initiation of the works in 2007. Several not planned activities (analysis) have arisen, and other activities turned out to be more complex and time consuming than planned in the beginning. Despite the offset from initiation in 2007 the diagram shows, that the WGs have caught up and their performance is now about in line with the plan. Nevertheless, the baselines of some WGs need now to be updated to account for the actual workload and the effort respectively resources increased by the IMs in future.

The progress of the projects of the five IMs is developing well (20.4%) in accordance to the plan (23.1%), but started with a slight delay. Primarily, this delay is caused by additional effort in project initiation and technical issues of the cross border infrastructure project Zevenaar – Dutch/ German border – Emmerich. The implementation speed increased in average and could almost catch up with the plan. Regarding the deployment of ETCS, the agreement of the IMs to implement the common baseline 3 deployment concept was a major

step forward and the basic prerequisite to now initiate national ERTMS design studies, engineering and tendering. The funding situation across all planned projects remains critical as 6.2 bn € still have to be raised and planned until 2015 (another 9.1 bn € for 2016 – 2025).

Performance of corridor (output)

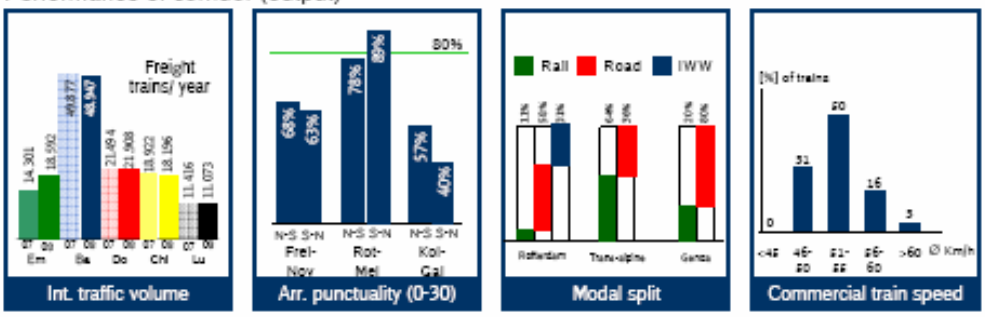


Figure 2: Management Dashboard 2008 (part 2)

The freight traffic on Corridor A from 2007 to 2008 has increased, whereas the arrival punctuality level remains stable. This means that in general the corridor traffic performance has slightly increased. Punctual arrival below a level of 80% remains to be not satisfactory. Regarding the modal split at three major locations on the corridor, rail is basically maintaining its shares, varying from 11 – 20% for the port traffic and remarkable 64% for the trans-alpine freight traffic. Competition with other modes of transport is fierce. The major extent (69%) of the freight trains is offered a time table which enables an average speed above 50 km/h.

0.2 Management Summary

In 2008, the corridor organisation could be finalised by the foundation and registration of the EEIG Corridor Rotterdam – Genoa EWIV as the last formal step. The corridor can now act as a legal entity, financially borne by its members and associates. The corridor organisation has been notified by the EC that it will be supported in a first tranche with TEN-T funding for the timeframe from 2007 to 2009 (1.13 m €). The ETCS projects in the Netherlands, Germany and Italy in total will receive TEN-T subsidies of 65 m €.

Based on the strategic decision of the CEOs of Corridor A from 18.06.08, a common concept for deploying ERTMS baseline 3 was developed and coordinated by the corridor organisation. The concept was finally approved by the CEOs of all five IMs of Corridor A in October/ November 2008. Besides this important landmark, a first draft for an ERTMS roll out plan for the corridor was developed. It will be refined and detailed in 2009. The WG ERTMS also worked on a common technical annex for ERTMS components, systems, projects and services, as well as a common cost structure for call for tenders. The WG Capacity conducted a detailed study about essential train parameters on the corridor including levers for quick wins when seeking for a harmonisation. The WG Traffic Quality made progress in harmonising the small international time table adjustments throughout the year which leads to considerable simplifications in planning the traffic. The terminal study of the Dutch MoT was accompanied and supported intensively by the WG Terminals and their own data collection.

With regard to the projects of the IMs, the technical study about ETCS and traction power systems in the Netherlands is of utmost importance to take the right decisions regarding the most beneficial implementation and deployment concept. The study applies to all ETCS and traction power projects in the Netherlands as well as the planning activities of the 3rd track between Zevenaar and Oberhausen. As such, also the German part of the project will benefit from the study as it will eliminate technical risks during the implementation phase. In Germany, DB Netz is still conducting a planning permission for the Emmerich – Oberhausen project. All other ETCS related planning activities are progressing on time, e.g. the tendering of the port line in Netherlands. The plan studies for the ETCS projects in Italy were completed on time. The major infrastructure projects – mainly tunnel works at the Katzenberg tunnel (Germany), Gotthard and Ceneri (both Switzerland) – are on time.

In total, the WGMs and the PIMs reported 15 risks, of which 6 had been closed. The risks are primarily rated of a low probability and impact (see annex B) for the corridor. One risk rated A1 (highest probability and impact) is still open and needs to be monitored carefully. It is about the CR 595 (braking curves for ETCS L1 LS mode) which still lacks of a solution (see chapter 2.2 for details). The current proposal jeopardises the performance and capacity of lines operated in ETCS L1 LS mode in Switzerland. As the corridor migration strategy in Switzerland and Germany is primarily based on L1 LS, Limited Supervision is indispensable for Switzerland and Germany. The entire ETCS migration on the corridor is put at risk. An ERA working party shall solve this problem by mid of 2009.

1 Activities on the corridor level

1.1 Work results in 2008

Work progress of WGs activities

The average work progress of all WGs is shown in figure 3. Across all six corridor WGs, the corridor faces an actual work progress of 25.8% on the corridor level. Subsequently a quarter of the overall works has already been completed although this value is 41.3% behind the plan. The work plans of the WGs were set up around beginning 2007. During the following initiation of the works, it turned out that some activities planned are more complex and need more time than usually intended (e.g. analysis of operations rules, identification and analysis of terminal facilities). Other activities, such as supporting the terminal study of the MoT (WG Terminals) or TAF TSI activities on the European level (WG TAF TSI) could not be known and planned in the beginning. Meanwhile, the overall progress of the WGs in 2008 has cached up and is now almost in line with the plan despite these problems and the backlog of delay from the past. In order to account for the backlog from the past, the baseline of the affected WGs has to be adjusted accordingly[1].

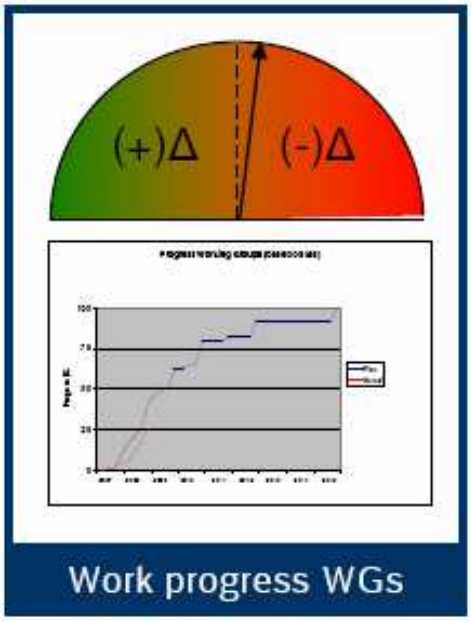


Figure 3: KPI work progress WGs

Definition: percentage [%] of the total work amount completed, based on completed project phases (IMs) or activities (WGs) of the baseline (earned value). The blue line displays the planned work progress whereas the red line shows the actual work progress. The speedometer indicates the trend of the delta between plan and actual.

[1] All changes will be documented and reported to the MC and the ExB.

Work progress of IMs project implementation

The average progress of project implementation is shown in figure 4. On a total level the projects of the IMs are slightly behind the schedule. The planned work progress is 23.1% whereas the actual work progress is 20.4%. This slight difference is due to the methodology of measuring the progress by only accounting completed project milestones. The speedometer shows that the average implementation speed of the projects in 2008 was almost in line with the plan (see figure 4). The major project milestones which should have been passed in 2008 are almost entirely related to the key project Zevenaar – Dutch/ German border – Emmerich. As reported quarterly, the Dutch side is analysing the technical details (impact, reciprocity) of ETCS and an AC traction power system (see chapter 3.1) which is time consuming. The German side faces an additional administrative burden, induced by the German EBA, as a planning permission ("Planfeststellungsverfahren") had to be carried out for this project (see chapter 3.2). All other projects of the IMs are ongoing and on time.

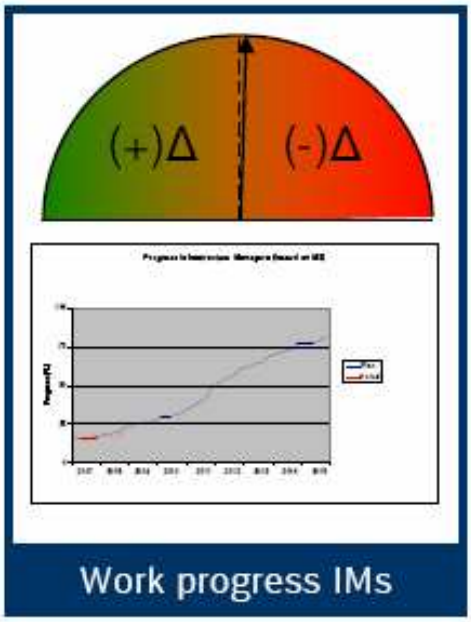


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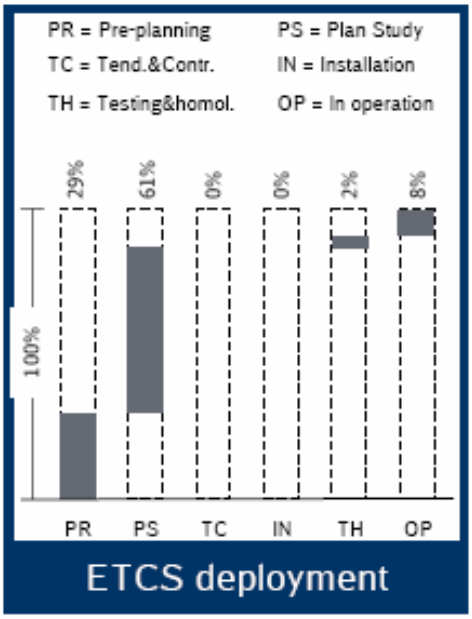
Figure 4: KPI Work progress IMs

ETCS deployment

Figure 5 shows the state of the ETCS deployment on the corridor as per 31.12.08. Over the entire Corridor A, more than 4.171 km (single track km)[2] have to be equipped with ETCS. As the picture clearly shows, the ETCS projects are to the utmost extent in an early planning phase. 8% of the total ETCS installations on Corridor A are already in operation (Betuwe line, HSL Mattstetten – Rothrist, LBT).



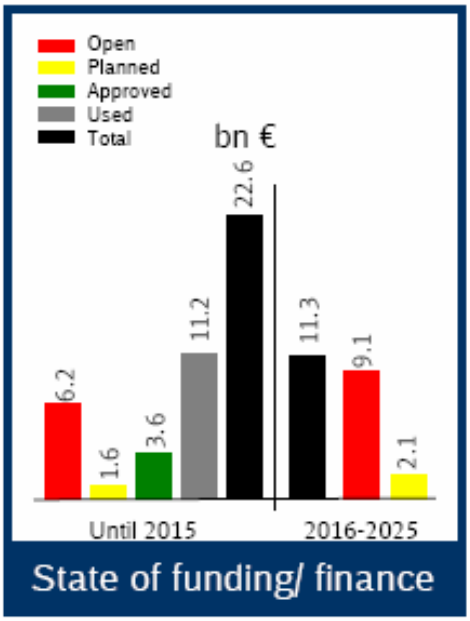
Definition: amount [%] of ETCS corridor single track length [km] which is currently either in the phase of pre-planning/ plan study/ tendered & contracting/ installation/ testing & homologation/ or in operation.

Figure 5: KPI ETCS deployment

[2] Including all regional parallel lines. Excluding the connection from the terminals to the corridor main line.

State of funding/ finance

The summary of the budget situation across all four countries can be seen in figure 6. It represents the financial status as per 31.12.08. Considering the short/ mid-term period until 2015, 1.6 bn € are planned whereas 3.6 bn € are approved. As per end of 2008 11.2 bn € had been invested in corridor related projects. This amount is mainly due to the Betuwe line in the Netherlands, the Lötschberg base tunnel in Switzerland (project of BLS) and the Gotthard base tunnel (project of SBB). To reach the tasks set in the corridor programme, solving the open funding questions is paramount (6.2 bn € for the timeframe until 2015; 9.1 bn € from 2016 to 2025).

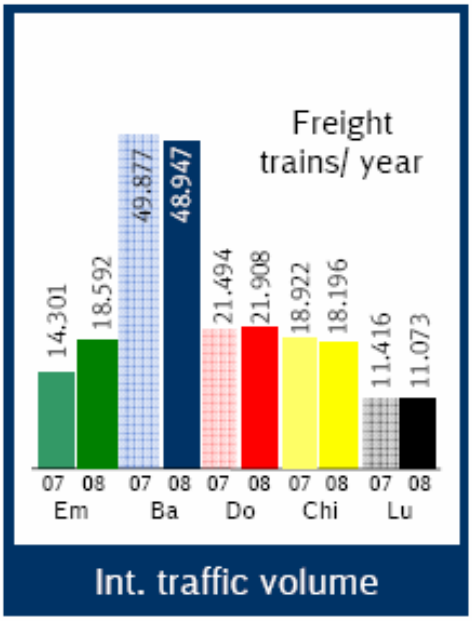


Definition: amount of planned/ approved/ open/ used budget [bn €] for all kinds of Corridor A projects (interoperability, bottlenecks, total service concept) as per 31.12.06 related to the total budget planned until 2015 respectively from 2016 to 2025.

Figure 6: KPI funding

International traffic volume

The international traffic volume on Corridor A is rising - comparing the 2008 figures with 2007 figures (see figure 7). However, the overall picture is heterogeneous: Emmerich faces a strong growth, whereas Domodossola shows a moderate growth. Basel, Chiasso and Luino even faced a decrease of international freight traffic volume. The picture shown here is also reflected by the economical growth figures in 2007 and 2008. A slow down on Corridor A could already be recognised in the 4th quarter of 2008. The figures measured by the WG Capacity (see chapter 2.5) underline this development in 2008. The global financial and economical crisis will result in less freight volume in the future and the competition between road, air, waterways and rail will become harder.



Definition: number of international freight trains crossing one (or more) of the border stations of Corridor A in both directions, regardless from origin or destination, per year. Border stations of Corridor A are: Zevenaar/ Emmerich (NL - DE); Basel (DE - CH); Domodossola (CH - IT); Chiasso (CH - IT) and Luino (CH - IT).

Figure 7: KPI international traffic volume

Arrival punctuality (0 – 30)

The arrival punctuality for freight trains on selected traffic relations can be seen in figure 8. In general, freight trains which arrive within 30 minutes with regard to their schedule are in average about 60%. The traffic relation Rotterdam – Melzo (and v.v.) shows a more satisfying picture, reaching (North-South direction) or even exceeding (South-North direction) the desired punctuality level of 80%. The Besides infrastructure reliability, punctuality of freight trains depends on many factors such as rolling stock reliability, availability of rolling stock staff, timetable constraints and overtakings, availability of terminals, weather conditions etc. In figure 8, all delays for what reason ever are taken into account for the measuring of punctuality. Please see chapter 2.3 for further details.

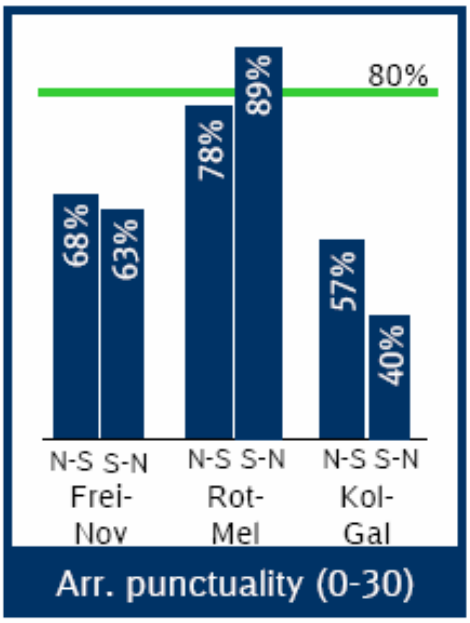


Figure 8: KPI punctuality

Definition: average punctuality level (arrival at destination within a 30 minutes time span) for selected relations of: Freiburg – Novara; Rotterdam – Melzo and Köln – Gallarate (all start/ end points of these transport relations are directly located on Corridor A). A level of 80% is the target.

Modal split

To measure the modal split[3] (figure 9) three decisive locations had been chosen on the corridor. The sea ports of Rotterdam and Genoa (based on TEU) as the start/ end points of Corridor A as well as the trans-alpine traffic (based on tons). In Rotterdam, rail has a share of the container specific Hinterland traffic of 11% in 2007. This value is remaining on an almost constant level in comparison to the recent years. 58% of the containers are transported by trucks. A considerable amount of 31% of the containers is transported via inland waterways underlining the competitiveness of this means of transport. The port of Genoa shows a modal split for the container traffic of 20% rail vs. 80% road. Regarding the modal split for land bound freight traffic crossing the Alps; rail has a considerable share of 64% vs. 36% of road. As these figures are only available with by mid of the following year, the effect of the completion of the LBT will only be known for the annual report 2009.

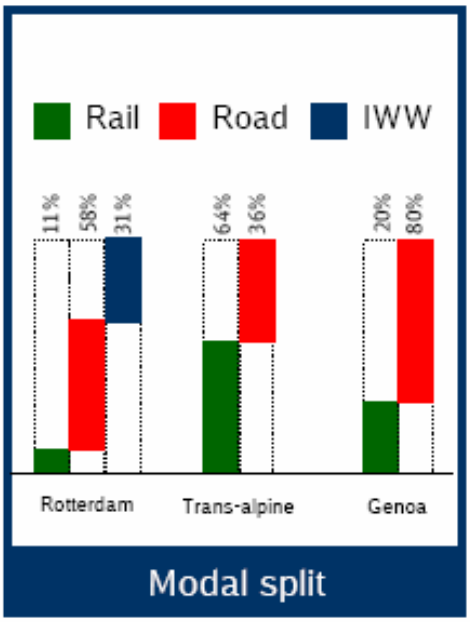


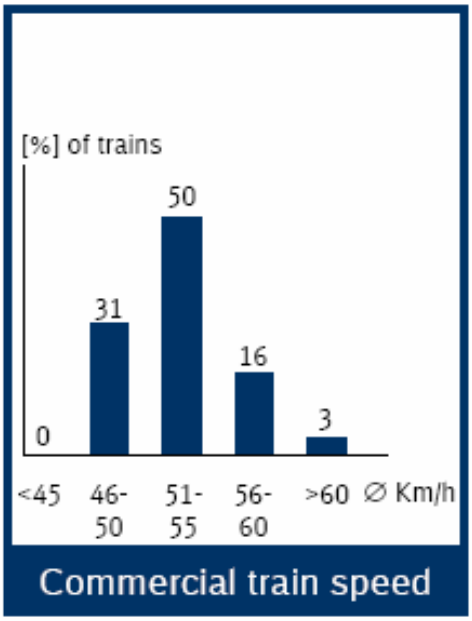
Figure 9: KPI Modal split

Definition: modal split [%] of freight traffic at sea port of Rotterdam, sea port of Genoa and trans-alpine. For Rotterdam and Genoa the modal split is calculated based on TEUs (containers) for the Hinterland traffic. For the trans-alpine freight traffic the basis is net tons. It is separated by rail, road and inland waterways (if applicable). Measured on an annual basis.

[3] The modal split shows the intermodal competition. The number of rail freight competitors indicate the amount of intramodal competition: NL: 10 (2007), DE: 149 (2008), CH: 11 (2008), IT: 10 (2007). These RUs are registered in the specific country and active on the entire rail network, not only on the lines of Corridor A.

Commercial train speed

The transport time is a very important factor with regard to the performance and competitiveness of rail bound freight services. The actual time table data show that 69% of the customers are given a train path with an average commercial transport speed of 50 km/h or more (figure 10). Even train path offers with more than 60 km/h in average are possible. Further it is noted, that in general, the fastest train runs are available at night time, which clearly indicates the direct dependency of rail freight transport quality from sufficient network capacity and impact by mixed traffic operation.



Definition: average speed [km/ h] of trains according to valid time table for selected relations: Freiburg - Novara; Rotterdam - Melzo and Köln - Gallarate (all start/ end points of these transport relations are directly located on Corridor A) in both directions. Measured based on annual time table and classified five different categories.

Figure 10: KPI train speed

Summary

Figure 11 sets the 2008 values of the KPIs above in the overall context and timeframe of the corridor programme. It displays last year's actual values (if available) and the target value at the end of the corridor programme.

KPI	2007 (Actual)	2008 (Actual)	2015 (Target)
Work progress WGs [%]	4	25.8	100
Work progress IMs [%]	17	20.4	81
ETCS deployment [%] PR/ PS/ TC/ IN/ TH/ OP	39/ 51/ 0/ 0/ 2/ 8	29/ 61/ 0/ 0/ 2/ 8	-/ -/ -/ -/ -/ 100
State of funding [bn €] Open/ Planned/ Approved/ Used	5.6/ 1.2/ 5.5/ 9.5	6.2/ 1.6/ 3.6/ 11.2	-/ -/ -/ 22.3
International traffic volume			---
Emmerich	14.301	18.592	
Basel	49.877	48.947	
Domo	21.494	21.908	
Chiasso	18.922	18.196	
Luino	11.416	11.073	
Arrival punctuality [%]			
Freiburg – Novara (N-S)	---	68	80
Freiburg – Novara (S-N)	---	63	80
Rotterdam – Melzo (N-S)	---	78	80
Rotterdam – Melzo (S-N)	---	89	80
Köln – Gallarate (N-S)	---	57	80
Köln – Gallarate (S-N)	---	40	80
Modal split rail [%]		---	3.5% growth for rail/ total corridor (2005-2020)[4]
Rotterdam port	11		
Trans alpine	64		
Genoa port	20		
Commercial train speed [%] of trains above average 50 km/h	---	69	See remark[5]

Figure 11: Development of the KPIs

PMO workshop

The PMO held a three day workshop in May 2008. It was titled "from programme management to corridor management" and was intended to analyse and create awareness for a broader view at the corridor target and development options, as well as team building. Besides the PMO full time staff and the PIMs a number of additional experts joined the workshop to partly support in specific topics. The topics set for the workshop were:

1. Define indicators for the development and the status of the corridor in an appropriate way and to find good ways to visualise these parameters
2. Collect and track ideas to get a broader, more business driven perspective on the corridor
3. Find parameters which influence the ETCS rolling stock migration concept (of our customers) in a positive way

[4] Corridor A Business Plan 2006 presentation, April 2007 (PMO), p. 17.

