“PROJECT PLANNING AND DEVELOPMENT”
Development of a Joint Approach for Project Development and Evaluation: A Best Practice Handbook
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0. SUMMARY

Background

The project Rail Baltica is aimed at supporting the development of the Trans European Railway link through two main goals of: (a) the definition of the most favourable route for the Rail Baltica railway link in terms of spatial planning and regional development, and (b) the raising of the awareness of the relevant actors (national and regional administrations and decision makers, industry and the public) in the BSR on the benefits of attractive railway connections.

The major goal of work package 3 of the project was the definition of a set of factors relevant for the success of regional infrastructure and real estate development projects in the framework of Rail Baltica. The analysis of different projects was to lead to a project independent approach, summarized to a site development handbook, which should serve as a transferable instrument for future measures. Relevant factors as well as projects (case studies) were to be prepared by all participating partners and collected and incorporated into the guidebook at hand. Essential for the achievement of feasible results was the participation of all partners involved and a strong database.

As the input of the project participants was much smaller than originally expected, only very little utilisable data and results could be collected. These results are on the one hand answers to the originally elaborated questionnaire concerning planning procedures in the partner regions, and on the other hand case studies on development projects in the concerned regions assigned by the partners. Up to the handbooks deadline, only three case studies from Germany were available; three questionnaires were filled out by partners from Lithuania.

However, these limited results, completed by statements collected at workshops held in Lithuania, built the basis for the guidebook at hand.

In addition to the general guidance on project organisation and management, chapters on recommendations for the planning of infrastructure development projects and on guidelines for transnational planning procedures as well as a chapter on “Freight Village Development” as a promising development option for Lithuania have been added.
General project organisation and management

After analysing all available results received from the Rail Baltica Project Partners, the general planning procedures and project organization, as well as the legal and political frameworks (especially the organisation and preparation of all necessary approval and permitting procedures) were generally estimated as having the strongest or a decisive effect on project development. Therefore, various aspects regarding these procedures are included in the handbook’s chapters 2 and 3.

Another focus was set on measures aimed at achieving a harmonized, streamlined project management and on instruments for conflict management and controlling. Besides a functioning conflict management it is also essential to make provisions for good cooperation and interrelations between all participants, especially between relevant authorities and private corporations, in an early stage of the project. A functioning cooperative network and good communications are essential for any project’s success and may be adhered by regular, personal meetings of all decision makers and stakeholders.

In order to take on the above mentioned aspects, chapter 2 deals with general definitions and generally effective processes regarding project organisation and management. It is common understanding of the project partners, that any development project can be defined as having common factors or parameters that hold true for all projects, no matter what the individual aim or technical focus of the project may be. This assumption is conferrable for project phases (initiation, exploration, planning and implementation) as well as for actors, tasks and responsibilities during a project cycle.

A Project Structure Plan (PSP) helps to illustrate the project goals, the technical input as well as the definition of work packages and activities. A PSP defines, which organisational unit is responsible for the implementation of these activities and how much time and resources are available for the implementation. On the basis of the PSP, specific levels of decisions, results and interdependencies can be defined, as the visualization of the interconnections and relations may be a useful help for decision makers. The interdependencies can be summed up with the question which result is to be achieved, who is the responsible expert, what information is needed for the task and for which following task will the result in turn become the basis.

Next to a clear PSP, the organisation of the project management is essential for a project’s success. An introduction into general project management responsibilities is given in chapter 2.4. Project management is split into two organisation units: the project leader (responsible for the operative control of the project and thus also responsible for the organisation and
control of the project steering) and the **project steering** (all delegable operations or functions of the project management, such as time/schedule control, cost control, quality control, documentation and reporting). A focus lies, among others, on the task of a functioning communication management, especially the ensuring of good communications between the different actors and stakeholders and the organisation of **regular meetings of all organisational units**, e.g. steering committee and working groups.

**Recommendations for the planning and implementation of infrastructure development projects**

The recommendations given in chapter 3 are based on the findings of the analyses performed in the framework of work package 3 and will give guidance for various aspects regarding the implementation of infrastructure development projects. The **legal and political frameworks** (e.g. the organisation and preparation of all necessary approval and permitting procedures) were generally estimated by the project partners as having the strongest or a decisive effect on project development.

Spatial planning requires some basic preparations such as the drawing of a **master plan** including the **assessment of existing planning documents**. The legal framework has to be analysed thoroughly and all **authorities involved in the permitting process have to be identified** beforehand, in order to avoid a deadlock during the project’s course. Contact persons have to be named and listed. Also private and non-governmental partners have to be identified as well as responsible regional and municipal administrative experts.

**Provisions for good cooperation** firstly aim at the undisturbed course of the project by creating efficient communication structures. **Responsibilities and competences must be clarified** and confined from the beginning. In order to direct these communication channels, a **plan for the communication structure** needs to be drafted in an early project phase (Project Initiation Phase).

Before project start, comprehensive regional planning procedures such as the compulsory **involvement of the public** or an **Environmental Impact Assessment** (EIA) have to be considered. The analysis of the chosen location for project development includes the assessment of alternative sites. Restrictions and potentials for site development should be listed, explained and graded.

Before project start, documents containing **legal requirements** have to be assessed thoroughly. Those legal requirements may for instance refer to ground contaminations or other restrictions, e.g. constraints by nature protection, preservation orders or the protection of historical
monuments. All competent authorities should be involved in negotiations over a contract under public law in order to eliminate legal problems.

Analysis of the political framework as well as the organisation and preparation of all necessary approval and permitting procedures at project start are essential for an undisturbed project course. A grouping of different approval procedures and concentration of responsibilities within participating authorities may accelerate the approval procedure.

There are different possibilities for the organisation of the project executing authority, e.g. a private enterprise or a public-private consortium have to be taken into account. However, the establishment of a coordination office / project bureau is useful in order to concentrate all project activities from the authorities’ perspective. All involved authorities have to name one contact person with sufficient decision making authority regarding planning procedures, project organisation, environmental issues and financing. These contact persons should be clearly identified and accessible for all project members.

An economic efficiency calculation for the entire project has to be carried out at project start (Initiation Phase); this primary calculation has to be continued as cost controlling during the entire project (responsible: Steering Committee, respectively delegation of cost controlling to an independent accountant.

A land use concept referring to the conditions of nature and landscape should be integrated in the project’s master plan under consideration of the interregional effect on infrastructure development, integration of project into existing regional infrastructure network, linkage of project site to existing railroad network and expected benefits of the project for regional development.

In the scope of an effective risk management, a catalogue of possible risks respectively their possible solutions has to be elaborated and available at project start, considering planning, financial, organisational and judicial risks.
Transnational planning – examples for bilateral co-ordination

This chapter on transnational planning procedures includes general preconditions for the planning of cross border infrastructure projects as well as excerpts of two of three case studies assigned by the German partners.

Essential is a clear definition of all objectives of the transnational project on both sides of the border. These objectives might be included in both regional development plan and the cross-border regional development plan; the existence of municipal land use plans / municipal development plans has to be assessed.

Further on, the responsible regional and municipal administrative experts for the transnational planning process on both sides have to be identified and involved in the planning process. The acceptance and approval of goals fixed in a clear and coherent project plan by both project partners has to be proved.

Case study 1: Border-zone and cross-border infrastructure planning in the area of the German-Polish border

One of the study’s essential goals is the drawing up of recommended actions for the further procedure in the cross-border cooperation, esp. the improvement of the communication bases. Essential result: Regional planning and state planning concepts oriented to own development may strengthen the border zone.

Case study 2: Frankfurt Oder (D) / Slubice (P): Example for transnational goods traffic

Essential result: When using existing potentials, an increasingly environment-friendly goods traffic development promoting economic development can be assumed for the Frankfurt (Oder) / Slubice region. The traffic function of the region will continue to be determined by the strength of the transport axis Berlin - Warszawa, with connection of transport routes of national significance.
Freight Villages - An example for specific regional projects along the proposed ‘Rail Baltica’ route (Case study 3)

Result and outlook: Essential for the Baltic States is a uniform and coordinated development strategy together with Poland and Germany to the EU with regard to the technical parameters and the financing capability. The potentials in goods and passenger traffic which no doubt exist should be used in order to develop attractive offers for the transport carrier rail.

The positive experience of the ‘Freight Village’ development in Germany and in particular in the Berlin region could give new impetus for “Rail Baltica”. Therefore, it should be examined whether a continuous institutionalised transfer of know-how can be set-up for the planning and realisation of logistics centres; business and entrepreneur associations of the respective countries may act as initiators besides the regions and towns concerned.
1. RATIONAL

1.1 Background Work package 3

INTERREG IIIB projects aim to support transnational co-operation to enhance a balanced and sustainable development of the European territory, thereby promoting the finding of joint solutions to joint problems by transnational co-operation. The INTERREG IIIB Rail Baltica project focussed on the Baltic Sea Region (BSR) INTERREG IIIB priority of promoting territorial structures supporting sustainable BSR development, focusing on measure 2 of this priority of creating sustainable communication links for improved spatial integration.

The Trans-European railway Rail Baltica, linking Helsinki – Tallinn – Riga – Kaunas – Warsaw and continuing on to Berlin, is to be developed within the territories of the cooperating EU Member States, i.e. the Via Baltica Spatial Development Zone. The project Rail Baltica is aimed at supporting the development of this Trans European Railway link through its two main goals of: (a) the definition of the most favourable route for the Rail Baltica railway link in terms of spatial planning and regional development, and (b) the raising of the awareness of the relevant actors (national and regional administrations and decision makers, industry and the public) in the BSR on the benefits of attractive railway connections.

To achieve these goals, 4 interlinked work packages have been implemented. They are:

1) the definition of a transnational agreed assessment approach and development strategy to enhance the benefits of the railway link;
2) the implementation of the assessment and strategy on national and regional levels;
3) the definition of a harmonized approach for the planning and evaluation of case-studies;
4) the launching of a promotion initiative and political discussion to further promote the Rail Baltica railway link through spatial planning and regional development instruments and measures.

This handbook presents the results of the activities implemented under work package 3.

1.1.1 Original concept

The detailed definition of the individual work steps to be implemented under work package 3 called for the following chain of activities (quotation from original concept as defined in application form):
Rail Baltica

- Definition of a set of factors relevant for the success of regional infrastructure / real estate development projects. Factors may include: analysis of overall restrictions / potentials of the site, legal status of development company to be founded, roles and responsibilities of key stakeholders, instruments of financing, interdependence with other infrastructure installations/projects, political backing, inter-regional competition, building law requirements, current vs. future use. The factors will be prepared by the regions and will be integrated into national sets of factors.

- On the basis of the practical findings under WP2 in relation to the defined strategy, a list of in-depth studies or case studies to be analysed in the course of WP3 will be prepared by each region.

- Selection of measures or development projects to be analysed in the framework of the case studies.

- The analysis of different projects will lead to a project independent approach to a site development handbook, which will make it a transferable instrument for future measures.

- The case studies will be analyzed in terms of strategy compliance (strategy of WP1).

1.1.2 Methodology

The methodology applied was elaborated in the initial phase of the project and presented during the project kick-off meeting in Riga and followed the concept for the work package as outlined above. As an initial step, common definitions for key terms were fixed. These included definitions of the terms: project, planning, spatial planning regional development, etc. On the basis of these definitions, especially of the term ‘project’, a set of common influencing factors was defined.

The project partners were asked to choose development projects (planned or ongoing) that either influence the development of the Rail Baltica Line, or that will be influenced through its development. These projects were then to be analysed in light of the defined factors.

The first step in the case study analysis was the data collection through a comprehensive questionnaire which was distributed to all project partners. The questionnaire presented a detailed set of questions and assumptions that were to be answered for the chosen case study projects. The questionnaire focused on the applied planning procedures / instruments, project structure, organisation and responsibilities (roles of the administrative and private parties involved), financing, the legal background, as well as the general and specific goals of the projects and their integration into local and regional development plans.
Through the comparative evaluation of all answered questionnaires, the harmonized approach for the planning and evaluation of infrastructure projects, as well as the improvement of planning procedures could be defined. The handbook was then to be disseminated to all project partners and relevant stakeholders.

The detailed questionnaire along with the introduction and definition of the key terms can be found in the annex to this handbook.

1.1.3 Change of concept and adaptation of methodology

The original methodology described above was altered during the course of the project implementation. The adjustments became necessary after the following developments:

- Germany named three case studies to be analysed in an early stage of the project. The other project partners had difficulties in the selection of suitable projects as case studies. The difficulties ranged from having too many suitable projects to choose from (Lithuania), to not having any suitable project to choose from (Latvia). The Partners from Poland did not actively participate in the study. Estonia had chosen the status of observers and did likewise not contribute case studies. The discussions held to this problem lead to the conviction, that case studies could only be defined in discussions and workshops.

- The understanding of the general aim of the handbook differed between the partners. While Germany and Lithuania adhered to the concept elaborated for the work package (preparation of a handbook to analyse and evaluate development projects), discussions showed that Latvia would prefer to follow a different approach: the Latvian partners favoured an approach that would result in a handbook giving guidance on the selection of case studies, i.e. guidance that would enable the planners to define development options. Case studies could then be defined and chosen from these options.

- The feedback to the disseminated questionnaire was minimal. The original detailed questionnaires disseminated were neither commented nor answered by any of the project partners. It was therefore decided to revise the questionnaires to a briefer set of questions that would allow a less time consuming response. Of these reduced questionnaires, only three were returned, all from partners in Lithuania.

- Interim results from WP2 had not yet been available.

During the first international workshop held in Frankfurt Oder on June 8th, 2006, the concept and methodology for the future work steps in the work package were discussed and consequently adapted. The questionnaires were dropped as a means of data collection and substituted by individual workshops with the project partners in all participating countries. All
project partners were again asked to select possible case studies and to present these in the workshops. The presentations and workshop discussions were to serve as a means of data collection as the basis for the handbook.

**Fact finding workshops:**

**Estonia:** No workshop was held due to schedule difficulties.

**Lithuania:** Two workshops were held in Lithuania (Kaunas on xxx, Siauliai on 8th and 9th of January 2007): The workshops were held as joint meetings of the representatives of work package 1 (joint assessment approach) and work package 3.

**Latvia:** It was not possible to agree on date for the workshop in Latvia. After numerous tries, the workshop was dropped from the programme in spring of 2007.

**Poland:** It was not possible to agree on date for the workshop in Poland. After numerous tries, the workshop was dropped from the programme in spring of 2007.

Only the partners from Lithuania were able to present case studies. During the course of the workshop held in Siauliai, different development options for the Rail Baltica alignment in Lithuania were discussed. The outline of the handbook was adapted to the results of the discussions during the workshops. It was the common understanding of the participants, that the development of Freight Villages in three alternative locations would be the most promising development option for Lithuania. It was therefore decided to include a separate chapter on “Freight Village Development” in the handbook. In addition to the general guidance on project planning, development and implementation, also an additional chapter on transnational planning procedures was added.

The data collected from the three case studies analysed by the German partners as well as the data gained on the Lithuanian projects and workshops build the basis for the assumptions and recommendations presented in the handbook.
As decided during a partner meeting on Oct. 11th, 2007 in Germany (held at the GTZ, Gesellschaft für Technische Zusammenarbeit), Latvia will also assign two additional case studies to external experts. Due to the work packages deadline in November 2007, results of these newly assigned studies will not be incorporated in the handbook.

1.2. Data collection

1.2.1 Questionnaire

A set of common factors and definitions was elaborated at the outset of the project. These factors follow the assumption, that any project can be defined as having common factors or parameters that hold true for all projects, no matter what the individual aim or technical focus of the project may be. It was the aim of the questionnaire to analyse the case studies in light of these common factors based on the definition of the term project. The questions focussed on key issues of the factors as well as on the interaction of the factors.

The questionnaire would thus provide the necessary background data on the selected projects. The data (responses/answers, missing answers, weighting) was to be analysed by a team of experts. Goal of the analysis was it to define components, procedures and methodologies that are of key importance for the majority of the analysed projects. These factors were then to be aggregated into a best practice handbook giving recommendations for a successful project development, implementation and evaluation.

The questionnaire contained various questions and assumptions referring to all possible circumstances in the scope of the planning of infrastructure projects. The focus of the questions was on the technical and social aspects of the project as well as their influence on the project management structure and vice versa. The partners were asked to weigh their answers, giving a special emphasis to certain issues or reducing the relevance of others. The given answers would thus allow an evaluation of the status quo of the projects on the one hand, as well as providing a verification or refusal of the assumptions. For the evaluation, the weighted answers would give important clues on the overall importance of the issue as well as on the conception each of the answering experts have on that issue. In the comparison of the different questionnaires filled for the different projects, an insight could be gained into:

1. the instruments, procedures, communication structures currently in place in the participating regions,
2. the roles and responsibilities of the different experts involved, as well as their understanding of their own roles,
3. the shortcomings and or positive influences of the applied procedures,
4. the awareness for necessary changes / amendments of the applied procedures.
1.2.2 Questions

The questionnaire was divided into the sections ‘General Project Data’ and ‘Planning Procedures and Influencing Factors’.

The General Project Data included a short description of the project goals and the participating administrative bodies / stakeholders. The data served as a reference for the evaluation of the questions asked in the second part of the questionnaire.

The aim of the questions in the second part of the questionnaire was the assessment of the effectiveness of the applied planning procedures on the one hand, as well as the determination and evaluation of key factors influencing project planning and development on the other. In order to reach this aim, the answers to the questions in part two of the questionnaire were more than a collection of raw data. The questions asked centred on issues assumed to be of importance for project planning procedures or project implementation. All questions were therefore based on assumptions. The answers to the questions would allow estimation whether or not the assumptions were correct.

The experts filling in the questionnaire were asked to evaluate the importance of each of the questions/assumptions for the specific project at hand. The weighting of the answers would allow the definition of key factors that are of highest importance for the successful planning and implementation of a project. The key factors from all analysed cases studies would then present the basis for the best practice handbook to be prepared.

