"RTF" – *Promoting and expanding the use of Real-Time on Ferries in the South Baltic area*

PROJECT SKETCH – DRAFT No. 1 (03_2015)

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1. BACKGROUND

The South Baltic Cross-border Cooperation Programme 2007-2013 project INTERFACE PLUS has developed and implemented an integrated, real-time, international passenger information system which assists people travelling from Rostock/ DE to Gedser & Nykøbing/ DK. It combines five different transport means (public bus, ferry port terminal bus, city train, railway and ferry) of five different transport operators (Scandlines, Movia, RSAG, DB, DSB). The most innovative feature of the system is that, for the **first time ever, real-time data of a ferry could** be generated and embedded in an intermodal cross-border transport chain **("FRIS" – ferry real-time information system)**. The pilot focussed on using this data for foot passengers / public transport on this very line, but after having it seen worked in practice, it was swiftly recognised that real-time data of ferries opens up many further real-time information application possibilities, which go far beyond serving the needs of foot passengers only.

Against this background INTERFACE PLUS partners have, in the final project stage, started a process of further developing and expanding the ferry real-time information system towards the needs of other target groups and connected with this considering the transfer of the system to other ferry lines in the South Baltic area. Three development workshops have been carried out in cooperation with ferry operators and potential users / beneficiaries of real-time information, in particular from the passenger transport and logistics sector. As a result it can be concluded that **real-time of ferries** provides **benefits / possibilities also for new target groups** of which the following are the most important ones:

- Transhipment companies / quay handling company/ port operators - for better planning/organising of freight loading and unloading processes of ferry ships,
- Agencies of combined transport operators / Operators of terminals for combined transport– for better planning/organising of freight loading and unloading processes from ferry ships to truck or rail and vice versa,
- Warehouse logistics companies (for better planning / providing warehouse logistic services to store goods transported via ferry ships),
- Forwarding companies – for better organising (in-time) truck freight transport from/ to the ferry port,
- Railway freight operators – for better organising in-time) rail freight transport from /to the ferry port,
- Long distance bus operators – for better organising (in-time) transport from / to the ferry port
- Private car owners - – for better organising the journey from / to the ferry port

Considering the above list, it is obvious that in addition to passengers, real time information is of **special interest for cars, long distance buses as well as freight ferry transports**. In the latter case real-time information bears application potentials especially for companies working in **multimodal or intermodal transport chains**. This

applies for logistics service providers working in the port as well in the hinterland. Due to the huge number of different actors and transport means involved, combined transport requires special needs for better coordination of processes (interoperability) among the different transport stakeholders. This makes the provision of accurate, reliable and above all up to date information in terms of timeliness, delays or disruptions of transports very important.

The main consequences of missing information in case of delays / cancellations are time lag in all processes of the transport chain as well as missing planning capability

Real-time on ferries would close a significate information gap of transport chains in the logistics sector, which so far still exists. The earlier the logistics service provider knows when exactly a ferry arrives or departs, how much it is delayed or if it is cancelled, the easier he can start re-arrangement / re-organisation processes in the transport chain. Moreover he can provide reliable status information to the (end) customers, which is in the end a competitive advantage. Considering the above, further developing the ferry real-time information system for the needs of these groups therefore appears to be a very reasonable approach. Here applies the "RTF" project.

In addition to the new target group focus the development workshops have confirmed that there is also a significant interest among the ferry operators and passenger transport companies in transferring the solution to other ferry connections in the South Baltic area (in addition to Gedser-Rostock). This applies for fright as well as towards car and passenger transport oriented ferry lines. Here is another challenge the "RTF" project plans to tackle.

2. PROJECT OBJECTIVES

The project aims at expanding the use of real-time information on ferry connections in the South Baltic area and adjusting /promoting it towards the special needs of freight, car and long distance buses ferry transport.