[5] A trend towards a desired average speed of 60 km/ h can be recognised from the client's side. On the other hand side, clients confirm that reliability (punctuality) is more important than transport speed.

The results of the workshop were presented to the MC members at the end of the meeting. The first item resulted in a follow-up workshop and finally in the KPIs and the dashboard which is presented and used in the underlying report. The outcome of item 2 and 3 resulted in a number of tasks which are developed and tracked by the corridor organisation since.

RU advisory board

For the overall development of the corridor, close exchange of information and expert knowledge is needed between the IMs and the RUs, in order to learn more about the specific constraints and requirements as well as timely to inform the RUs about the corridor implementation by the IMs. In particular this refers to the deployment of ERTMS, but also to all other topics of the corridor programme, and a close cooperation between Corridor A (joint project of IMs) and the RUs as our customers is needed to obtain best results on corridor implementation and the total transport chain. In order to organise this in a non discriminatory and manageable way, it was decided to set up an advisory board of RUs to the EEIG Corridor Rotterdam – Genoa (see figure 12). The advisory board consists of 10 members; two representatives from each corridor country selected by the ministries plus two representatives from the railway associations (CER and ERFA).

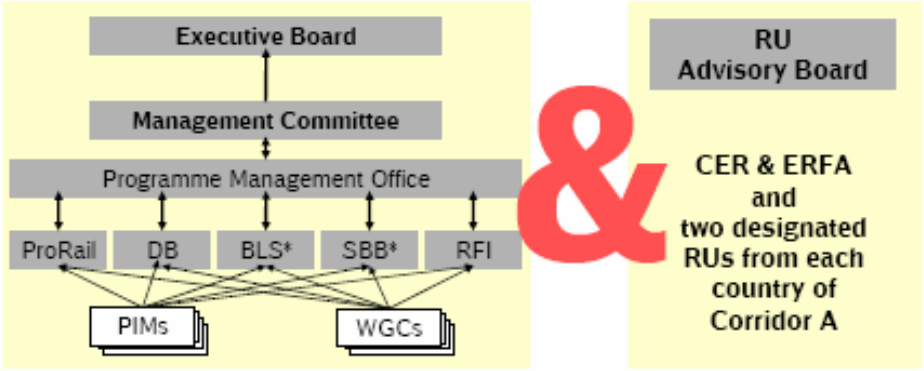


Figure 12: RU advisory board to the EEIG

The RU advisory board has no commercial directive power towards the EEIG respectively the IMs. The nominated bodies for the RU advisory board can be seen in figure 13.

RU/ Association	Country
CER	All
ERFA	All
Railion Nederland	The Netherlands
ERS	The Netherlands
Railion Deutschland	Germany
HGK	Germany
SBB Cargo	Switzerland
BLS Cargo	Switzerland
FS Trenitalia Cargo	Italy
Ferrovie Nord Cargo	Italy

Figure 13: Nominated bodies for the RU advisory board

Innotrans 2008

The EEIG as the corridor organisation took the opportunity to present the programme of Corridor A on the Innotrans fair in Berlin 2008. The Innotrans is held every two years and is the leading international fair for railway technology, components and traffic systems. Though being part of DB's overall fair representation stand, the corridor represented itself as a joint project of four countries and five IMs (see figure 14).

Figure 14: Corridor A Innotrans 2008 stand wall

Corridor A – represented by the EEIG – was the only ERTMS freight corridor which was present at the fair. The stand attracted high level representatives from the EC, managers from railway industry and interested customers (RUs). Intensive meetings and discussion have taken place with the relevant stakeholders of industry, RUs and politics. Also the general public was interested in the project, as many regular visitors of the fair had questions and asked for information material. The possibility for a presentation was used by Stefan Wendel to inform the visitors about the corridor, its background and the corridor programme respectively goals. The performance at the Innotrans was a good occasion for communicating the important corridor development and intentions to our major stakeholders from customers, politics and industry.

Communication concept

The PMO is preparing a communication concept on corridor level. Together with communication experts from all corridor IMs, two workshops were conducted to formulate the basic needs and structure for corridor communication. The preparation of a first proposal has been contracted to an external PR-consultancy. After approval by the IMs it will be the basis for all communication measures, e.g. an internet presence including a team workspace for corridor document management, handout brochures etc.

TEN-T funding

By end of 2008, the PMO received the official notification from the EU that its management activities will be subsidised for the timeframe between 2007 and 2009 from the TEN-T funds.

The corresponding TEN-T application had been submitted in July 2007. Throughout 2008, the PMO provided additional information (activities, milestones, means of verification etc.) about the project to the EC. Furthermore, the PMO was confirmed by the IMs, who are the beneficiaries, to act on their behalf as the coordinator for the administration of payments by the EU. The EEIG, as a legal entity and eligible for funding, will consider and submit a second application in 2009. A corresponding call for applications is about to be released in spring 2009.

1.2 Outlook for 2009

The corridor organisation is seeking for a completion and finalisation of the following activities in the course of 2009:

- Conclusion of a corridor MoU with UNIFE to support baseline 3 deployment
- Support common ETCS procurement by the preparation of a joint annex for tendering
- Achieve conclusion of first contracts for ERTMS implementation
- Preparation agreement with NSA on safety plan and homologation processes
- Preparation and submission of a second TEN-T funding application for the EEIG and for the ERTMS projects (subject to further considerations)
- Finalisation of plan study for Zevenaar – Zevenaar border - Emmerich
- Enhanced corridor management by close coordination with RU advisory board
- Coordination with other corridors to exchange best practices and support compatibility
- Finalisation of planning permission in Germany for Emmerich – Oberhausen section
- Revision of work plan from WG Traffic Quality and improve data assessment for quality analysis
- Commitment in European TAF TSI deployment/ development process
- Finalise corridor ETCS roll out concept
- Develop harmonised operational rules on different levels of ETCS
- Refine and complete corridor map with service points
- Prepare, coordinate and submit TEN-T funding applications for terminals

This list summarises some activities planned for 2009; more details can be found at the end of each WG or IM chapter.

1.3 Organisation

The corridor IMs succeeded this year in founding and registering the "*European Economic Interest Group Corridor Rotterdam – Genoa EWIV* (EEIG)" as the common legal entity for the successful implementation of the corridor programme. ProRail B.V., DB Netz AG and RFI S.p.A. are members of the EEIG. SBB Infrastruktur and BLS Infrastruktur have joined the EEIG as associated partners, because it is not possible for companies from non-EU member states – such as Switzerland – to join an EEIG as official members.

The EEIG is managed by Mrs. Claudia Cruciani from RFI as Managing Director Deputy, and Mr. Stefan Wendel from DB Netz as Managing Director Acting. The members of the General Assembly are Mr. Michel Ruesen (ProRail), Mr. Wolfgang Müller (DB Netz) and Mr. Umberto Foschi (RFI). The function of the chairman was given to Mr. Michel Ruesen. The associated partners are represented by Mr. Johann Haller (SBB Infrastruktur) and Kees van

Hoek (BLS Infrastruktur). The seat of the EEIG is Frankfurt/ Main (Germany). The overall corridor organisation including the EEIG is shown in figure 15.

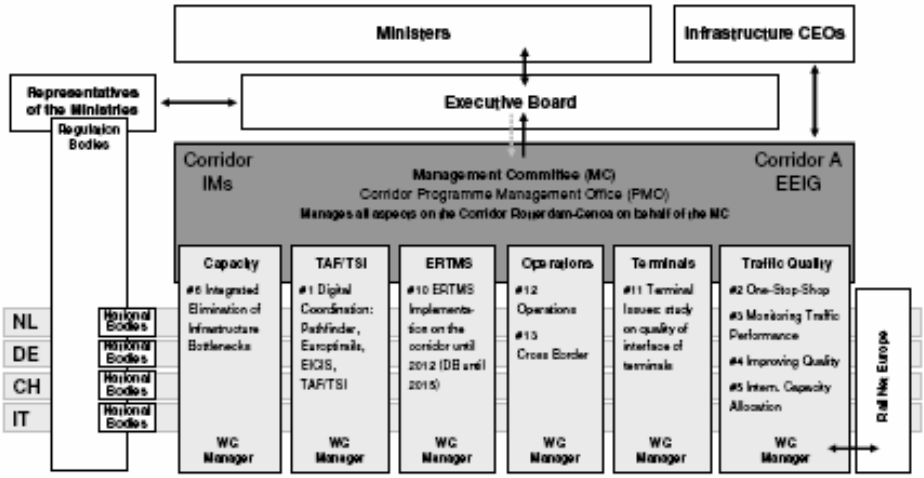


Figure 15: Corridor Organisation

The Programme Management Office (PMO) of the corridor including the EEIG consists of three full-time employees located in the corridor offices in Frankfurt. Five Programme Infrastructure Managers (PIMs) and five Working Group Managers (WGM) in joint responsibility for the corridor activities on national and on PMO level complete the working organisation. They establish the interface contact between national IMs, WGs and the PMO. Furthermore, several experts from the corridor IMs add their knowledge and their expertise to the WGs and expert WGs managed by the corridor, as well as to WGs established on European level at the ERA, UIC, ERTMS Users Group etc. In total, about 50 persons work at least part-time on tasks which are assigned to the corridor programme.

1.4 Monitoring & Reporting Methodology

The working methodology of the corridor organisation basically remained unchanged in 2008 except for minor adjustments according to the experience gained. For interested or new readers, detailed explanations can be found in annex C.

1.5 Release Notes & Contact Details

This report has been set up, reviewed and finalised in quarter IV/ 2008 by the working organisation of the Management Committee of Corridor A, the Programme Management Office (PMO). The legal body for the working organisation is the EEIG Corridor Rotterdam – Genoa EWIV. The general content was elaborated and integrated by the PMO management, whereas the detailed information in this report had been contributed respectively elaborated by the programme managers (PIMs) of ProRail (NL), DB Netz (DE), SBB & BLS (CH) and RFI (IT) thus being under the responsibility of the related IMs. For any questions or further details concerning the Corridor A programme please contact:

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2 Activities of the Working Groups

Until stated otherwise, e.g. by references or footnotes, the content of this chapter stems from the corresponding Working Group Managers who are leading these groups. For further information, please see also Annex C.

- TAF TSI (IQ-C Action Item #1): Laurens Berger
- ERTMS (IQ-C Action Item #10): Stefan Wendel
- Operations (IQ-C Action Item #12, #13): Antonio Garofalo
- Capacity (IQ-C Action Item #6): Heinz Pulfer
- Traffic Quality (IQ-C Action Items #2, #3, #4, #5): Hansruedi Kaeser
- Terminals (IQ-C Action Item #11): Thomas Schneider

A cross reference table mapping the IQ-C action items with the structure of the annual report can be found in figure 37 (annex).

2.1 TAF TSI (IQ-C Action Item #1)

2.1.1 Key Performance Indicators

Due Date of Reporting	30.12.08	**WG Result [%] Plan**	19	**WG Result [%] Actual**	11
Work Packages Total	3	**Work Packages Finished**	0	**Work Packages Pending**	3
Start	01.01.07				
End	31.12.15				

PSP	WP	Results and Milestones achieved
1.1	Requirement Gap Analysis	Preliminary gap analysis conducted
1.2	Monitoring of other TAF TSI activities	Survey on TAF TSI planning at IMs completed IM cluster (RNE) picked up work UIC CCG established Tendering of common components finalised
1.3	Development of value added services (Total Service Concept)	Work package to be started in 10/ 2009

2.1.2 Work Progress

2.1.2.1 Achievements

The following representatives are members of the WG TAF TSI: Laurens Berger (ProRail), Frits van der Meer (ProRail), Stephan Breu (DB Netz), Hans-Peter Pfister (SBB) and Andreas Exter (PMO). The group met twice in a plenary session in the first half of 2008. By the end of 2008, the overall actual work progress sums up to 11% versus 19% planned work progress. The baseline of the group will be adjusted according to the new role.

Requirement gap analysis (PSP 1.1) and monitoring of other TAF TSI activities (1.2)
At the beginning of 2008 a TAF TSI survey along the corridor – displaying the planning status (experts, resources, budgets etc.) at each IM – was conducted. It turned out that all IMs of Corridor A are aware of the issue, though they have not really started to work on it. They are aware of the developments on the European level (UIC, RNE) and are all involved in the process. Another outcome of the survey was that the specification available was assessed as being too weak and imprecise as a real working document. Summarising most of these points known, the WG TAF TSI did a preliminary analysis of the specification. The result of this work is a document listing all the weak points, missing and/ or unclear definitions or business cases. The document was provided to all members (IMs) of the WG.

By mid of 2008, the UIC launched a tender for the common components of the TAF TSI. This tender had been prepared and monitored by the CCG at UIC. The group has a dedicated mission and budget for the TAF TSI issue, especially to take care of the common components (communication, network, databases). Moreover, the so called IM cluster which gathers at RNE picked up work to analyse the specification of the TAF TSI in detail. The cluster is organised in 5 WGs:

- Common components
- Train running forecast (monitoring)
- Train preparation
- Train restriction database
- Short term path request

These groups analyse the TAF TSI documentation together with the RU cluster in a joint process. The approach by UIC and RNE is assessed as being solid. The WG TAF TSI is linked to this group, though the cooperation should become even more intense.

2.1.2.2 Risk management and chances

In the first quarter the WG TAF TSI reported a risk rated A2 (see Annex B) stating that TAF TSI can not be implemented without major developments on the European level. Many developments are therefore beyond the control of the corridor. It is obvious that the TAF TSI development on the corridor can not be decoupled from the rest of Europe and that a specialised TAF TSI solution for Corridor A would be impossible and counter productive.

2.1.2.3 Change request management

Facing this risk, the results of the above mentioned survey and the ongoing activities at UIC and RNE the group recognised that it is time to change their mission. From a more active role which was planned in the beginning, the group will now focus on accompanying, monitoring and committing to the TAF TSI development on the European level. The baseline of the group will be adjusted this way and proposed to the MC.

2.1.3 Outlook

The works at RNE will continue in 2009 and the corridor WG TAF TSI will make sure to be even more involved in this process. The CCG at UIC will monitor the development of the common components after the tendering is over and the order is granted. The development

of the commonly used communication software shall start in January 2009; the software rollout is currently scheduled for mid of 20106. Finally, in 2009 the WG will start with developing some approaches on how the TSI TAF – once operable – can contribute to the success of the corridor.

2.2 ERTMS (IQ-C Action Item #10)

2.2.1 Key Performance Indicators

Due Date of Reporting	30.12.08	**WG Result [%] Plan**	18	**WG Result [%] Actual**	14
Work Packages Total	4	**Work Packages Finished**	0	**Work Packages Pending**	4
Start	01.02.07				
End	30.12.11				

PSP	WP	Results and Milestones achieved
2.1	Coordination of ERTMS WG	Monitoring and networking between existing expert groups
2.2	Migration strategy	Draft baseline 3 deployment concept completed Final baseline 3 deployment concept completed
2.3.1	DMI data entry	Review of DMI specification (based on SRS 2.3.0d) completed
2.3.2	Braking curves	BC tests in DB simulator completed ERA control group final conclusion about the braking curves obtained
2.3.3	GSM-R coverage and roaming	Roaming agreement template available (NMG)
2.3.4	Interoperability	Preparation and agreement of test concept achieved
2.3.5	Data and configuration mgt.	---
2.3.6	Crypto key mgt./ Key mgt. systems	Drafting and approval of KMS contract between ProRail and SBB
2.4	Cross acceptance, homologation and cross tests	---
2.5	Implementation	Preparation of a draft ERTMS roll out plan for the corridor

2.2.2 Work Progress

2.2.2.1 Achievements

The regular members of the WG ERTMS have been Adri Verbraak (ProRail), Ulrich Hügli (SBB/ BLS), Alessandro Lippi (RFI) and Jürgen Haas (DB). Since end of 2007, Stefan Wendel takes care of the WG management. Since mid of 2008, Mr. Lippi was represented by

[6] UIC press release nr. 313, 17.12.08 (UIC), p.1.

Giovanni Zanelli (RFI). End of 2008, Miroslav Obrenovic joined the WG as a new member of DB Netz. For specific topics the WG is supported by further ETCS experts from the IMs, the UG ERTMS or other bodies. The WG meets on a monthly basis. The broad issue of ETCS is further covered by various internal and external expert groups, e.g. launched by the IMs (also on a bilateral level), the ERA, UIC Users Group etc. Consequently, the work results presented here are not necessarily produced exclusively by or for Corridor A. However, the WG ERTMS of Corridor A keeps track on all these activities. By the end of 2008, the overall actual work progress sums up to 14% versus 18% planned work progress. Activities, which are hinged on working results of the European level can only partly be influenced respectively planned from the perspective of the WG ERTMS of Corridor A. The activities which are purely under the control of the WG are on time.

Migration strategy (PSP 2.2)

On a meeting of the IM CEOs of Corridor A, held at Frankfurt on 18.06.08, the strategic decision was made to jointly deploy baseline 3 on the corridor. The national prerequisites for baseline 3 and its framework had to be reflected in a new corridor deployment strategy for all Corridor IMs. Working out this strategy in detail, analysing the technical, functional and operational impacts and listing the pros and cons was done with considerable input of the WG ERTMS. The development of this concept was a very good example for the will and the ability of the corridor IMs to cooperate and to act jointly. Figure 16 shows the timeline of the concept, displaying the essential steps towards baseline 3 specification (upper part) and corridor implementation (lower part).

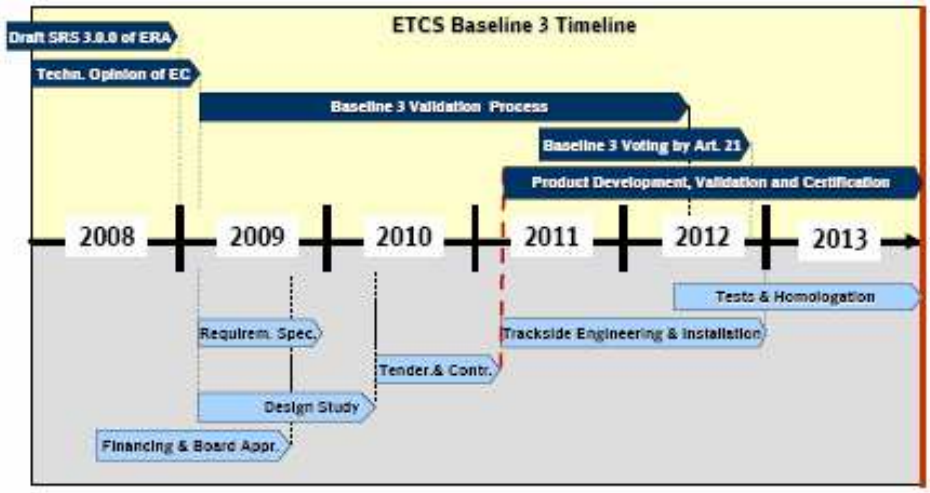

Figure 16: Proposal of a timeline for ETCS baseline 3

Despite the late availability of baseline 3, the general target date of the LOI of the ministers to complete ERTMS on Corridor A by 2015 will be met. The completion of the first corridor sections with ERTMS will probably have to be shifted from 2012 to 2013 due to the late voting of the SRS 3 baseline by the art. 21 commission. The baseline 3 deployment concept for Corridor A was officially requested and approved by the corridor CEOs. Formal acceptance by the ExB (ministries) and the EC will be the next step. The WG ERTMS for Corridor A will take care that the follow up of this concept will be in cooperation with the

endeavours of the baseline 3 planning group at ERA. Besides this, the corridor IMs intend to conclude a corridor MoU with UNIFE in order to facilitate also full support from the industry. Meanwhile, by end of 2008 ERA has published the first draft specification of SRS 3[7].

DMI data entry (PSP 2.3.1)

A WG at ERA finalised the review on the DMI specification by September 2008. In 2009 another review will be conducted to adjust the DMI to the specification of the SRS 3. According to the official remit of the group, the review was done based on 2.3.0d. The work scope of the group covers the ETCS display which is needed for retrofitting locos with ETCS. The group 612 of UIC is working on specifications and solutions for ETCS fully integrated in the driver's cockpit. A good compromise had been achieved in version 2 of the specification, reflecting the work of both groups. The document was acknowledged by the ERA control group and released in cw 49.

Braking curves (PSP 2.3.2)

The responsibility for document 97E881 (braking curves) was shifted to ERA in September 2006. The ERTMS Users Group is in charge to complete the document on behalf of ERA. The UIC WG B126.15 is the executing expert group developing the document 97E881. DB provided a simulator and carried out an intensive test programme on braking curve scenarios in March 2008. The tests were documented and ERA published a corresponding report in May, including recommendations. The document was closed in September 2008.

GSM-R coverage and roaming (PSP 2.3.3)

All Corridor A IMs (or railways) have already installed GSM-R network managers which gather in the network management group (NMG) at UIC. This group monitors and facilitates the GSM-R network managers to specify, design, implement and maintain international GSM-R services. The group has defined a number of deliverables which should be used either as standardised basic documents or as commonly agreed specifications. The roaming agreement template is a deliverable which is already available and frequently used for most roaming agreements. It contains all requirements and descriptions for GSM-R roaming. The existing roaming agreements on all border sections along Corridor A (Netherlands – Germany; Germany – Switzerland; Switzerland – Italy) are preliminary contracts which have the character of a project agreement. Most IMs intend to end these project agreements and to define GSM-R roaming more precisely in 2009. The template will serve as a kind of master document.

Interoperability (PSP 2.3.4)

Working on interoperability, the ERTMS Users Group has prepared and agreed a validation and test concept for ERTMS. This work primarily comprises the definition of relevant terms and a threefold approach towards interoperability by:

1. Validating the TSI CCS requirements against the operational requirements
2. Certifying the ERTMS onboard equipment against the TSI CCS requirements
3. Certifying the ERTMS trackside equipment against the TSI CCS requirements

[7] URL: http://www.era.europa.eu/core/ertms/Pages/FirstETCSSRS300.aspx

The test WG at ERTMS Users Group has also prepared a template for the interoperability tests which is in line with the format of UNISIG subset 076. The next step is to update the functional scenarios (03E055-0B) against SRS 2.3.0d and baseline 3.

Key Management Systems (PSP 2.3.6)
The expert group for key management systems met several times this year discussing various problems in the context of operational key management problems. It provided substantial input and ProRail decided to contract from SBB the utilisation of the Swiss key management tool. In general it remains a national issue how the key data will be managed.