1.2.3 Results of Questionnaires

Filled questionnaires were received for case studies in Siauliai, Marijampole and Panevezys Counties in Lithuania. Depending on the different planning stages of the projects, different sets of questions were answered. Of the applicable questions, the experts answered nearly all in detail and evaluated the importance of the issues. The answers given by the Lithuanian experts allowed for the following general conclusions:

- The vast majority of the questions asked regarding the general planning procedures and project organization as well as the legal and political frameworks, were generally estimated as having a strong or decisive positive effect on the project development / implementation. It was therefore concluded, that the procedures based on the assumptions will be included in the best practice handbook.

- The answers showed, that not all possibilities for a streamlined / optimized project management were utilized (Panevezys: no conflict management, no administrative or
inter-administrative coordination; Marijampole: no advisory committee, no clear
distribution of responsibilities / fields of activities).

- More specific issues, such as the question of whether or not a master plan was prepared,
whether or not an EIA was implemented, or which instruments for conflict management
and controlling were in place, were answered differently in all case studies. It is
therefore concluded, that no harmonized procedures for these issues are in place in
Lithuania. The handbook will present suggestions for such an approach.

- The answers given to the questions regarding project financing, marketing and land use
concept were more differentiated. E.g. a connection between the site selection / land use
planning and project financing and or marketing was generally not seen. Alternative
sites for the proposed development were not evaluated in all cases. Cost reduction
potentials are not monitored during the course of the project in all cases. The land use
concept was not always flexible enough to allow for changes in the implementation
phase of the project. Since project financing is nevertheless an important part of every
project, the handbook will present suggestions for an approach to financing, controlling
and marketing issues.

1.2.4 Case Studies
In the scope of Work Package 3, the following three case studies had been assigned to planning
offices by the German partners (Ministry for Infrastructure and Regional Planning of the State
of Brandenburg, Senate Administration for Urban Development of the State of Berlin in co-
operation with the ‘Deutsche Gesellschaft für Technische Zusammenarbeit, GTZ GmbH’):

1. “Studies of the border-zone and cross-border infrastructure planning in the area of the
German-Polish border in the sphere of the traffic corridor of Rail Baltica”,
prepared by Ernst Basler & Partner GmbH, Potsdam

2. “Cross-border goods traffic – Results, potentials and problems in the Frankfurt (Oder) –
Slubice region”,
prepared by ipg mbH, Potsdam

3. “Freight Villages in Brandenburg and Berlin – Traffic and logistical starting point of
the railway connection to the Baltic States, potentials and requirements”,
prepared by ipg mbH, Potsdam
The case studies were not evaluated with the questionnaire, but rather through working group meetings and workshops with the respective experts. A comprehensive report was then prepared for each case study, including recommendations for project development and implementation.

Case study no. 1 and 2 both refer to subjects regarding the Polish-German border zone. As an example for cross-border infrastructure planning mechanisms, case study 1 introduces various infrastructure planning projects between Germany and Poland and describes chances and difficulties in transnational planning processes. Case study 2 comprises an analysis of results, potentials and problems of the cross-border goods traffic in the Frankfurt (Oder) / Slubice region. The study assesses transport infrastructure and traffic flow as well as potentials, development targets and recommendations for an optimized organisation.

Short excerpts of case study 1 and 2 are presented in chapter 3 of this handbook.

Case study 3 examines the tasks and potentials of the Freight Villages in Berlin and Brandenburg with regard to development ideas and chances in the region as starting point of an infrastructure concept for the “Rail Baltica”. It intends to assess the efficiency of the logistics infrastructure along proposed “Rail Baltica” routes and provides recommendations for future planning steps. As the subject ‘Freight Villages’ was declared as a matter of great interest by the international project partners, this case study has been incorporated in the handbook’s context in detail (see chapter 4).

The original case studies in their entirety are attached to this document.

1.3 Outline of the handbook

The handbook will give general guidance for the implementation of spatial development projects in the framework of the Rail Baltica railway construction. The handbook is to be understood as a guideline for stakeholders on regional, municipal and project levels as well as a guideline for general planning procedures.

The projects to be implemented along the newly constructed railway line from Berlin to Warsawa, Kaunas, Riga, Tallin and on to Helsinki will all follow the goal of supporting the development and functioning of the Rail Baltica line. The handbook will therefore focus on the planning of infrastructure development projects with an emphasis on cross-border projects.

The handbook consists of two main sections: The first part is based on the defined common factors. It will follow an exemplary project life cycle and will provide guidance for project management and project organisation. The second part deals with the instruments, potentials and restrictions of cross border planning as well as the planning and construction of “Freight Villages” as an example for specific infrastructure measures in the scope of Rail Baltica.
2. GENERAL PROJECT ORGANISATION AND MANAGEMENT

2.1 Common factors

The term ‘project’ is understood to describe a realm of responsibilities and activities that is clearly defined in terms of technical input and time frame, which has to be carried out by an implementing organisation or administration. A project will always involve an interaction of different sectors or functions, and can additionally be characterized through specifics such as the immediate need for and importance of the measure, its singularity or uniqueness, as well as the general newness of the task for the project implementing organisation.

This means, that all introduced, repeated and continuing activities in the cycle do not represent a project in themselves. A ‘project’ in the understanding of this handbook is defined as

- being complex
- having unique noncyclical activities
- having a defined start and end point and thus a defined timeframe for its implementation,
- having a defined scope and goals,
- involving of a number of different stakeholders (experts, work-groups, companies, contractors, administrations, institutions, some founded only temporarily) on different project levels
- being divided into sub-projects and/or phases;
- having different variables / risks (financial, organisational, implementation);
- requiring a project management structure (project lead & project steering).

The definition of the term project holds true for all infrastructure development project regardless of their scope, size, technical framework, institutions involved or area of implementation. The definition is therefore internationally applicable to all projects analysed in the framework of Rail Baltica.

In the next step of the presuppositions for the handbook, we can take the definition of the term ‘project’ and state, that if common characteristics of a project can be defined, we can follow, that a list of common factors influencing project planning and implementation can be defined likewise. These factors are

- the legal framework in which all project planning activities are embedded,
the planning procedures applied,
the form of land use (past, present and planned),
the mode of project organisation, as well as
the economics or project financing.

Next to these more technical factors, project implementation is also influenced by a range of social factors. These are

- the cooperative network,
- the modes of communication, and
- Communication management.

### 2.2 Project phases

A comparison of different project life-cycles has shown that every project, regardless of its framework, will follow the same, repeating cycle of implementation. The cycle starts with the project preparation and planning process, goes into the project realisation phase or implementation and will end with the achievement of the project goals, their documentation and the subsequent termination of the project. In project implementation phase, it is generally helpful to further subdivide the work into phases, in order to minimize risks.

A project phase or segment is a categorization of the state of progress by means of the achievement of specific milestones, which separate the different phases from each other.

The following description of project phases displays a typical project cycle. Tasks and responsibilities during these phases may vary, depending on the nature of the project, including different factors such as the size, duration or resources available for a specific project. The description of the project phases is therefore to be understood as a general overview reflecting a typical course of a project; however, the described management requirements and tasks are not always delimitable exactly to only this one phase. Project management and steering responsibilities can be defined for the entire duration of a project. The model of project phases is certainly not sufficient as an instrument for project steering and control. Management instruments for specific phases and / or management responsibilities are presented in the segment on project management, at the end of this chapter.
An example for tasks and responsibilities during specific project phases is attached in the Annex of this handbook.

2.2.1 Project Initiation Phase

The first phase of a project is defined as Project Initiation Phase. The phase includes the definition of the project goals and ends with the decision to implement the project. The initiating agent (project leader, contractor, administration etc) has to define the project goals according to the motives that started the process. A description of the proposed action and its goals is the result. With the decision to go on with project implementation, the initiating agent will have to define a project leader and suitable organisational structures. For this, the project goals have to be refined and clearly defined. Only if the project executing organisation, the project leader and the project management have the same understanding of the project goals, the flow of activities can be coordinated effectively in the coming phases.

2.2.2 Project Exploration Phase

In the Project Exploration Phase the project’s general framework is described and first data is gathered. This phase includes the problem’s exploration and gives all project members the possibility to be acquainted with the project’s tasks. The Exploration Phase is prequel to the Planning Phase, in which these aspects will be further defined and documented. At the end of the Project Exploration Phase the future product, respectively the results as well as interim goals will be defined. The division of the project’s goal into interim goals, makes the effective coordination of necessary tasks manageable.

2.2.3 Planning Phase

The Planning Phase mainly provides a basis for the organisation and implementation of processes by means of the

- Project Structure Plan / Work Breakdown Structure
- Estimation of Expenses
- Scheduling
- Allocation of resources
- Cost planning
- Risk Management
- Elaboration of detailed project plans
The project planning starts with the elaboration of the Project Structure Plan (PSP), on which all future activities as well as the cooperative network (cooperation and interaction/communication of all project members) are based. The PSP subdivides the project in terms of

1. technical input - into sub-goals,
2. the distribution of work - into work packages, functions, responsibilities and assignments,
3. the accounting - into basic accounts.

The project goals and actions are now organized into manageable (planable and controllable) sub-units, which will be arranged in a hierarchical order (subprojects, phases, milestones, activities, tasks, and so on). It also serves as an instrument for the documentation of interim goals, competences, and responsibilities.

The estimation of project expenses will be prepared on the basis of the PSP. The defined work packages and assignments have to be analysed in terms of the available financial resources for the entire project and the needed resources for each assignment. The estimation can then be introduced into the PSP.

Like the project expenses, the project schedule must be planned. The schedule should reflect the same scale as the PSP and expense plan. Milestones for sub-goals must be defined. Schedules should be elaborated for individual work packages and, depending on the complexity of the project, even for individual activities. All schedules will have to be aggregated into a master schedule for the entire project cycle. Milestones can be incorporated into the PSP.

The planning of the allocation of resources is to guarantee the optimal assignment of personnel as well as technical and financial resources. Shortages and bottlenecks can be avoided and in consequence, the full utilization of the allocated means and capacities will boost project efficiency.

The detailed and integrated planning of the project costs or project financing is the basis for a cost effective project implementation. The focus must be on an ongoing process oriented cost planning and calculation, meaning that the calculation must be continued or monitored throughout the implementation process of the project activities. The same basis for the calculation should be adhered to throughout the project.
Risk management instruments should be introduced to ensure that a change in project prerequisites, framework conditions or assumptions do not lead to major problems in project implementation. Risk management instruments include a regular foresight into project developments (risk analysis) including the deduction of according precaution measures (risk prevention).

The results of all project planning activities are aggregated into project plans. For general project planning and management, the Project Structure Plan presents the most important of these plans. It can be used as an efficient means to integrate the major elements of the individual plans.

The Project Structure Plan includes the project goals, the technical input, the definition of work packages and activities, defines which organisational unit is responsible for the implementation of these activities and how much time and resources are available for the implementation.
A model PSP might begin with the following input:

Fig. 1: Model PSP

Source: blue! advancing European projects GbR, Berlin

2.2.4 Project Implementation Phase

The implementation phases for infrastructure development projects may vary greatly depending on the complexity of the projects activities. Thus, the time, effort and expenditures put into the realisation of the project goals differ from project to project. In order to facilitate
project implementation, this phase is always accompanied by project controlling or steering activities under the responsibility of the project management.

The focus of the management in project implementation lies on a continuous target-performance comparison. The goal of the comparison is it to identify all deviations from the set targets as early as possible. Deviations from the set targets will either lead to an adjustment of the set targets or to an adjustment in the means chosen for the achievement of the targets.

The achievement of the general project goal may be described as a triangle of competing factors throughout all project phases: the improvement of time, costs, and quality. Within a certain time frame the qualitative claims of the interim goals have to be implemented under consideration of available resources.

![Project Steering responsibilities](source: blue! advancing European projects GbR, Berlin)

It is the responsibility of the project management to care for the smooth implementation of the project activities in light of these competing factors. Project management in the project implementation phase is therefore always focused on the controlling of the factors time, financing and quality.

2.3 Project Management

The PMI Project Management Institute defines Project management as the application of knowledge, skills, tools and techniques to project activities to meet project requirements. Naturally, the knowledge, skills, tools and techniques will vary greatly depending on the scope of the project, its complexity and specifications, the targets set by the project leader, as well as
the branch or line of business. Projects may require a complex management structure involving a large number of experts that may be grouped in a firm or organisation. The applied project management tools may therefore also vary from complex software applications for time and resource control to simple checklists that may be handled by one or two experts.

For the sake of this handbook, we will be looking at suitable tools and techniques for the management of infrastructure development projects. These tools and techniques are meant for projects of such size and complexity, that a relatively complex management structure is needed. More detail on the specific tools and recommendations is presented under article 3 of this handbook.

The following chapter will firstly give an introduction into general project management responsibilities.

2.3.1 Levels of project management

Project management is split into two organisation units: the project leader and the project steering.

Project leader

The project leader in the framework of the project management is responsible for the operative control of the project and thus also responsible for the organisation and control of the project steering. The project leader will overtake all operations or functions of a client which can not be delegated to the project steering. These operations include the definition of the project goals, decision making, financing and measures safeguarding liquidity, definition of the necessary measures to implement the action, contracting and closure / signature of contracts, as well as general administration / conduction of negotiations.

Project Steering

The responsibilities of the project steering unit in a project cover all delegable operations or functions of the project management. For the control of the project progress and performance, 4 main management responsibilities can be named:

- Time / schedule control - with the goal of keeping to the set time schedules for all project activities. The time management should include all detailed schedules for all participants.

- Efforts and cost control - with the goal of keeping to the set budgets and overall project budget under consideration of the cost schedule / trend.
- Quality control - with the goal of assuring that the best quality product is produced within the set timeframe and budget. Quality control of the management itself involves the standardisation of management responsibilities and the documentation of all work-steps.

- Documentation and reporting - Documentation of the project progress and results and cost schedule including all deviations from the original plan. Technical and/or financial reports ensure that all relevant partners or stakeholders have the respective information they need. Project Meetings are part of the reporting requirements.

Next to these main fields of operation, project steering also involves

- Integration management - general coordination and integration of the different elements of the project.

- Scope Management - ensuring that the set goals are reached, including the identification of necessary modifications of the original plans.

- Resource Management - allocation of resources (personnel / non-personnel) according to abilities and project needs, team management.

- Communication Management - ensuring good communications between the different actors and stakeholders. Regular meetings of all organisational units, e.g. steering committee and working groups.

- Risk / Change Management - risk analysis, precaution and prevention, response concepts

- Procurement Management - Cooperation with contractors / agents

For all responsibilities of the project steering, a large field of different guidance handbooks, instruments and tools are available. Software solutions for the main fields of time and resource management are available for nearly every scope of project conceivable.

For some of the responsibilities mentioned, there are no directly accountable factors such as work days or financial input. Quality control, scope and resource management, communication
and integration are all factors that have to be evaluated on the basis of indirect factors and the experience of the experts. The control or management in these fields therefore only allow conclusions for the project progress or success as well as for the risk management.

Project Steering Committee

A project steering committee should be founded in order to safeguard the correct implementation of the project. The steering committee, which is placed above the project executing organisation, should consist of the project leader, and one responsible person from each participating authority / project partner. In case there are control boards / advisory boards participating in the project, these should likewise be involved in the steering committee. The number of members of the steering committee should be limited in order to concentrate responsibilities and to assure working control mechanisms. The steering committee should meet in regular intervals.

Responsibilities of the committee are:

- The monitoring the project’s progress
- To make decisions in case of unforeseen incidents (troubleshooting)
- The approval of changes in the Project Structure Plan (see below)
- The approval of budget reallocations

The control of a functioning communication structure is also one of the Steering Committee’s major tasks. Political backing by invitation of responsible politicians to steering committee meetings is essential in order to integrate also those persons, who are no direct project members, but important for an unobstructed project course.
Monitoring instruments

The parameters ‘Time Schedule’, ‘Financing’, ’Quality Control’ / ‘Quality Assurance’ and ‘Documentation’ should be controlled regularly by the steering committee by using the following monitoring instruments:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Monitoring Instrument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time schedule</td>
<td>Check by regular meetings</td>
</tr>
<tr>
<td>Financing</td>
<td>Financial Controlling</td>
</tr>
<tr>
<td>Quality</td>
<td>Quality assurance</td>
</tr>
<tr>
<td>Documentation</td>
<td>(progress) reports</td>
</tr>
</tbody>
</table>

Conflict management

One of the important tasks of the steering committee is a functioning conflict management. Project restrictions may appear not only beforehand, but also during the implementation phase. In order to overcome those restrictions, prearrangements have to be implemented in an early project phase. This may include the naming of a facilitator and the convocation of additional unscheduled steering committee meetings.
Example for a project organisation chart:

![Project Organisation Chart](image)

Fig. 3: Project Organisation Chart
Source: blue! advancing European projects GbR, Berlin

### 2.3.2 Project Structure Plan PSP

The Project Structure Plan serves as the basis for project management and therefore for the entire project planning, steering and coordination. It provides the basis for risk and variance analysis, project controlling and cost analysis as well as project scheduling.
Additionally, the interconnection, relations and interdependencies of results and project partners can be derived from the PSP. Within the reporting and documentation responsibilities of the project management, the Project Structure Plan will give an overview over all essential project components and interrelations.

Next to the variable technical aspects, an important issue of project planning is the planning, preparation, and organisation of required permitting and approval procedures. These must be aggregated into the plan showing which permits must be obtained from which administration at what stage of the project.

On the basis of the PSP, specific levels of decisions, results and interdependencies can be defined. In the lifetime of a project, numerous decisions on different levels have to be made. One example might be the decision to select a specific alternative in the planning phase of the project, or simply to select one of many possible contractors. These decisions will have to be made by specific experts in a very specific time slot, as the subsequent activities depend on these decisions (quite simply: a contract cannot be executed if a contractor is not chosen).

