

Logistics and Multimodality

Methodology

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1. SCOPE OF WORK AND METHODOLOGY

1.1 General Approach

The Consultant's general approach will:

- integrate available information and results into a study to a maximum extent if appropriate. Hence the Consultant will consider the outcome of recent studies and other sources of information.
- transform the objectives and the scope of work as set out in the Terms of Reference into detailed work steps (tasks);
- involve national institutes and experts to a large extent in the actual works from the very beginning of the project

In order to cope with the required objectives, the approach and methodology of the elaboration of the study will follow the logical pattern of the scope of work as provided by Terms of Reference. Where the Consultant proposes a deviation from the pattern of the Terms of Reference it is explicitly stated.

1.2 Exploration of Tasks

The project will be divided into four major task groups as explained in the following:

Task 1: Telematics and Interoperability

Investigation on the issues raised by the integration of telematics and interoperability and analysis of the implications of current railway projects in telecommunications/signalling on compatibility.

The core of the software applications will be the terminal planning and warehousing application. This application will receive information for incoming cargoes from the sender. Both EDI and Internet based solutions can be implemented for the cargo information.

Advanced tracking and tracing services will be used based on the transport telematics solutions. The lowest level of tracking will be on the parcel level.

The tracking solutions for the trucks will be mainly based on the freight waybill information which will be sent in EDI/Internet to the terminal planning and warehousing software application.

The tracking and tracing services for the outgoing cargoes will be based on the cargo and departure information produced by the core software application. The use of the tracking and tracing information for the cargo departures depends on the IT level of the final receivers.

In the Consultant's understanding "interoperability" includes two aspects. The first meaning is connected to the physical cargo movement from one transport mode to another or one loading unit to another, the intermodal philosophy, but also, as in case of railways, from one railway system to another. The second understanding of interoperability means the interconnectivity of the cargo information between different computer applications.

Task 2: Definition of an organisational and operational setup of the logistic centre

Part of the information gathered and part of the results obtained during the elaboration of Task 1 will be used during Task 2. For expositional reason, the Consultant has divided this Task 2 into three major blocks: Task 2.1. will i.a. cover the forecast of cargo volumes, Task 2.2 will work out organisational aspects and Task 2.3 will focus on the operational aspect of a state-of-the art concept for an intermodal logistic centre.

Task 2.1. Forecast of future cargo volumes, commodity structure and modal split development

- Collection of data on cargo volumes, commodity structure and modal split
- Traffic analysis and development of forecast scenarios
- National traffic forecast

The Consultant aims at a smooth and efficient work schedule, thus he will take care to avoid any duplication of already existing forecasts or other study results. It should be mentioned that the Consultant intends to use the results of existing or evolving studies under economic co-operation schemes to the maximum possible extent.

- Organisational setup
- Integration of corridors into the European Network
- Opportunities and constraints of providing value added services in or close to the logistic centre

Task 2.2: Deployment strategies for telematics

- Models of ownership and charging principles: Separation of infrastructure and operation

Task 2.3: Operational setup

- Development and (cost) analysis of different basic operational principles
- Physical cargo flow setup: Operating concept and simulation
- Control of operations and management of freight forwarding information

Task 3: Preliminary design of the logistic centre

Task 3 will start immediately after the end of the mobilisation phase, since the Consultant intends to present a selection of alternative sites for the logistic centre already in the Inception Report, in order to facilitate a final decision on the site selected for further research according to the Terms of Reference.

Task 3 is divided into six blocks 3.1-3.5, which cover:

Task 3.1: Preliminary layout of facilities

In Task 2.1. (forecast of future cargo volumes, commodity structure and modal split development), future quantities of freight and the nature of freight that will be flowing through the logistic centre have been defined. The cargo flow has been defined in principle in Task 2.3. This serves as a basis for projecting the need for:

- Traffic facilities (road, rail, parking areas for cars and trucks), landscaping.
- Storage areas (open and covered).
- Multi-level buildings such as freight distribution centres, administration building, etc.
- Side-rail areas for container.
- Crane facilities, mobile units.
- External systems such as scales, ramps, an area for interim storage of malfunctioning material (leaking container, etc.), storage areas for hazardous cargoes, containers, petrol/gasoline service station.
- Equipment for technical facilities such as water supply (portable and fire-fighting water), waste water removal (dirty water/rainwater), energy supply, telecommunications equipment, public lighting.
- Connection to the public road and rail network.
- Other equipment such as gates, fences and gatehouse.

The basic requirements from Task 2 may thus be taken into account in determining the area required for the individual facilities and theoretically for the entire area of the logistic centre.

- Identification of alternative construction sites and analysis of suitability
- Verification of existing topographic and basic documents
- Preparation of a sketch layout and its justification
- Layout verification and adjustment to different implementation schedules
- Determination of key quantitative figures for cost estimates
- General description of specialised equipment

Task 3.2: Institutional scheme: Who pays what, who profits

- Developer and developing entity
- Ownership structure after construction
- Legal, administrative, financial and operational frame conditions
- Analysis of possible financing systems

Task 3.3: Capital investment costs

- Estimation of civil engineering and construction (unit) costs
- Project implementation cost by components and phase of development

Task 3.4: Operating costs

- Determination of main operational parameters: Experiences from Western Europe
- Estimates of the project operating costs
- Estimation of opportunity costs of operating in the logistic centre

Task 3.5: Financial projections: Cost recovery and self-sufficiency

- Assessment of revenues
- Modelling medium term financial projections
- Profitability of main operational activities
- Sensitivity analysis of key technical and commercial parameters

Task 4: Draft terms of reference for further research

Since the present study has the character of a feasibility study, there will remain certain aspects and accrue new aspects which need further clarification. The Consultant will compile these aspects in interdisciplinary team meetings towards the end of project work and discuss them with the Steering Committee. The results of these discussions will guide the Consultant in elaborating Draft Terms of Reference for further steps on the way to the realisation of the logistic centre. These Draft Terms of Reference will take account of yet to be solved questions in the field of engineering, communication technologies, legislation, environment as well as financing, taxation and regional development.

In order to avoid any delay in the execution of services, the Consultant will pay specific attention to the project logistics and co-ordination. Furthermore, the Consultant intends to maintain a proper information flow to the institutions involved

in the project monitoring and co-ordination. Notwithstanding, the Consultant will follow the Steering Committee's advice and recommendation.

The Consultant proposes to hold a kick-off meeting at the beginning of the expatriates' first mission. The kick-off meeting should be attended by representatives of the consortium, the Consultant's national co-operation partners' representative and the members of the Steering Committee. During the initial meeting, the consortium partner will be introduced, and all parties involved will be briefed on the project in detail.

2. ORGANISATION OF WORKS

2.1 General Organisation

An efficient project organisation can only be achieved with explicit lines of communication which are clearly understood by all concerned parties. In order to reach this objective, an organisational structure has been chosen which will be applied to the daily administration and co-ordination of all work commissioned to the present project.

The organisational structure of the Consortium, as applied to the daily administration and co-ordination of work will have the following key features.