Implementation (PSP 2.5)
Within the work package "implementation" the WG ERTMS started drafting an ERTMS roll out concept for the entire corridor. The basic engineering and implementation steps like pre-planning, specification, tendering, construction, lab-testing, integration tests and homologation will be encompassed in this concept. The WG ERTMS shall finalise the concept by mid 2009 in order to facilitate the basic coordination of all roll out activities on Corridor A. In addition it shall serve to account for the required ERTMS expert resources in time.

2.2.2.2 Risk management and chances

The WG ERTMS has reported a severe risk (rated A1) about safety margins in the braking curve model in quarter III/ 2008. The topic was brought into the WG ERTMS via SBB. A considerable change of the CR 595 about braking curve model, defined in the document 87E881, had been requested by SNCF just before the document was closed.

1. Introduction of separate safety margin parameter for track and rolling stock
2. Introduction of a safe speed in target speed monitoring

Both aspects would lead to a significant loss of track capacity in ETCS L1 LS mode as applied by SBB. DB Netz is currently planning huge line sections to be equipped with ETCS L1 LS and could also be affected by loss of track capacity. This modification in CR 595 might jeopardise the ETCS migration strategy on Corridor A as it is to large parts dependent on a high performing ETCS L1 LS. To solve this problem as soon as possible in a mutual way, a working party at ERA will be set up. The parameters will be discussed and redefined until June 2009. The group will start its work in January 2009.

2.2.2.3 Change request management

No basic changes to report. The baseline will be partly revised to account for the additional activities encountered until now.

2.2.3 Outlook

Among the first activities in 2009 will be the negotiation of a corridor MoU with UNIFE to support the corridor implementation with baseline 3. A draft document has been set up and agreed among the corridor IMs as part of the baseline 3 deployment concept. In parallel, the corridor will seek for the official acceptance of the baseline 3 concept by the ExB (ministries) and the EC. Besides that, the corridor and the WG ERTMS will coordinate closer with the

NSA WG for corridor homologation. Especially the entire process of cross acceptance tests and train – track integration, as well as standard interoperability test criteria for new locos will be on the agenda in close cooperation with the NSAs. In the next meeting of the NSAs and Corridor A joint responsibilities, processes and tasks will discuss in this context. Furthermore, the WG ERTMS will work on issues like a joint corridor cross border test concept and a common technical annex for the call for tenders of ERTMS implementation contracts.

2.3 Traffic Quality (IQ-C Action Items #2, #3, #4, #5)

2.3.1 Key Performance Indicators

Due Date of Reporting	31.12.08	**WG Result [%] Plan**	70	**WG Result [%] Actual**	54
Work Packages Total	4	**Work Packages Finished**	1	**Work Packages Pending**	3
Start	01.11.07				
End	30.11.09				

PSP	WP	Results and Milestones achieved
3.1	One Stop Shop	International path request (ad hoc) from customer can be answered in less than 5 working days if requested WP completed
3.2	Monitoring Traffic Performance	Geographical points and traffic defined Traffic monitoring Freiburg – Novara established Pilot completed for performance managers Geographical points and traffic defined
3.3	Improving Quality, Implementation of EPR	EPR dry run on Corridor A (Freiburg – Novara; Mannheim – Milan) completed
3.4	International Capacity Allocation, Implementation of Pathfinder	Catalogue paths 2009 published Timetable and planning procedures of the IMs harmonised Path Catalogue 2010 in preparation

2.3.2 Work Progress

2.3.2.1 Achievements

The WG Traffic Quality works in cooperation with RNE. Hansruedi Kaeser (SBB) functions as the manager of this group as well as a link between the activities of Corridor A and essential services performed by RNE. Within RNE Hansruedi Kaeser has the position of the corridor manager at RNE for this essential North-South freight axis[8]. He works together with a team of experts:

[8] The corridor definition from RNE differs slightly from the usual geographical definition of Corridor A. RNE defines this corridor from Antwerp and Rotterdam to Milan and Genoa.

- OSS: Esther Romijn (Keyrail), Marlies de Groot (Keyrail), Arthur Alderliesten (ProRail), Harald Heusner (DB Netz), Rudolf Achermann (SBB/ BLS) and Simona Garbuglia (RFI)
- Time Table: Rik Poulus (Keyrail), Henk Sack (ProRail), Klaus Kaiser (DB Netz), Beat Affolter (BLS), Peter Bigler (SBB) and Gian-Piero Gagliardi (RFI)
- Quality and Operations: Marlies de Groor (Keyrail) Frits van der Meer (Prorail), Siegfried Nierichlo (DB Netz), Daniel Gerhard (BLS), Rudolf Achermann (SBB), Riccardo Ioncoli (RFI)

The WP OSS could be completed in 2008. By the end of 2008, the overall actual work progress sums up to 54% versus 70% planned work progress. The implementation of the interfaces from Pathfinder to the proprietary systems for freight traffic is progressing much slower than planned. As a temporary workaround the system COBRA will be used (see also international capacity allocation).

One Stop Shop (PSP 3.1)

With regard to the first work package a significant milestone could be passed in 2007. An ad hoc train path request can now be answered in less than 5 working days – if the client is in need of such a short-term answer. This is in line with the needs of the market. It was agreed to reset the corresponding target defined in the IQ-C action plan[9] to a service level of 90% responses in half of the time between order entry and first day of train run, not more than 20 working days. This improvement is due an improved process flow and a higher sensibility for customer needs. This flexibility and level of service had been kept upright throughout this year. As announced last year[10], RNE conducted an OSS customer survey[11] in 2008. The results reflect an overall satisfied perception of the RNE OSS services (see figure 17).

[9] A review became necessary and was done between April and June 2008.
[10] Corridor A annual report 2007 (PMO), p.11.
[11] Survey was done among RNE customers, 19 replied. A separation of the results corridor by corridor is not possible.

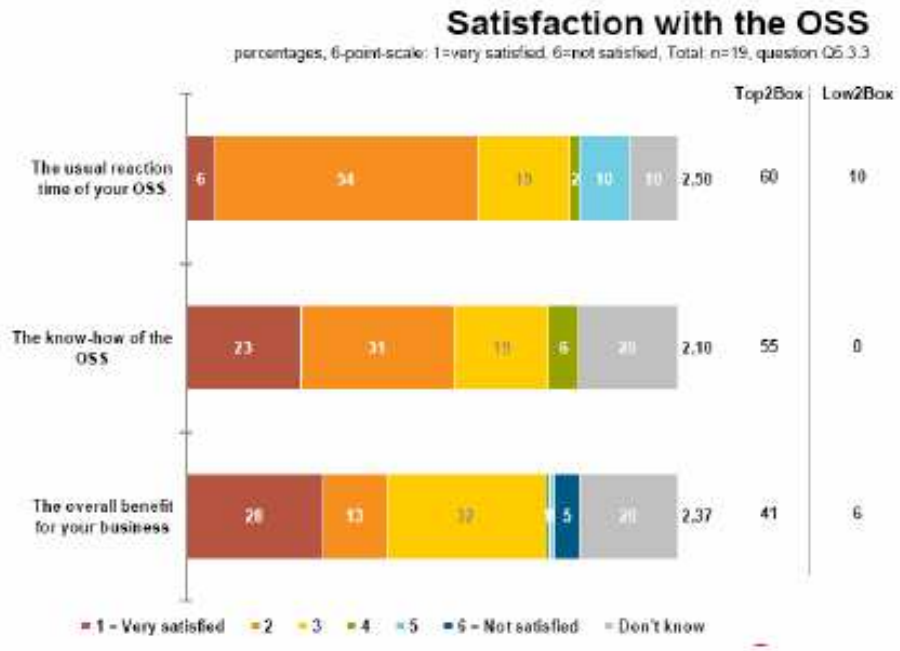

Figure 17: OSS customer satisfaction

Monitoring Traffic Performance (PSP 3.2)

Monitoring the traffic performance is a permanent task. RNE proposes to have so called European performance managers installed at each IM. These persons shall network and meet on a regular basis to analyse quality problems and to submit adequate proposals for improvements. A highly frequented relation on Corridor A mostly used for rolling highway traffic ("Rollende Landstraße") between Freiburg – Novara (and v.v.) served as a pioneer for this new function.

The punctuality of the rolling highway traffic has to be improved as it remains on a medium level. In average throughout the year 68% arrival punctuality was reached for the North - South direction; 63% for the South - North direction. Measures like improvement of the availability of the drivers coaches ("Begleitwagen"), increase of speed over switches in deviation in Italy and traffic regulation in peak hours are in discussion. Figures 18 and 19 indicate the situation throughout the year 2008.

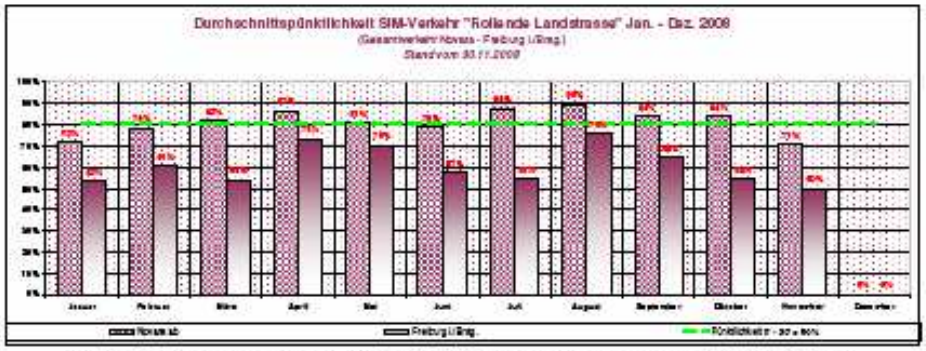

Figure 18: Average punctuality for rolling highway in North – South direction

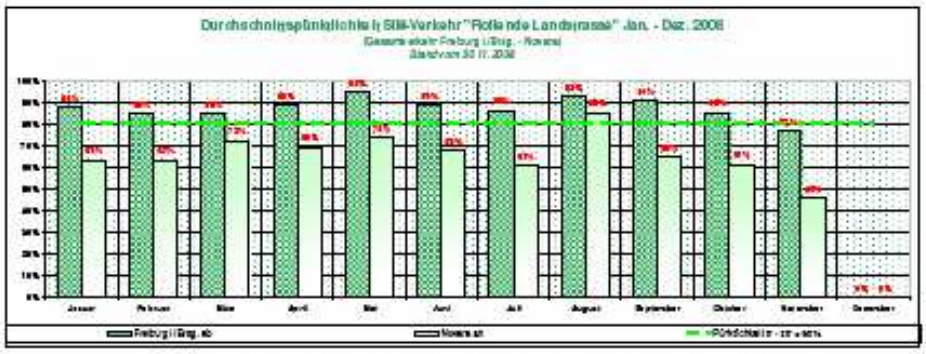

Figure 19: punctuality for rolling highway in South - North direction

European Performance Regime (PSP 3.3)

EPR is a project which is basically driven by the UIC in cooperation with European IMs. The start of the project was in 2004. The philosophy of EPR is to provide a financial incentive for quality improvements and not to give a full monetary compensation for the disturbance caused by a certain delay[12]. The actual traffic performance of each train is monitored, whereas the causes for a delay are identified and recorded based on UIC leaflet 450-2. In case of a delay, the originator is charged with a malus, whereas an on-time arrival is rewarded with a bonus. Based on a reference model, a malus (bonus) means a payment into (from) a common fund. Many reference models had been discussed and tested in so called dry runs in the past. The latest version was approved by the EPR advisory group in November 2008. Corridor A, in particular freight trains on the relation Mannheim – Milan, was used for a dry run of EPR in 2008. In total, 7 test runs comprising 974 freight trains where performed in 2008[13]. The IT system EOPT - hosted by RNE – delivers and computes the data for EPR. For the entire implementation of the EPR in the near future, it is essential for the IMs to connect the national system to EOPT and harmonise the data provision (timetable, train numbers etc.). All five corridor IMs have announced their interest to become an early

[12] UIC press release nr. 126, 15.12.08 (UIC), p.9.
[13] UIC press release nr. 126, 15.12.08 (UIC), p.8.

implementer for EPR. In 2009 the practical implementation principles will bet set to enable advanced dry runs in 2010[14].

International Capacity Allocation (PSP 3.4)

To enhance and to simplify the allocation of international train path capacity is the central target of this WP. RNE developed a number of pre-constructed train paths for certain sections of corridors in 2008. These catalogue paths for 2009 have been published and are available on the website of RNE[15]. Moreover, by harmonising the points in time for intermediate adjustments of the actual time table, the amount of intermediate adjustment could be reduced to 5 harmonised deadlines instead of a number of not harmonized deadlines (see figure 20). This leads to a higher reliability in planning and allocating international train paths.

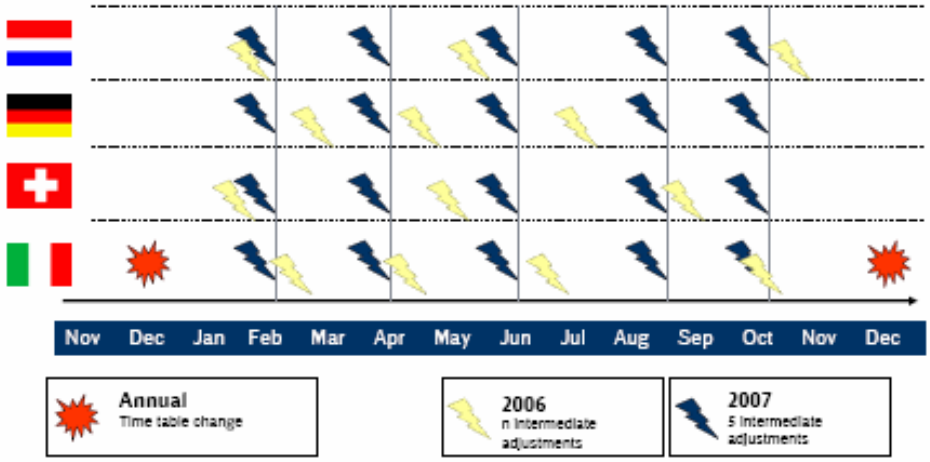

Figure 20: Harmonisation of annual time table process

The interface from Pathfinder to national planning systems is in preparation. For instance, SBB is about to implement a new IT system called "NeTS". The application has to be tested properly before it can go live. Therefore, the interface to Pathfinder is currently planned for 2012. Also other IMs currently lack the interface between the proprietary IT system for time table and train path processes and Pathfinder. As a temporary workaround the Excel based application "COBRA" (coordinated border adjustments) will help to coordinate the cross border planning with a reduced effort. COBRA is by no means a system competing with Pathfinder but a helpful intermediate solution.

2.3.2.2 Risk management and chances

The WG Traffic Quality reported mainly technical risks (rated C3) in context of the EOPT application. EOPT is vital for international traffic management and monitoring as well as a

[14] UIC EPR progress report, March 2009 (UIC), p.2.
[15] URL: http://www.rne.at/cont/products_preconstructed.aspx

source of data for the EPR. Main problems are the connection of the central tool (data base) to the proprietary systems of the IMs. The item had been escalated to the Management Board of UIC via the EPR test run and of course to the Managing Board of RNE. Moreover the monitoring module is not available in a sufficient quality. This problem was especially addressed to the project leader at RNE.

2.3.2.3 Change request management

No changes to report.

2.3.3 Outlook

In 2009, one of the major endeavours will be to improve the system EOPT further to provide a stable, reliable and performing basis for the implementation of the EPR system. Furthermore, the pilots of the performance managers (Köln – Gallarate/ Busto and Rotterdam – Melzo/ Novara) will be launched and results will be analysed in detail. According to the baseline which is currently still valid, the WG Traffic Quality should end and complete its activities for Corridor A by end of 2009, presuming that the targets sets in the IQ-C action plan are successfully completed by then.

2.4 Operations (IQ-C Action Items #12, #13)

2.4.1 Key Performance Indicators

Due Date of Reporting	31.12.08	**WG Result [%] Plan**	9	**WG Result [%] Actual**	2
Work Packages Total	3	**Work Packages Finished**	0	**Work Packages Pending**	3
Start	01.01.07				
End	31.12.10				

PSP	WP	Results and Milestones achieved
4.1	Operational Rules	Analysis of existing documentation completed First set of decision transformed in operational rules Identification of sensitive situations not ETCS
4.2	Training of Personnel	Work package to be started in 01/ 2009
4.3	General Tasks	Scope of the work (adoption of the agreed methodology) defined

2.4.2 Work Progress

2.4.2.1 Achievements

The WG Operations focuses on operational rules for normal and degraded mode plus the harmonisation of non-ERTMS rules and GSM-R operational rules. This WG consists of the following members: Hermann Tijsma (ProRail), Rainer Meffert (DB Netz), Erich Fluck (SBB) and Antonio Garofalo (RFI) who manages the activities of the group. By the end of 2008, the overall actual work progress sums up to 2% versus 9% planned work progress. This delay is due to the following reasons:

- Complexity of topics higher than initially planned
- Some operational rules had to be discussed and revised again with the ProRail expert which had been nominated after the start of the WG
- Non availability of ETCS L1 LS specification

Operational Rules (PSP 4.1)
The main activities being carried out in 2008 are directly rooted in the WP Operational Rules. The analysis of collected documentation had been completed and the sensitive situations which are not related to ERTMS/ ETCS had been identified. For each identified situation a "Decision Card" has been prepared. Each decision card consists of several sections with:

- Reference of existing documentation
- Description of the issue
- Current rules applicable to the situation for each involved network (ProRail, DB, SBB, RFI)
- Explanations related to the issue
- Decision of WG

National rules have been analysed to highlight differences and similarities. The comparison of the rules and resulting proposals are summarized in the section "Decision of WG".

Training of Personnel (PSP 4.2)
According to the baseline of the WG Operations, the WP Training of Personnel had to start in October 2008. Due to prolongation of activities of other WPs, this WP is about to start in January 2009.

General Tasks (PSP 4.3)
The WP General Tasks contains some revolving and permanent activities, basically communication, information and reporting measures. The scope of work has been defined to the extent of 80%. The remaining part will consist in refining and updating the methodology on the basis of the feedbacks of the activities carried out so far. Moreover, the need to improve the coordination between different corridors will be taken into account (please see also the following paragraph).

2.4.2.2 Risk management and chances

The WG Operations reports four risks. Due to personal fluctuations within ProRail, the appointment of the Dutch representative could not happen before the beginning of 2008. Because of this the WG had to review already worked documents to check and include ProRail contribution. Unfortunately, at the end of 2008 ProRail had to reconsider the further participation of its representative (risk rated C3). However, this risk could be closed in the meantime.

Secondly, the SRS 3 were not yet available (rated B2) until the end of 2008. Consequently, the WG Operations could not pick up works to analyse the underlying operational rules mainly regarding ETCS L1 LS. As mentioned above, the partly explains the delay of the WG.

Thirdly, the WG Operations is in need of coordination between the different corridors to avoid corridor specific solutions that differ from the rest of the network respectively from other corridors (risk rated C1). For this reason WG Operations suggests to have coordinated solutions at TSI level. A first list of scenarios and solutions had been sent to ERA. This list should be updated in order to keep ERA informed about operational needs of corridor activities. The WG takes note that ERA has established a Working Party "Operational Harmonisation of ERTMS" dealing with issues that can be referred to the need of coordination between corridors. Involved bodies are national safety authorities and railway sector organizations (CER, EIM, etc.).

Furthermore, at a certain level the involvement of national safety authorities will be needed. Contacts with NSAs of Switzerland and Germany have been taken. After establishment of ERA working party about operational harmonisation of ERTMS it should be decided if the involvement of NSAs has to be formalised or not.

As a chance, there may be the need to update the scope of works (rated C3). Feedback showed that the approach adopted until now (rule based) could be amended in order to allow a better comparison between different national rules adopted for the same operational situations (process based). According to this "process based approach" the WG will investigate the potential for harmonisation:

- **Simple harmonisation by using existing rules:** the analysis carried out until now showed that a relatively very low number of issues are easy to harmonize where existing rules in the countries concerned are already the same or they are only different in details. The WG recommends starting the harmonisation process.
- **Possible harmonisation by adapting existing rules:** for other items a harmonisation is possible by adapting the existing rules in the countries involved. The WG also recommends starting the harmonisation process.
- **Possible harmonisation by introducing new rules:** a relatively high number of issues are not suitable for a harmonisation by using or adapting existing rules. The differences in the technology or safety philosophy are too large to be bridged via the "rule based approach". For these issues the WG will recommend to start up a process of harmonisation on a "process based approach". It is an approach in which new rules are developed in relation with the operational processes that occur.
- **Specifications not yet available:** for certain cases the analysis has to be postponed until the required information is available.

2.4.2.3 Change request management

No changes to report.

2.4.3 Outlook

In 2009 the group will continue in developing needed rules for different levels of application of ETCS, for normal and degraded mode. Particular attention will be given to rules to be applied at cross borders. The harmonisation of operational rules not related to ETCS is another important item. The WP Training of Personnel is about to start with the analysis of TSI CR OPE requirements for driver rule book in January 2009. The WP General Tasks in

2009 will mainly cope with the methodology of the WG, keeping it updated and taking in to account feedbacks from other Groups or Institutions (other WGs of Corridor A – other Corridors – ERA).

2.5 Capacity (IQ-C Action Item #6)

2.5.1 Key Performance Indicators

Due Date of Reporting	31.12.08	**WG Result [%] Plan**	61	**WG Result [%] Actual**	50
Work Packages Total	5	**Work Packages Finished**	2	**Work Packages Pending**	3
Start	01.10.07				
End	31.12.10				

PSP	WP	Results and Milestones achieved
5.1	Common bases	Existing bases confirmed Refinements agreed Work package completed
5.2	Capacity analysis 2008	Work package completed
5.3	Capacity analysis 2009	Traffic measurement (23.10.08) completed Parameters defined (corridor map and table) completed Development of demand at border points completed Capacity planning: supra-national methodology, saturation presentations elaborated Major capacity projects: national updates for scenarios S, P and review & development completed
5.4	Capacity analysis 2010	Work package to be started in 10/ 2009
5.5	Capacity analysis 2011	Work package to be started in 10/ 2010

2.5.2 Work Progress

2.5.2.1 Achievements

This group under the lead of Heinz Pulfer (SBB) met six times throughout 2008. Its members are: Hugo vandenBerg (ProRail), Dr. Albrecht Hinzen (DB Netz), Daniel Gerhard (BLS) and Patrizia Cicini (RFI). By the end of 2008, the overall actual work progress sums up to 50% versus 61% planned work progress. The capacity analysis for 2009 is ongoing and the reason for the delay of the WG. It will be completed in the first quarter of 2009. Two of the WP could be completed so far.

To measure the actual traffic on Corridor A, Thursday 23.10.08 was defined, around a month later than usual (last Thursday of September). Around end of September important engineering works between Zevenaar and Emmerich led to temporarily traffic deviations which would have created a distorted picture. The traffic volume on Corridor A increased in 2008. Since autumn the pace became less steep (approximately +3% until summer; +1% since autumn). Figure 21 shows the figures for 23.10.08, section by section for southbound freight trains travelling the corridor.