The PSP can be supplemented by a detailed plan showing the interdependencies as an aid for decision making and the definition of project milestones. It may not be suitable to draft a detailed plan showing all interdependencies across the different project components or disciplines; as such a plan can be highly complex even for smaller projects. However, for individual activities of subtasks, the visualization of the interconnections and relations may be a useful help for decision makers.

In general, 3 different aspects should be regarded:

1. Each task in the project must be clearly defined in terms of what result is to be achieved, who is the responsible expert or operative unit, and what resources are available (time, financial) for the task.

2. For each result of a specific project activity or phase, information must be gathered and processed. Be it for the evaluation of alternatives or for the definition of a specific mode of operation, or for the elaboration of a concept or plan. This background information may often be the result of a preceding project activity or stage.

3. Each result of a specific project activity may be the basis for a later project phase or task.

The interdependencies can be summed up with the question which result is to be achieved, who is the responsible expert, what information is needed for the task and for which following task will the result in turn become the basis.
The interdependencies can be shown in a table with the headings:

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Precursor</th>
<th>Task name</th>
<th>Responsible</th>
<th>Result</th>
<th>Successor</th>
</tr>
</thead>
</table>

For the technical, financial and time planning, the PSP will enable the project management to:

- Plan personnel resources (experts, teams, functions)
- Specification of functions and teams (definition of responsibilities)
- Define scope of work packages, activities (financial input, time)
- Show interconnections and interdependencies
- Improve monitoring and control to optimize efficiencies
3. RECOMMENDATIONS FOR THE PLANNING AND IMPLEMENTATION OF INFRASTRUCTURE DEVELOPMENT PROJECTS

Chapter 2 gave general guidance on the project structure and the instruments to be used for the successful organisation of the project, i.e. for the project administration and management.

After analysing all available results received from the Rail Baltica Project Partners, next to the general planning procedures and project organization as dealt with in the preceding chapter, especially the legal and political frameworks (e.g. the organisation and preparation of all necessary approval and permitting procedures) were generally estimated as having the strongest or a decisive effect on project development. Therefore, various aspects regarding these procedures are included in chapter 3.

The following recommendations are based on the findings of the analyses performed in the framework of work package 3 and will give guidance for various aspects regarding the implementation of infrastructure development projects. Like the guidance presented for project management under chapter 2, the guidance presented in this chapter is to be understood as being guidance on general best practice or standard practice.

The recommendations therefore do not focus on specific planning characteristics or distinctive features of the case studies presented in the later chapters. The recommendations rather focus on those aspects of the planning process that are applicable to most infrastructure development projects.

3.1 General preconditions and requirements for spatial planning

The following recommendations, measures and instruments described are based on the data collection as described in article 1.

These topics have to be dealt with in an early state of the project (Initiating phase or exploration phase). Preconditions and requirements defined in existing planning documents have to be assessed thoroughly in order to build a solid project basis.

3.1.1 Master plan including clear definition of project goals

At the beginning of the planning procedure, the project scope and goals have to be defined. A master plan defines the work steps and milestones necessary for the implementation of a project. The master plan therefore has to include the

- Development goals to be achieved and
- Measures to be implemented.

The project master plan for the project has to be drafted in the project exploration phase. In coordination with the project structure plan, the master plan may be enlarged to include the basic data on the

- Timeframe of the project,

- Financial dimension and financing sources, as well as the

- Responsibilities (Project executing organisation)

As a planning instrument, a master plan may also include a graphical description of the project or a first development plan, supplemented by a descriptive text. This plan will have to include a first description of the measures to be implemented (infrastructure, building construction, etc) as well as a realistic description of the restrictions and potentials associated with the development measure.

Restrictions may include development obstacles such as deficiencies of the premises or use constraints. Restrictions that are not defined in an early planning stage can lead to additional costs and may dominate later developments and decisions. Potentials of the development measure are the justification for the decision to implement a specific measure at a specific location and should outweigh the restrictions.

3.1.2 Assessment of existing planning documents

Regional and municipal development plan

In case a regional and / or municipal development plan has been drafted, the requirements of this plan have to be checked. It has to be safeguarded that all project goals are in line with this plan.

If project goals differ in certain points, a discussion with competent authorities may be inevitable. Afterwards, possible changes to the regional / municipal development plan may be introduced.

Binding site development plan

In case a binding site development plan exists: Assessment of requirements and limitations of the plan; examination of possible discrepancies with project goals; possibly project goals have to be redefined in coordination with all project partners.
3.1.3 **Formal project development contract**

A formal project development contract should be drawn up between the participating partners before project start (Initiation Phase). The contract should provide the following subjects:

- goals
- timeframe
- milestones
- outputs
- responsibilities
- legal coverage
- costs

The formal project development contract has to name the project’s initiating agent, as well as all participating parties (administrative and private). It has to include a brief description of responsibilities, project phases, tasks, results, timeframe and costs. A detailed description of project phases, activities, tasks, milestones and responsibilities as well as a detailed time schedule is provided with the project structure plan to be annexed to the contract.

The formal project development contract is essential for the project’s success. It will protect all participants from possible future misunderstandings, disaccords or juridical conflicts. Make sure the responsible project participants are also the approved signatories of the project development contract.

3.1.4 **Legal framework**

In the project initiation phase the legal framework in which the different aspects of the development measure are embedded has to be identified and analysed. Legal obstacles (e.g. property claims, permits, unclear or missing regulations or responsibilities) regarding the project goals have to be defined. The legal framework in which the project is to be implemented has to be coordinated with the competent authorities; an adaptation of the project goals may in some cases become inevitable.

3.1.5 **Authorities involved in the planning and permitting process**

All relevant authorities involved in the planning and permitting process should be identified in an early project stage. The authorities should be invited / addressed and informed about the goals of the project. The roles of each authority as well as the timeframe for the permitting procedure should be clarified in personal meetings.
3.1.6 Private / non-governmental partners

All relevant NGOs and other stakeholders involved in the planning and permitting process should be identified in an early project stage. The NGOs and other stakeholders should be invited / addressed and informed about the goals of the project. The roles of each partner as well as the timeframe for the permitting procedure should be clarified in personal meetings.

3.1.7 Identification of responsible regional and municipal administrative experts

At project start, it is inevitable to check whether the responsible administrative experts are in office and in charge of the planning process. The responsible experts should be named and listed. This contact list with names, positions, responsibilities, addresses, phone numbers and Email addresses has to be accessible for all project participants. The contact list should be updated regularly.

<table>
<thead>
<tr>
<th>Expert</th>
<th>Organisation, position</th>
<th>Address, phone</th>
<th>E-mail Address</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Definition of one administrative expert each:

- As contact person for the project partners for questions regarding administrative procedures (this person may be responsible for the above mentioned contact list and has to be informed immediately about any changes. The updated list has to be sent out to all participants promptly.)

- As contact person for the project partners for questions regarding inter-administrative coordination

3.1.8 Provisions to ensure good cooperation and interrelations

Besides the conflict management it is essential to make provisions for good cooperation and interrelations between all participants beforehand, especially between relevant authorities and private corporations. In order to achieve a constantly satisfying working atmosphere, it is necessary to involve all project partners regularly in the project’s progress. This may be
achieved by sending out periodical newsletters informing about the project’s status quo, but also by regular (e.g. quarterly) meetings in an agreeable atmosphere.

Those provisions firstly aim at the undisturbed course of the project by creating efficient communication structures. Responsibilities and competences must be clarified and confined from the beginning. Important questions include

- Who is responsible for which step in approval / permitting procedures?
- Who is the one in charge for certain decisions, and which participants need to be informed about these decisions?

In order to direct these communication channels right from the beginning, a plan for the communication structure needs to be drafted in an early project phase (Project Initiation Phase).

Essential contributions to project’s success are regular meetings of working groups, as the personal contact between persons in charge is indispensable. Project members who are working in the same field of activity need to know each other personally. The exclusive contact by phone or Email is not sufficient for a confiding working atmosphere. In addition to regular meetings provided in the Project Structure Plan, informal meetings between project participants should take place as often as possible.

Interest for the project’s development must be aroused by all participants; this is the principal reason for personal contact and regular meetings. Each project participant must have an interest in the project’s success. This may only be achieved by consequent integration of all participants. Besides regular meetings, also the regular dissemination of newsletters and progress reports is helpful. The creation of so-called ‘Win/Win-Situations’ is a basis for content project members, and only content project members are willing to bring the project to a termination.

Additionally, the legal framework must be evident.

It may be useful to check whether any decision makers were involved in former common projects. Ensure members of your project who need to cooperate were not opponents in former projects.

**Summary:** Essential for the project’s success are regular, personal meetings of all decision makers and stakeholders!
3.1.9 Project executing organisation

The project execution organisation consists of experts from all participating project partners (authorities, private partners). The organisational structure may vary; the foundation of a project corporation (e.g. a private limited company) has proved of value. The structure may be determined in an organisation chart which contains names, responsibilities and control mechanisms. Make sure this chart is not too complicated and coherent for all participants.

The project executing organisation should commission the project leader and should arrange meetings on a regular basis.

The responsibilities of the project executing organisation are the following:

- project management
- financial controlling
- quality controlling
- Project documentation

Instruments for conflict management

Essential for the success of any comprehensive project is the implementation of efficient instruments for conflict management at an early stage.

Important for the undisturbed project course are regular steering committee meetings. In case of conflict situations between project participants an independent consultant (facilitator) may be assigned in order to arbitrate and suggest solutions.

3.2 Comprehensive Regional Planning Procedures

3.2.1 Compulsory planning procedures

Before project start, all preconditions for a successful project implementation must be fulfilled. In detail it has to be assessed whether there are super ordinate plans or procedures to be considered. In case those plans exist, it is necessary to find out which administrative body is responsible

- for the implementation and drafting for those comprehensive regional planning procedures.
- for the drafting of the comprehensive regional development plan.
The objects of these comprehensive regional plans and procedures have to be in line with the project outline, respectively the project goals have to be clearly reflected in the comprehensive regional development plan.

3.2.2 Involvement of the public

If the public has not been included in the decision making process yet, relevant measures for the participation of the public could be considered, for instance by a public introduction of the project with a subsequent public discussion, and/or public announcements with the possibility for everyone to make statements. Those statements should be collected up to a certain deadline. After a public participation procedure, the results of this discussion respectively the statements should be checked thoroughly. Reasonable objections or recommendations should be assessed and introduced to the steering committee or project leader and possibly incorporated in the project’s outline respectively into the comprehensive regional development plan.

3.2.3 Environmental Impact Assessment (EIA)

An Environmental Impact Assessment (EIA) is often compulsory for mayor construction or urban development projects. In case an EIA has been not been implemented as a compulsory component (e.g. in a comprehensive regional development plan), the project’s outline can provide such an assessment. After a tendering procedure the EIA may be accomplished by an independent environmental consultancy firm or planning office. The EIA contains useful information about the environmental impact of the project and may give impulses for alternative solutions.

3.2.4 Agreement on project goals

If no comprehensive regional plan serving as a basis for the project has been drafted, alternative procedures to reach an agreement on the project goals between partners on a regional level have to be implemented. These goals may be fixed in a formal development contract.

3.3 Site evaluation / Site selection

3.3.1 Analysis of alternative sites / locations

Before project implementation possible alternative sites / venues / locations / routes should be analysed. For instance, the question of brownfield development vs. greenfield development should be discussed in the initiation phase.
An assessment of all important factors for the decision to initiate the project in the chosen location / on the specific site is crucial for the project’s success. Therefore:

- the main restrictions and potentials for site development should be listed, explained and graded after their weighting.
- the master plan for the project should include a sound justification for the decision for a specific location.
- possible alternatives should be calculated including a calculation for costs of risks and restrictions in order to be able to chose the optimal solution.

3.4 Legal requirements / procedures

3.4.1 Legal regulatory instruments

A binding site development scheme is a planning document including control mechanisms regarding legal requirements. In case there is no such binding site development scheme, other documents containing legal requirements have to be assessed thoroughly during the project exploration phase. Special legal requirements may for instance refer to ground contaminations or other restrictions, e.g. constraints by nature protection, preservation orders or the protection of historical monuments; they have to be analysed, as these regulations may have a strong impact on the project development. A precise description of those possible restrictions is obligatory in order to avoid future legal problems. In most cases the referring documents have been developed during municipal development planning.

If those topics have not been considered in any documents during municipal development planning, they should be object of assessments conducted by the project team. Generally, a profound legal basis for the project development is essential for the project’s progress.

Liabilities under public law / under private law

All competent authorities should be involved in negotiations over a contract under public law in order to eliminate legal problems. Maintenance, monitoring and technical support of existing constructions should be set out in a specific contract.
3.4.2 Approval procedures and political framework

The organisation and preparation of all necessary approval and permitting procedures at the project start is essential for an undisturbed project course. A grouping of different approval procedures and concentration of responsibilities within participating authorities may accelerate the approval procedure. It lies in the area of responsibility of the authorities to ask for certain permitting procedures; however in many cases different divisions are in charge for certain parts of these procedures. In order to simplify the processes of approval and permitting and to reduce their extension, the project team should survey those guidelines and try to group the different approval procedures. Those experts in charge for approval and permitting documents should be involved from an early state of the project.

| Project accompanying support through legal counselling helps to avoid legal risks. |

In the project exploration phase, an analysis of the political framework should be performed by the project executing organisation. Especially in cross-border projects, a different political framework in the participating countries may cause difficulties in the understanding of certain political procedural methods.

3.4.3 Required permitting procedures

For all infrastructure development projects, permits from public administrations will be needed at different stages of the project. These permits should be included in the project structure plan and should be coordinated and agreed upon with the relevant authorities for each project phase.

A delay in permitting procedures can seriously threaten project success. It is therefore advisable to appoint one representative from the project side that is responsible for the coordination of the permitting procedures. Responsibilities in coordination include:

- Fine-tuning of the time schedule for permitting procedures
- Harmonisation of the schedule with the relevant authorities
- Introduction of the deadlines and milestones into the PSP
- Communication with the authorities
3.4.4 Communication and co-ordination

In addition to the assessment of the political framework it is important to discuss and coordinate all project objectives with municipal representatives at project start in order to avoid conflicts in the later course of the project.

The municipality should announce one responsible employee, representing all participating authorities, as a direct contact person for the project executing organisation. Various different contact persons for different matters may lead to unclear responsibilities and may hence complicate the project work.

The political backing for the project has to be safeguarded from the beginning. A constant political backing may also be facilitated by the invitation of responsible politicians to steering committee meetings (see above). Thus political actors are regularly informed about the project progress.

3.5 Project Organisation

3.5.1 Project authorities

The establishment of a coordination office / project bureau is useful in order to concentrate all project activities from the authorities’ perspective. If the establishment of a project bureau is not possible, at least all involved authorities have to name one contact person with sufficient decision making authority regarding planning procedures, project organisation, environmental issues and financing. These contact persons should be clearly identified and accessible for all project members. Further on, they should be involved in any decision making process.

Especially the municipal planning body has to be involved in all essential project decisions. This may be achieved by integrating the municipality’s representative into the steering committee.

An advisory committee should be established in order to exercise control functions. Ensure the competent authorities are aware of their responsibilities in the project, especially if they have not gathered sufficient experience yet in the necessary procedures.

3.5.2 Project executing organisation

There are different possibilities for the organisation of the project executing authority; a private enterprise may be founded as well as a public-private consortium. The latter may be especially
useful as public authorities are responsible for the approval / permitting procedures. If the authorities are an official project partner, cooperation may be facilitated.

Explicit fields of activities have to be allocated to all participating decision makers in order to clarify responsibilities.

The project executing organisation has to continuously assess whether the project’s sub-objectives have been achieved, and whether the main objective is still in focus. One responsible person or team has to be announced for this assessment. All work processes and decision making processes have to be clearly defined and communicated.

3.6 Project financing and marketing

An economic efficiency calculation for the entire project has to be carried out at project start (Initiation Phase).

This primary calculation has to be continued as cost controlling during the entire project. Responsible for this task is the steering committee, which may delegate the cost controlling to an independent accountant.

The economic efficiency calculation may have an effect on the original land use concept. A land value calculation has to be carried out. Different land use alternatives may be considered and calculated; after a thorough examination, the most cost effective land use concept should be chosen.

Follow-up costs such as remediation costs / legal claims should be transferred to the project executing authority through an urban development contract under public law.

Cost reduction potentials have to be monitored continuously during the course of the project. Further on, all possibilities for financial assistance / funding have to be assessed in the exploration phase.

A marketing concept should be defined for those projects that include selling, leasing, tenancy or rent activities. The marketing concept should be developed for different development scenarios. The total revenue to be achieved is an important factor for the overall cost calculation and calculation of profitability.

The use and marketing concepts are very closely interlinked. The basic use concept should immediately be followed by a calculation of profitability and a market analysis. The detailed planning of the use should then follow the marketing concept and should be flexible enough to allow for adaptations, in case marketing constraints arise.
3.7 Land use

3.7.1 Land use concept

Land use describes the planned uses of a development area and can be grouped into green space / garden, infrastructure, housing, commercial and industrial uses. All elements of the planned land use concept have to be included in the project’s master plan. For the land use concept, the following elements have to be regarded:

- Past and former uses of the development area have to be analysed. Possible soil contamination and hazardous waste risks must be regarded.
- The conditions of infrastructural installations, such as supply and disposal facilities, have to be assessed and considered.
- The conditions of nature and landscape have to be assessed and considered with regard to the land use concept.
- A feasibility study may be implemented at the beginning of the project (Exploration Phase). The results of the feasibility study incorporated into the land use concept.
- The land use concept has to be flexible in order to allow necessary adjustments in the course of the project (see also marketing).
- Requirements regarding safe and healthy living and working conditions have to be regarded in the use concept. Also the requirements of environmental protection should be incorporated in the use concept.
- In case a binding site development scheme does exist, the project goals as well as use restrictions should coincide with the guidelines of this scheme.

