



Integrated and Sustainable Transport in Efficient Network - ISTEN

DT1.1.1 - Common methodology for local context analysis

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Document information

Abstract

The present Deliverable provides a common methodology and guidelines to the ISTEN partners to carry-out the analysis of their local context.

Keywords

Methodology, local context analysis, port-hinterland, partners roles and responsibilities

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1 INTRODUCTION

The aim of this Deliverable is to provide a common methodology and guidelines to the ISTEN partners to carry-out the analysis of their local context.

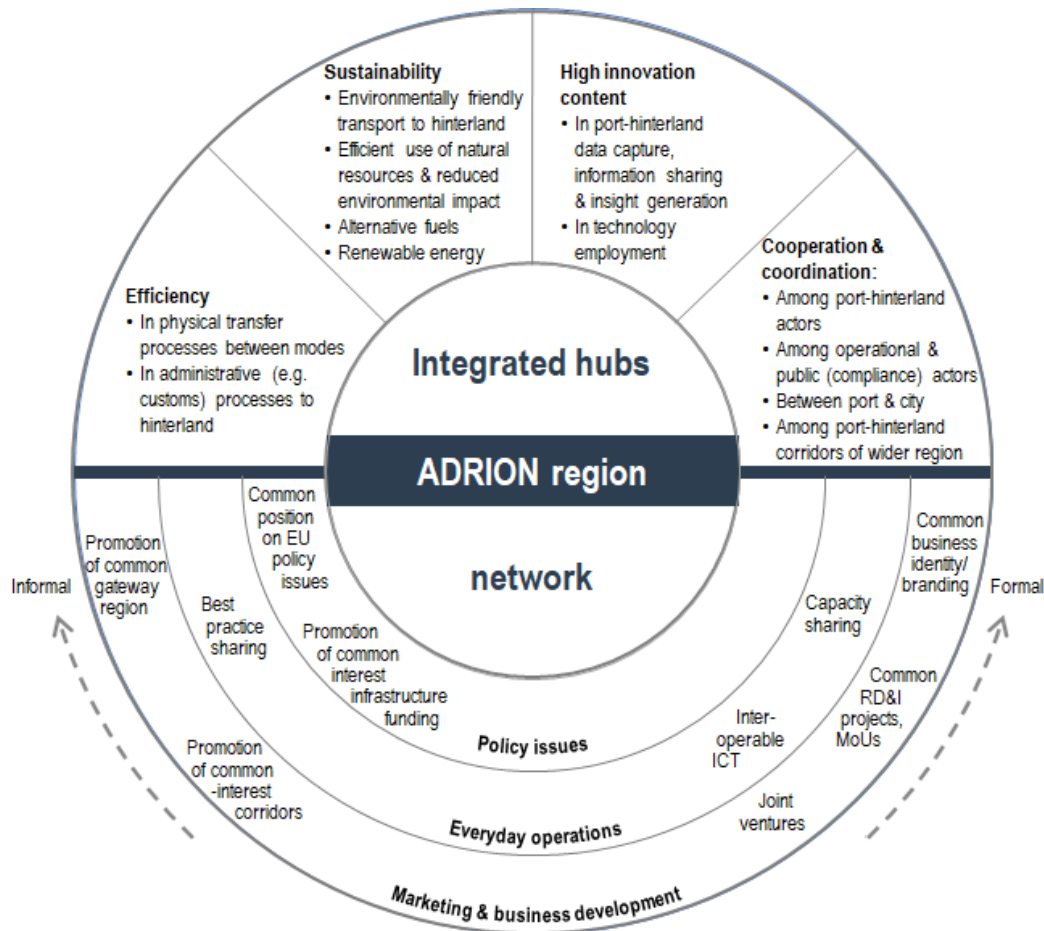
The report is structured in two chapters. In Chapter 2, first an overview of the common methodology is presented and each one of its components are further analysed. In Chapter 3, the follow-up steps for implementing the methodology are defined, including partner responsibilities and deadlines for finalising this report. Finally, in Annex I, a checklist to be used during the interviews with local stakeholders is provided.

In developing the present report, two feedback sources were employed: the project partners having reviewed the document; the members of the OpenENLoCC (the European Network of Logistics Competence Centers) having participated in the ISTEN session that took place in the OpenENLoCC General Assembly (April 10, 2018 - Newcastle, UK).

2 ISTEN'S VISION & FOCUS

ISTEN's vision is to **significantly contribute towards the development of an integrated hubs network at ADRIAN level**, by formulating the required Action Plans to address the bottlenecks experienced at both local and transnational level. This vision guides all activities of the project. To be used though, in an effective way, a common understanding should be established among and beyond the project partners along two dimensions: (1) on what ISTEN means when aiming at turning a port into an integrated hub; and (2) on what distinguishes a network from a number of co-existing hubs (see *Figure 1*).