This should be achieved by:

- Setting up real-time on further selected ferry lines of the South Baltic area by transferring the pilot solution "FRIS" to other ferry connections,
- Adjusting the pilot solution towards the specifics of the ferry lines to be upgraded (short, medium or long distance line, freight, passenger and / or car transport dominated line, etc.),
- Developing a standardised web interface (API) for easy transmission/procession of real-time information on ferries for the logistics sector
- Developing and implementing suitable tools and instruments (online platforms, mobile application services, port information systems, physical displays, etc.) for smooth retrieval, transmission and distribution of real-time information to different user groups (private car owners, passengers, logistics companies working in the port, freight forwarders, etc.),

- Further promoting the potentials and benefits of real-time on ferries in order to facilitate / push its expanding process in the South Baltic area

3. COMPONENTS AND PROPOSED ACTIVITIES

The activities within "RTF" will be divided into 5 components:

Component 1: Project coordination and management (obligatory)

Component 2: Communication and dissemination (obligatory)

Component 3: Set-up real-time on selected further ferry lines in the South Baltic area

Component 4: Make real-time information on ferries available and useable for different target groups

Component 5: Further promoting the potentials and benefits of real-time on ferries

In the following, the possible scope of each component is described in more detail.

Please note that the following detailed outline of the project is only a first draft. The proposed aims, topics and activities result from desk research, development workshops with ferry operators and potential beneficiaries, brainstorming sessions with experts and first discussions with interested partners. It is possible to add further topics and activities. ***Please feel free to contact us if you would like to add further ideas!***

3.1 COMPONENT 1: PROJECT COORDINATION AND MANAGEMENT

This component deals with the coordination of the project, including financial and administrative management. It is compulsory according to the funding rules of the South Baltic Programme. The participation is obligatory for all partners.

3.2 COMPONENT 2: COMMUNICATION AND DISSEMINATION

This component ensures that the project results are disseminated to the relevant target groups and that the project is presented to the public in accordance with the requirements of the South Baltic Programme (e.g. maintenance of a project website for internal and external communication, opening and closing events). Such activities are compulsory for the project according to the funding rules of the programme. The participation in this component is obligatory for all partners.

3.3 COMPONENT 3: SET-UP REAL-TIME ON SELECTED FURTHER FERRY LINES IN THE SOUTH BALTIC AREA

Problems / opportunities to be addressed:

The FRIS ("ferry real-time information system"), implemented at Rostock-Gedser, is the first solution of its kind worldwide. It was developed as pilot and is easily transferrable to other ferry lines (Basic ferry travel data module, AIS licenses, shipowner portal, schedule maintenance software, etc. available for use at 20 different ferry ships/ lines). Nevertheless, before implementing the solution at a new ferry connection, it is necessary to make different adjustments to the specifics and frameworks of the relevant line to be upgraded. In particular this applies for the elaboration of a basic inventory of the ferry route profile, which among others includes nautical coordinates, velocity profiles, course deviations, flow conditions, weather conditions, port entrance passage (river runs if applicable), embarkation and disembarkation procedures and other issues. All these information will be used to develop an algorithm that reflects a ferry passage under normal operating conditions in accordance with the timetable. This again serves as basic orientation to generate an accurate real-time forecast for the relevant line. Another positive feature of using the "FRIS" pilot is that it is self-learning solution. Once the base algorithm for a specific ferry passage has been developed, it improves automatically when being used, meaning that the precision of the real-time forecast becomes higher with every ferry trip. Finally after having successfully set-up real-time at a new ferry line, the staffs of the relevant operators need to be trained in working with the real-time maintenance tool (shipowner portal).

Aims / envisaged outcomes:

The goal of this component is to set-up real-time on at least 2 further ferry lines, additionally to Rostock-Gedser, in the South Baltic area. Considering the project aim a focus will be put on freight dominated ferry lines.

Proposed activities:

Set-up real-time on selected ferry lines in the South Baltic area

- Prepare real-time set-up on selected ferry lines in the South Baltic area / transferring the pilot solution from Rostock-Gedser. It is planned to implement real-time on at least two further ferry lines (in addition to Gedser Rostock) in the South Baltic area. To have a secure working basis it is necessary that the relevant **ferry operators have given green light** concerning their willingness and contribution to implement real-time on their line, **before applying** for the project. First promising discussion have taken place with Scandlines, TT-Line and Stena Line who basically signalised interest to consider implementing real-time on:
    - Rostock - Trelleborg - (Travemünde) (TT-Line/ Stena Line)
    - Puttgarden - Rødby (Scandlines)