3.7.2 Land use and infrastructure development

At the beginning of any infrastructural planning procedures in the scope of Rail Baltica, the following aspects should be considered:

- Does the planned land use have an interregional effect on infrastructure development?
- How is the project tied into the existing regional infrastructure network?
- Is the project site directly linked to the existing railroad network?
- Which are the benefits of the project for regional development?
3.8 Risk management

Planning and organisation of a functioning risk management are crucial for the project’s success. Unforeseen obstacles and events may at any time interfere with a smooth project progression; if these obstacles lead to a deadlock, procedures in order to implement alternative solutions have to be available. A catalogue of possible risks respectively their possible solutions has to be elaborated, available at project start. Among others, the following risks have to be covered:

Planning risks
- Ground: e.g. unexpected locating of foundations and or contaminations
- Existing constructions: e.g. unexpected problems regarding monument protection

Financial risks
- Exceeding of budget

Organisational risks
- Functionality of communication structure
- Positioning of costs and responsibilities (right persons in charge?)
- Change of personnel
- Time frame: delays and unforeseen events of any kind

Judicial risks
- Owner’s liability for any claim with regards to further unforeseen incidents, such as detection of relics or contaminations
- Collision of stakeholder’s interests
- Unexpected discrepancies of existing planning documents (e.g. land use plans, development plans)
4. TRANSNATIONAL PLANNING – Examples for bilateral coordination

4.1 General assumptions

4.1.1 Draft of a Regional development plan for both participating regions

In case there are regional development plans for both participating regions, the requirements of both plans have to be assessed. Further on, it has to be safeguarded that the project goals are in line with these plans.

The contents of the regional development plans for both participating regions have to be discussed in detail with all relevant competent authorities in both participating regions. Necessary changes have to be introduced into the regional development plans.

Cross-border regional development plans

If one participating region has drafted a cross border development plan, which provides concepts or measures for the neighbouring region, it is essential to assess whether this cross-border regional development plan has been agreed upon in both participating regions.

In case the cross border development plan has not been agreed upon by the neighbouring region, a substitutional steering instrument may be adopted in order to define common objectives in a transnational project.

A common cross border development plan respectively a substitutional steering instrument should consider the following aspects:

- A clear definition of all objectives of the transnational project: Are the objectives of the transnational project included in both regional development plan and the cross-border regional development plan?

- Are similar or adaptable municipal land use plans / municipal development plans available for the respective participating regions?

- Identification of the responsible regional and municipal administrative experts for the transnational planning process on both sides.
4.1.2 Comprehensive regional planning procedures

It has to be assessed whether comprehensive regional planning procedures and/or regional plans are necessary for the implementation of the project in the partner region/country.

It must be considered to implement an Environmental Impact Assessment (EIA) on both sides. If no EIA has been conducted yet, a joined tendering procedure is useful.

**Goals of the joint development measure**

A joint development measure demands a clear and coherent project plan. As a prerequisite, a language understandable for participants from both regions/countries must be chosen. Good communications is vital in all development projects; for transnational projects extra provisions (e.g. additional means for translation of documents, possibly intercultural expertise) to ensure good communications must be foreseen. Important definitions should be provided in both languages in order to avoid misunderstandings. Goals fixed in the project plan are to be accepted and approved by both project partners.

Besides formal questions regarding cross-border planning drafted in treaties and agreements, specific questions regarding sectoral planning have to be attended. An efficient co-ordination of existing structures and procedural methods may be regarded as the solution for mid- and long-term success. A solid relation between actors is precondition.

4.2 Case Study 1: Border-zone and cross-border infrastructure planning in the area of the German-Polish border – Excerpt -

4.2.1 Objective

The studies of the border-zone and cross-border infrastructure planning were conducted in the area of the German-Polish border in the sphere of the traffic corridor of Rail Baltica within the framework of the INTERREG III B RAIL BALTICA project. The study at hand was conducted by order of the German Project partners Ministry for Infrastructure and Regional Planning of the State of Brandenburg as well as the Senate Administration for Urban Development of the State of Berlin.

The following essential goals were pursued with this study:

- Overview and transparency: drawing up of a compressed overview of the activities in progress and planned on both sides of the border in the infrastructure area of all transport carriers
• Assessment: drawing up of recommended actions for the further procedure in the cross-border cooperation

• Improvement of the communication bases: determination of the relevant contacts for the infrastructure projects as far as possible within the framework of the studies, sensitisation of the partners on both sides of the border for the priorities of the respective other partners

4.2.2 Starting Point

The starting point of the study is a recommendation of the German-Polish government committee for regional and border-zone cooperation. The tasks of the government committee include maintaining the contacts and the co-operation between regional municipal and other institutions and suggesting further initiatives. In the actual project “Oder partnership” for example the Berlin Senate and the state government of Brandenburg have joined forces with the aim of closely linking the Oder region. Concrete issues will be looked at in more detail; strategies are being created for developing the Oder region in three specialist working groups (transport, tourism and business/science).

4.2.3 Spatial Structures

The settlement structure is marked by polycentred spatial structures on both sides of the border. The Brandenburg region is among the more densely populated regions (based on the scale of the federal state), whereas the Lubuskie region in the north and south is enclosed by substantially more densely populated regions. The Lubuskie Voivodship is marked by large connected areas of unspoilt nature (forest, water). The main transport axes lead through the Voivodship in the west-eastern direction, the north-south axis is less clearly developed.

The actual regional planning and state planning concepts on both sides of the border are primarily oriented to the own development. A consistent strengthening of the border zone, e. g. through central local function allocations, cannot be seen at present. On the German side the development focuses on the city of Berlin. The Polish side sees the focus of the developments placed on Gorzów Wlkp. and Zielona Góra.

Principally, the importance of the border zone is recognised in the planning on both sides of the border, however - compared with the requirements - this importance does not have enough direct influence regarding this planning. Reference is primarily made here to the cross-border cooperation.
4.2.4 Economic and demographic structural development trends for the border zone

A sustainable tertiary orientation of the economy is assumed for the German side. The share of gainfully employed persons in the service sector will presumably increase from 70.7% in 2005 to 77.3% in 2020. Particularly sharp increases are expected for company-related services, whereas the employments share in the field of public services and in the field of the producing trade will fall.

Employment forecasts for Poland indicate that the structural changes which can be observed in the western industrial nations will also have an influence on the development of the Polish economy. One can expect an alignment of the shares of the agricultural sector, the service sector as well as the producing trade between German and Polish regions. The pressure to adjust in the agricultural sector will become particularly noticeable in the border region – based on the number of employees, this sector is over dimensioned in the border region. The demand for services in the border region will tend to increase. Therefore, this will also involve an increase in the number of employees in the service sector on both sides of the border.

The development of the demand for labour will on the whole be more dynamic on the Polish side of the border zone than in the German border regions.

Substantial population losses (from around 700,000 inhabitants in 2006 to about 620,000 inhabitants in 2030, -13%) will be recorded on both sides of the border. This population loss will on the one hand be a result of the natural population development; on the other hand this effect will be reinforced through migration. The well-educated inhabitants, who represent an economic potential, will continue to migrate to more economically prosperous regions. Thus, reinforced through the increasing share of older people, a further decrease of the share of skilled workers in the border region may be forecasted. Overall, the analysed border zone will play a less significant role for the economic development of the regions along the whole RAIL BALTICA.

4.2.5 Traffic development

As a consequence of the demographic development, public transport services in the border regions are constantly being reduced. The level of motorisation will be further reinforced. According to forecasts of the federal transportation route plan cross-border passenger traffic will increase by a third by 2015 (basis: 1997). The rise will even be much higher in cross-border goods traffic.

While analysing cross-border traffic relations on a European scale, a clear dominance of the neighbouring countries located in the west and the south can also be seen for 2015. The exchange relations to the eastern neighbouring countries play a less significant role.
There are substantial differences between the German and Polish regions in the field of traffic infrastructure. Due to the lower level of settlement density and the absence of upper central settlement structures, the transport network on the Polish side is less dense than on the German side of the border.

In the studied region, numerous projects for traffic infrastructure are located on both sides of the border. Above all, the expansion of the rail route Berlin-Frankfurt/Oder and the expansion of the road route B112 (Oder-Lausitz route) are significant current projects with a large scale effect on the German side.

In addition, a new cross-border road link is being planned in the region of Frankfurt/Oder and Eisenhüttenstadt. On the Polish side in particular the expansion of motorway 2 and the express highway S3 are of significance. The expansion of the rail links from Szczecin via Zielona Góra to Wrocław and from Kostrzyn to Gorzów Wlkp. are important railway infrastructure projects. These and further infrastructure projects with relevance for the RAIL BALTICA project are described in the specifications and subjected to a qualitative assessment (see attached case study).

The expansion of motorway 2 may be considered as a direct rival transportation route to the rail route. Improved accessibility coming along with the abolishment of border controls will lead to a clear increase of the attractiveness of this motorway. Here it may be useful to examine in how far the relocation of goods traffic from road to rail may be forced and promoted in the further development of the Rail Baltica project.

The two road routes Oder-Lausitz route and S3 which run parallel to the border may serve as feeder roads for Rail Baltica. Hence their completion is also of relevance for Rail Baltica.

The railway line CE 59 may also rank as feeder or distributor in the north-south direction with Rzepin station as “crossing point” of both railway lines.

4.2.6 Improvement of cross-border planning and cooperation

As a result of the research, project descriptions and qualitative project assessments conducted in the case study, it is possible to derive recommended actions which are oriented both to the on-site players as well as to the higher-ranking levels:

Communication and continuity

The set-up and maintenance of personal contacts is the decisive basis for coordination processes. The expansion of a corresponding network will therefore – besides the formal tools – decide about the success of cross-border planning projects.
Project level

The planning of infrastructure projects beyond national borders generally creates a “win-win-situation” for stakeholders on both sides of the border, as they generally pursue the same basic goal.

With this basic pre-requisite it is possible to plan and implement complex cross-border infrastructure projects. To a certain extent, the already established ‘Euroregions’ may serve as a basis for the increased strategic and project-related cooperation on regional levels.

Structures, legal and financial promotion systems

Differences in the legal system and administrative set-up clearly make cooperation more difficult. Against this background it would principally be useful, particularly on the Polish side, to relocate competences to regional and local political sub-divisions (principle of subsidiarity). However, based on realistic assumptions only successive improvements can be expected particularly in the field of the execution of administration. The coordinated cooperation on the various player levels is and will be all the more important.

‘Oder partnership’ as an important platform

The aim of the ‘Oder partnership’ is to improve and reinforce the networking of the communication structures of the administration and politics and carry out a joint lobbying towards the national governments and the European Union for important projects in order to develop a joint economic area with the special focus on cross-border infrastructure. Against the background of this goal the ‘Oder partnership’ should be used as an important platform for coordinating planning questions – the three working groups transport, tourism and economy form the specialist level.

Strengthening of the German-Polish government committee

Despite the absence of direct competences the strengthening of the role of the German-Polish government committee represents an important starting point for optimisation. One approach would be the intensification and consistency of the work of working groups or committees relevant to infrastructure, which could be supported through the administrative reinforcement in the form of an – if applicable externally supported - secretariat.
**Intensification and harmonisation of planning**

There is no tool laid down by law that is suitable or could be used for cross-border cooperation. A cross-border coordinated and integrated plan should be drawn up with the creation of a “master plan border zone” for the entire German-Polish border zone, which will be the basis for all other sectoral planning. The “master plan border zone” could become a joint tool of the ‘Oder partnership’ and may be coordinated with the governments.

**Establish success control - evaluation - monitoring**

The procurement of information often already forms a drawback which is difficult to overcome in the joint planning process. This hurdle could be removed through the creation e. g. of an internet-based information base with information on legal regulations, planning levels and responsibilities, available plans, processing statuses etc., which is accessible to all players. The D-P-PLIS (Deutsch-Polnisches Raumplanungsinformationssystem, German-Polish information system for Spatial Planning) is a first and important step in this direction.
4.3 Case study 2: Frankfurt Oder (D) / Slubice (P): Example for transnational goods traffic - Excerpt-

4.3.1 Objective

The study at hand deals with the analysis of results, potentials and problems of the cross-border goods traffic in the Frankfurt (Oder) / Slubice region.

The case study is based on a study of the existing structures and demonstrates strengths and weaknesses of the business and transport infrastructure and in the traffic flow. Potentials, development targets and recommendations for organisation are presented. The case study is focussed on the region of Kostrzyn – Frankfurt (Oder) / Slubice / Rzepin – Eisenhüttenstadt; nevertheless there is a useful consideration of the infrastructure and transport relations with implications beyond this region as well as the competition.

4.3.2 Summary and outlook

The development of the cross-border goods traffic in the Frankfurt (Oder) / Slubice region in the last few years led both to significant results as well as to problems owing to various substantial deficits.

The general trend of the fast growing road haulage has had a substantial impact in the studied region. The cross-border rail haulage with significant capacities particularly in the shunting yard Frankfurt (Oder), which dominated 15 years ago, became less important. As a consequence, considerable tailbacks at the overaged insufficient road border crossings impede the transportation of goods.

In the meantime, substantial investments in the motorway and highway network and the border crossing facilities have been made and the problem could be decreased significantly.

The traffic volume which rose intensely again with the EU enlargement in 2004 proved to be less of a problem than assumed as the waiting times at the control points fell at the same time as the customs controls were abolished.

The attractiveness of the cross-border rail haulage in the studied region has currently been increased significantly through the expansion of the route Berlin – Frankfurt (Oder) – Warszawa, which has been completed to a large extent. The main barriers for a stronger use of the good infrastructural conditions are the time-consuming control procedures in the border station Frankfurt (Oder) ‘Oderbrücke’ and the tedious process of reducing the interoperability deficits.
Despite considerable efforts in promoting industrial settlements it was not possible to develop a satisfactory economic basis so far. The regional goods traffic demand is accordingly low with the consequence of low demand of cargo handling services. As of today, no comprehensive interface function in the transit traffic has been developed.

When using existing potentials, an increasingly environment-friendly goods traffic development promoting economic development can be assumed for the Frankfurt (Oder) / Slubice region. The traffic function of the region will continue to be determined by the strength of the transport axis Berlin - Warszawa, with connection of transport routes of national significance.

The ETTC (Euro Transport & Trade Center) in Frankfurt (Oder) may develop into a significant logistics centre with focus on cross-border regional and local fine distribution with progressive economic development and use of the location quality. The goods station Rzepin is progressing to become an increasingly used intersection point of rail haulage (hub) and a guarantee for the capacity of the transport axis Berlin – Warszawa owing to the location and efficiency.
5. FREIGHT VILLAGES – An example for specific regional projects along the proposed ‘Rail Baltica’ route

5.1 Introduction

The following chapter consists of an excerpt of case study 3:

“Freight Villages in Brandenburg and Berlin – Traffic and logistical starting point of the railway connection to the Baltic States, potentials and requirements”

prepared by ipg mbH, Potsdam (entire case study attached to this handbook)

Background

The EU eastern enlargement is influencing the European transport market significantly. New production locations intensify new transnational transportation and traffic modes. In addition, the market entry barriers for Eastern European transport service providers are eased through the lapse of the cabotage ban. Furthermore, the grade of outsourcing and the percentage of external labour in the production are rising. Against the background of just-in-time production, logistical services are becoming more important. The ‘Trans-European Transport Network’ (TEN-T) has an important role in reference to the development of the free movement of goods in the EU. The construction of Freight Villages will become a trend setting system for the solution of regional traffic problems.

The definition of the suitable location and dimension is crucial for the planning of Freight Villages. The following chapter will give guidance on the necessary general assessment criteria and linked planning procedures, as well as specific recommendations and perspectives for Freight Villages along the Rail Baltica line.

Definition

Freight Villages (German: Güterverkehrszentren, GVZ), future-oriented systems for solving regional transport and structural problems, are defined amongst others as follows:

Freight Villages are transport industrial parks with independent transport companies / branches and system interchange points between the transport carriers (as far as possible: road, rail, water, air). They enable the cooperation of all parties involved to generate synergy effects. Freight Villages are connection points of local and long distance transport as well as an interface of the transport carriers.
Goals

One of the major goals of Freight Village development is to relieve the roads from goods traffic and promote the use of environmentally-friendly transport carriers such as rail and waterways. An essential part of a Freight Village in this respect is a terminal for intermodal transport. This enables an efficient interchange of transport carriers from containers, swap containers and semi-trailers.

The aim of developing a nationwide Freight Village network with regard to the construction of terminals for the intermodal transport is to operate between the individual locations in an “overnight delivery” in order to thus be competitive in terms of time compared with road haulage.

Both economic as well as ecological goals are realised with the construction of Freight Villages at the interface of local and long distance traffic.

The economic effect is e.g. the saving of high lead time and follow-up costs through the spatial proximity of the transport carriers to each other. This also allows the resident companies to optimise the transition between the transport carriers and the local and long distance traffic through co-operations under one organisational umbrella (location company) in line with the environment and costs.

5.2 Assessment Criteria

5.2.1 Size and layout of the available site

The average settlement area is approx. 100 ha. More decisive however than the used gross area is the available net settlement area. The net settlement area is above all of significance when forming synergies between settled companies, the establishment of service providers at the location and the profitability of investments in transport connections.

Besides the development as required it is advisable to include a prospective extension in the considerations for the development concept when looking for a location. An area concept should be created in the planning phase already despite the in part pretty long development periods that enable a step-by-step extension of the Freight Village. With the creation of the necessary building law for the extension areas in question there is the possibility to satisfy changes in demand on the part of the investors in the short term.
5.2.2 Traffic development

The traffic development is to be distinguished into an internal development and the integration into the local and national road network. The same applies to the connection by rail. The internal development should be assessed to the extent that no impediments whatsoever are caused through vehicles parking on the side of the road. This is especially important during rush hours so that no tailbacks are formed in front of property access roads. Further curve radiiuses, roundabouts, traffic light controls and lane set-up are to be adjusted to the requirements of the heavy goods vehicle traffic.