Figure 1: ISTEN's focus



For ISTEN, an integrated port-hinterland hub (upper part of *Figure 1*) exhibits the following attributes:

1. Efficiency, in terms of:
 - physical transfer processes between modes
 - administrative (e.g. customs) processes to hinterland
2. Sustainability, in terms of:
 - using environmentally friendly transport means to the hinterland (e.g.: a. existence of regular (fixed schedule, at least 1/week) environmentally

- friendly (rail/barge) services to the hinterland; and b. considerable share of rail (>10%) in international hinterland throughput)
- efficiently using natural resources & reducing its environmental impact
 - facilitating the use of alternative fuels
 - promoting renewable energy sources
3. High innovation content, in terms of:
- data capture, information sharing & insight generation
 - technology employment
4. Cooperation & coordination:
- among port-hinterland actors
 - among operational & public (compliance) actors
 - between the port and the society (e.g. city)
 - among ports and hinterland corridors of the wider region.

The degree to which the port (and the respective ISTEN local site) exhibits the above attributes, will reflect the level at which it has become an ‘integrated port-hinterland hub’.

Moreover, ISTEN believes that what distinguishes a ‘network’ from a number of ‘co-existing’ hubs, are the coordination initiatives that link them and the resultant synergies that can be achieved. Such initiatives can be grouped under three main headings: marketing & business development; every day operations; and policy issues. *Figure 1* (lower part) presents a number of initiatives that can be used as part of an informal or formal network of integrated hubs.

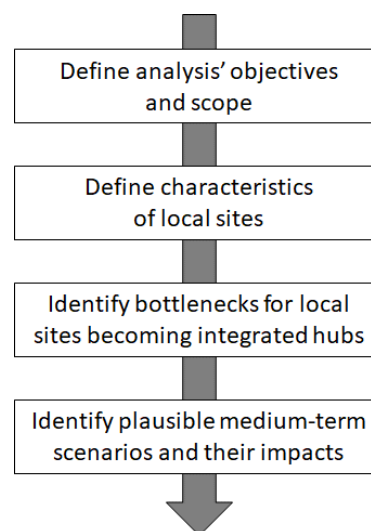
3 THE COMMON METHODOLOGY

3.1 Methodology overview

The methodology to be used is depicted in *Figure 2*, and it involves 4 stages:

- definition of the analysis' objectives & scope
- identification of the local sites' characteristics
- identification of bottlenecks faced by the local sites in becoming integrated hubs
- identification of plausible medium-term scenarios and their respective impacts

Figure 2: Common methodology overview



Each one of the methodological steps is described in the following sections.

3.2 Definition of the objectives and scope of the Local Context Analysis

According to the ISTEN AF, the Local Context Analysis (Activity T1.1) should fulfil two objectives:

- to understand the current situation & trends in the 9 project sites
- to formulate medium-term scenarios for the 9 project sites.

The scope of the Local Context Analysis is defined by: (1) the main questions to be addressed; (2) the operational components to be included; and (3) the entities to be involved.

The main questions to be addressed, according to the AF, are the following:

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- which are the characteristics and requirements of local port-hinterland communities and their main relations, information flows and responsibilities in the local intermodal chain?
- which are the main hinterland logistics services/infrastructures?
- which is the current situation and the possible medium-term scenarios?
- which are the critical issues, bottlenecks and related negative impacts (environment, economic, etc.)?
- which are the conditions for a shift from road to railway and towards MoS?

In terms of operational breadth, the Analysis will focus on the port-hinterland rail connections of the 9 project sites, and will consider the respective processes:

- physical transfer processes
- administrative, regulatory and institutional processes
- informational processes.

The entities to be involved in the analysis of each site will include the respective:

- port authority and/or operator
- rail operators
- shipping agents
- freight forwarders
- shippers.

3.3 Definition of local sites' characteristics

The characteristics of each local site will be defined in terms of its:

- Port-hinterland chain overview
 - Geography
 - Main markets served
 - Main actors involved (private and public)
- Port-hinterland chain operations
 - Cargo served (types, shares, trends)
 - Services provided (by each of the main actors involved)
- Port-hinterland chain governance
 - Responsibilities of each port-hinterland actor
 - Coordination among port-hinterland actors
 - Networking initiatives with other ports

The approach to be employed for defining the characteristics of the local sites will include:

- analysis of available data and information at the local level

- structured interviews with local stakeholders, covering the categories defined in section 2.2 (i.e. entities to be involved - scope of analysis). The structured interviews can be realised either through meetings with each one of the respective stakeholders, or as part of the meetings of the Local Stakeholders' Groups.