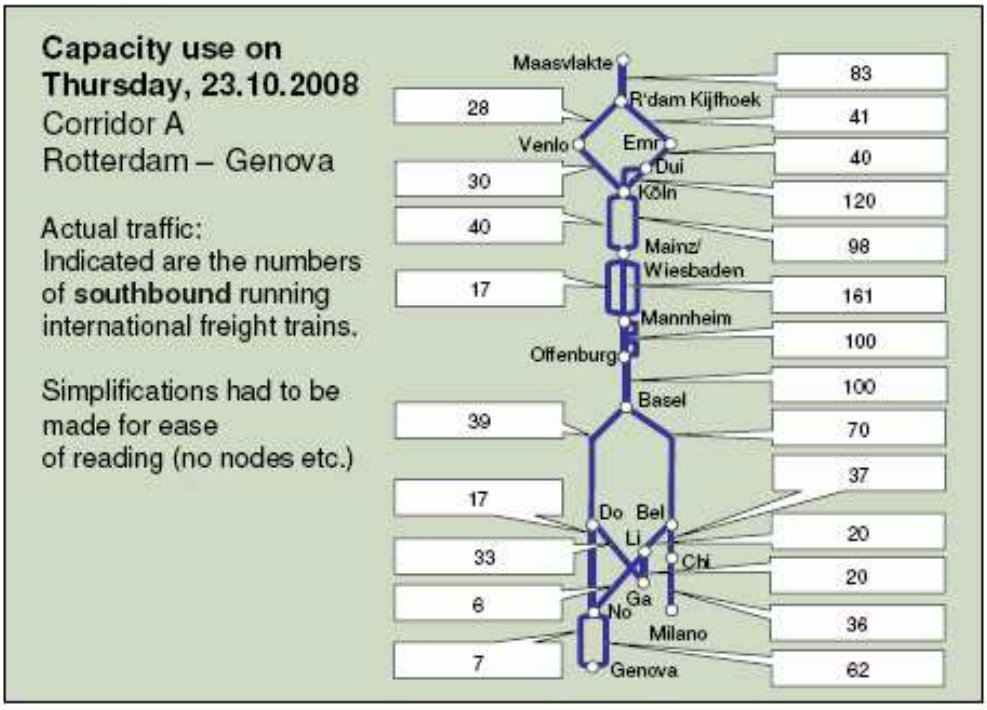

Figure 21: Corridor A traffic measurement 2008

For the first time the five critical corridor parameters (train length, train weight, axle load, speed, and clearance gauge) were analysed and presented as a map (figure 22) and a table (figure 23). The results shows in parts a heterogeneous picture for Corridor A. Standardising or harmonising these parameters is quite complex and requires expensive infrastructure measures. Therefore, the WG identified some quick-wins. They focus to increase the train length (up to 750m) on the southern part of the Corridor.

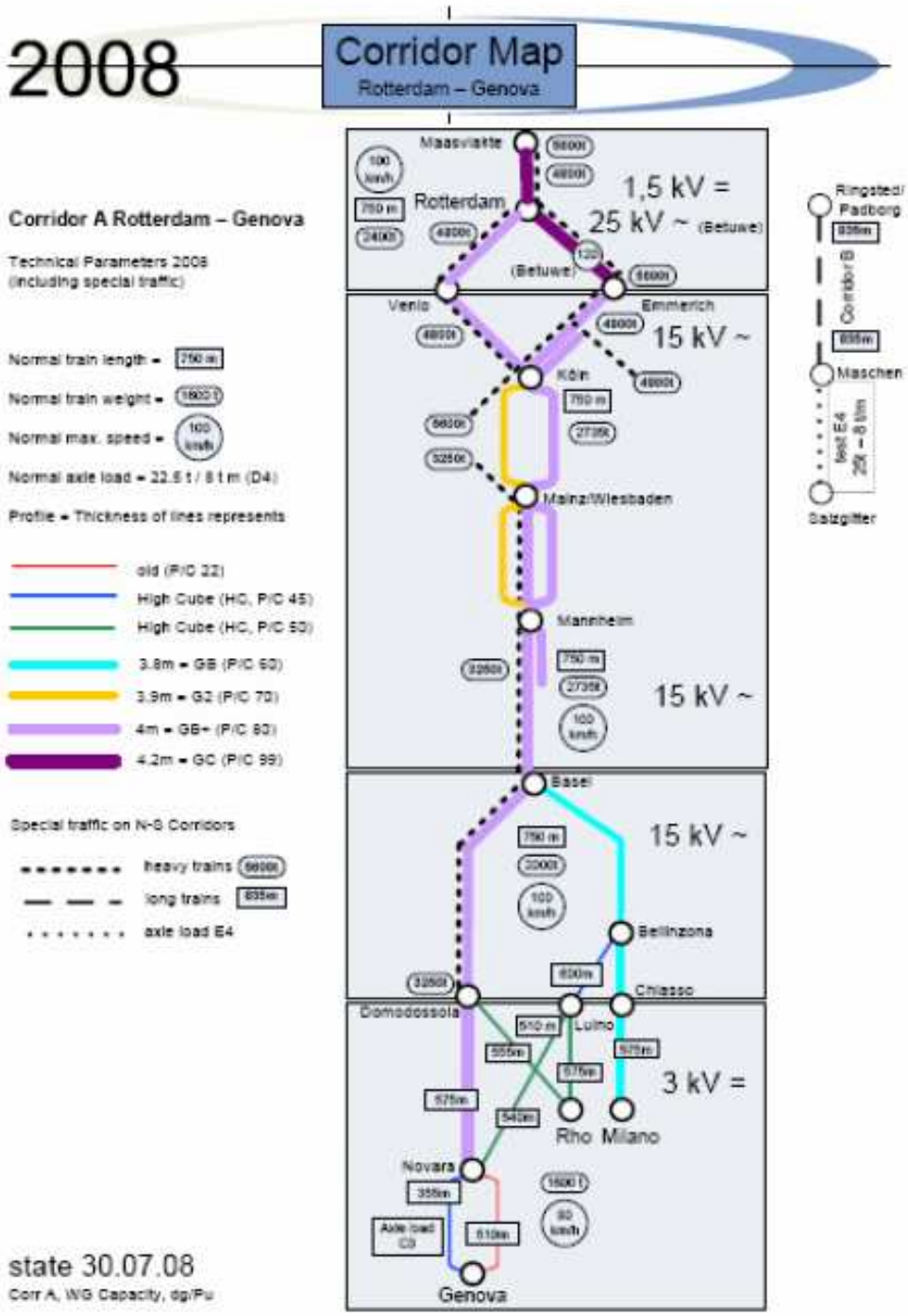

Figure 22: Technical parameters on Corridor A (map)

Corridor Table - Technical Parameters as-is (2008) and to-be

Corridor A - WG Capacity

State 28.01.2009

Country	NL			DE								CH			IT							Remarks
Infrastructure Manager	ProRail			DB Netz								SBB/BLS			RFI							
Line section / Technical Caracteristics	Harbourline (Maasvlakte - Kijfhoek)	Rotterdam (Kijfhoek) - Venlo	Rotterdam (Kijfhoek) - Emmerich	Venlo - Köln	Emmerich - Duisburg	Duisburg - Köln	Köln - Mainz	Köln - Wiesbaden	Mainz - Worms - Mannheim	Wiesbaden - Mannheim	Mannheim - Basel	Basel-Brugg-Bellinzona Chiasso	Bellinzona - Luino	Basel - Bern - Domodossola	Domodossola - Novara	Domodossola - Rho	Novara - Arquata - Genova	Novara - Ovada - Genova	Luino - Novara	Luino - Rho	Chiasso - Milano	
Train Lenght (incl. traction) 355 m																		R				
510 m																	R		R			
555 m																R						
575 m															R					R	R	
600 m													R						P			Luino-Rho 2010
750 m	R	R	R	R	R	R	R	R	R	R	R	R	P	R					P	P		750 m Luino to be studied (2017)
835 m																						(Corridor B, Padborg-Maschen)
1000 m	P		P		P																	Kijfhoek - Zevenaar - Duisburg
1500 m																						
Train Weight (max. in tons) 1600 t															R	R	R	R	R	R	R	
2000 t												R	R	R								
2400 t	R	R	R																			
2735 t				R	R	R	R	R	R	R	R											
3000 t																						
3250 t								S	S	S	S			S								
4800 t	S	S	S	S	S																	play trains Koblenz-Domo
5600 t	S		S		S	S	S															coal trains Rotterdam-Ruhr (550m)
Load Axis/Meter (tons/axis per m) C 3																						ore trains Rotterdam-Dillingen
D 4	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		R	R	R	20 t / 7.2 t/m
D 5																						22.5 t / 8.0 t/m
E 4	P		P		P						P	P										22.5 t / 8.8 t/m
E 5																						25 t / 9.0t/m, Em-Oh 2013 + Kartor-Bs
.....																						25 t / 9.8 t/m
Train Speed 80 km/h	R																					
90 km/h															R		R	R	R	R	R	
100 km/h		R	R	R	R	R	R	R	R	R	R	R	R	R		R						
120 km/h			R									P		R								Betuwe, Base tunnels
140 km/h																						
Loading gauge (UIC Gudeline) GA (P/C 22)																		R				
GA (P/C 45)																		R				High cube = P/C 45
GA (P/C 50)													R			R			R	R		
GB (P/C 60)												R									R	max. 3.9 m at angle (ROLA max. 3.8 m)
G2 (P/C 70)							R		R													max. 4.0 m at angle (ROLA max. 3.9 m)
GB+ (P/C 80)		R		R	R	R		R		R	R			R	R							max. 4.1 m at angle (ROLA max. 4.0 m)
GC (P/C>99)	R		R	P							P											max. 4.2 m at angle, Em-Oh 2013

Legend:
R = realised, as-is
S = realised for special traffic (daily operated, e.g. 5 Dillingen/day)
P = planned, to-be, future developments (including ideas, studies, practical tests)
Background orange = Standards UIC ERIM for new installations

Figure 23: Technical parameters on Corridor A (table)

Moreover, a border point table was defined and agreed containing the planned demand on all time horizons including specialities (e.g. 4 m trains - high-gauge). The results of this analysis are displayed in figure 24.

Corrior A - Rotterdam-Genova
WG Capacity

state 28.01.09
Approved by ProRail,
DB Netz, SBB, BLS, RFI

Border Points - development of demanded train paths

Time horizon	2008	2010	2015	2020	2025
Emmerich	80	120	144	160	170
Venlo	75	54	58	82	82
Basel	200	210	240	280	290
Domodossola	100	110	130	150	150-181
Luino	50	60	75	90	95-109
Chiasso	100	110	130	160	165-193

Legend: international freight trains, both directions, typical weekday

Figure 24: Demand of train paths at border points of Corridor A

During the summer of 2008 a corridor solution covering the four national capacity models has been developed within the WG. It is now possible to compare the saturation degree along the entire corridor and to validate the different projects accordingly. Some sections of the corridor are saturated today. The planned development of urban and long distance passenger services will increase the saturation on many more sections. As a worst case the scenario "S secured" is defined containing just the fully financed and approved projects: "Which saturation do we face in the year ... when only the projects financed and approved today are realised"? Without further investments in infrastructure and capacity, large corridor sections will reach or exceed its given limits from 2015 on (see figure 25).

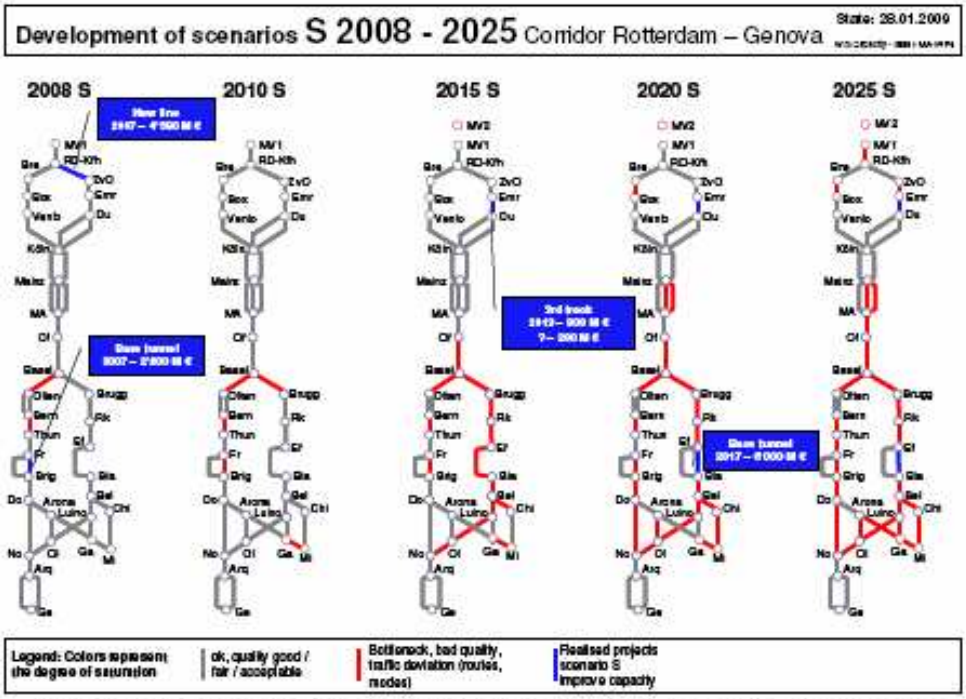

Figure 25: Capacity development on Corridor A based on projects with secured funding

The realisation time for projects is usually ten years or even more. The IMs plan the development of their networks for at least 15 years. All planned but not yet financed or approved projects are included in the scenario "P planned". The scenario "D&R development & review" contains critical line sections which are currently only studies or projects to be shifted in time.

The following figure 26 shows the development of the scenarios for a defined year and the elimination of saturated lines, as for example 2020:

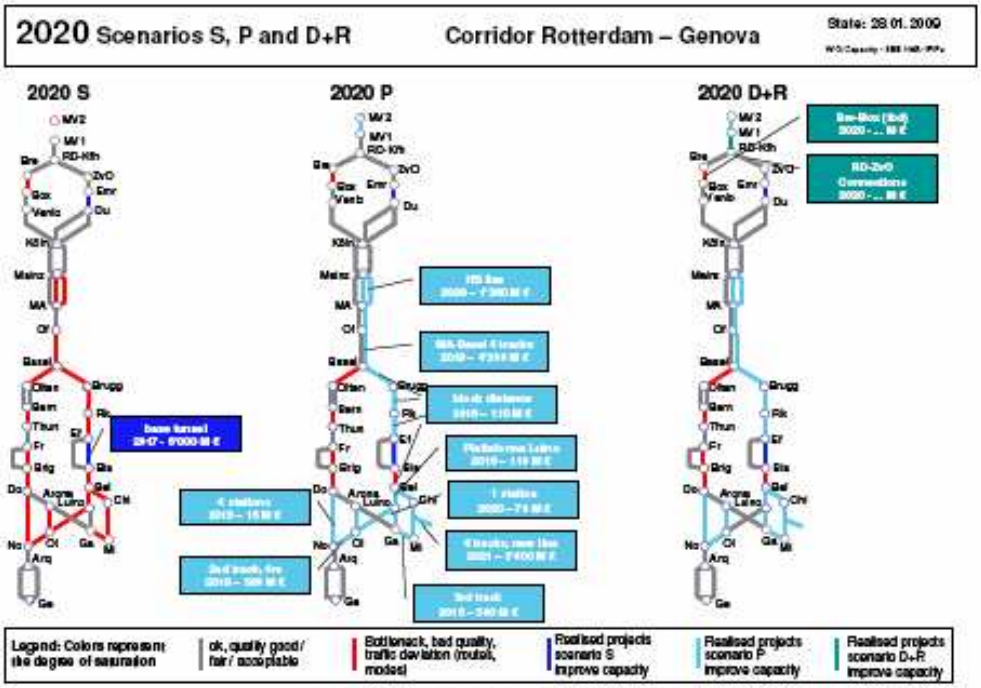

Figure 26: Capacity scenarios in 2020

As a final step the necessary projects to enlarge the corridor capacity are grouped in the scenarios S, P and D&R and presented. The costs as well as the time required for planning and realisation are indicated. The three scenarios secured (S), planned (P) and under review & development represent the financing status. Nowadays, the projects of this last scenario are actually not planned at all (figure 27).

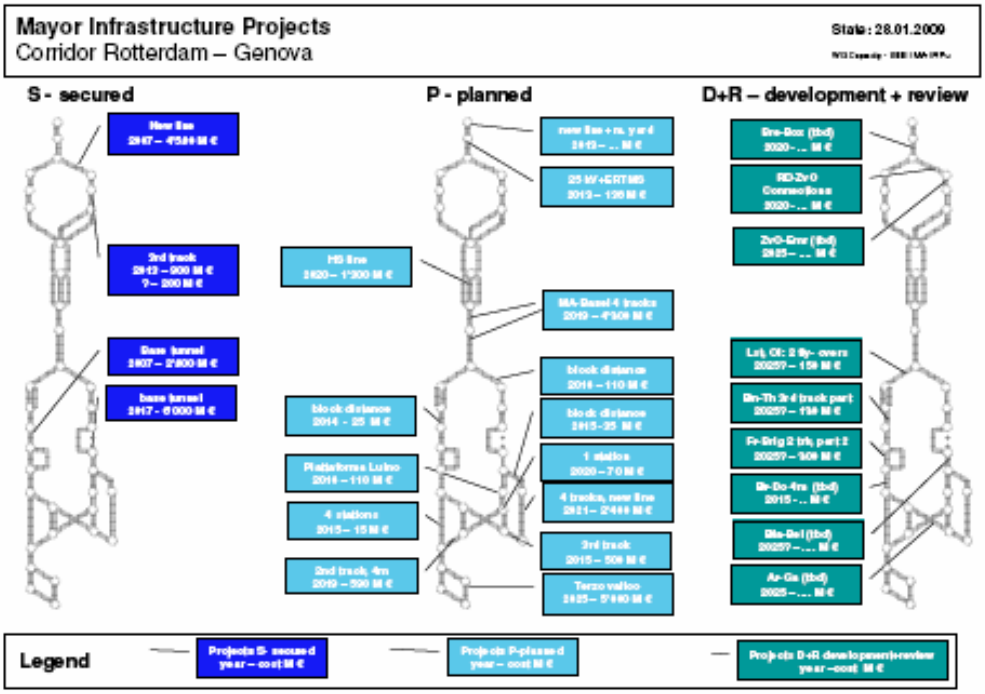

Figure 27: Secured (S), planned (P) and reviewed projects on Corridor A

The future development of the financing status has to be monitored closely by all IMs and the ministries. The most challenging task will be to assure the financing of the projects development & review.

2.5.2.2 Risk management and chances

No risks to report.

2.5.2.3 Change request management

No changes to report.

2.5.3 Outlook

The corridor map and table will be refined and completed with the service points[16] along the corridor. The first projects for increased train length in the Southern part of Corridor A shall be defined as quick-wins. The presentation of the bottleneck projects will be redesigned, in tables and maps.

[16] Before completing the map, the WG Capacity will agree on an appropriate definition for this term. A service point may be a location for: parking or shunting tracks; facilities for the provision of fuel, lubricants, water etc.; change of traction; change of personnel etc.

2.6 Terminal Studies (IQ-C Action Item #11)

2.6.1 Key Performance Indicators

Due Date of Reporting	31.12.08	**WG Result [%] Plan**	73	**WG Result [%] Actual**	24
Work Packages Total	5	**Work Packages Finished**	0	**Work Packages Pending**	5
Start	30.10.07				
End	30.07.09				

PSP	WP	Results and Milestones achieved
6.1	Framework	Identification of relevant terminals completed Master data sheet (data collection) completed
6.2	Capacity of harbours/ terminals	Scope of the WP defined Scope was extended to the marshalling yards, sidings and intermodal stations Data collection started
6.3	Connection to corridor	Scope of the WP defined Data collection started
6.4	Financing and prioritisation	Scope of the WP defined Work package to be started in 01/ 2008
6.5	EU Application	Scope of the WP defined Work package to be started in 04/ 2009

2.6.2 Work Progress

2.6.2.1 Achievements

Thomas Schneider (DB Netz) is leading the activities of this group. Peter Andersson (ProRail), Viktor Janz (DB Netz), Anne Greinus (SBB) and Vincenzo Prisco (RFI) are the representatives of the other IMs in this WG Terminals. The group conducted 11 regular meetings throughout the year. By the end of 2008, the overall actual work progress sums up to 24% versus 73% planned work progress. The delay of the WG has several reasons:

- Additional time needed to collect the required data for the analysis of the terminals
- Additional time needed to reduce the amount of potential terminals along the corridor to a number which will be analysed further based on reasonable criteria
- Scope of WP 6.3 (connection to corridor) more complex than planned
- Additional effort for supporting the MoT terminal study in QII and QIII/ 2008. The study was supported by the WG Terminal Studies but not part of the baseline (working plan). The study will be outlined in the report of the ministries.

Framework (PSP 6.1)

The WG collected, analysed and reviewed several studies recently conducted about terminals, intermodal traffic and rail infrastructure[17] in general. This data collection and analysis could be completed in 2008, except for the new study about the Rotterdam port

[17] TEMA, DIOMIS, ERIM, IQ-C.

(Maasvlakte 2)[18]. The intermediate result of the analysis was a long list of approximately 70 potential terminals. In a second step the list of terminals was reduced down to 45 terminal facilities, which will be the basis for further capacity analysis of the WG. Criteria for the selection of the terminals had been:

- size (freight volume)
- distance to the main line of Corridor A
- significance of regional economy and adjoining major industries
- ownership etc.

The terminals which had been selected by the WG Terminals can be seen in figure 28:

#	Name	Country
1	Zeeland Seaports	Netherlands
2	Moerdijk	Netherlands
3	Amsterdam Ceres	Netherlands
4	Rotterdam RSC	Netherlands
5	Rotterdam Delta (ECT)	Netherlands
6	Rotteram Euromax	Netherlands
7	Europoort	Netherlands
8	Botlek	Netherlands
9	Pernis	Netherlands
10	Emmerich	Germany
11	Dortmund Westerholz	Germany
12	Duisburg DIT Rheinhausen	Germany
13	Duisburg Hafen DeCeTe	Germany
14	Duisburg Ruhrort Hafen PKV	Germany
15	Duisburg Ruhrort Hafen (planned Rhein-Ruhr)	Germany
16	Neuss-Hessentor	Germany
17	Gremberg Rbf	Germany
18	Köln Eifeltor	Germany
19	Köln Godorf (planned)	Germany
20	Köln Nord	Germany
21	Köln Niehl	Germany
22	Frankfurt/ Main (Ost)	Germany
23	Ludwigshafen BASF	Germany
24	Ludwigshafen Triport	Germany
25	Mannheim Handelshafen	Germany
26	Mannheim Wincanton	Germany
27	Mannheim Rbf	Germany
28	Kehl	Germany
29	Offenburg Gbf	Germany
30	Freiburg	Germany
31	Basel – Weil am Rhein	Germany
32	Basel GB	Switzerland

[18] Maasvlakte 2 will comprise at least 5 new terminal facilities which shall be reflected in the work of the WG Terminals.