With the connection by rail it has to be taken into account that the delivery of wagons can mostly only be realised profitably from half-train length. Substantial track lengths are required in this respect insofar as the wagons cannot be unloaded and loaded on the route track.

5.2.3 Development work and expenses

The location within the networks of the electricity, gas, telecommunications and water provider is significant for the amount of the development costs. In particular the supply with electricity (cooling and sorting plants) is of major significance. The provision of the necessary fire water quantities and the discharge of the incurred precipitation water from the sealed areas can lead to problems.

Regional restrictions: Further aspects which must be considered when assessing the suitability of the location are ground water, foundation soil and old contamination circumstances, weapon contamination and archaeological locations.

5.2.4 Centrality of the location

Proximity to city centre

The proximity to the inner city can be presented both in the time required as well as in the spatial distance between the Freight Village and town centre. The spatial and time distance has two meanings for the companies.

On the one hand the urban area is as a rule the place of origin of the employees. With too great distances it is difficult for companies which move their location from the town to a Freight Village to continue to bind the regular personnel. Employees are often dependent on local public transport. However, this must as a rule first be reorganised in order to integrate a new industrial park into the existing network. Particularly in the phase of initial settlement there are
not enough passengers in order to establish profitable local public transport. The customary working hours in the logistics industry aggravate this problem even more.

The distance to the town centre is relevant with regard to the time required and fuel consumption for a company based within a GVZ if delivery relations exist to the town centre.

**Proximity to industry and trade**

Logisticians operating for industry and trade endeavour to keep the distance to the delivery locations as small as possible in order to minimise the risk of recourse claims through delays in delivery and ensuing loss of production. This also applies to a limited extent to the to-bin transfer, distribution and picking of the finished products.

**Proximity to port**

The proximity to a port is particularly important for companies, which deal with import / export and tranship large quantities of containers. The transhipment systems of a port can also be of significance for motor vehicle logistics.

**Proximity to wholesale and retail**

A high density of retail and wholesale enterprises automatically leads to the settlement of logisticians which provide services for the trade.

**Proximity to shipping trade / carrying trade**

When considering a Freight Village location in a region with a multitude of freight forwarding and transport companies, the following aspects have to be taken into account. On the one hand, this fact speaks for the advantage of location and the emergence of synergy effects between located companies. However, as a multitude of companies have already established themselves at individual locations, it is possible that the region is already saturated and that there is no need for further logistics areas.
5.2.5 Quality of traffic offered

**Transport connection Rail**

The existence of a rail link is usually appreciated by investors. The possibility to change a transport carrier is generally assessed as positive. This can also be seen by the fact that higher property prices are accepted by the companies for properties with a rail connection than for properties without. In addition, the distance to the nearest shunting yard is of significance for determining the delivery costs in single wagon traffic.

The situation is similar with the provision of a terminal for the intermodal transport. The existence is generally appreciated; however the use depends to a large extent on the services offered by the terminal. The provision times, above all however the transport costs and times are the decisive criterion for the use by logisticians.

Only a few companies have sufficient volumes to maintain train connections under their own administration. Generally, the alignment of several companies will be inevitable in order to establish economically feasible train links. Such efforts may be supported by state measures.

**Transport connection Road**

A Freight Village should preferably be connected to the local and national road network with four lanes as impediments between goods traffic and motorised individual traffic (MIV) can thus be avoided to a large extent. Under the aspect of pollution through emissions, the transport routes should be located at a greater distance from urban settlements. Motorways may represent a disadvantage, if they constitute the only efficient feeder road to the municipal area and if they are liable to charges.

**Integration of Freight Villages nationwide**

The establishment of a network of Freight Villages can result in macroeconomic benefits by an improved utilization of the existing infrastructure. Above all, the great benefit of a Freight Village network is the concentration of large goods quantities in long distance traffic. These large quantities may be the basis for the establishments for additional train connections. The capacity utilization of the vehicles in long distance traffic can thus also be increased.
5.2.6 Environmental issues

**Freight Village location**

As already mentioned, an area of approximately 100 ha is required for the establishment of a Freight Village. This implies a significant intervention regarding the protected assets ground, water, air, fauna and flora. In order to avoid conflicts with national or European environmental law a location with minor ecological significance is needed. Conversion areas or industrial wasteland are highly suitable for a follow-up use. Particularly the latter may be already equipped with convenient infrastructure.

**Surrounding area of the location**

Due to the emission pollution caused by a Freight Village (noise, exhaust gases), a minimum distance of from existing residential areas should be observed. The suggested distance may correspond approximately with the distance between residential areas and newly planned main roads.

**Impact through traffic**

The establishment of a Freight Village with a settlement area of 100 ha or more requires the connection to efficient transportation routes. The traffic volume generated by the companies is supplemented by the traffic volume of the employees. An employee volume of on average 25 employees per ha settlement area can be derived from the information provided by the Berlin Freight Village.

According to the actual Modal Split in goods traffic, particularly the road links are of great interest. The carrier’s vehicle fleets as well as the commuter traffic are concentrated on the transportation routes during the traffic peaks in the early morning hours and – at a lower level – in the evening hours.

Reckonings within the Freight Village “Berlin Süd Großbeeren” have shown peak loads of more than 1,200 vehicles / hour. This means an impact on the road network of up to 12 vehicles per hour and hectare settlement area. The lorry share fluctuates between 5% and 50% depending on the direction of traffic and time. The adjacent road network must be able to accommodate these traffic volumes. Possible impediments by traffic result in higher environmental pollution and transport costs as well as in a dismissive mood among the population.
5.2.7 Planning reliability

As with all settlement projects the planning reliability is also of special importance for companies in the logistics industry. Due to the short lead-times between the placement of an order and the commencement of the logistics activity this industry requires a high level of planning reliability and short approval times.

Planning procedure

The companies planning to establish a new facility are frequently not based in the region in which the project is to be realised. The necessary procedures and administration flows are thus not always known. Therefore, coordinated administration flows are beneficial to accelerate the procedures. Preferably there will also be a central contact in the administration or at the business promotion company.

The approval procedures should not take more than 2–3 months. Procedures which take longer are not accepted by the applicants as they are often subject to far shorter deadlines.

Possibilities for subsidies are to be presented in a transparent manner. Possible dependencies on the company size (revenue, number of employees), production orientation or origin of the company are to be mentioned.

Property and ownership structure

The number of owners concerned is to be taken into account for the development of the location. Under certain circumstances long-winded land acquisition proceedings may be necessary as owners are not willing to sell. Clear ownership structures are important particularly for medium-sized companies in order to avoid problems with the financing credit institutes. One single seller should preferably act as a contact.
5.3 Logistics region in Germany – Example: Berlin–Brandenburg

5.3.1 Logistics industry Berlin-Brandenburg

With more than 150,000 employees in the logistics industry Berlin-Brandenburg is among the most important logistics regions in Germany. Nine of the ten biggest German logistics service providers are represented with branches in the region.

The largest German logistician, Deutsche Bahn AG, has based the management of its logistics branch in Berlin with the head office of Stinnes AG. Even now already the region does not just offer logistics service providers, but also a very good environment for transport- and logistics-oriented companies from industry and trade. The strengths of the logistics location Berlin-Brandenburg include:

- the location in the intersection point between West, Eastern, Northern and Southern Europe,
- a large local sales market with six million inhabitants,
- a very good traffic infrastructure which will be further expanded,
- efficient logistics centres which are very attractive for the settlement,
- a science and research landscape in the fields of logistics and transport telematics, which provides know how and highly qualified personnel.

Fig. 5: Logistic region Berlin-Brandenburg (Source: ipg mbH)
With its Freight Villages and ports Berlin-Brandenburg has a host of efficient centres for cargo handling, logistics and the settlement of transport and logistics companies. The GVZ in Großbeeren (Berlin South) and in Wustermark (Berlin West) ranked third and fourth place in a nationwide ranking of GVZ in 2004.

Both GVZ have a motorway connection, container terminals and railway sidings. Wustermark will soon have an inland port. The GVZ in Freienbrink (Berlin East) also has a motorway connection and railway siding. As of today, between 55% and 80% of the areas of the GVZ have been sold. A total of 100 companies with 7,000 jobs have settled here, to a large extent freight forwarders and trade logisticians. The three GVZ do not just serve Berlin-Brandenburg as hub for the shipment and receipt of goods worldwide; large parts of East Germany and the west of Poland are also served from these GVZ.

5.3.2 Integrated logistics concept

The process of international work distribution and the globalisation of the world economic area, the eastern enlargement of the European Union and the demands for speed, complexity and flexibility of logistics services continue to generate high growth rates in long-distance goods traffic. The growth rates in road haulage are dramatic as the other transport carriers are not used sufficiently so far. New concepts are needed in goods traffic in order to counter-act the threatened traffic collapse and support relocation to environmentally-friendly transport carriers. The set-up of a Trans-European transport network and a European network of Freight Villages represents an important possible solution.

The special basic conditions require an integrating concept for processing the business traffic. Based on the resolutions passed at the beginning of the 1990s concerning the development of GVZ the states of Berlin and Brandenburg initiated joint, cross-state policies for the organisation of goods traffic, which led to the “Integrated Goods Traffic Concept Berlin-Brandenburg”. This was registered as a “global project” by the management of EXPO 2000 GmbH.

The superior goal of the project is the environmental- and urban-compatible organisation and processing of business traffic in Greater Berlin through the optimisation and supplement of the existing transport infrastructure as well as its intelligent use. This goal is essentially achieved by creating modern logistics interfaces as well as supplementary urban-compatible single measures which offer the transport industry an environmentally-friendly and economical feasible solution for all supply and disposal tasks.

The Integrated Goods Traffic Concept Berlin-Brandenburg is oriented here to the following general principles:
• Avoidance of traffic, which in particular means the avoidance of unnecessary truck trips. This can e.g. be achieved through the intelligent bundling or optimisation of delivery tours. Examples for this are the “platforms business traffic” described below with the included “city logistics” and the building logistics with the supply and disposal of large construction sites.

• Relocation of traffic (goods transports from road to more environmentally-friendly transport carriers). Examples for this are the Freight Villages constructed in front of the entrances to the city (“commuter belt”) and the goods traffic sub-centres located in the inner city. Both facilities may enable a connection of road and rail and partly also a connection with inland water transportation via terminals of intermodal transport.

• Improvement in the flow of road traffic through the reduction of reciprocal impediments between motorised individual traffic (MIV) and delivery traffic. Examples for this are the measures against short-term parking in the “2nd lane” by creating special delivery zones within the framework of the “platforms business traffic”.

5.3.3 National relations of the Berlin Freight Villages

Supply and disposal of Berlin as well as the interface between local and long distance traffic are the focal points. Two clusters are formed with regard to the delivery relations:

In the first cluster, those companies whose activities are oriented to the main town region and the nearer hinterland are represented. These are above all service providers such as petrol stations, washing facilities, trailer leasing, installation, repair and service of transport refrigerating plants, fork lift truck rental and sales and truck trade and repair services. On the other hand these include the distribution centres of the food discounters.

In the second far bigger cluster those companies are summarised which maintain national delivery relations. In this respect it must be noted that these companies also maintain partly very marked delivery relations in the Berlin region and therefore have chosen a location in the capital.

5.3.4 International relations of the Berlin Freight Villages

The GVZ in the Berlin-Brandenburg region also maintain various international relations. Large logistics companies have established hubs here which are integrated into their European network. For example there are daily transports from GEFCO in Großbeeren to three branches in Poland. There are regular groupage freight transports from the branch in Poznan in imports.

However, international relations do not just exist in the logistics field, but also to foreign institutions and companies. Thus a multitude of foreign delegations have already visited the
GVZ in Berlin-Brandenburg as these now enjoy the reputation of a “model function” for the construction of GVZ overseas.

Case examples rail:

‘Ostwind’
Trade between Germany and the CIS is booming. The GVZ Großbeeren also profits from the growing transit transports to Russia and the CIS. Depending on the volumes the ‘Ostwind’ runs as a standard train from Berlin to Moscow three to four times a week. It is a joint product of the railways of Germany, Poland, Belarus and Russia. The lead managing operator is Intercontainer Interfrigo Basel. The inflow consignments run in single wagon transports to Großbeeren. Around 2,000 target stations can be served within the CIS. The running time to the CIS border (Malaszewicze/Brest) is around 16 hours. Mainly consumer goods, machines, chemicals and occasionally relief goods are transported.

Fig. 6: Route "Ostwind"
Source: Stinnes Freight Logistics

The transports by rail beyond the borders however prove to be a difficult undertaking. The route from Berlin to Frankfurt (Oder) is well developed. However, the first problems are seen with the border clearance already. For goods transport by rail the crossing of the border means
e.g. that the German locomotive with its driver is not permitted to drive to Poland owing to the different electricity systems. A Polish locomotive with a Polish driver takes over the train from the border.

The processing at the outer EU border Poland/Belarus is even more time-consuming. The whole clearance takes 28 hours. The containers have to be transhipped as the European gauge (1,435 m) meets the Russian broad gauge (1,524 m) here. In addition, intensive operational inspections, police controls and checks of the freight documents are necessary.

**Pilot train from Berlin to Moscow**

Four European railways gave the starting signal for an exceptional goods train at the goods station in Seddin near Berlin in November 2005. It should overcome the 1,800 kilometres between the German and the Russian capital in just three and a half days - and thus substantially quicker than by truck – and therefore considerably accelerate the goods flow between Germany, Poland, Belarus and the Russian Federation.

The train with a length of 600 metres, weighing around 1,600 tons and which reaches speeds of up to 100 kilometres per hour in the direction of Russia had a load of containers, cars and palleted goods. So far goods trains need up to ten days on this route. A truck manages it in four to five days.

The aim of the experiment was to create the bases for a future acceleration of all goods trains on the corridor Germany - Russia and thus the pre-requisites for a substantial increase in traffic volume in close cooperation between the DB goods railway Railion, the Polish PKP, the Belarusian BC and the Russian RZD. Previously the locomotive is changed several times on the route, moreover a lot of operation stays and buffer times are envisaged in the time tables – for example for the extensive customs formalities at the three border crossings. The flows are to be coordinated to an optimum extent IT-based and with electronic transmission of the freight documents in future and thus enable a substantial reduction in transport times.

The transport customers from industry, trade and the logistics industry will profit from this, which can expect new offers from one provider on this fast growing European transport axis and receive a reliable and fast alternative to trucks.

### 5.4 Freight villages along the Rail Baltica: Perspectives
5.4.1 Geographical classification

The route is part of the Pan-European Transport Corridor II Berlin – Warszawa – Minsk – Moscow, defined by the European Commission to which a fundamental significance is attributed for the trading relations between the EU and the Russian Federation. The corridor II connects a large part of the industrial centres of the EU with those of the Russian Federation (Moscow, Nischni Nowgorod, Samara, Togliatti, Wolgograd and Swerdlovsk). The route of the “Rail Baltica” is reached in Warszawa, where it branches off as a Pan-European Transport Corridor I. The diagram shows a possible route of the “Rail Baltica” from Helsinki to Tallinn – Riga – Kaunas – Warszawa to Berlin. As the railway link has not yet been clearly defined, the diagram includes arrows which symbolise a possible shift of the route.

Fig. 7: “Rail Baltica” – Berlin - Helsinki
Discussions are currently being conducted about the exact route of the ‘Rail Baltica’. Certainly the route will run from Helsinki/Tallinn to Riga, Kaunas, Bialystok and further to Warszawa and Berlin. However, it is unclear how the centres will specifically be connected. In Latvia the route will cross Riga – the centre, with the highest population density, whereas various routes are still being discussed in Estonia. Open to discussion are either the route along the Baltic Sea coast (Pärnu), the crossing through the inland region (Viljandi) or the expansion of the existing main route in the east through the town of Tartu.

5.4.2 Poland

The annual revenue of the Polish logistics market was put at around 5.1 billion Euros in 2003. Moreover, logistics services provide around 5.4 billion Euros. Market growth of 16 per cent is assumed in the whole logistics segment in Poland by 2007.

Fig. 8: Logistics centres in Poland, Source: Map PKP; ipg mbH
Logistics

The power of attraction of the Polish logistics market is increasing continuously. Poland has the largest market in the Eastern part of the EU. This makes the country particularly attractive for German industry and trading companies. New projects are being tackled in Poland for the erection of warehouses and sales as well as logistics centres. Today the logistics centres are primarily located in the hinterland of Warszawa, Poznan, in Silesia and the coastal region. On the whole, Warszawa and the surrounding area have 3.5 million m² storage space, however only 1 million m² were produced in the last four to five years and thus satisfy modern demands. On the other hand there is a high need for modernisation of 2.5 million m².

At present there is also increasing interest in projects in Upper Silesia, Wrocław, Łódź and Gdańsk. Approx. 3 million people live in Upper Silesia in a relatively small area and thus represent one of the largest regional consumer markets in the country. In addition, there is by all means high concentration of trading companies and production plants here which partially even serve markets in Slovakia and the Czech Republic. The territory around Łódź is particularly interesting for logistics companies owing to its central location and as a future junction of two planned motorways on the north-south axis from Gdańsk to the Czech Republic (A1) and the east-west axis from Terespol to Berlin (A2).

The following statements give a general overview of possible locations of logistics centres along the “Rail Baltica”. Analysed are thus the logistics centre Poznan with the adjacent region Wielkopolska as well as the logistics centre Gdańsk.

Wielkopolska logistics centre

Studies prove that the demand for modern logistics centres by the Polish producers is very high. The non-availability of suitable logistics infrastructure is therefore proving to be more and more of a problem. The companies have so far settled more at random. Thus, numerous logistics locations emerged at favourable conditions; however, there is a lack of infrastructural equipment. The idea to construct a logistics centre in Poznan and the region of Wielkopolska is very old. The region of Wielkopolska is located directly on the main axis of the east-west as well as the north-south corridor. The region is said to have a high social and economic development potential. The economy is balanced in terms of structure and holds a top place in the country in many areas. Numerous large investments were made here during the period of the economic transformation of the country which substantially improved and consolidated the
situation of the country. The number of companies operating here – 340,000, in which 1,300,000 persons are employed are also a testimony of the business activity.