3.4 Identification of bottlenecks in becoming integrated hubs

The bottlenecks faced at local sites towards realising an 'integrated port-hinterland hub' can be:

- market bottlenecks
- infrastructural bottlenecks
- operational bottlenecks
- institutional bottlenecks
- innovation bottlenecks.

The approach to be employed for identifying the bottlenecks faced at the local sites will include:

- analysis of available data and information at the local level
- structured interviews with local stakeholders, covering the categories defined in section 2.2 (i.e. entities to be involved - scope of analysis). The structured interviews can be realised either through meetings with each one of the respective stakeholders, or as part of the meetings of the Local Stakeholders' Groups.

3.5 Plausible medium-term scenarios and impacts

For each of the project sites, a set of plausible medium-term scenarios will be identified and their respective impacts will be defined. Scenarios are an internally consistent view of what the future might turn out to be - not a forecast, but possible future outcomes¹. Therefore, their emphasis falls on possibility rather than forecasting.

The approach to be employed for developing the alternative scenarios is Morphological Analysis², which incorporates the following steps:

- the main factors (wild cards, i.e. high impact events/issues) to influence future development are identified
- for each factor, a number of conceivable development variations (states) are defined
- the main factors and the corresponding development variations are entered into a table referred as 'morphological box' or 'Zwicky Box' (after its inventor Fritz Zwicky)

¹ Porter, M. (1985) *Competitive Advantage*, Free Press

² Pillkahn, U. (2008) *Using Trends and Scenarios as Tools for Strategy Development*, Publicis Corporate Publishing; Johansen, I. (2018) Scenario modelling with morphological analysis, *Technological Forecasting & Social Change*, 126, pp. 116-125

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- the development variations are combined into plausible strands
- each strand forms the core cell for a scenario.

For each of the scenarios, an assessment of its main impacts will be undertaken.

The plausible scenarios and their potential impacts will be defined with the active participation of the members of the Local Stakeholders' Groups.

4 IMPLEMENTATION ISSUES

The analysis of data/information and the structured interviews with local stakeholders will be undertaken by the project site coordinators, being:

- UNIMED for Calabria
- ITL for Emilia-Romagna
- PNA EAS for Trieste
- Luka Koper for Koper
- ThPA for Thessaloniki
- RCD for Durres
- Port of Bar for Bar
- CCIS for Serbia
- Sebenik PA for Sebenik

The results will be reported in the individual Local Analysis reports. CERTH has provided a proposed ToC (see file 'DT1.1.x_Template_v02.docx').

A checklist to be used during the interviews with local stakeholders is provided in Annex I, addressing the issue of identifying both the current bottlenecks and the main factors to influence the future development of port-hinterland systems.

Based on the results of the structured interviews, medium-term plausible scenarios will be developed by the project site coordinators and will be validated by the local stakeholders of each project site.

5 ANNEX I - STAKEHOLDER INTERVIEW CHECKLIST

Interview information

Interviewer details

Interviewer's name:

Interviewer's position & affiliation:

Interviewee details

Interviewee's name:

Interviewee's position & affiliation:

Interviewee's stakeholder category:

Date of the interview:

Interview discussion topics

1. Which are the bottlenecks faced by the local port-hinterland system in becoming an integrated hub? ⁽¹⁾
2. Which are the main factors to influence whether these bottlenecks will become significantly more severe or will be significantly relieved in the next 5-10 years?

⁽¹⁾ bottlenecks are related to both the individual port-hinterland actors, and to the corridor as a whole

Market bottlenecks

Q1: Which are the main market bottlenecks faced by the local port-hinterland system? ⁽¹⁾

- Limited hinterland market of the port
- Limited demand for intermodal port-hinterland services
- Other

Q2: Which are the main impacts of the identified market bottlenecks?

- In commercial terms (e.g. in terms of revenues, costs, capital, competitiveness)
- In environmental terms (e.g. in terms of emissions, natural resources usage)
- In social terms (in terms of employment conditions, safety, security)

Q3: Which are the main factors (wild cards) to influence whether the identified market bottlenecks will become more severe or will be relieved in the next 5-10 years? ⁽¹⁾

- Global and/or regional economic development

- Networking initiatives with other ports
- Port & maritime industry consolidation
- Changing global trade routes / localisation / reshoring
- China's One Belt One Road strategy
- Pressures for environmentally-friendly transport modes from shippers & regulatory bodies
- Political instability
- Other

(1) Indicative list to facilitate the discussion. Please expand/modify as required

Infrastructural bottlenecks

Q4: Which are the main infrastructural bottlenecks faced by the local port-hinterland system? ⁽²⁾

- Inadequate port infrastructure (e.g. quays length, yard area, quay depth, rail track length, alternative fuels, etc.)
- Lack of port expansion area
- Inadequate capacity of port handling equipment (e.g. ship-to-shore cranes, handling equipment in the port, equipment for transferring loads from/to rail or road, etc.)
- Inadequate (capacity of) equipment of the rail operator (e.g. wagons) to support hinterland flows
- Inadequate capacity of hinterland transport networks (e.g. congested rail & road networks around the port)
- Infrastructure/equipment incompatibilities between port and hinterland transport operators
- Inadequate soft infrastructure (e.g. Port Terminal Operation System, Port Community System, Rail Operational System, Customs clearance system, interfaces between systems, etc.)
- Other

Q5: Which are the main impacts of the identified infrastructural bottlenecks?