  Further lines worth considering are:
    - Sassnitz – Rønne (Færgen)
    - Ystad - Rønne (Færgen)
    - Swinoujscie – Trelleborg (TT-Line)
    - Swinoujscie – Ystad (Unity Lines/ Polferries)
    - Karlskrona - Gdynia (Stena Line)
    - Rostock-Hanko (SOL)
    - Rostock-Helsinki (Finnlines)
- Implement real-time on selected ferry lines in the South Baltic area:
    - Elaborate the basic inventory of the route profile of the ferry lines to be upgraded (nautical coordinates of corridors used, velocity profiles, course deviations, flow conditions, weather conditions, port entrance passage, embarkation and disembarkation procedures, possible means of compensating delays etc.)
    - Develop the algorithm as basis for generating the real-time forecast
    - Test and adjust the real-time prognosis for the lines to be upgraded
    - Integrate the new ferry line into the existing ship owner portal, (integrated part of the real-time system)
    - Train the ferry operator staff in working with the real-time system in particular the schedule time maintenance tool and the ship owner portal.

3.4 COMPONENT 4: MAKE REAL-TIME INFORMATION ON FERRIES AVAILABLE AND USEABLE FOR DIFFERENT TARGET GROUPS

Problems and opportunities to be addressed:

This component deals with the special challenges on how to make real-time information on ferries available for the different customers / target groups in the best suitable way.

In order to reach a large group of users/ beneficiaries of real-time on ferries it is necessary to **provide / publish the information / data in accordance with the special requirements / behaviour patterns of the relevant target group**.

For foot passengers these basic requirements have been comprehensively analysed during the project INTERFACE PLUS. Accordingly this component tackles the problem on how to best integrate real-time information at stationary boards, on board displays as well as relevant journey planners and travel guides for the newly upgraded ferry lines (component 3).

For the other target groups real-time information on ferries is a completely new field of application. This applies for the complete logistics sector and here in particular for the different actors working in an international transport chains. Before developing tools and instruments for real-time provision and distribution it is necessary to investigate the basic requirements on real-time information for these target groups. Amongst others the following key questions needs to be answered first:

1. Which information needs to be made available for which target group?
2. Which technical and content-related requirements need to be considered?
3. Which information do the relevant target group need for own purposes and which for further processing?
4. Who processes the information to whom, in what form and through which channels?
5. Where do the end user/ customer retrieve /find the information respectively which tools/ platforms/ services / instruments exist /are best suitable to provide real-time information.

Based on the gained knowledge a comprehensive user group specific requirement profile needs to be created, which will serve as basis for the development a standardised web interface and other suitable distribution and publishing tools/ instruments for easy finding, using and processing of real-time information on ferries for the logistics sector.

Aims / envisaged outcomes:

The overall aim of this component will be to make real-time information on ferries better available for different target groups. This applies in particular for the logistics sector but also for private cars and passengers. To reach this aim innovative target group oriented transmission and distribution tools for real-time information on ferries will be developed and implemented. It is envisaged, to **set-up minimum three services** for selected target groups. All ferry connections that have been upgraded with real-time information

(component 3) will be considered:

1. Developing and implementing a **standardised system-independent web interface (API) for easy transmission/procession of real-time information on ferries for the logistics sector (following the example of VDV interface in the public transport sector)**. The interface will consider all technical and content related requirements of the target group and will be developed in order to easily retrieve and process ferry real-time information by all users. The standardised interface will be developed for a flexible use. It will make sure that real-time information on ferries can be processed with existing disposition and planning software solutions of logistics companies. Furthermore it will deliver all necessary input to develop new software solutions for beneficiaries which would like to make use of ferry real-time information.
2. **Integrating real-time information of ferries into existing ferry port information systems** (like SKSS for the Port of Rostock). By adjusting existing port information systems, to which most of the companies working in a ferry port have access to, would be a very efficient way to make the information available for a bigger group of different partners in a transport chain, without developing separate software solutions for every company. In addition to freight forwarding companies this solution would be a huge benefit in particular for transhipment companies, warehouse logistics providers or terminal operator for combined transport.
3. **Developing a mobile application to provide ferry real-time information in the South Baltic area available to everyone** (for all target groups). This App will provide real-time information for all SBA ferries (for which real-time is generated). It can be used by the logistics sector (truck driver, dispatcher) as well as by other target groups such as private car drivers, long distance bus operator or passenger, etc.).
4. **Upgrading journey planners** (rejseplanen.dk, bahn.de, skantrafiken.se, sl.se, werkehrsverbund-warnow.de) **on board displays as well as stationary boards with real-time of newly upgraded SBA ferry lines** (component 3 - e.g. Rostock-Trelleborg, Puttgarden - Rødby)

Considering on one hand the huge number of possible solutions and on the hand the limited project time it will be necessary to **select those 3-4 demonstrator services, which are most interesting for the project partners** and which have the best opportunities for being successfully implemented until project end.