Logistics centre Poznan (Franow)
The benefits of a logistics centre in Franow would be as follows:
• Well-developed in terms of infrastructure
• Railway links available
• Location within the town borders, however outside of the city centre
• Location directly in the intersection of the most important motorways E 30 (A2) / E 261

However, all attempts to erect a logistics centre in Franow have failed so far. The causes were often found in the non-existence of zoning maps, contrary interests of local authorities, insufficient financial resources as well as a lack of investors.

Logistics centre Konin
The project, the erection of the Wielkopolska logistics centre in Konin, was presented in 2002. The benefits of the location are:
• Location directly next to the E 30 (A 2) and the national highway 25
• Convincing zoning map
• Targeted area of 100 ha can be extended to 200 ha if required
• Cooperation with the local authorities on a high level
• Private investors available
• a Ltd.-company was created

The company was founded in 2001 with capital stock of 2.2 million PLN. This capital was used for investment in 4 ha land in order to trigger off the first construction process – the construction of the terminal. The first module of the terminal was completed in October 2003.
However, the Wielkopolska logistics centre also features essential disadvantages as a location. Thus, the railway line E-20 (Kunowice - Poznan - Warszawa - Terespol) runs in fact via Konin, however the connection is approx. 15 km away from the logistics centre. The trans-shipment terminal is in a very desolate condition and is therefore only suitable for Low-Cost-transshipments.

![Wielkopolska logistics centre](https://www.ilim.poznan.pl)

Fig. 9: Wielkopolska logistics centre
Source: www.ilim.poznan.pl

**Logistics centre Gadki**

Gadki has excellent location benefits for the settlement of a logistics centre:

- Only one owner
- Very good infrastructural connection to road (E 30 / A 2) and rail
- Container terminal of POLZUG Poland Ltd. in the direct vicinity with free capacities
- Support by local authorities
Disadvantages:

- Zoning map not available
- Period of realisation unclear

The logistics centre features high potentials for Poznan and the region of Wielkopolska. It could play a superior role in future within the framework of the national and international logistics.

**Pomeranian Logistics Centre (PLC)**

The choice of the Pomeranian logistics centre is based on the assumption that one of the two logistics centres of the Polish coast should be settled on the TINA Transport Corridor VI. The European Transport Corridor allows the connection of land and sea and thus creates new possibilities for sea trade as well as new transport connections. The PLC is located on the terrain of the Gdansk-Gdynia port complex. The logistics centre cooperates both with existing multimodal terminals (Baltic Container Terminal in Gdingen, sea container terminal in Gdansk) as well as with the terminal located outside of the port in Gdansk.

The planned logistics centre is to primarily serve the processing of the seaport hinterland traffic. The port itself serves as interface for the following five transport carriers: water, road, rail, inland navigation vessels, and pipelines. Gdansk played a central role as a port in the past and also proves its importance with regard to future transport trends. The role of the port is underlined by the constantly rising demand for container transports, the Road-Road transport and the necessity for multimodal transport systems.

The port of Gdansk is located at a junction of the European transport networks and has first class connections to Central, Eastern and West Europe as well as to Scandinavia. With an area of 657 ha and a 10 km long quay it holds a significant position within the Baltic Sea ports.

The cargo handling takes place in the inner port, along the port canal. The quay facilities of the port are designed to the extent that all types of cargo can be handled. The port can be broken down into two sections: the inner and the northern port. The inner port along the bank of the Dead Vistula and the Kasubian Channel has an area of 260 ha.

The container terminal in the inner port primarily serves feeder ships and short-haul sea transports. There is a connection to the road and railway network. The external port, also known as the northern port, with an area of 420 ha has direct access to the Gdansk bay. This port section has a modern infrastructure with a direct connection to the road and railway network. However, these have to be fundamentally renewed and expanded owing to the growing demand for transport.
There are various reasons for a settlement of the PLC on the port site:

- Undeveloped area of 180 ha
- Good development of the infrastructure including the five transport carriers
- Direct proximity to the quay facilities
- 24 hour service
- Creation of new jobs

The functions of the logistics centre were defined as follows:

- Goods distribution: order, warehouse management, quality control, marketing, packaging
- Transport: provision of cargo units, securing suitable transport technology, loading and unloading appliances
- Support service: financing and insurance, consultancy.

**Problems**

The construction of logistics centres in Poland is impeded by numerous problems. With first logistics location concepts the state is in fact attempting to generate influence in terms of transport policies. However, owing to limited state financing funds concrete locations are only realised in “private” management so far, i.e. foreign investors develop and market the areas. One reason for the low number of modern properties is among others the partially desolate road and rail condition which deters potential investors. Poland is therefore obliged to urgently invest in the infrastructure in the next few years.

It is further recommended to begin with the location planning at an early stage. Strategic location decisions should not be made under time pressure as selection, change and acquisition of property take at least two years. Exactly for this reason second or third class properties are often acquired in practice due to time pressure, which can subsequently prove to be a considerable competitive disadvantage from a logistics point of view. Moreover, routes of future roads and links must be taken into account in the planning in the long-term.

Further facts also have to be clarified in order to be able to realise the “Rail Baltica” in Poland. The north-east is in fact one of the poorest regions in the country; however numerous nature reserves and parks can be found here. Environmental associations favour the “Rail Baltica” compared with the road project “Via Baltica”. However, the government of Poland currently
sees no need for action in the route section Warszawa/Bialystock as this section already meets West European standard and speeds of around 120 km/h can be run here.

5.4.3 Lithuania

Economic growth in Lithuania proved to be stable with growth rates of around 6% in the last few years. The per capita GDP currently amounts to around Euro 4,200. It rose by 6.7% in 2002, driven above all by growth in the fields of transport, trade and building. In the first quarter of 2003 the GDP grew by 9.1%. Services account for more than 50%, industry and building industry for 27%, agricultural and forestry for 7% of the gross national product. The most important industries are mechanical engineering, metal processing as well as the textile, chemical, wood and paper industry. Besides machines and equipment above all high-tech products of communications engineering and electronics are exported.

Logistics

The economic development of Lithuania creates excellent conditions for establishing logistics centres. With an estimated 6.9 % real economic growth in 2005 Lithuania remains on the path of success it has already started. In particular private demand has been making an essential contribution to the smooth movement of the economic motor for a long time already. The impulses for imports based on the uninterrupted consumer confidence of the population will bring two-digit growth rates for foreign suppliers in 2006. The export activities of the Lithuanian producers are hardly lagging behind the import business which is still running at high speed. All sectors have been equally affected by the "catch-up fever" which is also reflected by the growth rates of the GDP. A plus of almost 7% was recorded for the whole year 2005 following 6.4 % in the 1st six months and 7.2 % in the 3rd quarter.
Fig. 10: Logistics centres in Lithuania
Source: Ministry of Transport and Communication, Lithuania; 2006

Klaipeda Logistics Center
Klaipeda in the west part of the country is by far the most important seaport in Lithuania. The port, which is mainly free of ice during the whole year, plays an important role in the shipment of Russian crude oil. Ferry connections also exist to Germany, Denmark and Sweden from this
rail Baltica

The planning of the logistics centre began in 1999. The first part of the project realisation will be implemented in 2007. The following goals are pursued:

- Improvement in efficiency with the transport processing
- Better capacity utilization of the existing infrastructure
- Improvement of transport qualities
- Use of modern information and communication technologies
- Improvement of transport conditions for small and medium-sized transport companies
- Physical integration of all transport carriers
- Short routes between administration and companies

The logistics centre will be erected in a suburb of the city centre on a total area of 92 ha in the direct vicinity of the port (5 km distance). The choice of location also guarantees a consistent connection to the higher-level road and railway network. As the logistics centre borders onto existing industrial estates housing quality will not be impaired through its construction.

Kaunas Logistics Centre

With around 360,000 inhabitants Kaunas is the second biggest town of Lithuania. It is located where the rivers Memel and Neris meet in the centre of the country - 100 km west of the capital Vilnius. A benefit of Kaunas is its location as the central (road) traffic junction of the country. Running from north to south the so-called “Via Baltica”, which runs from Warszawa via Riga and Tallinn to Helsinki, meets the east-west main route, the route which is expanded as a motorway from and to Vilnius, which runs via Minsk and continues to Moscow. The location of Kaunas thus has far better transport connections than the Lithuanian capital Vilnius.

Kaunas station also has a location benefit in the railway network of the country compared with the capital Vilnius. There are connections to Vilnius and Warszawa. The corridor trains to Kaliningrad do in fact pass Kaunas station, however there is no possibility to get either on or off the trains. The high speed railway connection Warszawa – Kaunas – Riga – Tallinn promoted by the EU, the project “Rail Baltica”, is in the planning phase (planned completion in 2016). As opposed to the very well developed Lithuanian express highways the railways, which run on Russian gauge, have even more backlog demand.

Kaunas can be reached by inland navigation vessels from Klaipeda via the Memel. However, inland water navigation does not play any significant role to date (other than during Soviet
times). It is also a problem that the lower course of the Memel represents the EU border to Russia.

In November 2000 the first feasibility studies were conducted for erecting a logistics centre in Kaunas. In connection with the “Rail Baltica” it is planned to erect a transhipment facility, the “Kaunas Intermodal Terminal”. Kaunas will gain substantially in importance with this hub. The terminal is to serve the formation of shuttle trains both in south-north as well as in west-east direction. The goals of the project, for which a cost framework of around EUR 434 million is forecast, are as follows:

- Improvement of efficiency with the transport processing
- Better capacity utilization of the existing infrastructure
- Intermodal terminal
- Inland port
- Airport
- Kaunas as transport hub of international transports
- Establishment and development of logistics networks between transport and logistics centres both national as well as international
- Development of modern transport systems in Lithuania
- Creation of new jobs

Panevėžys Logistics Centre

Panevėžys is a large Lithuanian city in the north of the country – respectively around 130 km distance from the two capitals Riga (Latvia) and Vilnius (Lithuania). As the fifth biggest town in the country it is the smallest large city in Lithuania. Panevėžys is connected with Kaunas and Riga as well as with the countries of Scandinavia and West Europe through the “Via Baltica”. An express highway leads to Vilnius. The logistics centre is to be erected in the north west of the town, in the near vicinity of already existing industrial estates with an area of 50-60 ha.

Benefits of the location are as follows:

- Panevėžys as transport hub at neuralgic traffic junctions
- Improvement of efficiency with the transport processing
- Better capacity utilization of the existing infrastructure
- Establishment and development of logistics networks
Vilnius Logistics Centre

Vilnius is the capital of Lithuania and of the district of Vilnius. With 553,000 inhabitants (2006) it is the largest city in the country. It is located at the estuary of the Vilnia to the Neris, only around 40 km from the Belarusian border. Vilnius station is an important transit station for the transit traffic Russia-Belarus-Kaliningrad, whereby it is not permitted to get on or off the corridor trains. In addition, there are railway links to Kaunas and to Klaipeda (Memel) via Siauliai as well as international railway links to Warszawa, Minsk and Riga. Express highways lead to Kaunas, from there a motorway to the Baltic Sea to the ferry port Klaipeda (Memel) and to Panevėžys respectively with connection to the “Via Baltica”. Highway connections lead to nearby Belarus and to Poland.

The logistics centre, which is being erected between Vilnius and Belarus, is to primarily contribute to reducing existing traffic problems in the region. In addition, as a modern, active town with a dynamic business environment Vilnius offers the logistics industry more than average possibilities. For this reason the location is above all preferred by business people and regional institutions. The following business goals and goals regarding traffic policies are pursued:

- Strengthening of Vilnius in the role as hub for strategically important transport corridors
- Improvement of efficiency with transport processing
- Better capacity utilization of the existing infrastructure
- Improvement of transport qualities
- Use of modern information and communication technologies
- Improvement of the transport conditions for SME
- Development of marketing strategies between the logistics centre Vilnius and Europe
- Improvement of “door-to-door” deliveries
- Reduction in/avoidance of traffic problems

Problems

The transport sector in Lithuania is growing continuously. Thus, Lithuania can show a rising number of transport companies which are developing as specialists within their industry. There is also increasingly the need for planned and coordinated transport service in the public sector.
Rail Baltica

Lithuania still acts as a transit country from Russia via Belarus to Kaliningrad. Above-average transport flows from west to east and vice versa are compared with a low north-south demand. However, if road haulage is included in the analysis and assessment of the transport volumes, a substantially higher demand level can be determined in the north-south corridor. With the expansion of the “Rail Baltica” this share of freight volumes on road could be substituted by rail. The existing potentials may be used in combination with the expansion of the infrastructure.

The logistics market of Lithuania is growing continuously. Progress is being made with the establishment of logistics centres. A key function is assumed by the town of Kaunas which as second biggest town in the country is the traffic junction of road and rail. A second essential logistics location is the ice-free port of Klaipeda. A large share of the exports and imports as well as the transit traffic from and to Russia is processed via this port. Owing to the daily ferry connections to Germany with travelling times of less than one day this transport channel should be taken seriously as a “competitor” to road and rail via Poland to the Baltic States.

Lithuania is the main advocate of the “Rail Baltica” project. It is also the only country which has applied for financial support so far. Lithuania is in particular urging that the route section “Kaunas/Poland” be modernised in real time. For Lithuania this railway link means access to West and Southern Europe. The direct connection to Poland opens up manifold trade relations for Lithuania.

5.4.4 Latvia

Latvia’s transport infrastructure is well developed. Besides an extensive railway network which is also directly connected with the railway system of the CIS and also with the Far East through the Trans-Siberian railway, Latvia also has well-developed road connections to the CIS, the EU and the other Baltic States. In addition, there are two long distance lines for crude oil in Latvia.

Logistics

Many international logistics companies have established themselves in Latvia’s Transport-mark. They operate either in conjunction with local companies or as independent companies. There are more than 150 warehouses in Latvia which are primarily for the purpose of storing the transit goods as well as providing groupage freight to Russia. However, the local retail chains also use these warehouses.

The accession to the EU has brought more trade and competition. In particular the competition between the ports, rail and the road has increased significantly. The full integration into the European market gives Latvia essential benefits and no doubt boosts the transit sector. The
focus on the field of transport and logistics also leads to far-reaching, positive changes on the labour market. Small and medium-sized companies in Latvia also profit from the innovation strengths and the thus associated dynamic of large international companies.

The transport and logistics market forms an essential focus in Latvian politics and for this reason is given priority. Transit, transport and logistics companies are given extensive support from the government. Thus, not least numerous investments were promised in the whole transport infrastructure.

There is at present no close network with the industrial parks in Latvia. Even the capital Riga and its commuter belt only perform insufficiently from this point of view. The industrial park balance outside of the Riga conurbation is extremely sparse. However, the managements of many industrial parks are trying more and more to convince companies, which are willing to settle, of their benefits with the help of advertisements in relevant business media. Parallel to this initiators of new industrial parks are appearing in public with their proposals for projects. Besides a good infrastructural connection, which as a rule includes the connection to the road and frequently also to the railway network, among others the provision of a modern telecommunications infrastructure, of premises for production, warehousing and administration as well as of security services are also considered to be among the typical features of an industrial park in Latvia.

**Nordic Industrial Park (NIP)**

The NIP is located in the town of Olaine – at a distance of around 20 km south of Riga and covers an area with a size of 14 ha. Altogether 75,000 m² are available for production and warehousing purposes as well as office space and conference rooms. So far the operators of the NIP have succeeded in successfully marketing the trade location. Besides the fish processing company Baltic Seafood these include European Plastic Industries (EPI), Nordic Plast and MMT Industriala Plastmasa. Plastic tubes made of polyethylene (PE-HD) are produced at EPI, whereas Nordic Plast recycles plastic waste and processes these to plastic bags and sacks. MMT Industriala Plastmasa is a joint venture of the MMT Group with EPI, that produces various industrial and consumer goods from plastics using modern injection moulding and blow moulding machines. In addition, the NIP accommodates the metal-processing company TIPRO Baltic, behind which is TIPRO Invest from Norway. The substantially lower wage costs in Latvia induced the responsible persons in Norway to relocate a complete production line for radiators to Olaine in 1999 already.
Nordic Technology Park (NTP)

This industrial park is located in the urban area of Riga with a useable space of 7.5 ha. The tenant base, which amounted to around a dozen companies in the NTP at the beginning of 2004, uses approx. 25,000 m² of the premises, which cover in total 33,000 m², for production and storage purposes. The products of the companies range from furniture and other goods of wood processing to plastic products down to printing products. The completion of 9,000 m² office space was envisaged for 2004. Units between less than 40 and around 300 m² are available to interested tenants.

Riga Industrialised Park (RIP)

This park is another industrial park in the catchment area of the Latvian capital. A good handful of companies have settled there so far. To be emphasised are the central warehouse of the sales company of the soft drinks manufacturer Coca-Cola responsible for Latvia, SIA Coca-Cola HBC Latvia, the logistics centre of one of the largest retailers in the country, SIA Rimi Latvia. However, these settled companies only used around 6 ha of the altogether 20 ha total area of the RIP until 2004. However, it can be assumed that with the accession to the EU the interest in a settlement in the industrial park will increase.

SIVA Ogre Industrialised Park

The park which was only opened in the industrial town Ogre, located 40 km east of Riga, in the middle of 2003 is among the few industrial parks in the Latvian "province". The main initiator of the park is the state Norwegian business promotion agency SIVA. The industrial park comprises a site of around 3 ha that can be expanded by neighbouring properties depending on the requirements. So far 18,000 m² have been prepared for production and logistics as well as 1,000 m² space for offices (status 2004).