- In commercial terms (e.g. in terms of revenues, costs, capital, competitiveness)
- In environmental terms (e.g. in terms of emissions, natural resources usage)
- In social terms (in terms of employment conditions, safety, security)

Q6: Which are the main factors (wild cards) to influence whether the identified infrastructural bottlenecks will become more severe or will be relieved in the next 5-10 years? ⁽²⁾

- Public investments in hard & soft infrastructure
- Private investments in the port/rail industry
- Automation in port & hinterland processes

- Demand for new types of infrastructure (e.g. LNG)
- Other

(2) Indicative list to facilitate the discussion. Please expand/modify as required

Operational bottlenecks

Q7: Which are the main operational bottlenecks faced by the local port-hinterland system? ⁽³⁾

- Not aligned operational processes of port-hinterland actors
- Not aligned operational processes between operational & public (e.g. customs) actors
- Limited breadth (or inadequate quality) of services provided by the port and/or the hinterland actors
- Inadequate cross-border coordination of port-hinterland corridor
- Other

Q8: Which are the main impacts of the identified operational bottlenecks?

- In commercial terms (e.g. in terms of revenues, costs, capital, competitiveness)
- In environmental terms (e.g. in terms of emissions, natural resources usage)
- In social terms (in terms of employment conditions, safety, security)

Q9: Which are the main factors (wild cards) to influence whether the identified operational bottlenecks will become more severe or will be relieved in the next 5-10 years? ⁽³⁾

- Importance placed by clients on efficiency as a port/corridor selection criterion
- Importance placed by clients on quality & breadth of services as a port/corridor selection criterion
- Share of cross-border hinterland traffic
- Other

(3) Indicative list to facilitate the discussion. Please expand/modify as required

Institutional bottlenecks

Q10: Which are the main institutional bottlenecks faced by the local port-hinterland system? ⁽⁴⁾

- Fragmented planning at local/regional/national level
- Problematic national legal/institutional framework
- Low coordination/cooperation between the port and the city in terms of port-hinterland development
- Low coordination/cooperation with other ports or port-hinterland corridors
- Other

Q11: Which are the main impacts of the identified institutional bottlenecks?

- In commercial terms (e.g. in terms of revenues, costs, capital, competitiveness)
- In environmental terms (e.g. in terms of emissions, natural resources usage)
- In social terms (in terms of employment conditions, safety, security)

Q12: Which are the main factors (wild cards) to influence whether the identified institutional bottlenecks will become more severe or will be relieved in the next 5-10 years? ⁽⁴⁾

- Level of integration of planning between modes (e.g. common development agendas between ports & hinterland operators)
- Role of Port Authority (regulator vs landlord vs promoter/investor of/in hinterland corridor)
- EU and national regulatory legal framework
- Individual port-based vs gateway region-based competition, in attracting freight flows
- Other

⁽⁴⁾ Indicative list to facilitate the discussion. Please expand/modify as required

Innovation bottlenecks

Q13: Which are the main innovation bottlenecks faced by the local port-hinterland system? ⁽⁵⁾

- Low innovation content in the services provided
- Not harmonised (or missing) digital information exchange between port-hinterland actors and between operational & public (e.g. customs) actors
- Inability to provide seamless port-hinterland cargo visibility to operational actors and shippers
- Other

Q14: Which are the main impacts of the identified innovation bottlenecks?

- In commercial terms (e.g. in terms of revenues, costs, capital, competitiveness)
- In environmental terms (e.g. in terms of emissions, natural resources usage)
- In social terms (in terms of employment conditions, safety, security)

Q15: Which are the main factors (wild cards) to influence whether the identified innovation bottlenecks will become more severe or will be relieved in the next 5-10 years? ⁽⁵⁾

- Global pace of digitalising logistics information streams
- Importance placed by clients on visibility as a port/corridor selection criterion
- Importance and gap of employees' skills in technological innovation

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- Maturity of emerging tech solutions
- Autonomous intermodal solutions

⁽⁵⁾ Indicative list to facilitate the discussion. Please expand/modify as required