#	Name	Country
33	Aarau	Switzerland
34	Rekingen	Switzerland
35	Niederglatt	Switzerland
36	Chiasso	Switzerland
37	Gallarate/ Busto (Hupac)	Italy
38	Novara Boschetto	Italy
39	Novara Boschetto CIM	Italy
40	Milano Segrate – Terminali Italia	Italy
41	Brescia Scalo	Italy
42	Voltri Terminal Europe (VTE)	Italy
43	Southern European Container Hub (SECH)	Italy
44	San Giorgio Terminal	Italy
45	Messina Terminal	Italy

Figure 28: Terminals Corridor A

Based on the data collection the WG also provided some data which was required by the consortium mandated by the Dutch MoT for the terminal study. The WG also joined the terminal workshop in Busto Arsizio (Italy) at 24.06.08.

Capacity of ports/ terminals and connection tracks
(PSP 6.2 and PSP 6.3)

The capacity of the selected terminals was analysed in detail for the set time horizons of 2007 (baseline), 2015, 2020 and 2025. This work could not be completed so far. It is planned to set up a list of the capacity bottlenecks, proposed solutions and a rough investment planning. The access to the terminals from the corridor main line (and v.v.) is vital to give the corridor a clear business perspective. This access may be limited by its line capacity, but also by other infrastructure parameters, such as ETCS equipment, electrification for traction power which might prevent locos and freight trains to travel seamless to/ from the major freight hubs for intermodal traffic. Regarding the 40 selected terminals along the corridor, approximately 3.000 track km are to be equipped with ETCS[19]. The corresponding work is ongoing and shall be finalised by mid of 2009.

[19] ETCS installations on the corridor main line(s) sum up to more than 4.000 track km.

Financing and prioritisation/ EU application
(PSP 6.4 and 6.5)

The WG has already started to assign priorities to the terminal facilities. Based on the prioritisation clear recommendations for investment measures (capacity, ETCS installation, electrification etc.) will be possible in future. It is planned to submit or to coordinate an application for TEN-T funding in 2009. This work will start in spring 2009, depending on the publication of the TEN-T call.

2.6.2.2 Risk management and chances

In the beginning of 2008, the WG reported two risks (rated B2 and C1) in connection with difficulties in collecting the data from existing studies and/ or terminals which are owned and operated by private companies. These risks had been closed in the meantime. No other risks to report.

2.6.2.3 Change request management

No changes to report.

2.6.3 Outlook

Only an integrated view on the corridor, including ports, terminals and other cargo hubs leads to improvements and tremendous business opportunities for all stakeholders. Following the intention to gather the terminal operators (public/ private) along the corridor, a terminal platform will be facilitated in the first quarter of 2009. The Swiss ministry of transport (BAV) will take the lead in this meeting whereas the corridor and especially the WG Terminals will take part in this event.

Another item is the preparation of TEN-T applications in 2009. As the TEN-T EA will launch a second call for funding applications in the first half of 2009, the WG Terminals intends to coordinate and to prepare the application. Special focus in this context will be given to the funding of ERTMS installations on the feeding and connecting lines between the corridor main line and the terminals respectively cargo hubs.

3 Activities of the Infrastructure Managers

Until stated otherwise, e.g. by references or footnotes, the content of this chapter stems from the corresponding PIM who is in charge of the national project coordination. For further information, please see also annex C.

- ProRail (IQ-C action items #6, #10): Laurens Berger
- DB Netz (IQ-C action items #6, #10): Thomas Schneider
- SBB Infrastruktur (IQ-C action items #6, #10): Heinz Pulfer
- BLS Infrastruktur (IQ-C action items #6, #10): Daniel Gerhard
- RFI (IQ-C action items #6, #10): Silvia Carloni

The projects primarily refer to the IQ-C action items #6 (integrated elimination of infrastructure bottlenecks) and #10 (ETCS) as the major outcome will be additional capacity and ETCS trackside installations. This will also have a positive effect on punctuality and reliability of the traffic.

3.1 ProRail (IQ-C Action Items #6, #10)

3.1.1 Key Performance Indicators

Due Date of Reporting	31.12.08	**IM Result [%] Plan**	25	**IM Result [%] Actual**	14
Projects Total	9	**Projects Finished**	1	**Projects Pending**	8
Start	03.01.00 (earliest project)				
End	31.12.15 (last project)				

PSP	Project	Results and Milestones achieved
1.1.1.1.1	Zevenaar to border electrification 15 kV	Initial plan study has been started Strategic study being carried out analyse the technical variants
1.1.1.1.2	Third Track (Zevenaar – border)	Assignment for plan study not yet received
1.1.1.2	Betuwe line	Go live (2007)
1.1.2.1	Maasvlakte 2: Extension harbour	Initial plan study (construction) completed (2007) Initial plan study (yards and shunting tracks) started Tendering process (construction) started
1.1.3.1	Electrification of Marshalling yard of Kijfhoek	Initial plan study has been started Strategic study being carried out analyse the technical variants
1.2.1.1	ETCS Barendrecht – Kijfhoek	Initial plan study has been started Strategic study being carried out analyse the technical variants
1.2.1.2	ETCS Zevenaar to border	Initial plan study has been started Strategic study being carried out analyse the technical variants together with DB
1.3	TAF TSI	Awaiting fundamental work from WG TAF TSI

3.1.2 Work Progress

3.1.2.1 Achievements

By the end of 2008, the overall actual work progress sums up to 14% versus 25% planned work progress. This delay is mainly due to the technical complexity regarding the major infrastructure projects which needs to be analysed in detail (see text below).

ETCS/ traction power in Kijfhoek and Zevenaar – border
(PSP 1.1.1.1.1; 1.1.3.1; 1.2.1.1; 1.2.1.2)

In (and around) Kijfhoek as well as the short corridor line section between Zevenaar (end of Betuwe line) and the Dutch-German border are equipped with the Dutch ATB system and 1.5 kV DC traction power. For all four projects the initial plan study has been started. While conducting the plan study, the complexity and the reciprocity of the various technical systems appeared. A strategic technical study (variantenstudie) became necessary to analyse and to clarify all questions related to:

- ATP system: ETCS Level, RBC and GSM-R coverage
- Traction power: 25 kV AC (future European standard) or 15 kV 16 $^{2}/_{3}$ Hz AC (German standard)
- Electromagnetic compatibility between AC traction power system and ETCS, especially with regard to traction return current
- Interfaces and transition between new systems (ETCS, AC traction power) and legacy systems on the rest of the Dutch network (ATB, 1.5 kV DC)

The study is inevitable to finally make a beneficial decision for the installations to come. Unfortunately, this work is time consumptive and has already led to a delay of the projects. As a major outcome, the study will eliminate technical risks during the implementation period of the projects. The completion of the technical study (and the initial plan study) is now scheduled for spring 2009. The bilateral working group of ProRail and DB Netz is supporting this work.

Third track Zevenaar – border – Emmerich (PSP 1.1.1.1.2)

The results of the above mentioned analysis will affect the project 3rd track between Zevenaar – border –Emmerich as well. The preferred technical solution (ETCS, traction power system) will also be applied on the 3rd track. As this project is truly of a cross-border nature, ProRail and DB Netz work closely together for the planning and the layout. Regardless of the above mentioned dependency to the technical analysis both parties still aim to put this track into service in 2013.

Betuwe line (PSP 1.1.1.2)

Meanwhile, the operations on the Betuwe line could be stabilised and steadily improved. In the third quarter of 2008, between 320 and 400 freight trains per week passed the Dutch-German border at Zevenaar (both directions). This figure steadily increased in 2008 starting

from 50 – 80 trains per week in the beginning of 2008. For entire 2009, Keyrail is planning an average freight volume of 300 trains per week[10].

Extension of port line (PSP 1.1.2.1)
The first project phases started for the extension of the port line of Maasvlakte 2. The initial plan study for the construction part has been completed already in 2007. The initial plan study for the yards and the shunting tracks has been started in 2008. The construction of the extension of the port line is integrated in the tender of Maasvlakte 2. This phase formally started on 01.01.08 and is on schedule.

3.1.2.2 Risk management and chances

Several risks, mainly of technical character, are connected to the ETCS projects respectively the traction power systems. These risks are rated C1. They should be mitigated as the technical analysis comes to an end and a decision for the best technical solution can be made.

3.1.2.3 Change request management

The implementation plan was developed and published in the context of the business plan. Besides a number of infrastructure projects (e.g. bottleneck removals and ETCS installations) the plan also comprised a project for the ETCS migration of rolling stock. It was consensus this item can not be part of the baseline of the IMs. Consequently this project was removed from the implementation plan.

3.1.3 Outlook

The technical analysis shall come to an end by March or April 2009. This means by mid of 2009 all the technical implications shall be solved. It may also require changes and adaptations to the projects, which are not yet predictable.

3.2 DB Netz (IQ-C Action Items #6, #10)

3.2.1 Key Performance Indicators

Due Date of Reporting	31.12.08	**IM Result [%] Plan**	15	**IM Result [%] Actual**	15
Projects Total	140	**Projects Finished**	8	**Projects Pending**	132
Start	02.01.84 (earliest project)				
End	15.12.21 (last project)				

[10] Newsletter Keyrail December 2008, 06.01.09, (Keyrail), p.1.

PSP	Project	Results and Milestones achieved
2.1.1.1.1	Emmerich – Oberhausen/ 1. stage: Node Oberhausen	Go-live (2004)
2.1.1.1.2	Emmerich – Oberhausen/ 2. stage: Electr. Interlocking	Initial plan study completed (2003) Budget approved (2003) Building license granted (2008) Start of construction (2008)
2.1.1.1.3	Emmerich – Oberhausen/ 3. stage: 3rd track	Initial plan study completed (2008)
2.1.1.2.1	Karlsruhe – Basel/ 1. stage: Rastatt Süd – Offenburg	Go-live (2004)
2.1.1.2.2.1	Karlsruhe – Basel/ 2. stage: ABS/ NBS Karlsruhe – Basel	Initial plan study completed (1994) Budget approved (1994) Building license granted (1998)
2.1.1.2.2.2	Karlsruhe – Basel/ 2. stage: ABS/ NBS Offenburg - Kenzingen	Initial plan study completed (1998) Budget approved (1999)
2.1.1.2.2.3	Karlsruhe – Basel/ 2. stage: ABS/ NBS Kenzingen – Buggingen	Initial plan study completed (1998) Budget approved (1999)
2.1.1.2.2.4	Karlsruhe – Basel ABS/ NBS Kenzingen – Freiburg – Buggingen	Project start scheduled for 01/ 2009
2.1.1.2.2.5	Karlsruhe – Basel ABS/ NBS Buggingen – Basel	Project start scheduled for 01/ 2012
2.1.1.2.3	Katzenberg tunnel	Initial plan study completed (2002) Budget approved (2002) Building license granted (2002) Construction works ongoing
2.1.2	Terminals/ harbours: several projects planned, scope will be reviewed	Relevant terminals for Corridor A defined
2.1.3	Marshalling yards: several projects planned, scope will be reviewed	---
2.2.1.1 – 2.2.1.42	ETCS projects (42 projects)[21]	ETCS plan study for Emmerich – Oberhausen started (2008)
2.2.2.1 – 2.2.2.42	Electronic interlocking projects	Electronic interlocking Troisdorf: go-live (2001) Electronic interlocking Osterpai: go-live (2007)

[21] Some of these 42 projects may result in more than one project at DB Netz, depending on the project development and definition. Remark also applies to electronic interlockings and GSM-R.

PSP	Project	Results and Milestones achieved
	(42 projects)	Electronic interlocking Duisburg Wedau: go-live (2006) Electronic interlocking Achern: go-live (1996) Electronic interlocking Offenburg: go-live (1997) Electronic interlocking Orschweiler: go-live (1999)
2.2.3.1 – 2.2.3.42	GSM-R projects (42 projects)	Technical installations complete
2.3	TAF TSI	Awaiting fundamental work from WG TAF TSI

3.2.2 Work Progress

3.2.2.1 Achievements

By end of 2008, the actual work progress of the German projects (infrastructure, ETCS) is 15% which is fully in line with the planned progress. Out of 140 national projects along the corridor, 8 could be completed so far. 132 remain open or pending. The project layout concerning ETCS and electronic interlockings will be revised in 2009. The strategy to implement ETCS L1 LS or L2 in Germany leads to a reduced need to renew electronic interlockings along the corridor.

Emmerich – Oberhausen 2nd construction stage (PSP 2.1.1.1.2)

All works related to the 2nd construction stage of the line section between Emmerich and Oberhausen, (electronic interlocking and block consolidation) are progressing well, the realisation is on time. To learn more about the next steps of this project, please see chapter 3.2.3.

Emmerich – Oberhausen 3rd construction stage (PSP 2.1.1.1.3)

For the above mentioned project the initial plan study has been completed in 2008. The location of the third track on the German side has been fixed. In 2009 the process for the planning approvals will start. To intensify the cross-border cooperation between DB Netz and ProRail a specific technical working group had been set up, discussing the following items:

1. Block consolidation
2. ERTMS Zevenaar East – Emmerich
3. 25/ 15 kV Zevenaar East – Emmerich
4. Third track Zevenaar – Emmerich

The technical and operational issues which influence the options for the final layout of this line section are: block consolidation, ETCS trackside equipment, class B systems, GSM-R coverage and location of additional GSM-R antennas, electronic interlocking, hot axle detection facility, train detection facility, transition points, admission of 16 $^{2}/_{3}$ Hz in the Netherlands, location of the third track, decommissioning ATB, block interface, equipment vehicles (ETCS), cable route and possible new cable connections (type, size, etc.) and emergency power supply of an electronic interlocking.

Karlsruhe – Basel (2.1.1.2.1; 2.1.1.2.2.1 – 2.1.1.2.2.5)

The ABS/ NBS Karlsruhe – Basel is divided into 9 line sections (StA), which are in various planning and execution phases. The specific corridor section can be seen in figure 29.

Die Planrechtsverfahren

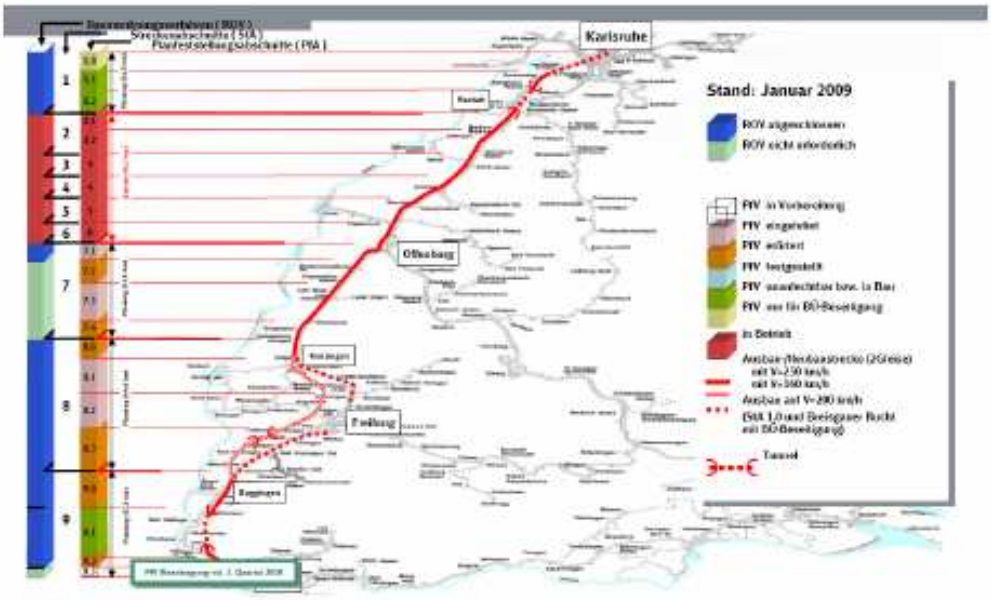

Figure 29: Karlsruhe – Basel planning

The planning for the start of construction at the NBS/ Rastatter tunnel is currently ongoing. Due to revised guidelines, laws and the extensive planning stages the plans have to be partially revised because of the long planning stages. Based on realistic assumptions the earliest possible start of construction will be 2011, still assuming a given funding for the project. For outstanding actions of the 2nd construction stage (line sections 7 to 9 Offenburg - Basel) a stepwise approach was agreed upon with the federal government to come to a gradual realisation. The plans to finally obtain the building licence in the sections 7 (Offenburg - Herbolzheim) and 8 (Herbolzheim - Buggingen) and the planning sections (PFA) 9.0 and 9.2 continued. PFA 9.3, which is on Swiss territory, shall begin in the first quarter of 2010.

Due to the growing political influence the duration of the planning process will be delayed. Municipalities, public authorities and citizens of the affected regions have raised their concerns against the plans. This may result in investigations and analysis for alternative line routings, demands for tunnel solutions or other noise mitigation measures). Nevertheless the continuation of the plans in the line sections 1, 7 - 9 to obtain the building license is secured. The corresponding planning funds are released. Signing an appropriate financial agreement with the federal government is foreseen in 2009.

The Katzenberg tunnel is currently the largest tunnel project in Germany. The length of the tunnel is 9.3 km. The construction of one of the most modern railway tunnel in Europe started in August 2003. The breakthrough at the tunnel drilling was achieved in 2007. This year the interior works and the preparations for installing the rail technology could be started. The finalisation will be approximately 2011, so that around 2011/ 2012 the first trains can travel

through the tunnel. Rail freight services will benefit mostly from additional capacity, whereas passenger services will save a considerable amount of travel time.

Due to the construction of a 3rd and 4th track between Karlsruhe and Basel (see figure 30) the traffic quality will increase and capacity will be raised significantly. Moreover, the travel time will be reduced for both passenger and freight services.

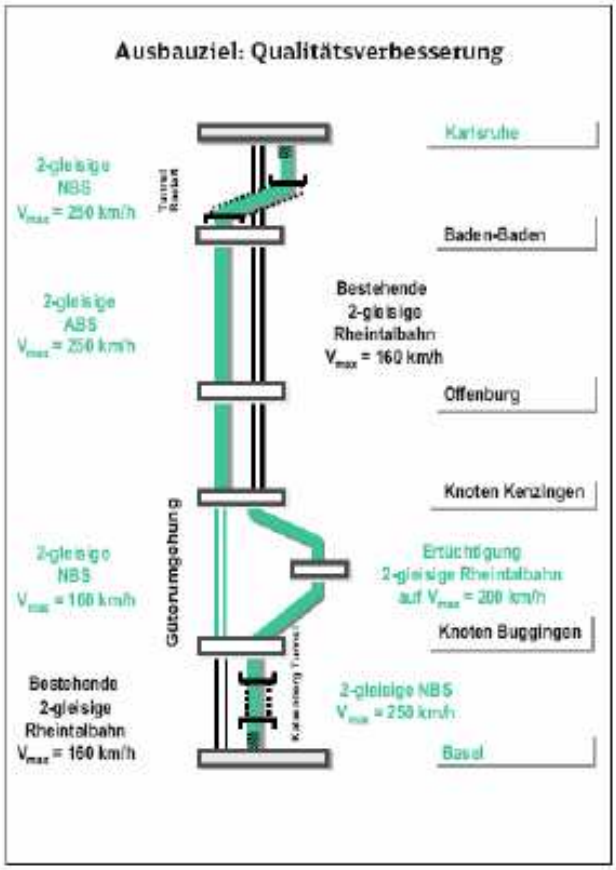

Figure 30: ABS/ NBS Karlsruhe – Basel

Katzenbergtunnel (PSP 2.1.1.2.3)

The Katzenberg tunnel is currently the largest tunnel project in Germany. The length of the tunnel is 9.3 km. The construction of one of the most modern railway tunnel in Europe started in August 2003. The breakthrough at the tunnel drilling was achieved in 2007. This year the interior works and the preparations for installing the rail technology could be started. The finalisation will be approximately 2011, so that around 2011/ 2012 the first trains can travel through the tunnel. Rail freight services will benefit mostly from additional capacity, whereas passenger services will save a considerable amount of travel time.

ETCS projects – 42 projects (PSP 2.2.1.1 – 2.2.1.42)
In the business plan for Corridor A from 2006/ 2007 the German part of the corridor was split into 42 ETCS sections respectively partial projects. A lack of funding for the electronic interlockings as well as missing functionalities in SRS 2.3.0d the strategy of DB Netz AG for ETCS implementation was revised. Following the baseline 3 concept (see chapter 2.2) the corridor lines in Germany shall be equipped with ETCS L2 or L1 LS on the basis of SRS 3 of the corridor. The actual situation is as follows:

- Lines for max. speed >160 km/h will be equipped with ETCS L2
- Lines for max. speed ≤160 km/h, i.e. especially freight routes, will be equipped (provided comparable PZB capacity is sufficient) with ETCS L1 LS or ETCS L2 depending on capacity and/ or performance reasons
- SRS 3 will be implemented on the corridors to ensure the required functionalities
- Efficient alignment between validation process of SRS 3 and the system development is indispensable to ensure the timely realisation of the corridor migration plan
- DB Netz supports the activities for speeding up SRS 3 on national and international level

Based on this strategy it was evaluated which parts have to be equipped in which way. For the section Emmerich – Oberhausen it is decided to equip the line with ETCS L2 SRS 3. The middle part of the German corridor section is primarily planned with ETCS L1 LS whereas in the southern part primarily ETCS L2 equipment will be deployed.

Due to the decision by the EC to grant subsidies for the track equipment on the German line section between Emmerich and Basel in December 2008 and the existing financing agreements with the German government the financial basis is given for the realisation of ETCS on the section Emmerich border – Oberhausen. A final solution for financing the trackside equipment on Southern German corridor section is currently negotiated with the German ministry of transport. It is desired to achieve a solution for this essential question in 2009.

Electronic interlocking projects – 42 projects (PSP 2.2.3.1 – 2.2.3.42)
In 2008 the financing of interlockings for three sections (Heppenheim, Rheinweiler-Effringen, Müllheim) could be clarified. The realisation of the important electronic interlocking as a precondition for the ETCS trackside implementation between Emmerich and Oberhausen is foreseen for 2010.