In addition, a host of other industrial parks are in the project management and construction stage nationwide. These include among others the Mersraga ostas industrialised park in the north west port town of Mersrags (district of Talsi) with a size of 20 ha, as well as an industrial zone with a size of 250 ha in Daugavpils, the second biggest town in Latvia. A former producer of land technology in Jelgava also appears to be developing more and more in the direction of an industrial park on the business site. The site with a total size of 12.4 ha of the RAF factory which was operated for the production of small buses during the Soviet Union era is also to be redesigned into the RAF Industrialised parks in Jelgava.

The Dambis company is planning to erect an industrial park on an area with a size of 10.7 ha in an industrial estate not far from the town centre of Riga. To be mentioned is also the
Sleperi Gemstone Project in Babite, a suburb of the capital, where 48.4 ha are to be redesigned. The operator company of Riga Airport which is owned by the state intends to use around half of this area (24.7 ha) for its Rigas lidostas biznesa parks (Airport Business Park).

**Problems**

The transport volume in Latvia has almost doubled in the last few years. A large share of the transports is however processed via the ports. Therefore the port of Ventspils on the Baltic Sea coast is also of considerable importance in the logistics sector.

Positive signals come from the railway company LDZ. This is endeavouring to achieve a more specific and more cost-effective use of Latvia as a transit country in the middle of the international transport corridor north-south. Latvia supports the project of “Rail Baltica” from a political point of view. However, it is still too early for a financial participation. Alternative financing projects such as “PPP” (Public-Private-Partnership) are met with interest.

5.4.5 **Estonia**

The trade with raw materials and semi-finished products from the fields of wood, textile and metal represents the backbone of the Estonian economy. Around a third of the gross domestic product is generated here. The service sector is in particular gaining in importance in the industries of transport and tourism and contributes to the GDP with a share of 66.2 %. The goods transhipment in the Estonian ports, particularly of the transit trade with oil from Russia as well as passenger traffic with Finland and Sweden, has substantially increased in importance. Agriculture on the other hand still only plays a more inferior role. Its share of the GDP is less than 4 %. After Finland and Sweden Germany is the most important trading partner. Estonia exports above all wood, wood products, furniture, machines and electronic appliances. Germany supplies transport means, machines and plants, food and chemical products to Estonia.

**Logistics**

Owing to the geographical location Estonia has become an attractive location for foreign companies. The transport and logistics sector has constantly gained in importance and regularly generates more than 10 % of the GDP. Today Estonia is a transit centre for transports from west to east and from north to south and thus has the ideal pre-requisites for efficient transport chains.

Around 7.5 % of the working population are currently working in the transport or traffic sector. Substantial investments have been made and are being made here. The successful combination
of transport services, transit trade, logistics centres and additional logistics services above all attracts major international companies. Foreign investments in this sector have continuously increased in the last few years. Low transit costs, qualified employees and a well-developed communications infrastructure create solid initial conditions for a settlement in Estonia.

The goods structure has changed significantly in the last 10 years. The transport carrier rail dominates in the modal split of the goods traffic. Around 70 % of national and international goods are transported by rail. The Trans-European Corridor No. 27 runs through Estonia, which connects Helsinki with Warszawa. Road transport dominates in passenger transport with around 90 %. Around 48 million tons of goods are processed annually on international transport relations. The annual transport growth amounts to around 1.2 %, with international transports even to 9.8 %.

**Tallinn**

The Estonian Schenker subsidiary AS Schenker put a new terminal into operation directly at the Tallinn location in November 2002. The facility extended the already available capacities by around 2,900 to a total of 14,000 square metres logistics area. One of the main reasons for extending the facility was to accelerate the handling of the goods and at the same time to further improve the quality of service. The terminal has 40 loading gates and an additional ramp, which enables the loading of trailers from the side. 900 pallet places in this new building part, which is also used for cross-docking tasks, offer additional capacity reserves. Schenker is one of the market leaders in the Baltic countries.

In addition, there are further small logistics branches located in and around Tallinn. However the location is dominated by the port which plays a superior role for transport volumes of all kinds.

**Maardu**

The town of Maardu in the north east of Estonia is located around 15 km from Tallinn on the Muuga bay. One of the largest and most modern ports of the Baltic Sea region is located in Maardu. This fast developing port belongs to the port of Tallinn and features the following characteristics:

- Port of Tallinn consists of four individual port facilities
- Total area of ports: 607 ha
- 64 quay facilities
- Total length of quays: 11.9 km
Rail Baltica

- Maximum depth of 18 m
- 21 terminal operators
- 700 employees in total

The port has good hinterland connections. Three quarters of the goods volume consist of crude oil and oil products. In particular Russia and the CIS states use the port for their export and transit services, which illustrate the strong economic dependency on these services and its continued existence. Container and Ro-Ro activities are primarily carried out by the Muuga Container Terminal (MCT). The following diagrams shows that the container volume increased by more than ten times from 1994 to 2004, this corresponds with an annual growth rate of 26.9 %.

An extension of the port is aimed at in order to expand the competitive edges again. Distribution centres and production plants are to be erected especially for this on an area with a size of around 70 ha. The aim is to have a logistics and industrial park in order to meet the requirements of the demanding, mainly foreign companies. Primarily goods from Russia and the CIS states, which are determined for the European market, will be transhipped within this park.

![Graph](https://via.placeholder.com/150)

**Fig. 11:** Muuga Container Terminal throughput, Source: Muuga Container Terminal; 2005

**Problems**

With the expansion of the port infrastructure and the increase in goods transhipment Estonia has an excellent position within the Baltic States. However, only 1/6 of all goods transport, crossing the Baltic States, are processed via the ports in Tallinn and Muuga. A serious
problem, which the port could face in the near future, is the fact that the Russian government is endeavouring to expand own port infrastructures in order to no longer be dependent on the transit traffic in particular the oil exports through the Baltic States. This reorganisation of the Russian transport chain would mean a fall in demand and thus a reduction in the transhipment quantities. In order to counteract this at an early stage the port management has begun to generate new ideas. Thus, more focus is to be placed on container transhipment in future as substantial potentials are also seen worldwide in this sector. Little was undertaken by the government so far.

Problems are also caused by the road infrastructure of the country. The technical conditions still do not correspond with those of western standards so that it is only possible to drive on the roads with a speed limit. This is however partly compensated for through the relatively empty roads. One can expect a fast expansion of the road infrastructure in the long term.

The railway infrastructure does not correspond with the western standard either. Slow travelling routes are necessary in order to guarantee safe transport. As the majority of the railway lines in Estonia have been privatised and only 34 % are still owned by the state, essential improvement is not expected in the near future.

The railway connection from Muuga to the main network could be overloaded in future owing to rising transport volumes. A further railway connection would be conceivable here.

“Rail Baltica” is among the higher-level infrastructure projects of Estonia. The former connection between the Baltic States with Central and West Europe is to be restored with this project. The most important principles were recorded in the “Estonia 2010 National Spatial Plan”. Discussions are currently still being conducted in Estonia concerning the route of the “Rail Baltica” from Tallinn to the border of Latvia. The government would even be willing to accept the European gauge however the private operator of the network, Eesti Raudtee (Estonian Railways) is against this. The modernisation of the route according to the European standard is seen as uneconomical.

5.4.6 Finland

Finland is a highly developed industrial country whose per capita GDP income is slightly above the EU average. After the growth of the Finnish gross domestic product (GDP) with 5.1 % in 2000 was still around twice as much as the average in the Euro zone, economic growth merely amounted to 2.8 % in 2005. The economic research institutes have now increased the forecasts to 4.9 % for 2006.

Since 1991 Germany has been Finland’s most important trading partner both with imports as well as with exports. The Finnish statistics recorded imports of EUR 7 billion (share of 14.9 %) from and exports to Germany of EUR 5.6 billion (share 10.6 %) in 2005.
85 % of the goods reach Finland by sea. Just under half of the growing transport requirements are a result of the transit traffic to Russia. The transit goods are stored provisionally in Finnish ports or reloaded onto trucks and rail.

**Logistics**

From an economic point of view Helsinki is the most important region of the country with around 1.4 million inhabitants. Finland’s exports are to a large extent processed through the ports. Finland’s most modern freight port will be built in Helsinki in the next three years. The prime aim of the project is to increase the freight capacities for the growing goods volume in Baltic Sea freight transport. At the same time new housing and business complexes are to be built at the location of the old port facilities which are close to the inner city.

Thus, one of the most modern ports in the Baltic Sea region will be built in Helsinki with the "Vuasaari Harbour" by 2009. Extensive logistical freight structures such as terminals, warehouses and customs points will be set-up in various construction stages besides the actual port facilities and the port entrance in the next three years. At the same time access routes will be created by road and rail. According to the information provided by the port administrative authority the investment volume amounts to a total of Euro 317 million. The project is carried out in cooperation with port administrative authority, national shipping authority, the railway as well as the road building authority.

The new port is to cover a size of around 150 hectares with quay facilities with a length of 3.6 km. It should be possible to handle both Road-Road- as well as crane-based ‘Load on / Load off’-containers. Depending on the type and length of the vessels the port offers space for an additional 10 to 15 cargo ships. The port will be connected to the road via a newly built access road with connection to Helsinki’s ring road. A new track route will be laid between the port terminal and one of the regional main routes for access by rail. In addition to the port facilities a business park is to be erected on or with a direct connection to the port site. This is to offer space for the offices of the shipping companies and logistics service providers as well as for shopping and other service facilities.

The expansion of the port will be necessary among others owing to the sharply growing freight volume in Baltic Sea transport. The main reasons for this are the increasing transit deliveries via Finland to Russia. Their value corresponds with 42 % of the total Finnish ex-ports. The growth in these transit deliveries is also expected to continue unchanged in the next few years. On the one hand it is forecast that Russian imports will double by 2015. On the other hand there are no alternatives to the Finnish route among others due to the fact that the Russian or Baltic Sea ports cannot cope with the rise in imports in terms of volumes alone despite expansion measures.
A further significant logistical fact is that the Finnish railway uses the same gauge as Russia. Transports to the east are cheaper and easier from Finland than from any other EU country. Finland’s railway network and in particular its connection to Russia and other CIS countries is an important factor, which speaks in favour of a logistics centre in the Helsinki region. Asian and European freight forwarders save three weeks on this Trans-Siberian route compared with the route by sea and deliveries to and from China are up to six weeks quicker. Helsinki-Vantaa Airport is an important modern intersection. Together with the port of Helsinki it serves numerous domestic and international companies.

**Problems**

Finland is in fact a safe and reliable trading partner between east and west and has in addition excellent railway connections to Russia. However, the railway network is out-of-date in many places. Modernisation and extension measures are required in order to further stimulate the railway traffic. Although Finland is not planning any investments in the “Rail Baltica” project both the political developments as well as the integration of the three Baltic States are watched with interest. The state supports the project to the extent that the railway connection represents an alternative transport route also for Finland.

5.5. **Freight Villages: Summary**

The establishment of the north-south railway connection in the Eastern European transport and economic region should contribute to supporting and strengthening the development and diversification of the Baltic economy. “Rail Baltica” underpins the necessity for the three Baltic States to be allowed access to the West European markets via Poland and Germany. The business location Poland also gains in significance with “Rail Baltica”, not just as a transit country.

With the enlargement of the European Union by ten new countries on 1 May 2004 the centre of the EU shifted to the east. Germany moved into the centre of Europe. Characteristic for this are the more than average growth of the logistics sector and the increasing significance of an efficient transport infrastructure. The growing logistics market is now the fourth biggest business sector in Germany with annual revenue of EUR 150 billion and 2.7 million employees. A positive and by all means dynamic development is recorded in this connection by the Freight Villages of the Berlin-Brandenburg region. In particular the GVZ Berlin West Wustermark and Berlin south Großbeeren achieve top standards when compared on an
international level. The Freight Villages act as hub for international transports today already. The relocation of transports from road to rail will be pressed ahead with further in order to reinforce the intermodal transport. The Freight Villages in Berlin as well as the GVZ in Frankfurt (Oder) still have free terminal capacities.

The positive economic developments in Poland are mainly a result of the growing transport and logistics sector. New major investments are increasingly recorded in Poland, which demand logistical solutions within a pretty under-developed logistics and transport infrastructure. 70% of the exports went to West Europe, thereof more than 40% to Germany in 2005. The development of the logistics market is primarily proving to be a problem for small and medium-sized companies as suitable logistics locations are often missing. However, with 16% market growth and revenue of EUR 8.8 billion in the logistics industry in 2005 more and more companies are risking the step over the border.

The transport and logistics sector has constantly gained in importance in Lithuania. A new record was generated in the exchange of goods with overseas countries in 2005 with a total value of EUR 21.9 billion. This represented an increase of by 25.9% compared with the previous year. Lithuania is one of the main advocators of the “Rail Baltica” project. The town of Kaunas will become a strategic logistical junction with the realisation of the route. The transport flows from west to east and south to north meet here. Transports by rail are mainly made on the east-west axis - the export, import and transit routes of Russia. The transports in north-south direction are primarily processed by road.

Latvia has a well-developed transportation network. The transport and logistics sector has constantly increased in significance and regularly generates around 10% of the GDP, above all in transit traffic. 75% of the transports by rail are transit traffic, thereof around 90% relate to the east-west relation and vice versa. The transport and logistics market forms an essential focus in Latvian politics and for this reason is given priority. Transit, transport and logistics companies are given extensive support from the government. Thus, numerous investments were not least promised in the transport infrastructure.

The transport and logistics market in Estonia is also marked by substantial growth. The goods transhipment in the Estonian ports, particularly the transit trade with oil from Russia, has substantially gained in importance. Today Estonia is the transit centre for transports from west to east and from north to south. The transport carrier rail dominates in the modal split of goods traffic. Around 70% of the national and international goods are transported by rail. The essential logistics locations are Tallinn and the town of Maardu with the port of Muuga. The road and rail infrastructures have to be considerably expanded in order to meet western standards and satisfy the future transport volumes.

An essential pre-requisite for an efficient economy in Finland is the free access to a well-developed transport infrastructure. Both the national as well as the international transport
connections are important here. 85% of the goods reach Finland by sea. Just under half of the growing transport requirements are a result of the transit traffic to Russia. The transit goods are stored temporarily in Finnish ports or reloaded to trucks and rail. From an economic point of view Helsinki is the most important region of Finland. Finland’s most modern freight port will be built here in the next three years.

5.6 Development trends and conclusions for Rail Baltica

Important planning details are still to be examined in advance in order for the railway connection to the Baltic States to achieve the necessary economic and political success. Although the project was included in the list of urgent TEN projects, it was not yet possible to finally clarify the exact routing, nor was it possible to find a joint consensus about the various gauges to date. The network planned so far has no access to the national railway network and a connection to the most important ports was disregarded. If “Rail Baltica” were to be put into operation with the European standard gauge corresponding terminals would be necessary in order to change between the existing track systems in the individual countries.

The increasing competition of goods transports to the Baltic States and to Russia by sea should not be ignored. With the relocation of the production locations in the course of globalisation the goods have to be transported to the consumer via long distances today. The relocation to water is increasingly gaining in significance with the use of alternative transport carriers. Shipping still has free capacities and does not know either tailbacks or toll charges. Merely the port infrastructures and the hinterland connections have to be expanded.

As the transit traffic to Russia and the CIS are marked by a great deal of hurdles Deutsche Bahn is intending to make a detour around Poland and Lithuania by ship in future. From December 2006 railway wagons will run regularly by ship from Sassnitz on Rügen to Baltijsk. The ferry “Vilnius” will depart once a week in each direction in future. The ship has a capacity of 90 Russian railway wagons or 108 truck trailers.

There is more than one reason for making a detour around Poland and Lithuania by ship. Goods exchange between Germany and Russia has more than tripled since 1998. Trucks and wagons are in short supply and the Polish railway network is overloaded. It is becoming more and more unbearable for Russia to be totally dependent on the small neighbours. Therefore 1.5 billion Roubles were invested in expanding the port infrastructure in Baltijsk and the Russian state railway is also modernising its lines for five billion Roubles. A further transport route to St. Petersburg is planned for 2007.
The ferry port Sassnitz-Mukran is profiting from these plans of Russia. The port has a connection to the Russian broad gauge railway network and is thus the most western terminal station of the Russian railway system. A total of five separate halls, four free crane facilities and a transshipment facility are available on the station site of Sassnitz-Mukran with a size of 340 ha, fitted with together around 40 km broad gauge and 70 km normal gauge track systems, for reloading the various goods into the Russian broad gauge wagons. Intermodal ferries with a capacity of 103 Russian railway wagons run three times a week in both directions on the axis between Sassnitz-Mukran and the Lithuanian port of Klaipeda. The travelling time is respectively 18 hours. All requested consignees in Russia, Belarus, Ukraine, Kazakhstan, Usbekistan, Turkmenistan, Azerbaijan, Tajikistan, Kyrgyzstan, Mongolia and North China are reached quickly via the reliable ferry connection Sassnitz - Klaipeda with prompt wagon throughput through Lithuania.

The largest German Baltic Sea port, the port of Lübeck, is to be included in the overall considerations. In the new Europe it is the central logistical link between Scandinavia, Finland, Russia, the Baltic States and Poland and the large European business centres. Ferries depart the port in the direction of Finland, Estonia, Latvia and Russia several times a week. The uncomplicated transport by sea as in combination with the relatively low travelling time is highly appreciated by customers.

“Rail Baltica” could experience an increasing competitive situation from a possible withdrawal of Russia from transports via the Estonian port of Muuga. Should Russia process its trans-ports via its own port in Baltijsk in an effort for independency substantial free capacities would be available in the port of Muuga, which would have to acquire orders on the transport market.

Important for future developments are also the recent activities of Deutsche Bahn AG with regard to the set-up of a rail-based land bridge Berlin - Beijing. Transports, according to the considerations, will reach the destination much quicker by land via Russia than by sea. Around 12 days are calculated for the transport by rail. The ship needs around 30 days from Hamburg to Shanghai. The CEO of Deutsche Bahn AG, Hartmut Mehdorn, is also hoping for “endless business opportunities” in Eastern Europe. The Deutsche Bahn AG intends to closely accompany its German industrial customers on this expansion field in future. It is already working on developing marketable offers.

