BRAIN-TRansversal Assessment of Intermodal New Strategies Trainer

DURATION	BUDGET
15/03/2019– 15/03/2021	**20 000 €**

Valorisation of the BRAIN-be project
BRAIN-TRAINS

PROJECT DESCRIPTION

BRAIN-TRAINS' main achievement was the development of a blue print establishing the detailed criteria and conditions for (developing) an innovative intermodal network in and through Belgium as part of the Trans-European Transport Network (TEN-T). More concretely, the project developed an operational framework (incorporating the required criteria and conditions) within which effective intermodal transport can be successfully established and within which all stakeholders can have beneficial participation and commitment. Focus was on rail intermodality, hence taking rail developments at the focus. BRAIN-TRAINS also focused on freight transport, but the interaction with passenger transport is evident, as they mostly use the same network, and many policy instruments (e.g. infrastructure construction, road pricing…) impact on both transport segments.

BRAIN-TRAINS tackled five issues, still unresolved scientifically, both for the sector and for policy-makers:
- scientifically, as that is the first purpose of projects granted by Belspo,
- for the sector, as the individual modes are still very much fragmented and working in isolated ways,
- but geographically too as country borders are real obstacles to the smooth functioning of international transport, especially by rail,
- and finally for policy-makers, as competences and responsibilities are spread over a multitude of ministries, departments and agencies, not only at the same level, but also at different levels (EU, national, regional, municipal).
Integrating and co-ordinating that is they key challenge to be dealt with. It is also the only way to achieve the objectives that the Federal government has itself set, as well as the ones imposed among others by the EU, but also to meet the ambitions of for instance the Belgian Regions.

The five main issues dealt with for rail freight concern network organisation and optimisation, value added, environmental impact, market organisation and government functioning. 25 conclusions and recommendations were derived and formulated from the BRAIN-TRAINS research.

The five issues tackled in BRAIN-TRAINS are also reflected in five quantification tracks that were developed. Each track developed conceptual tools and indicators:

1. A first quantification track involved simulating the optimal setup of national and international intermodal rail freight corridors, taking into account government roles and incentives. Use was made in that analysis of cost functions that deal simultaneously with the modes of transport as such, but also with transfer points. As part of the analysis, cost differences between the different intermodal solutions and also a comparison with road-only solutions are calculated.

2. The economic track estimates the direct and indirect impact on the national economy that establishing optimized rail freight transport can have, through job creation and value added. Depending on the setup, the direct and indirect impact on the economy may be larger or smaller. A micro-level analysis is applied to the rail freight operators in Belgium for the direct impact. A more advanced type of input-output analysis is applied to approximate the indirect impact on sector level.

3. It is tested how each scenario contributes to environmental and social sustainability. To do that, a Life Cycle Approach is used. The scope of the life cycle is determined, and the impacts are quantified. Environmental impacts are crucial in the analysis, as transport remains one of the big sources of air pollution, and the improvement targets that among other the European Commission imposes are drastic.

4. The need for and options of regulation are assessed. Regulation can be crucial, especially as the rail market turns more and more into an oligopolistic or even near-monopolistic one, at least for certain product types. Allocating the available capacity in an equitable way is important for the price and service offered to the users. The level of economies of scale, the optimal number of operators, and the required type and level of regulation are analysed.

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The developed methodology is based on two classical approaches used to analyse the market structure: the static and the dynamic approaches.

5. Finally, the fifth track models how public administration and policy making should be organized and coordinated to optimally implement rail freight development and intermodality. A transition problem requires good interaction and co-ordination between the relevant ministries and departments at different levels. This track searches for the optimal level of interaction for different contexts and environments. This resulted in the development of two toolboxes which detail processes, instruments and managerial techniques to increase policy integration, respectively administrative integration.

Objectives, impact and added value

It is important that the above-mentioned recommendations get actually picked up by the sector and policymakers, and that both use the conceptual instruments made available by BRAIN-TRAINS to support their decisions, as such instruments were largely absent to them until today. To that purpose, the BRAIN-TRAINS conceptual instruments need to be transformed into user-friendly interfaces. How this should be done, will be determined in consultation with academics, the sector and policymakers, through a series of workshops to be held. The workshops have a threefold function:
- Create further in-depth awareness of the need to implement the BRAIN-TRAINS conclusions and recommendations by sector operators and policymakers,
- Determine the nature of user-friendly spin-off interfaces from the conceptual BRAIN-TRAINS instruments, so that these can be developed within this valorisation action, eventually with the help (practical or financial) of non-BRAIN-TRAINS sector and policy stakeholders,
- Contribute to a research agenda for issues that would require further research at a later stage.

To maximize impact, the workshops will be combined with other events where a substantial number of academics, the sector and/or policymakers from the rail freight field are present, also so as to minimize budget needs for the Action. Minimum 6 workshops are aimed at, globally spread, and for which, 20 participants are expected each time. That is a good number, sufficiently large so as to cover various points of view and disciplines, but also not too large, so as not to prevent stakeholders from participating to the discussion.

Furthermore, the interfaces to be developed will also be presented and demonstrated at various public events, again globally spread.

Currently, it is observed that there are quite some fora where above-mentioned issues are now being discussed. Nevertheless it turns out that instruments are lacking to substantiate discussions. Therefore, no firm conclusions can be taken, and discussions turn in circles.

The five thematic BRAIN-TRAINS tracks compose a truly interdisciplinary approach, with interlinkages and mutual inputs, and with feedback scenario loops among them. This interdisciplinary character will also be applied during the BRAIN-TRAINER Action. This provides governments with realistic approaches to future developments. The output is useful not only in a Belgian context, but has scientific merits which are also applicable in other contexts, both as to the methods and techniques developed, as to the types of scenario applications made. The lessons learned and methods developed can for instance be applied also to measure economic and environmental impact for other economic activity sectors, to optimize regulatory setups, and to create a suitable government interaction and co-ordination framework. Therefore, the impact of the BRAIN-TRAINER Action may far exceed the mere field of rail freight intermodality.

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