The line equipment with different ETCS Levels leads to reduced necessity to renew electronic interlockings. Currently DB Netz is estimating a necessity to replace approximately 50 existing elderly railway control centres within approximately 10 additional projects caused by the implementation of ETCS L2. Negotiations for financing the renewal or replacement of old interlockings are still ongoing. It is expected to achieve a final decision in 2009.

Longer freight trains (test run)
Another example for the intensification of bilateral activities on the corridor was the testing the technical feasibility of the first freight trains with a total length of 1.000 meters between Rotterdam and Oberhausen. The project was jointly planned and conducted by DB and Keyrail in November 2008. The project "GZ1000" is also funded by the German Ministry of

economics and technology. The project will serve to analyse the technical, operational and economic feasibility of 1.000 meters long freight trains.

3.2.2.2 Risk management and chances

With regard to the implementation of ETCS on the German corridor sections two risks have to be faced:

- Financing of the electronic interlockings (which is the precondition for specific line sections where ETCS L2 is required) is not fully solved
- Financing of the ETCS trackside equipment is not fully solved.

Both risks are rated A3.

3.2.2.3 Change request management

The implementation plan was developed and published in the context of the business plan. Besides a number of infrastructure projects (e.g. bottleneck removals and ETCS installations) the plan also comprised a project for the ETCS migration of rolling stock. It was consensus this item can not be part of the baseline of the IMs. Consequently this project was removed from the implementation plan.

3.2.3 Outlook

The main emphasis on the first half of the year 2009 will be the final clarification for financing new electronic interlockings and the ETCS trackside equipment. The amount of ETCS and electronic interlocking projects will be adapted and due to the new development optimised. This will be done within the revision of the business plan. In the second half of 2009 the planning approval for Emmerich – Oberhausen will start. The bilateral technical details within the cross-border projects of NL and DE have to be clarified. The national technical specifications according SRS 3.0.0 have to be finalised. The initial plan studies have to be done for the ETCS-projects.

3.3 SBB Infrastruktur (IQ-C Action Items #6, #10)

3.3.1 Key Performance Indicators

Due Date of Reporting	30.12.08	**IM Result [%] Plan**	33	**IM Result [%] Actual**	27
Projects Total	9	**Projects Finished**	0	**Projects Pending**	9
Start	01.01.90 (earliest project)				
End	31.12.25 (last project)				

PSP	Project	Results and Milestones achieved
3.1.1.1.1	Gotthard base tunnel	Initial plan study completed (1997) Budget approved (1996) Building license granted (1996) Drilling works ongoing (80% completed)

PSP	Project	Results and Milestones achieved
3.1.1.1.2	Ceneri base tunnel	Initial plan study completed (1997) Budget approved (1996) Building license granted (2006) Drilling works started (2008)
3.1.1.1.3	Basel – Chiasso headway reduction	Initial plan studies started or to be started Construction ongoing (first project Axentunnel) Construction to be started in 2009 (second project Castione)
3.1.1.2.1	Cadenazzo – Pino (Capacity)	Initial plan study to be started in 2009
3.1.1.3.1	Bern – Thun headway reduction	Initial plan study to be started in 2009
3.2.1.1	ETCS Basel – Gotthard – Chiasso	Initial plan study completed (2006) Budget approved (2006)
3.2.1.2	ETCS Basel – Gotthard – Belinzona – Pino	Initial plan study completed (2006) Budget approved (2006)
3.2.1.3	ETCS Basel – Lötschberg – Simplon – Domo	Initial plan study completed (2006) Budget approved (2006)
3.3	TAF TSI	Awaiting fundamental work from WG TAF TSI

3.3.2 Work Progress

3.3.2.1 Achievements

By the end of 2008, the overall actual work progress sums up to 27% versus 33% planned work progress.

Gotthard and Ceneri base tunnels (PSP 3.1.1.1.1 and 3.1.1.1.2)

The two ongoing projects which are part of the Swiss NEAT strategy made considerable progress in 2008. The construction and the realisation of the Gotthard base tunnel are progressing well. By end of 2008 more than 80% of the total tunnel boring is achieved and for a considerable part construction has been completed.

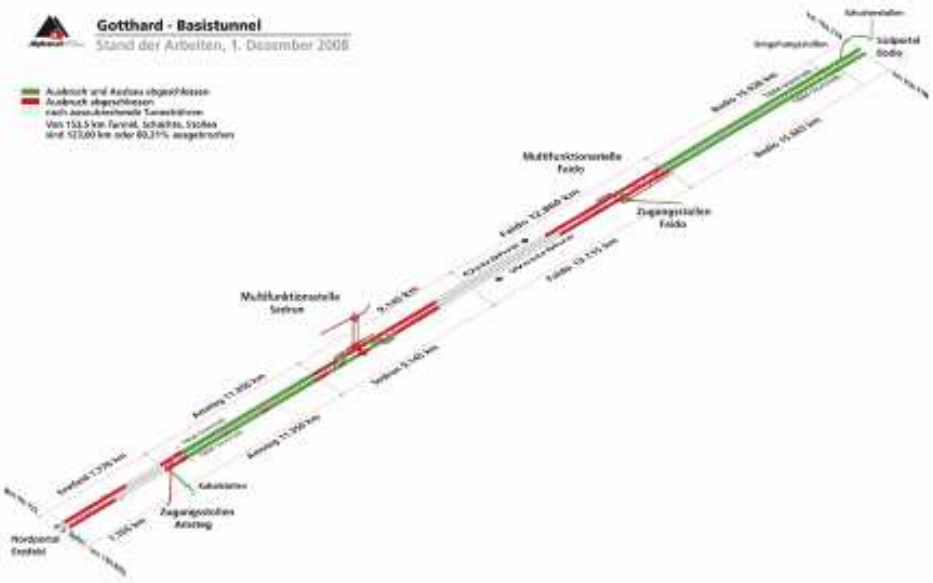

Figure 31: Drilling works at Gotthard base tunnel (01.12.08)

Figure 31 gives the status per 01.12.08 whereas green stands for tunnel sections which had been bored and pre-constructed. Red indicates tunnel sections which had been bored and so far not been pre-constructed, whereas grey means the boring has still to be done. The re-planning and realisation of the Faido crossover 200 meters to the north was the consequence of a difficult geological zone. At Monte Ceneri, the preparations for boring the base tunnel are almost complete, so that full drilling activities will start in 2009. For the time being, the boring of the access tunnel at Sigirino (length of 2.7 km) and the zone of the north portal close to Bellinzona had been finished. The Monte Olimpino gallery south of Chiasso had been closed completely for heavy maintenance works since mid of December 2008 for one year. All freight trains are re-routed (partially via Luino, Simplon and three via Brenner) according to the wishes of our clients.

Headway time reduction Basel – Chiasso (PSP 3.1.1.1.3)

The project for reducing the headway time between Basel and Chiasso had been clustered in 22 smaller projects. All plan studies started or will be started in due course. Construction works started for the first project (Axentunnel) and will start for the second project in 2009 (Castione). The initial plan studies for the capacity enlargement between Cadenazzo – Pino and for the headway reduction between Bern – Thun will start in 2009.

Daily performance of ETCS on the Olten-Bern (Mattstetten – Rothrist) is very good, not giving any concern regarding the quality of train operation. The planning and the preparations of ETCS on the two axes (west leg and east leg of Corridor A) are on time. For the Swiss line sections already equipped with ETCS[22] it is still subject to further evaluations whether upgrading from existing SRS 2.2.2+ will be done either to SRS 2.3.0d or to SRS 3.

[22] HSL Mattstetten – Rothrist (SBB); Lötschberg base tunnel (BLS).

The international planning with the Swiss neighbours and their ministries progressed further. In the North the bottleneck analysis was completed for the Basle region. In the South the feasibility studies Gronda Ovest (Luino) and Lugano – Chiasso progressed well and shall be continued with the support of the ministries. For the shorter time horizon the bilateral planning with RFI continued on the basis of the work of the WG Capacity (see chapter 2.5).

In December 2008 the second chamber of the Swiss parliament accepted the next major development step for rail infrastructure (5.4 bn CHF/ ≈ 3.85 bn €[23]) as part of ZEB 1. The projects classified P (planned) may change to S (secured) during 2009, following the formal procedure. For the time horizon until 2030 more and large projects (research and development) will be needed to cope with the forecasted demand. In 2010 the ZEB 2 strategy shall be presented to the parliament with a total investment volume in the range of 12 to 33 bn CHF/ ≈ 8.57 to 23.57 bn €.

3.3.2.2 Risk management and chances

No risks to report.

3.3.2.3 Change request management

The implementation plan was developed and published in the context of the business plan. Besides a number of infrastructure projects (e.g. bottleneck removals and ETCS installations) the plan also comprised a project for the ETCS migration of rolling stock[24]. It was consensus this item can not be part of the baseline of the IMs. Consequently this project was removed from the implementation plan.

3.3.3 Outlook

Continue planning and realisation of all those very large (Gotthard), medium and smaller projects. In the region of Ticino (Tessin) many dependencies and interferences amongst projects exist and have to be coordinated carefully to minimize the impact for the ongoing traffic. The initial plan studies for Cadenazzo – Pino and Bern – Thun headway will start in 2009.

3.4 BLS Infrastruktur (IQ-C Action Items #6, #10)

3.4.1 Key Performance Indicators

Due Date of Reporting	31.12.08	IM Result [%] Plan	80	IM Result [%] Actual	80
Projects	3	Projects	1	Projects	2

[23] 1 € = 1.40 CHF

[24] It is important to note that the ETCS rolling stock migration in Switzerland had been completed in 2008. All locomotives have SRS 2.2.2+ CH on board.

Total		Finished		Pending	
Start	01.01.90 (earliest project)				
End	31.12.25 (last project)				

PSP	Project	Results and Milestones achieved
3.1.1.3.2	1st stage of Lötschberg	Go-live (2007)
3.1.1.3.3	Completion of Lötschberg	Project start scheduled for 2017 Variants and conditions for further expansion of LBT are identified
3.3	TAF TSI	Awaiting fundamental work from WG TAF TSI

3.4.2 Work Progress

3.4.2.1 Achievements

Lötschberg Base Tunnel (PSP 3.1.1.3.2)

Since the liberalisation of rail freight by rail reform I in 1999 and since the opening of the rail corridor over the Lötschberg-Simplon axis in the year 2001, the transit freight traffic on this route increased around 350%. With the start of the scheduled operation of the Lötschberg base line on the 9th of December 2007 a key milestone in the NEAT project was reached. The opening can be seen as the start of a new era for transalpine railway traffic.

The performance and reliability of this new north-south link has been proven in the first full year of operating the Lötschberg base line. With 46 daily high frequent domestic and international passenger trains and regular double trains on peak days (weekends) shows the attractiveness of this fast link connecting Switzerland and northern Italy. Also in the transit of freight, the Lötschberg base line is an important contribution to the shift of transalpine freight traffic from road to rail.

In 2008 14.500 freight trains rolled through the tunnel, including 4.887 trains of the rolling highway. The extent of the success of the Lötschberg base line in the first year of operation shows the average utilisation rate of 77.46% with a maximum capacity of 110 trains per day. On peak days, the capacity limit was already met several times and almost led to a situation of competition between freight and passenger RUs in the allocation of rights of passage (tracks) through the tunnel. The operation of the Lötschberg base line could be settled without any significant problems and the company's resume is very positive. The availability of the entire system is very high and stable.

The number of unplanned diversions to the mountain line amounts to only 489 trains in 2008, which corresponds to 1.48% of all trains. The reasons for these deviations were to the utmost part delays or disturbances by the RUs, which represented 0.93%. Infrastructure failures were the reason for a deviation in 0.16% of all cases. The ETCS Level 2 equipment for the base line worked without troubles. From the total of 33.144 trains which ran through the base tunnel in 2008 only 0.23% had to be diverted due to ETCS problems. The intervention organisation made 35 active rescues because of alerts from the base tunnel. Noteworthy of these missions is that one blocked freight train had to be pulled out from the

tunnel and two defected passenger trains had to be evacuated. The rescues were executed as planned and without any difficulties.

Last autumn during regular checks around Ferden some indications of wear of the high speed splitting were noted. Their causes are currently being clarified. The repair was done in two shortly announced nightshifts in November. The entire traffic was rerouted over the mountain line during this time.

3.4.2.2 Risk management and chances

No risks to report.

3.4.2.3 Change request management

The implementation plan was developed and published in the context of the business plan. Besides a number of infrastructure projects (e.g. bottleneck removals and ETCS installations) the plan also comprised a project for the ETCS migration of rolling stock. It was consensus this item can not be part of the baseline of the IMs. Consequently this project was removed from the implementation plan.

3.4.3 Outlook

The high utilisation of the Lötschberg base tunnel demonstrates the great benefit of this new line. Since the peak capacity of 110 trains is almost reached, the BLS AG has a strategic interest in the completion of the tunnel[25]. The BLS AG has therefore launched a concept study to the basics (feasibility, cost, construction time and impact on the operating) for a substantive discussion in the framework to ZEB 2.

[25] Today, only $^{1}/_{3}$ of the LBT is build as a two parallel track railway line (one tunnel tube for each track). About $^{2}/_{3}$ of the LBT consist of a single railway line, which limits its capacity.

3.5 RFI (IQ-C Action Items #6, #10)

3.5.1 Key Performance Indicators

Due Date of Reporting	31.12.08	**IM Result [%] Plan**	22	**IM Result [%] Actual**	22
Projects Total	17	**Projects Finished**	2	**Projects Pending**	15
Start	02.07.01 (earliest project)				
End	30.04.26 (last project)				

PSP	Project	Results and Milestones achieved
4.1.1.1.1	Simplon pass	Project start scheduled for 2012
4.1.1.1.2	Novara Node overpass	Project had been merged with Novara node upgrading. Totally revised planning of the project phases. Initial plan study started (2008)
4.1.1.1.3	Linking of Novara-Domodossola track near Gozzano	Initial plan study completed (2001) Budget approved (2005) Building license granted (2006) Construction started (2006)
4.1.1.1.4	Upgrading of Novara-Alessandria line	Go live (2007) Extra measures for noise mitigation
4.1.1.1.5	Simplon platform	Project start scheduled for 2012
4.1.1.2.1	Upgrade southern access Simplon pass	Project start scheduled for 2012
4.1.1.2.2	Luino platform	Initial plan study completed (2004) Budget approved (2005) Building license granted (2006) Construction started (2004)
4.1.1.3.1	Chiasso-Monza section	Project start scheduled for 2012
4.1.1.3.2	Bergamo-Seregno section upgrading	Project start scheduled for 2012
4.1.1.3.3	Milan node upgrading	Project start scheduled for 2012
4.1.1.3.4	Doubling of Bergamo-Treviglio line	Go live (2007) Extra measures for noise mitigation
4.1.1.3.5	Quadrupling of Tortona-Voghera section	Project start scheduled for 2012
4.2.1.1	ETCS Domodossola-Genoa	Initial plan study completed (2008) Approval of budget (2008)
4.2.1.2	ETCS Luino-Genoa	Initial plan study completed (2008) Approval of budget (2008)
4.2.1.3	ETCS Chiasso-Milano	Initial plan study completed (2008) Approval of budget (2008)
4.2.1.4	ETCS Milan-Genoa	Initial plan study completed (2008) Approval of budget (2008)
4.3	TAF TSI	Awaiting fundamental work from WG TAF TSI

3.5.2 Work Progress

3.5.2.1 Achievements

By end of 2008, the actual work progress of the Italian projects (infrastructure, ETCS) is 22% which is fully in line with the planned progress. Some of the projects – especially the ones focused on capacity enlargements and bottleneck removals – were totally revised. In some cases the projects scope was affected whereas for other projects the project planning was postponed.

Simplon pass/ Upgrading of southern access Simplon pass
PSP 4.1.1.1.1/ PSP 4.1.1.2.1

As reported in the previous annual report the initial plan study for the project Simplon pass was completed in 2004. Due to a new prioritisation of budgets, the project is put on hold until 2012. From today's point of view it is likely that the scope of the project will be revised and that the plan study has to be conducted again. The postponement to 2012 also affects the project upgrading of the Southern access Simplon pass.

Novara node overpass (PSP 4.1.1.1.2)

The project Novara node overpass had been merged with the project scope of Novara node upgrading. This caused a totally revised planning of the project and its phases. As a consequence of this, the initial plan study has to be done again. These works started in 2008 as scheduled.

Linking of Novara-Domodossola track near Gozzano (PSP 4.1.1.1.3)

The project is a behind the schedule, although the construction phase is almost complete now. The scope of the project comprises the track link itself, a new station near Gozzano and the removal of six level crossings. The final works are expected in the first half of 2009.

Novara – Alessandria line (PSP 4.1.1.1.4)

The works for the new line between Novara and Alessandria are almost complete. However the project faces a review of project inputs and a more detailed analysis of the involved areas for noise mitigation and noise protection measures. The same applies to the project doubling of Bergamo – Treviglio line.

Luino platform (PSP 4.1.1.2.2)

The works on Luino platform are ongoing and on time. For the last small sections the building license shall be granted in due course; construction works will follow. Main scope of the works are shorter block sections and modernized ATC/ ATP trackside devices. These works shall end in 2009.

Chiasso – Monza/ Bergamo – Seregno/ Milan node/ Tortona – Voghera
(PSP 4.1.1.3.1)/ (PSP 4.1.1.3.2)/ (PSP 4.1.1.3.3)/ (PSP 4.1.1.3.6)

The infrastructure projects Chiasso – Monza, Bergamo – Seregno, Milan node upgrading and quadrupling of Tortona – Voghera were postponed and will not start before 2012 due to a re-prioritisation of budgets. As a consequence, the capacity increase by the above mentioned projects will be delayed as well.

ETCS projects (PSP 4.2.1.1 to 4.2.1.4)
For all four Italian ETCS projects the initial plan studies which were started in 2007 could be completed in 2008. The funding situation for the ETCS projects on Corridor A in Italy is currently assured. The budgets for the four ETCS projects have been approved in 2008.

3.5.2.2 Risk management and chances

Four risks rated C2 with regard to the funding issue had been reported in the course of 2008. Now that the project planning had been adjusted and postponed to 2012, the risks are closed. The negative impact for Corridor A (less track capacity on these line sections from 2012 – 2020/ 2025) remains.

3.5.2.3 Change request management

The implementation plan was developed and published in the context of the business plan. Besides a number of infrastructure projects (e.g. bottleneck removals and ETCS installations) the plan also comprised a project for the ETCS migration of rolling stock. It was consensus this item can not be part of the baseline of the IMs. Consequently this project was removed from the implementation plan.

The project of Giovi pass and double track Milan/ Genoa – Alessandria was removed from the implementation plan. These were part of implementation plan when the business plan for Corridor A had been set up in 2006/ 2007. Their planning is in a too early phase to aspect benefits within the timeframe of the business plan. This error was corrected at the beginning of 2008.

Due to a re-prioritisation of budgets, the Italian part of the corridor baseline needs to be adjusted in the beginning of 2009. The re-prioritisation affects infrastructure projects with a clear focus on capacity enlargement.

3.5.3 Outlook

In 2009, the projects "linking of Novara – Domodossola track near Gozzano" and Luino platform shall be completed. All other projects will go on as scheduled.

4 Other IQ-C Action Items

With the review of the IQ-C action plan in spring 2008, the issue "railway noise" had been added to the existing list by the ExB. An initial meeting was held at 09.10.08 in The Hague with representatives of the ministries, of the corridor and other experts. The first goal was to learn about the different approaches in each country/ each IM. The situation turned out to be quite heterogeneous among the four countries of Corridor A. Trackside noise mitigation and protection measures are quite frequently used, though it is a rather expensive measure and it does not tackle the problem at its root (wheel-rail-interface). A minor part of the rolling stock fleet had already been retrofitted with LL braking blocks or K braking blocks but this process will still take many years. The costs for the retrofitting can hardly be borne by the RUs without facing severe intermodal competitive disadvantages. However, noise shall not have any negative impact on the existing for future capacity on Corridor A.

The participants of the noise workshop agreed to set up a temporary WG noise under the lead of the Dutch MoT. The PMO will be present in this group which has set itself the following targets:

- Exchange information on all technical issues related to railway noise
- Exchange information of the financial incentives
- Formulate common interest of cooperation in this field, for example the homologation of the brake blocks and financial incentives
- Formulate a quantitative target, for example in 2015 will a certain percentage of all freight wagons be equipped with low noise braking blocks
- Design an action program, what is needed and what is possible

A report of the group shall be published in summer 2009.

Other IQ-C action items are solely beyond the responsibility of the MoT, the regulatory bodies or the national safety authorities, such as:

- Mutual recognition of engine drivers (IQ-C action item #7)
- Mutual recognition of locomotives (IQ-C action item #8)
- Monitoring of market regulations (IQ-C action item #9)
- Customs directive 1875/ 2006/ EC (IQ-C action item #14)

They will not be highlighted any further in the underlying annual report 2008 of the IMs. It will be part of the ministries activity report of 2008.

5 Conclusions and Recommendations

The corridor organisation and the corridor programme have developed a significant step forward in 2008. The

- **common development of the ERTMS baseline 3 corridor deployment concept,**
- **the pro-corridor cooperation of the IMs supported by the joint agreement of the CEOs to foster and deploy baseline 3,**
- **the detailed corridor analysis of traffic demand and capacity development until 2025,**
- **the final decision of the EC about subsidising the ERTMS projects as well as the MAP projects and the corridor organisation,**
- **and the enhanced governing strength achieved by forming the EEIG and a further grown common corridor spirit within the corridor team,**

add up to substantial progress, which represents a decisive basis for the continuation of the successful corridor implementation.

Nevertheless, the continuation of this success requires now to pay more attention to the following remarks and recommendations because important parts of the corridor implementation are moving more and more towards the upcoming phase of materialisation:

The discussion and the final decision about the ETCS baseline 3 deployment concept have been a valuable experience and stand for a significant milestone this year. Both IMs and RUs are in the urgent need of mature ETCS baseline 3 products, as only these will assure protection of investments, essential functionalities and beneficial performance.

The successful ERTMS deployment on the corridor now depends on the full support of all parties involved to strongly pursue this concept regardless of pessimistic voices respectively manifold problems, which surely will arise on the run of the validation, product development and the implementation works. This implies also to now provide the funds and expert resources within the national bodies and on European level, which are needed to carry out the works. If this is not the case respectively will come too late, the persons involved will not be able to assume the responsibility coming along with the tasks. The approval of the baseline 3 concept by all five CEOs of Corridor A is a very strong commitment, which should not count only for themselves, but also for all bodies and experts involved like IMs, ministries, NSAs, EC etc.

Expert resources must be estimated now and strategies developed respectively programmes started by all parties to assure the availability of sufficient staff in time.

The timeframe for the ERTMS implementation on the corridor is very tight. It can already now be recognised that some processes regarding ERTMS implementation

will be on the critical path. In order to manage this risk, the IMs together with the ministries and the NSAs need to develop and agree on unconventional and eased procedures in order to cope with this special situation. Further close cooperation with the railway industry has to be established.