These activities will among others substantially strengthen the “Ostwind” with the destination/starting point GVZ Berlin South Großbeeren. Therefore, the logistics centres on the “Rail Baltica” have to react to this trend in time. Therefore, “uncoupling” the branch “Rail Baltica” would have fatal consequences.

Parallel to the Interreg IIIB-Project “Rail Baltica” the EU project “Alpine Freight Railway - AlpFRail” (also Interreg IIIb) deals with the cross-country re-organisation of the goods traffic by rail in the region of the Alps in order to relocate more road haulage to rail. Decisive here
was also the increase in goods volume owing to the single European market which has grown through the EU Eastern enlargement. The product “rail” is missing in the cross-border transports as is customary in road haulage. Similar to the situation with “Rail Baltica” the railway network is to be connected in an intelligent manner in order to guarantee an optimum exchange of goods. Therefore, a network of the players with exchange of experiences is to be recommended.

5.6.1 Development potentials

The analysis of the presented case studies allowed for conclusions regarding the development potentials associated with the ‘Rail Baltica’ construction. As described in Chapter 5.2 there are international development trends which – if either no or insufficient measures are taken – will impede, and allow to stagnate, the future economic and logistical development along the “Rail Baltica”. Therefore, the authors consider it essential for the Baltic States to submit a uniform and coordinated development strategy together with Poland and Germany to the EU with regard to the technical parameters and the financing capability. The potentials in goods and passenger traffic which no doubt exist should be used in order to develop attractive offers for the transport carrier rail.

The positive experience of the GVZ development in Germany and in particular in the Berlin region could also give new impetus for “Rail Baltica”. Therefore, it should be examined whether a continuous institutionalised transfer of know-how can be set-up for the planning and realisation of logistics centres. This transfer of know-how should not just include the customary consultancy and lecture services. Rather so-called expert internships (2 to 4 weekly reciprocal exchange of experts) could be integrated. Thus on the one hand the Baltic as well as partly the Polish experts can profit from the experience gained on the German side in the development and operation of Freight Villages, on the other hand internships of the German experts in the Baltic States are of significance with regard to investigation of the market and market integration.

The authors further consider it very important that interest structures will develop for Freight Villages both in the Baltic States as well as in Poland. Reference can be made here to the successful model of the German GVZ-Gesellschaft DGG (www.gvz-org.de) as umbrella association and lobbyist of the German Freight Villages. The DGG supports and advises among others the federal government (Federal Ministry of Transport) in important matters relating to transport policies such as development strategies in goods traffic (Masterplan Goods Traffic and Logistics) and in promotion in intermodal transport. Further the DGG represents the German GVZ in the European umbrella association Europlattform (www.Freight-village.com), through which the European network and the European know-how transfer is also ensured.
These structures can of course only develop over the course of the development processes; however they should be initiated as early as possible. Initiators could also be the business and entrepreneur associations of the respective countries besides the regions and towns concerned. The following recommendations are given to each partner country by the case study’s authors:

5.6.2 Germany
1. Owing to the excellent development of the Freight Villages in the Berlin-Brandenburg region an expansion should be planned and carried out in line with the needs with the aim of attracting the settlement of further well-known international logistics companies.
2. An airport logistics centre BBI with a size of 40 to 60 ha should be included and developed in the GVZ system. Logistics companies will settle there in future which are seeking locations near air traffic.
3. The existing and planned capacity reserves for the transhipment fields of the inter-modal transport in the Freight Villages Wustermark, Großbeeren and Frankfurt (Oder) should be used to initiate a marketing offensive for intermodal traffic. Therefore, it is suggested to network the corridor studies which are being conducted at present (east/west, north/south). The players should exchange the results.

The planned land bridge in the Asian region is an important development opportunity in particular for the Freight Village Großbeeren (“Ostwind”).
4. A new marketing concept has to be developed for the ETTC Frankfurt (Oder), in particular the logistical guarantee of the solar industry which is emerging there is of major importance.

5.6.3 Poland
5. The efforts put into the realisation of the GVZ master planning is to be increased. Based on the German experience the control and promotion of the processes should be undertaken by public decision-makers. The initiatives from the private sector are to be included in a balanced manner.
6. The expansion of the transport infrastructure in the road and railway network must be continued consistently.
7. Trains are travelling through from Poland to Kaunas today already. A smooth border crossing is to be guaranteed in order to avoid unnecessary overruns in travelling time.
5.6.4 Lithuania, Latvia, Estonia

8. A uniform and coordinated strategy of the Baltic States is necessary in order to press ahead with “Rail Baltica”. Besides a feasible financing concept (own shares of the 3 states) a decision has to be promoted on the technical parameters. The stipulation of the gauge holds a key position here. The Central European gauge (1,435 m) is to be given priority from the point of view of the authors. Transit traffic (Russia/CIS) as well as regional traffic along the “Rail Baltica” could be compiled and reloaded in the Freight Villages which are to be developed and subsequently pass the border to Poland quickly as half- or block trains without any further handling and be discharged into the Central European network (time and cost benefits).

9. Further joint strategies are to be developed against the outflow of the afore-mentioned transit traffic. The following development processes are seen:
   - The infrastructural connections to “Rail Baltica” in west-east direction (Russian border) or east-west direction (Baltic ports) may not be neglected and have to be pressed ahead with in parallel.
   - The development of efficient logistics centres as Freight Villages with hub function at the intersections of “Rail Baltica” and the east-west connections has to be enforced (Tallinn, Riga, Kaunas). An uninterrupted connection of the rail must be guaranteed here.
   - Terminals with re-gauging possibilities have to be created in these centres, presuming that “Rail Baltica” is built with a gauge of 1,435 m.
   - When the afore-mentioned infrastructural pre-requisites have been satisfied an active marketing of the intermodal traffic should be initiated. One possibility would be to set-up shuttle connections in direction Poland/Warszawa in order to reinforce the “Ostwind” here or other connections in the West and South European region.
   - Apart from the Freight Villages with hub function logistics centres in line with the needs are to be developed in the larger cities for the logistical supply and disposal according to the tried and tested principles of the GVZ planning system described in the previous chapters (e.g. Vilnius, Klaipeda, Maardu).
Fig. 12: Possible logistics locations with hub function; Source: ipg mbH
Conclusions and recommendations

The analyses performed in the framework of this work package focussed on the evaluation of questionnaires, workshop discussions and the evaluation of selected case studies. Additionally, the experiences gathered in the implementation of the INTERREG project ‘Rail Baltica’ were included in the overall assessment.

For the case studies analysed it can be concluded, that project management instruments are in place and applied. However, the potentials for the improvement of project planning and development procedures are manifold. The presented handbook may serve as a useful tool for the experts involved by explaining necessary elements of project management and by featuring management and development approaches through the analysed case studies.

The application of the presented handbook to ongoing projects allows an evaluation of the procedures and management tool applied. Guidance for a possible adaptation of the procedures can then be derived.

Conclusions can also be derived by applying the recommendations of the manual to the overall infrastructure development project of constructing Rail Baltica. The following can be concluded:

1. It must be ascertained, that the organisational and communicative structures necessary for the comprehensive planning procedures associated with international infrastructure development projects must be greatly improved on all sides and in all respects. Basic prerequisites of project management and organisation as well as for communication as described in chapters 2 and 3 of this report are not in place.

2. The political backing for the efforts must be strengthened both national and international levels.

3. A harmonized master plan for Rail Baltica must be elaborated and formally agreed upon. The agreement must include a strong and long term commitment to the defined goals.

4. Development plans must be drafted on a national level in close cooperation with the neighbouring countries to avoid conflicts of interest and thus double work. Prerequisites for this cooperation are a general and encompassing improvement of communication structures and procedures, sound political backing, regular personal meetings of all relevant experts, flexibility in the individual planning instruments and the joint will to produce a harmonized development approach.

5. Trans-national development plans must be established for all border regions.
6. Representatives from the regions must be included in the planning procedure in order to ensure that their development needs are best regarded. The necessary basic data on development potentials, perspectives and investment needs, as well as the definition of possible projects must be prepared by the regions themselves.

7. In order to be able to accomplish the task of data collection, evaluation and the subsequent definition of regional development plans, the relevant regional authorities must be put into the position to do so in terms of responsibilities, financing and professional training.

8. Communication must be improved on all the national levels (local to regional to national) as well as on the international level.
6 ANNEX

6.1 Definitions

Comprehensive Spatial Development Policy
Aspired / planned spatial order of housing, economic / industrial installations, infrastructure within a state. All activities of the relevant authorities to reach the aspired goals are summarized under the term of ‘Spatial Development Politics’.

Comprehensive Spatial Development Plan
Formally combined and aligned plans of individual regions into one superordinated development plan in which the goals of the Comprehensive Spatial Development Policy are reflected.

Spatial Planning
All planning activities intended to fill the areas defined in the comprehensive / regional / municipal spatial development plan. Spatial planning is an abstract term used to describe planning activities on a state, regional and municipal level aimed at the realization of the regional and municipal spatial development goals.

Comprehensive Regional Planning Procedure
The planning procedure describes a formal inspection of a spatial development project to assess its compliance with the goals of the Comprehensive Spatial Development Policy / Plan on a regional level.

Regional Development Planning
Level of spatial development planning between the national and municipal levels. Regional planning defines the spatial order of housing, economic / industrial installations, infrastructure etc. within a region. Regional planning goals are fixed in a Regional Development Plan.
Regional Development

All activities aimed at reaching the goals fixed in a regional development plan. Regional development measures aim at implementing spatial development priorities on a regional level e.g. through regional structural policies. These policies define measures to achieve sustainable development of the areas and facilities defined in the spatial plans in terms of economic development, socio-political implications and environmental factors.

Municipal Development Planning

Spatial development planning on a municipal level. Municipal planning defines the spatial order of housing, economic / industrial installations, infrastructure etc. within a municipality. Municipal planning goals are fixed in a Municipal Development Plan.

Binding Site Development Scheme

The Binding Site Development Scheme defines the type and the degree / extent of use for a specific site. The development scheme is binding for the public and all administrative authorities.

Planning

Planning describes all activities aimed at providing the concepts for the theoretical and methodological preparation as well as the concretion of spatial and structural development processes. The concepts will have to regard social, environmental and economic aspects and will have to be oriented towards the needs of those affected by the concepts. Planning results will be defined in development plans which in turn will be implemented by administrative bodies / authorities on the national, regional and local levels.
### 6.2 Abbreviations

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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BBI</td>
<td>Berlin Brandenburg International (Airport under construction)</td>
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<td>BSR</td>
<td>Baltic Sea Region</td>
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<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CIS</td>
<td>Commonwealth of Independent States</td>
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<td>D-P-PLIS</td>
<td>Deutsch-Polnisches Raumplanungsinformationssystem, German-Polish information system for Spatial Planning</td>
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<td>e.g.</td>
<td>for example</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>ETTC</td>
<td>Euro Transport &amp; Trade Center</td>
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<td>EU</td>
<td>European Union</td>
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<td>EUR</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GVZ</td>
<td>Freight Village (German: Güterverkehrszentrum)</td>
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<td>ha</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>km</td>
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<td>m</td>
<td>metre</td>
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<td>m²</td>
<td>square meter</td>
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<td>MIV</td>
<td>Motorized Individual Traffic</td>
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<td>mm</td>
<td>millimetre</td>
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<td>PLN</td>
<td>Zloty</td>
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<td>PPP</td>
<td>Public Private Partnership</td>
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<tr>
<td>PSP</td>
<td>Project Structure Plan</td>
</tr>
<tr>
<td>SME</td>
<td>Small and medium-sized enterprises</td>
</tr>
<tr>
<td>TEN-T</td>
<td>Trans-European Transport Network</td>
</tr>
</tbody>
</table>
TINA  Transport Infrastructure Needs Assessment in Central and Eastern Europe
VASAB  Visions and Strategies around the Baltic Sea
WP  Work Package
### 6.3 Matrix Project Phases

The following table is an example for tasks and responsibilities in specific project phases (see chapter 1).

#### I. Project Initiation Phase

<table>
<thead>
<tr>
<th>Topic</th>
<th>Task</th>
<th>Responsible</th>
<th>Condition</th>
<th>Result/Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals</td>
<td>Definition of project goals</td>
<td>Initiating agent</td>
<td></td>
<td>General description of proposed actions and goals</td>
</tr>
<tr>
<td>Contract</td>
<td>Drawing up of formal project development contract</td>
<td>Initiating agent, project leader</td>
<td>Definition of project goals, definition of participants</td>
<td>Formal project development contract (to be signed by participating partners)</td>
</tr>
<tr>
<td>Organisation</td>
<td>Founding of Project Executing Organisation</td>
<td>Initiating Agent, project partners</td>
<td>Definition of project goals, definition of participants (Formal project development contract)</td>
<td>A project executing organisation has been founded, usually a public private partnership between public authorities and private stakeholders</td>
</tr>
<tr>
<td></td>
<td>Assignment of project leader</td>
<td>Initiating agent, project Execution organisation</td>
<td>Definition of project goals, definition of participants (Formal project development contract)</td>
<td>Project leader is assigned</td>
</tr>
<tr>
<td>Rail Baltica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Definition of organisational structure | Project leader | Definition of project goals, definition of participants Project leader is assigned | Project organisation chart (see example chapter 2) |
| Nomination of responsibilities for all fields of activities | Project leader | Project organisation chart | Project organisation chart is complemented with names of project members responsible for certain fields of activities (and their substitutes) |

| Economics | Economic efficiency calculation | Initiating Agent | Definition of project goals | Calculation as basis for continuous cost controlling |

| Communication | Constitution of a communication structure | Project leader | Project organisation chart | Chart with communication structure, accessible for all project members, updated regularly |
| Appointment of contact persons | Project leader | Project organisation chart | List with contact persons and their contact data, accessible for all project members, updated regularly |
## II. Project Exploration Phase

<table>
<thead>
<tr>
<th>Topic</th>
<th>Task</th>
<th>Responsible</th>
<th>Condition</th>
<th>Result/Output</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basics</strong></td>
<td>Check of existing plans, incl. possible restrictions for project development</td>
<td>Project team</td>
<td></td>
<td>Compilation of existing plans</td>
</tr>
</tbody>
</table>
| **Programme**        | Elaboration of a Master Plan                                         | Project management                         | Definition of project goals, Compilation of existing plans                | Master plan including:  
  • refined goals  
  • timeframe  
  • costs  
  • output, result                                                            |
<p>| <strong>Preliminary studies</strong> | Optional: Feasibility study                                         | Private firm or public institution assigned by project leader | Master plan                                                               | Feasibility Study                                                              |
|                      | Optional: Environmental impact assessment (EIA)                      | Private firm or public institution assigned by project leader | Master plan                                                               | EIA                                                                            |</p>
<table>
<thead>
<tr>
<th>Topic</th>
<th>Task</th>
<th>Responsible</th>
<th>Condition</th>
<th>Result/Output</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Background</strong></td>
<td>Check legal framework: List of required approval procedures and according responsibilities in authorities (incl. names of responsible officials)</td>
<td>Project management</td>
<td>Master plan</td>
<td>Compilation of approval / permitting procedures</td>
</tr>
<tr>
<td></td>
<td>Check political framework</td>
<td>Project management</td>
<td></td>
<td>Communication Plan</td>
</tr>
<tr>
<td><strong>Financing</strong></td>
<td>Check of funding, financial assistance</td>
<td>Project management</td>
<td>Feasibility Study</td>
<td>Financing Plan</td>
</tr>
</tbody>
</table>
## III. Planning Phase

<table>
<thead>
<tr>
<th>Topic</th>
<th>Task</th>
<th>Responsible</th>
<th>Condition</th>
<th>Result/Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processes</td>
<td>Organisation of processes</td>
<td>Project management</td>
<td>Master Plan</td>
<td>Project Structure Plan including:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project organisation chart</td>
<td>• subprojects</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Communication Structure</td>
<td>• phases</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Finance Plan</td>
<td>• milestones</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Project schedule</td>
<td>• activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• responsible experts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Time schedule</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Budget</td>
</tr>
<tr>
<td>Time</td>
<td>Elaboration of time schedule for all</td>
<td>Project leader</td>
<td>Subprojects, Phases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>project phases, including milestones</td>
<td></td>
<td>Milestones</td>
<td></td>
</tr>
<tr>
<td>Costs</td>
<td>Elaboration of a detailed budget, incl.</td>
<td>Project leader</td>
<td>Activities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>estimated costs for all project phases</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## IV. Implementation Phase

<table>
<thead>
<tr>
<th>Topic</th>
<th>Task</th>
<th>Responsible</th>
<th>Condition</th>
<th>Result/Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project start</td>
<td>‘Kick off” meeting</td>
<td>Project management; Participants: all project members</td>
<td>PSP</td>
<td>Start of implementation phase</td>
</tr>
<tr>
<td>Documentation</td>
<td>Documentation of all project phases</td>
<td>Project steering, to be approved by steering committee</td>
<td>Monitoring of progress</td>
<td>Project documentation, Progress reports (publishing of quarterly statements, accessible for all project members)</td>
</tr>
<tr>
<td>Quality</td>
<td>Quality Assurance</td>
<td>Project management</td>
<td>Project documentation</td>
<td>Regular meetings, reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Steering committee</td>
<td>Progress reports</td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>Project Controlling; regular control of project structure plan (PSP)</td>
<td>Project management</td>
<td>Project documentation</td>
<td>Regular meetings of steering committee with concluding report</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Steering committee</td>
<td>Progress reports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial controlling; regular control of budget</td>
<td>Project steering or Independent financial auditor, to be assigned by steering committee</td>
<td>Project documentation</td>
<td>Financial report</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Progress reports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Project Schedule</td>
<td>Project management</td>
<td>Project documentation</td>
<td>Regular meetings, reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Steering committee</td>
<td>Progress reports</td>
<td></td>
</tr>
</tbody>
</table>
ANNEXES

6.4 Questionnaire
6.5 Case studies