All ETCS works for the corridor are of course embedded in the European context. The entire process of validation, homologation and cross acceptance of ETCS cannot be solved exclusively by the IMs only. It requires the early integration of IMs, ERA, EIM, Users Group as well as the NSAs, UNIFE and the EC in one team, which has to be steered by a powerful project management authority.

Although Corridor A is to some extend the pioneer of the six ERTMS freight corridors, corridor specific solutions and implementations shall be avoided in order to assure full technical interoperability and compatibility with regard to corridor parameters. However this will only be possible, if Corridor A can share its working results with other corridors respectively within the European context. This requires a kind of a platform on expert level, where such interfacing and coordination will be facilitated among all corridors in future.

As already noted in the annual report of 2007, the raising of the required funds is remaining of paramount importance. The lack of ETCS funding agreements in Germany is very critical and represents a major risk for the entire corridor, because the German section has central importance. Furthermore, the re-prioritisation of several capacity projects in Italy (see chapter 3.5) limits the future performance and capacity of the corridor in the southern part. The IMs together with their ministries of transport as well as the EC should be aware of the significance of Corridor A as the pilot among the European ERTMS corridors and back up their commitment by assuring appropriate funding of the projects in time.

Finally, we thank all our sponsors and cooperating bodies for their great support and trust received by the corridor organisation, which have been the grounds for the remarkable results achieved so far.

List of Figures

List of Abbreviations

ABS	Ausbaustrecke (enhancing and upgrading an existing track)
AC	Alternating Current
AG	Aktiengesellschaft (German public limited company)
arr.	Arrival
art.	Article (21)
ATC	Automatic Train Control (System)
ATB	Automatische treinbeinvloeding (Dutch ATP System)
ATP	Automatic Train Protection (System)
BAV	Bundesamt für Verkehr (Switzerland)
BLS	Bern Lötschberg Simplon (Swiss railway)
bn	billion
BP	Bauprojekt (construction project)
BS	Baustufe (construction stage)
B.V.	Besloten Vernootschap (Dutch private limited company)
CCG	Common components group (TAF TSI, at UIC)
CCS	Command and control systems (TSI)
CEO	Chief Executive Officer
CHF	Swiss Franks
COBRA	Corridor border adjustments (workflow system)
CR	Change Request
cw	calendar week
DB	Deutsche Bahn (German railway)
DC	Direct Current
Dep	departure
DIOMIS	Developing Infrastructure Use and Operating Models for Intermodal shift (UIC study)
DMI	Driver-machine-interface
EBA	Eisenbahnbundesamt (Germany)
EC	European Commission
EEIG	European Economic Interest Group
EIM	(association of) European Infrastructure Managers
EOPT	Europtirails
EPR	European Performance Regime
ERA	European Railway Agency
ERIM	European Rail Infrastructure Master Plan (UIC study)
ERTMS	European Rail Transport Management System
ESTW	Elektronisches Stellwerk (electronic interlocking)
ETCS	European Train Control System
EU	European Union
EWIV	Europäische wirtschaftliche Interessenvereinigung (EEIG)
ExB	Executive Board
Gbf/ GB	Güterbahnhof (cargo station)
GSM-R	Global System for Mobile Communication, subset Rail
h	hora (hour)

Hz	Hertz ($^1/_s$)
IBN	Inbetriebnahme (putting into operation)
IM	Infrastructure Manager
IT	Information Technology
IQ-C	International Group for improving the quality of rail freight traffic on the North – South corridor
IWW	inland waterways
K	plastic material (Kunststoff) brake blocks
Km/h	kilometres per hour
KPI	Key Performance Indicators
kV	kilo Volts
L	Level (ETCS), in combination with a number
LBT	Lötschberg base tunnel
LL	composite brake blocks
LOI	Letter of Intent
LS	Limited Supervision (ETCS)
m	meter
m	million (€)
MAP	Multi Annual Programme
MIS	Management Information Systems
MoT	Ministry of Transport
MoU	Memorandum of Understanding
NBS	Neubaustrecke (new track – high speed line)
NEAT	Neue Eisenbahn Alpen Transversale (new railway Alp transversals)
NETS	Netzweites Trassensystem (Swiss IT system)
NMG	Network Management Group (UIC)
NSA	National Safety Authorities
OPE	(TSI) Operations
OSS	One Stop Shop
p.	page
PFA	Planfeststellungsabschnitt (planning sections)
PGV	Plangenehmigungsverfahren (acceptance process of a construction plan)
PR	public relations
PIM	Programme Implementation Manager
PMO	Programme Management Office
PSP	Project Structure Plan (Number)
RBC	Radio Block Centre
RFI	Rete Ferroviaria Italia
RI	Radio Infill (ETCS)
RNE	Rail Net Europe
RU	Railway Undertaking
SBB	Schweizerische Bundesbahn (Swiss railway)
SEDP	Strategic European Deployment Plan (TAF TSI)
SNCF	Societé nationale de chemin de fer (French railway)
StA	Streckenabschnitte (line sections)
S.p.A.	Società per azioni (Italian public limited company)
SRS	System Requirement Specification (ETCS)

t	metric ton(s)
TAF	Telematic Application (for) Freight
TEMA	Terminal Management (UIC study)
TEN-T	Trans European Network (for) Transport
TEN-T EA	TEN-T Executive Agency
TEU	Twenty foot equivalent unit (standard container)
TSI	Technical Specification (for) Interoperability
UG	Users Group (ERTMS)
UIC	Union Internationale Chemin de Fer
URL	Uniform Resource Locator (internet address)
V	velocity (speed)
VP	Vorprojekt (pre-project)
vs	versus
v.v.	vice versa
WG	Working Group(s)
WGM	Working Group Manager
WP	Work Packages
ZEB	Zukünftige Entwicklung der Bahninfrastruktur (Switzerland) Future development of rail infrastructure

Annex

Annex A: Terminology of Milestones and Planning Phases

Imple-mentation Plan	Netherlands ProRail	Germany DB Netz	Switzerland SBB/ BLS Infrastruktur	Italy RFI
Initial Plan Study	Variantenstudie (Fase 2A)	Grundlagen-ermittlung und Vorplanung	Studie	Progettazione preliminare
Approval of Budget	Projectuitwerking (Fase 2B)	Vorplanung bis Entwurfsplanung Freigabe	Vorprojekt (VP)	Progettazione
Building Licence	Tracébesluit	Baugenehmigung	Plan-genehmigung (PGV)	Definitiva
Financing, Approval for Realisation and Start of Construction	Projectrealisatie (Fase 3)	Freigabe Ausführung	Bauprojekt (BP) Ausführung	Progettazione esecutivo
Acceptance of Construction	Testfase	Herstellen der Funktionsfähigkeit (HDF) und Abnahme	Abnahme	Collaudo
Go-Live	Indienststelling	Inbetriebnahme (IBN)	Inbetriebnahme (IBN)	Messa in esercizio

Figure 32: Terminology of Milestones and Planning Phases

Annex B: Risk scoring matrix

Probability / Impact	**High [1]** Equal/ Above 80%	**Medium [2]** Equal/ above 30%, below 80%	**Low [3]** Below 30%
High [A] Consequences for the total corridor programme	A1	A2	A3
Medium [B] Consequences for more than one working group/ project	B1	B2	B3
Low [C] Consequences for only one working group/ project	C1	C2	C3

Figure 33: Risk scoring matrix

Annex C: Work methodology and organisation (text from annual report 2007)

The programme for the corridor from Rotterdam to Genoa consists of a number of domains which should all lead to significant enhancements in reliability, capacity, transportation/ travel time and costs[26]. These domains must be worked and followed up systematically. In addition to that it must be assured that the range of projects, tasks and measures among each IM fit together from the perspective of a pan-European corridor, because only a sound integrated programme of all improvement measures will result in the aimed corridor success.

Until beginning of 2007, the major improvement options on Corridor A were analysed and monitored by two IQ-C ministerial groups and their related working groups of the IMs according to the set Corridor IQ-C action plan. In beginning of 2007, the IMs decided to consolidate all corridor works in one integrated programme, which will be performed under the responsibility of only one overall responsible Management Committee. This Management Committee is supported by the Programme Management Office, which now takes care of the organisation and monitoring of both former IQ-C working group activities as well as all further activities, which contribute to the corridor enhancement.

Under the roof of the PMO, the above considerations have now led to the establishment of six WGs to which the former activities of the IQ-C action plan are still related, and which are now chaired by Working Group Managers.

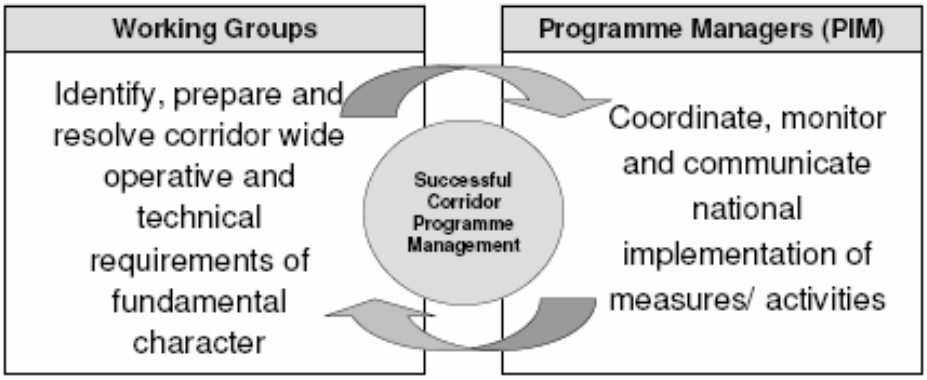

Figure 34: Roles of WGs and PIMs

The task of each WG is to develop answers and solutions for fundamental issues which are of great importance to the corridor programme as well as to support the general development of interoperability and European standards. The WGMs provide their results to the PIM of each IM. The PIMs are responsible to coordinate all their national implementation projects (see figure 34). Structuring the work this way leads to a synchronised step-by-step implementation of the entire corridor and avoids national solutions which do not meet the integrated improvement of the freight transport on the Corridor.

[26] See Business Plan documents for more details.

All activities of the WGMs and the PIMs are coordinated and consolidated by the PMO. A two level monitoring system on a quarterly basis had been established to track the progress of the work on the corridor. The reporting of the WGMs and the PIMs is corresponding to the underlying baseline.

The term *"baseline"* refers to a structured schedule of measures and activities which are necessary to progress in the corridor programme and comprises the time span from the planned start to the planned end. Each WGM and each PIM was asked to set up such a structured schedule containing all relevant actions with start and end dates according to the currently known scope in the forthcoming years. These plans of the WGs, containing work packages and activities had been prepared and linked with the implementation plans of each IM[27], which contain key milestones of projects and project phases of all measures relevant to materialise the corridor. All the baselines are finally consolidated in one overall corridor implementation plan.

The monitoring process now compares each baseline planning and the actually achieved progress of the works. The baselines are frozen as the target and shall be kept. Of course, by implementing the plan during the forthcoming years, unpredictable risks such as budget cuts, delays or new requirements might occur and require the adaptation of the baseline in order to become a realistic plan again. In this case a change request management process will first check the impact to the partners respectively to the corridor. Afterwards, the change may be approved and the baseline adapted accordingly.

Thus, the baseline is the list of planned actions whereas the quarterly reports inform about the work progress really made. In addition to that the reports contain elements of risk management (for the rating of risks please see annex B of this document) and change control management. All information from the reports of the WGs and the PIMs are used to control and steer the corridor implementation as one integrated undertaking. Derived from this information, the PMO as the corridor management board generates quarterly reports to be submitted to the MC, ExB, IQ-C ExB and to the CEOs (see figure 35).

[27] SBB and BLS subsumed.

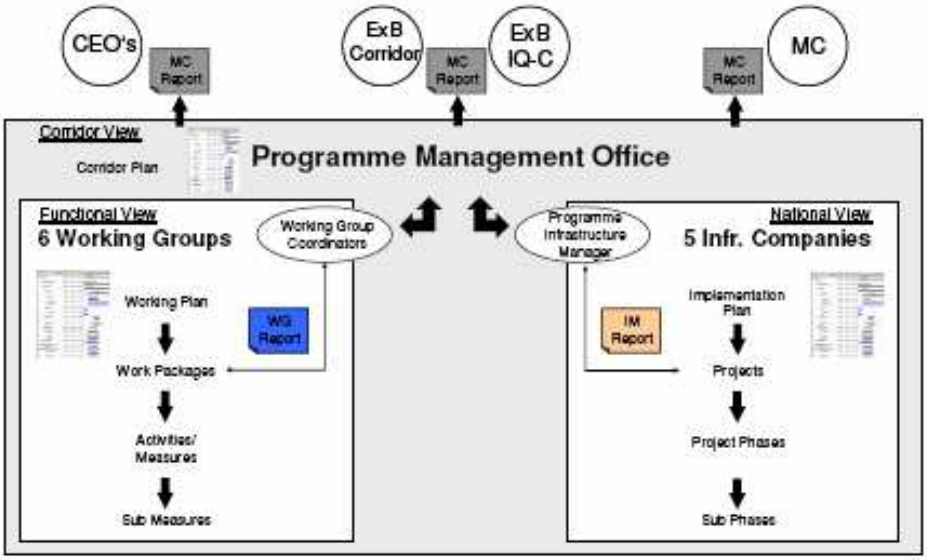

Figure 35: Reporting of the PMO

The monitoring process is completed by a yearly report, presented in the underlying document, summarizing the results and the work progress of the year elapsed. The annual report 2007 was published in January 2008 and had been finally approved by the ExB of Corridor A in April 2008.

A final remark about the work progress, which is measured in [%] based on the "earned value": the figures always refer to the baseline (a working plan for the WGs; an implementation plan for the IMs) which is currently valid. It is an accumulated statement of the work progress made since the beginning of the programme in January 2007. Earned value means that only tangible results providing an (intermediate) outcome are counted. In other words: the work progress sticks to the milestones which have been passed up to certain date. Each milestone marks an earned value and a certain result: a completed plan study, an approved budget, a go live of a project or a draft or final concept. Activities or project phases which have been begun but not fully completed do not count for the overall work progress.

The following information given in this report is based on the above mentioned principles. In total the current corridor implementation plan is comprised of about 160 infrastructure measures with 960 milestones plus 24 work packages performed by the WGs. It is our objective to report the most realistic and tangible facts about the corridor improvement development and progress of measures and traffic quality. However, the work progress, measured in [%], is partly still subject to an individual estimation by each PIM respectively WGM. Big infrastructure measures are performed over many years and thus not easily providing measurable progress every month. Wrong estimations will be identified by plausibility checks of a sequence of reported data in future. Thus the data quoted in this report is meant to provide a good orientation of the corridor progress and serve the awareness of possible risks and corrective measures to be required in future.

At the beginning of each chapter, some key performance indicators display the status of the WG or the projects of the IMs. Figure 36 displays such a header as an example.

Due Date of Reporting	07.12.07	**WG Result [%] Plan**	10	**WG Result [%] Actual**	10
Work Packages Total	4	**Work Packages Finished**	1	**Work Packages Pending**	3
Start	01.11.07				
End	31.12.15				

PSP	WP	Results and Milestones achieved
1.1	Work Package 1	Final report and documentation presented. Work package closed.
1.2	Work Package 2	First analysis phase completed
1.3	Work Package 3	Work package to be started in 10/ 2008
1.4	Work Package 4	Work package to be started in 06/ 2009

Figure 36: Example Header and KPIs of a WG/ an IM

The *due date of reporting* is the day, up to which all progress, risk, changes and events are reflected in the underlying report. Usually, the due date is the end of a quarter. The next figure displays the *planned work progress* of the WG (or IM projects), according to the latest baseline. This figure is given in [%], as explained above. The *actual work progress* made is given in the top right box. The second line of the header contains the number of work packages (projects for IMs) dealt with by a WG respectively projects of an IM in total, the ones finished and the ones still pending. The *work packages finished* plus the *work packages pending* shall sum up to the *total number of work packages*. The *start* and *end* dates mark the total time span of planned work of the WG (or the IM). The second table of the header lists all *work packages* (projects for IMs), together with their *PSP* number of the baseline and *the results and milestones* recently achieved.

Annex D: Cross reference IQ-C action items

This table is to identify the IQ-C action items and to enable a quick and convenient reference.

IQ-C #	Action	Chapter	Page
1	Digital coordination	2.1	21
2	One stop shop optimisation: shortening response times	2.3	27
3	Monitoring traffic performance	2.3	27
4	Improving punctuality	2.3	27
5	Improvement international capacity allocation process	2.3	27
6	Integrated elimination of bottlenecks	2.5; 3.1-3.5	35; 47f.
7	Mutual recognition of engine drivers	4	64
8	Mutual recognition of locomotives	4	64
9	Monitoring of market regulations	4	64
10	ETCS	2.2; 3.1-3-5	23; 47f.
11	Terminals	2.6	43
12	Operational Rules	2.4	32
13	Railway noise	4	64
14	Customs	4	64

Figure 37: IQ-C cross reference

Annex E: Development and history of document

Delivery and Approval of the Working Groups chapters

Chapter	Working Group	Responsible WGM	Delivery	Approval
2.1	TAF TSI	Laurens Berger	07.01.09	30.01.09
2.2	ERTMS	Stefan Wendel	12.12.08	24.01.09
2.3	Operations	Antonio Garofalo	07.01.09	15.01.09
2.4	Capacity	Heinz Pulfer	19.12.08	21.01.09
2.5	Traffic Quality	Hansruedi Kaeser	19.12.08	21.01.09
2.6	Terminal Studies	Thomas Schneider	22.01.09	23.01.09

Delivery and Approval of the Infrastructure Managers chapters

Chapter	Infrastructure Manager	Responsible PIM	Delivery	Approval
3.1	ProRail	Laurens Berger	19.12.08	30.01.09
3.2	DB Netz	Thomas Schneider	29.01.09	30.01.09
3.3	SBB Infrastruktur	Heinz Pulfer	19.12.08	21.01.09
3.4	BLS Infrastruktur	Daniel Gerhard	12.01.09	16.02.09
3.5	RFI	Silvia Carloni	10.12.08	22.01.09

The remaining chapters 0, 1, 4 and 5 have been created and written by the PMO.

IQC

IQ-C Progress Report 2008

Bundesnetzagentur

Schiedskommission im Eisenbahnverkehr

NMa

Ministero delle Infrastrutture e dei Trasporti

IQC

IQ-C Progress Report 2008

The IQ-C Progress Report presents the work of the IQ-C Working Group of Regulatory Bodies done in 2008, including progress achieved, and the milestones planned for the common work of the Regulatory Bodies in the North-South Corridor between Rotterdam and Milan/Genoa in 2009.

The Working Group consists of experts from the rail regulatory authorities of the Netherlands, Italy, Switzerland and Germany. In respect of special aspects such as Rail Net Europe (RNE) the IQ-C Group's work is also supported by the Austrian regulatory authority. Monitoring cross-border traffic on the main rail freight corridor between Rotterdam and Milan, the Group is trying to identify any competitive barriers that may exist.

I. Progress achieved in 2008

In 2008, the IQ-C Working Group collected and evaluated facts of cases relevant to regulation, and worked on solutions to legal questions on the common basis of the European provisions concerning rail regulation.

1. Interpretation of undefined terms, scope of the term "discrimination"

At the IQ-C meeting held in Zuerich in February 2008, the members discussed the undefined term "discrimination" in railway law in order to obtain first results for a common understanding. In fulfilment of their mandate to secure fair and effective competition, the Regulatory Bodies monitor and supervise infrastructure managers to verify that they grant non-discriminatory access to the rail infrastructure. Both under national and European railway law, the requirement of non-discriminatory network access and the prohibition of discrimination are the substantive law instruments used.

The Regulatory Bodies, especially the members of the IQ-C Working Group, were therefore engaged in interpreting and clarifying these undefined terms.
As a result of their work, the prohibition of discrimination is considered to cover more than one group of cases, of which "different treatment of the same matter without reasonable justification" is just one. Hidden discrimination, potential discrimination and the violation of the transparency rule also have to be taken into account. It must be decided in each individual case whether the law has actually been violated.
Moreover, the members of the IQ-C Working Group consider it necessary to include the transparency requirement as well as hidden and potential discrimination in the prohibi-

tion. The members agreed that a more specified, IQ-C-based interpretation of the terms "discrimination" and "prohibition of discrimination" would be useful, which will then be transferred to the European Commission.
The IQ-C Group pleads for a broad understanding of the term "discrimination" which includes any potential form of discrimination. The network access requirements should be reviewed with regard to any form of discrimination in order to avoid discrimination by the infrastructure managers in everyday business. The discrimination prohibition urgently needs to be guaranteed in full scope.
The Regulatory Bodies have detected a wide range of possible "fields of discrimination" in regulations set up by the infrastructure managers as well as in their daily business of operating the rail infrastructure.

The result will be presented to the European Commission and to the other Regulatory Bodies in 2009 (regarding Art. 31 Directive 2001/14/EC).

2. Cooperation with Rail Net Europe (RNE)

Rail Net Europe is an association of European rail infrastructure managers based in Vienna under Austrian law. It is dedicated to promoting the competitiveness, and increasing the quality and efficiency of international rail traffic by intensifying the cooperation among members, coordinating international traffic processes and activities, and facilitating the allocation of rail infrastructure capacity to international rail services.
In 2005 the IQ-C Regulatory Bodies started discussions with RNE about their processes and "Pathfinder" software, offered to railway undertakings for requesting train paths. The IQ-C regulators have considerable doubts about "Pathfinder", fearing that the non-discriminatory provision of the required route information and the non-discriminatory use of this communications tool cannot be guaranteed.

The "Pathfinder" software was initially designed within Forum Train Europe (FTE) from where it was transferred to RNE upon the separation in 2004. FTE considers this tool important to be able to identify any problems – for instance in negotiations with customers. Considering the experience FTE has gained by supporting its members in using "Pathfinder", the IQ-C Regulatory Bodies have the intention to continue the exchange with FTE this year with a view to identifying any scope for discrimination, even though RNE currently provides inadequate access to information.

In its present form "Pathfinder" causes concern in particular with regard to its non-discriminatory use, the transparency of the information provided to users, and the treatment of confidential business data of railway undertakings communicating their data via the IT tool. Despite negotiations with the Regulatory Bodies, RNE has been unable to remove the doubts of the European Commission and IQ-C Regulators about the non-discriminatory nature of the communications tool. These doubts are further increased by RNE's reluctance to invite regulators to its business conferences and information meetings with the railway undertakings and the authorised applicants. Instead of this RNE has organized a special meeting where only the Regulatory Bodies and the European Commission were invited.

According to RNE members "Pathfinder" is expected to be used not only as a "communications tool" but additionally as software for concluding contracts in the near future. While this development is appreciated by the Regulatory Bodies as it promotes the intermodal competitiveness of rail transport, it also proves the growing importance of their demand for transparency.

In view of this development, the IQ-C Regulators are all the more convinced that it is absolutely necessary for them to identify any scope for discrimination on the part of RNE and to eliminate it in the interest of competition.

Moreover, the IQ-C Regulators consider that RNE's function as a kind of "path allocation body" also needs clarification. Particularly by coordinating processes in international traffic, RNE seems to have assumed a key role in allocating international paths, which makes it increasingly resemble an "allocation body".

"Pathfinder" can assist the process of allocating paths, but the Regulatory Bodies suspect that the software is more than a "communication tool". It is already an essential element of the international path allocation procedure. RNE plays an important role in this process whose structure is similar to the functions of an "allocation body": in the IC-Q Group's view it must therefore not be allowed to avoid being regulated.

However, with the European regulations addressing only cooperation between rail infrastructure managers in this matter, the regulatory authorities have difficulty monitoring and cooperating to specify further details of the IT tool.

Their aim is to have the same transparency that is already available to infrastructure managers. The Regulatory Bodies, too, should be able to inspect the software in order to ensure that it is used in a non-discriminatory manner. In their view, the software could, for instance, be further developed or adjusted to their needs by adding an "information filter" for retrieving information. As RNE stated at various meetings with the Regulatory Bodies

and the European Commission, it would be technically feasible to adjust the software to accommodate further information needs.

It is difficult to exert influence on RNE's activities within the task of planning international train paths. This is attributable to Art.15 of Directive 2001/14/EC under which the infrastructure managers are called on to cooperate. Since the Regulatory Bodies are not mentioned in the provision, and for lack of appropriate powers elsewhere in the Directive, the Regulatory Bodies are not authorised to influence this cooperation, even in the case of discrimination. The European Commission has a weak position, too. According to Art.15 of Directive 2001/14/EC, the "Commission shall be informed and invited to attend as an observer". In view of a development towards the establishment of a European railway regulator, it is - from the IQ-C Group's point of view - necessary to strengthen the legal influence of national Regulatory Bodies.

According to current plans, the cooperation between RNE and the regulatory authorities is to be placed on a solid foundation by means of a Memorandum of Understanding. By obtaining an adequate possibility for monitoring, the regulatory authorities could thus strengthen their position and ensure non-discrimination.
The IQ-C Group and the EU Commission are currently in contact with RNE in order to achieve such a Memorandum of Understanding. At the conference held in Vienna in November 2008, RNE was not willing to sign the Memorandum of Understanding, however.

3. Cooperation with Forum Train Europe (FTE)

In connection with the discussion about the IT tool Pathfinder, the IQ-C Working Group, at its meeting in Brussels in April 2008, also discussed with a representative from the international organisation Forum Train Europe. FTE is an association that was founded in 1872 and is based in Berne. Currently it has 98 members from 35 European countries and is engaged in passenger and freight rail traffic.
Organising timetable conferences at European level, the organisation originally comprised both railway undertakings and rail infrastructure managers. In response to European legislation, the infrastructure managers separated from FTE in 2004 and established the European association RNE. Since then, FTE has annually organised a forum for planning international rail traffic and supported its members in their planning processes. FTE is dedicated to ensuring a transparent and responsible cooperation in respect of the allocation of paths to international rail traffic. One important prerequisite for this is the optimised planning of international paths. FTE also assists its members in making path requests using the "Pathfinder" software.

IQC

II. Strategic plan 2009

The IQ-C members will continue to pursue the aim of identifying and analyzing competitive barriers in the field of cross-border railway traffic on the North-South Corridor. They will also pay attention to the implementation and consequences of the intended Regulation concerning a European rail network for competitive freight.

1. Rail Net Europe (RNE)

The main aim of the IQ-C Working Group for 2009 will be to achieve constructive, ie unrestricted and transparent cooperation with RNE. This includes participation at the RNE Business Conferences with the railway undertakings. The Group will observe the further development of „Pathfinder", particularly with regard to the IT tool's role in the international path allocation procedure. Moreover, there is still a chance that the Memorandum of Understanding will be concluded.

2. Discussion on the interpretation of the indefinite terms "congested" and "capacity"

The joint identification and solution of legal questions has proven to be of great value and will be pursued in the working periods to come. Further workshops will deal with the interpretation of, and relationship between the indefinite terms "congested infrastructure" and "infrastructure capacity" following the definition of the term "discrimination".

signed on 04 February 2009 by:

Bundesnetzagentur (BNetzA, German RB),

Nederlandse Mededingingsautoriteit - Vervoerkamer (NMa, Dutch RB),

Railways Arbitration Commission (RACO, Swiss RB),

Ufficio per la Regolazione dei Servizi Ferroviari (URSF, Italian RB)

NSA Report about Activities on IQ-C

February 2009

1. Actors on IQ-C

The corridors actors and representatives are members of Task Force of Interoperability (TFI).

Those are 5 authorities/ministries:

Austria: BMVIT (Federal Ministry of Transport, Innovation and Technology)
Germany: EBA (Federal Railway Authority)
Italy: ANSF (National Agency for Railway Safety)
Netherlands: IVW (Dutch Transport and Water Management Inspectorate)
Switzerland: BAV (Swiss Federal Office of Transport)

and 3 infrastructure managers:

ÖBB Infrastruktur Betrieb AG
DB Netz AG
SBB Infrastructure

Results of the work of TFI group are technical basis for the MOU on 7 June 2007 among the 5 Member States (D-A-CH-I-NL). Regular TFI meetings are held with manufacturers of multi-voltage/multi-system locomotives (e.g. Bombardier Transportation, Siemens Transportation, and since 2008 also started with Ansaldobreda).

2. Applied Method

Since 2002 the TFI group coordinates the homologation process for multisystem-locomotives that are foreseen for the operation on the Genova – Rotterdam – corridor.

TFI group applies to a common requirement list and categorizes each item according A, B, C. Thanks to this work the Group has achieved a high level on expertise and trust among each other.

Certificates according to the MOU were already delivered. The authorities provide each other with the results of their approval about the applicants reliability and if he might be able to take his responsibility for the safety of the vehicle at the state of authorization and throughout the lifetime of the vehicle. Procedures for authorization will be laid down within 2008 among TFI group.

3. The Tool

Important tool for the TFI group is the International Requirement List (IRL). IRL is a database which matches the regulation for authorization of vehicles of each Member State against the regulation of the others. The access to IRL is realized via Internet starting from February 2008. The definitions and the first set of classifications of A, B and C categories for locomotives are included in the IRL-database in September 2008.

Detailed regulations for the financing of IRL are contractually regulated. Estimated costs for maintenance and service of the IRL database are about € 100.000 per year. These costs are planned to be financed by entrance and annual access fee of users (e.g. RU's,

manufacturers, consultants, notified bodies). The TFI has positive reactions on the willingness of the users to pay for their access (at this moment already 14 parties.with payed access).

For 2008 the the balance from revenues and expenditure of approx. 40,000, - is divided under the 5 TFI countries and each country pays via its authority or ministry See note 1)
Estimated Costs to enlarge the IRL for new countries are about € 50.000, which should be paid by the country, which applies for the extension. IRL could also be used for additional application, i.e. ERTMS, GSM-R and infrastructure-requirements.

In January 2008 TFI presented their results to ERA, CER, UNIFE. See note 2).
TFI will regularly update the IRL and improve the scope of vehicles and the A-B-C classification in order to increase the number of A-categories. he next step will be taken until mid 2009 -for trainsets (multiple units) and passenger coaches. These activities are driven by current requests of the market within framework of certain projects.

Note 1: Some of the participating countries did not yet internally generate the possiblities for the payment of the related costs for 2008. TFI asks this countries to activate this possibility as soon as possible and to foresee that this will also be possible up to 2010.

Note 2: Report in “Der Eisenbahningenieur” January 2009 from Mr. A. Schuppe – director of the VDB – on the subject of Cross Acceptance with the foreseen goals.

4. Enlargement towards ERTMS

Cooperation of TFI group and ETCS corridor group has started and will be applied among both groups to coordinate the ERTMS procedures for authorization of ERTMS on **infrastructure** and on **vehicle** issues. The first expert meeting of both groups has been held on 26th/27th February 2008 in Utrecht. The last was on the 3rd of February 2009 (last week). Mr. Hanspeter Haenni will separately report on the results of hat meeting..

The migration of class A and B systems and border transitions have to be taken into account as difficulties coming from this transportsystem because of the logical and necessary interaction between infrastructure, rolling stock and operations. Especially for this issue TFI and ETCS corridor group could monitor the migration steps in a positive way.

Beside of the coordination among the TFI group and the ETCS corridor group, actions have to be taken to coordinate the **operational** issues on the corridor. ETCS corridor group will raise this issue during their next meeting on 4th of March in Berne and will report on the results later on.

A general finding is that the level of harmonisation is quite different for general aspects of rolling stock and CCS (RST is widely harmonised over a long period of time – CCS is not harmonised at all and ETCS is still in the development phase).
Another finding is that ETCS specifications available, do not allow a separated authorisation of the onboard and the trackside part of ETCS .Authorisations are based on system assessment approaches integrating the onboard and the trackside part.
For some topics (e.g. risk analysis) it seems to be clear that all MS have used approaches defined by the CENELEC standard but the results for this moment are even not comparable.
CCS safety aspects are deeply dependening on infrastructural facts and as well of operational philosophies (so far mostly not harmonised in Europe) it is even difficult to define a scale as a base for comparison and following that cross acceptance.

Taking this short analysis of the existing situation into account, it seems to be feasible to start with a small group (Corridor A+B) in analogy to the successful RST approach by the TFI group but closely accompanied by the ERA.
It is still the intention to harmonise operational as well as engineering rules as far as necessary for interoperability. As this process is progressing slowly alternative approaches could be considered additionally (e.g. a "classic" CENELEC standard approach by cross acceptance of generic products that might be enlarged onto some part of generic applications and to specific applications depending on the level of harmonisation later on).

Not to be misunderstood: it is not intended to harmonise as much as possible (even if this would be most beneficial for cross acceptance) but the necessary issues for interoperability only.

The consequence is that by the concept of partially harmonisation also the effect of cross acceptance is limited by the level of harmonisation.

5. Enlargement towards other countries

Belgium, Netherlands, Luxemburg and France have signed a 4 country agreement on cross acceptance on the 22nd of December 2008. This protocol featers an easy joining procedure for other countries. Extension with Switzerland is foreseen within some months. A France – Spain, France – Italy and probably a French – Polish agreement will follow soon.

The new interoperability directive 2008/57 gives the legal framework for Member States to apply to the cross acceptance method. The directive is foreseen to be put into national law probably earliest end of 2010. Therefore as long as there is no legislation which allows Member States to apply to the cross acceptance method. The MOU will further on be the regulatory basis for it. The technical work as laid down in the Annex to the MOU could be done by corridor groups like TFI group by expanding the reference list with bi- or multilateral negotiations of the corridor members' authorities.
The courtesy of IRL and TFI method stays at the 5 TFI member states.

To accelerate the spread of the cross acceptance method among Member States is seen as an advantage not only for the sector itself, but especially for IQ-C-Partners to improve cross border traffic on the corridor. Therefore it is suggested IQ-C to invite interested Member States to join the MOU; it is intended to contact appropriate to BE, CZ, DK, FR, HU, LU, SE and PL.

6. ERA

The ERA has set up a working group on cross acceptance to spread the 2008/57 Article 27 with its Annex VII to establish a EU common requirement database for an A, B, C classification procedure and cross acceptance process as a tool for all members.

The current TFI work is the basis for this approach and ERA and TFI are working on a common migration process from TFI to ERA cross acceptance. Due to the fact of ERA's time schedule of about two years before getting into operation, the IRL will continue at least for this period, so foreseen is until the end of 2010.

As the TSI CR Locos and Passenger Carriages will probably take two years for publishing and will give a seven year transition period and possible still a number of open points, the cross acceptance will live for at least an other ten years.

7. Mutual recognition drivers licences

For this moment it is to be mentioned that for the Corridor A there are already conventions. Between DE- AT and DE-NL on this subject. It is foreseen that a convention between Switzerland and Germany will be signed.

MISSION STATEMENT
MANAGEMENT COMMITTEE ERTMS CORRIDOR ROTTERDAM – GENOA

1. Introduction

Given the result of the corridor study of the ETCS Task Force [Encl.] the Ministers on the Rotterdam – Genoa corridor signed a Letter of Intent concerning ERTMS deployment on the corridor on 3 March 2006 in Bregenz. This Letter of Intent defined the role of the Executive Board and proposed the creation of a Management Committee for the corridor implementation. On April 10, 2006, the representatives of the transport ministries decided to entrust an Executive Board with the implementation of the corridor concept

2. Objectives and principles of the Management Committee

The Management Committee

- will create the organizational, technical and operational conditions to that extend, that ERTMS will be operational with the exception of the sections Oberhausen-Mannheim, the Gotthard/Ceneri, the Milan South-East Belt and the Giovi new line in the Italian part of the corridor by 2012, respectively the entire corridor by end of 2015 the latest, which is in accordance with the findings of the corridor study Rotterdam-Genoa corridor [Encl.]

- will interface IQ-C team in order to define the conditions for harmonizing the other improvement options necessary for the corridor, taking into account the IQ-C action plan

- is responsible for the elaboration of the necessary documents ensuring the interoperability, the adequate performances of the operation and the related best cost effective corridor solution

- is responsible in coordination with the RUs and rolling stock requirements for the development of a corridor implementation plan on corridor Rotterdam - Genoa considering the interoperability as the highest priority and, taking also into account, the expectations as stated in the Ministers´ signed Letter of Intent (LoI)

- will evaluate the necessary resources for the activities to develop the interoperable corridor, proposing to the Infrastructure Managers the organizations for the timely development and implementation of ERTMS and indicating the other improving options to be defined and agreed upon, taking also into consideration the national rules for the budget allocation

- ensures the integral project implementation by all participating Infrastructure Undertakings and progress reporting to the Executive Board accordingly

- will in general support the Executive Board in fulfilling their obligations as stated in the Executive Board Mission Statement.

3. Time-period and competences of the Management Committee

The Management Committee will act until the implementation of the ERTMS project on the corridor is fulfilled (in the current planning the target date are 2012/2015), or until a decision to terminate the activities will be formally issued by the Executive Board (the Management Committee can propose to terminate the activities but cannot directly make this kind of decision).

The Management Committee should steer in coordination with the rolling stock migration of the RUs the ERTMS deployment and define the conditions for harmonizing the other improvement options on the corridor. The Management Committee consists of representatives from the relevant Infrastructure Railway Organizations, acting within their national framework with the common aim of ERTMS deployment on the corridor. Within the national framework, the Infrastructure Managers will propose the necessary projects to their national transport ministries. The Management Committee will be responsible that the project proposal will be discussed, agreed upon and consolidated for the entire corridor. Therefore, the main competences of the Management Committee are:

- come to common agreements with the relevant Infrastructure Managers respectively their organizations at corridor level concerning planning and implementation of ERTMS deployment
- request sufficient resources for ERTMS deployment through the participating Infrastructure Managers. Taking into account relevant national, European funding and budget regulations
- give advice to the Executive Board in case of national railway regulations that may hinder the implementation of the project

4. Organization of the Management Committee!

The Management Committee consists of responsible representatives from each infrastructure undertaking along the A Corridor (ProRail, DB Netz, SBB, BLS and RFI.)

The members of the Management Committee decide about structure, content and the financing of the future cooperation within the Management Committee and its suitable working organization (e.g. Programme Management Group). The Management Committee will ensure sufficient equipment and assignments required for an effective and successful working organization on the corridor. Those decisions are taken in accordance with national regulations and competencies.

The Management Committee will decide case by case on the participation, collaboration respectively involvement in the project organization of necessary third parties and according to the actual development and needs of the project. Particular emphasize is given to the timely information of railway undertakings and appropriate consultation on their production and rolling stock plans. This will help to ensure an efficient migration path.

The secretariat of the Management Committee will be taken care of by its working organization.

5. Main Tasks of the Management Committee

In order to reach the objectives mentioned under point 2, the Management Committee, taking into account the experiences made, has to create solutions and manage primarily the following subjects:

- Elaborating coordinated infrastructure and rolling stock objectives (including homologation processes) for constructors, operators and net users in relation with the train control and management systems ETCS and GSM-R
- Elaborating the necessary objectives which the infrastructure operators have to include in their free access regulations
- Addressing the requirements, indications and objectives for elaborating the regulation of the system maintenance during the entire life cycle (e.g. instruction, change, release and configuration management, diagnostic, maintenance and test concepts)
- Addressing the requirements and indications for elaborating coordinated generic ETCS operation regulations as well as for managing the transition from SRS 2.3.0 to SRS 3.0.0 version (e.g. by introducing L1LS and Radio Infill change requests)
- Addressing the requirements and indications to elaborate coordinated roll-out of selected telematic applications for freight according to the requirements of TAF/TSI as well as selected operational rules according to requirements of the TSI Operations. The same applies to further improvement options to be defined and agreed upon
- Identifying and solving conflicts/deficiencies during implementation
- Elaborating and representing a common position for the consolidation and development of ETCS specifications through communication and knowledge sharing with relevant European bodies
- Coordinating the global net during the ETCS implementation
- Addressing the requirements, indications and options to I-QC for analysing and elaborating additional measures for further performance improvement of the corridor, e.g. in the area of cross-border, and managing the train path handling, the freight and carrier logistics, etc

The tasks taken up by the Management Committee aim to avoid unnecessary supplementary costs of the railway undertakings during planning, development, rollout and operation of the ETCS on the corridor. The coordination costs between the railways respectively with third parties shall be adequate and optimized to meet the requirements, and be shared among the Infrastructure Managers.

There are tasks which shall not be subjected to the Management Committee's responsibility e.g.:

- the realization of specific performance mandates established to assist railway undertakings, infrastructure operators or third parties (for instance planning work for vehicle updates)
- the proofs of implemented safety and RAM (trustworthiness, availability, maintenance possibilities)
- the responsibility and management of commercial negotiations regarding the acquisition of line and vehicle equipment of third parties
- roll out management of the corresponding national projects belonging to implementation and operation of the corridor programme

6. Rights of the Management Committee

The rights of the Management Committee result from the tasks and duties agreed upon by the parties.

7. Duties of the Management Committee

In general the Management Committee contributes to the implementation of the objectives mentioned under point 2.

In the framework of its tasks, the Management Committee ensures a uniform, neutral and non-discriminatory treatment of all railway undertakings.

The Management Committee, taking into account the given Executive Board indications, will cooperate with the European coordinator for ERTMS and the European Railway Agency. It will establish the necessary cooperation with notified bodies and national safety authorities. It will also ensure where necessary the cooperation with the sector organizations, e.g. CER, EIM, RNE, ERTMS-user group, IQ-C etc.

Irrespective of responsibilities for infrastructure financing as per both, national and European rules, the Management Committee is to endeavor the availability of the necessary resources, so that implementation can take place on time.

The Management Committee informs the Executive Board timely and in an appropriate way on the current results and planned work, as well as on deficiencies and risks, which might jeopardize the project and need to be solved on the Ministries´ level.

The Management Committee will spend all its effort to direct and influence the activities on this corridor, ensuring maximum achievement of set expectations. Given the case that circumstances, conflicting with the common corridor targets may arise, the Management Committee will use all competences within the infrastructure organizations to solve the conflict to the extend national responsibilities will allow this. However, in such a case the Management Committee is not in the position to give directions.

8. Decision Making Process of the Management Committee

The Management Committee will decide on all issues of common interest concerning the implementation of the corridor respectively mandated by the Executive Board. The Management Committee needs to find agreement with the respective national Infrastructure Managers and taking into account the national framework decision makers and responsibilities.

The Management Committee will decide on the basis of consensus.

In case of not resolvable conflicts, it is not the competence of the Management Committee to decide and instruct on behalf of the Infrastructure Managers upon their implementation actions. The conflict then has to be solved via the Executive Board on Ministry and head of Infrastructure Undertaking level.

Overview selected projects for TEN 2007-2012 concerning corridor A

EC Proposal to EU-Ten-T committee November 2007

ERTMS

applicant	nr.	title	Request	Proposal
Infra				
It	60360	Corridor A	49,17	33
DE	60320	Emm-Oberhausen/Manh-Basel	74,71	23,25
NL	60060	Kijfhoek/Zevenaar	18,15	4,65
Nl	60310	Port track	4,5	4,5
Locomotives				
Nl	60160	109 Locomotives BR	9,05	9,05
Mitsui	60380	90 locomotives	11,5	9
Nl	60220	3 locs Railion NL	1	0
Nl	60050	50 locs Ox traction	5	0
DE	60490	48 locs Railion	28,56	4,8
DE	60180	Prototype Bombardier	1,91	0
DE	60260	Prototype Voith	1,2	0
management				
EU	60410	Management corridor	3,375	1,13
EU	60040	Testing by User group	12,078	6
EU	60100	3.0 development by usergroup	34,7	0

Priority Projects

applicant	nr.	title	Request	Proposal
It	18	Study Genova: Voltri-Brignole	5,05	5,05
It	23	Genova: Voltri-Brignole	88.02	0
It	116	Milano-Genova	160	0
DE	37	Study Frankfurt- Mannheim	86	35,45
DE	80	Karlsruhe- Basel	194,7	94,5
DE	44	Duisburg- Emmerich	63,3	63,3
DE	181	Interlocking Emmerich- Basel	145	0
Nl	90	Replacement 1500 V	19,8	19,8

EEIG Corridor Rotterdam-Genoa

The EEIG Corridor Rotterdam-Genoa is a European Economic Interest Group founded by the rail infrastructure companies Prorail, DB Netz and RFI. A association contract has been concluded as well with SBB/BLS as contractors to integrate the corridor infrastructure managers from Switzerland as a non-EU member state.

The general objective of the EEIG is to improve capacity and quality on the freight corridor Rotterdam-Genoa including the implementation of ERTMS. This shall be achieved by organising common specifications for ERTMS, infrastructure and quality measures on the corridor as fast as possible in the most economic cost in agreement with the members and contractors.

The tasks taken up by the EEIG aim to avoid unnecessary supplementary costs of the railway undertakings during planning, development, rollout and operation of the corridor implementation and managing the corridor implementation as one integrated project (undertaking).

The seat of the EEIG is Frankfurt/Main, Germany.

The EEIG will expire automatically at the end of 2015 but can be extended as project requires.

The EEIG is managed by two Managing Directors, placed by different members. The Managing Director acting is at the same time Programme Director as well.

The General Assembly consists of all members of the EEIG and is led by an appointed Chairman. The contractors take part in the GA. Further regulations about their participation, voting rights and other definitions of the partnership are subject to the association contract.