Proposed activities:

- Developing and implementing of a standardised system-independent web interface (API) for easy transmission/procession of real-time information on ferries for the logistics sector
    - Elaborating of a web interface requirement profile (technically and content related) in coordination with ferry operators, freight forwarding companies and further users

  - Programming, testing and adjusting of the web interface
  - Implementing of the web interface (in daily work) by a selected group of users (incl. workflow adjustments)
  - Monitoring the operation / use of real-time information on ferries in the logistics sector
- Integrating real-time information of ferries into existing ferry port information systems
  - Analysing the technical and content related requirements to upgrade the information systems in coordination with the ports and the users of the information
  - Programming and testing of the system adaptation
  - Monitoring the operation / use of real-time information on ferries in the logistics sector
- Developing a mobile application to provide ferry real-time information in the South Baltic area available to everyone
  - Analysing the technical and content related requirements
  - Programming and testing the mobile application
  - Monitoring the operation / use of the application
  - Adjusting the application if necessary
- Upgrading journey planners (rejseplanen.dk, bahn.de, skantrafiken.se, sl.se, werkehrsverbund-warnow.de) on board displays as well as stationary boards with real-time of newly upgraded SBA ferry lines
  - Analyse the technical and content related requirements of the relevant journey planners to be upgraded incl. data flows
  - Purchasing and installing the on board displays and stationary boards to provide real-time information on the new ferry lines
  - Programming, testing, adjusting and implementing cross-border real-time information for passengers in relevant journey planners and on board displays/ stationary boards of the upgraded ferry lines (component 3)

3.5 COMPONENT 5: FURTHER PROMOTE THE POTENTIALS AND BENEFITS OF REAL-TIME ON FERRIES

Problems / opportunities to be addressed:

The discussions at the above mentioned development workshop with ferry operators (that were carried out during INTERFACE PLUS) and potential beneficiaries of real-time information have revealed that this topic is a completely new field of application for these target groups. In order to reduce scepticism and enhance chances for its further

utilization / expansion it is necessary and useful to make ferry operators and potential beneficiaries (in particular companies from the logistics sector working in transport chains) more acquainted with the topic real-time information and all issues connected to it. In particular these target groups need to be better informed about:

- Benefits/ advantages / potentials of real-time for themselves and for their customers
- Organisational and technical challenges connected with implementing / using or processing real-time information
- Legal and other consequences that are connected with processing real-time data to customers and / or to the public (responsibilities/ liabilities, etc.)…

Aims / envisaged outcomes:

Main aim of this component is to make ferry operators and beneficiaries from the logistics sector more acquainted with the potentials, benefits, challenges and risks of working with real-time from ferries. By using the demonstrators developed in component 3 and 4 as inspiring examples, it is envisaged that a significant number of further ferry operators as well as additional users / beneficiaries (e.g. freight forwarding companies, transhipment companies, railway freight operators, long distance bus operators…) can be convinced / sow clear interest to consider the use of ferry real-time information after project closure.

Proposed activities:

- Exchange workshops and lecturers with representatives/ experts from the public transport (where real-time is part of daily business for more than a decade)
- Promotion trips and to the model connections with ferry operators and potential beneficiaries to demonstrate the functionalities of the solution on the spot.
- Promotion website or other campaigns presenting the demonstrator solutions working in practice…

4. PROJECT DURATION

The project will have a duration of 3 years. It is planned that the implementation of the project will start in the beginning of 2016 and end in 2018.

5. FUNDING PROGRAMME AND APPLICATION PROCESS

The project may apply for funding from the South Baltic Cross-border Cooperation Programme 2014-2020 (priority axis 3 / Specific objective 3 "Improve the quality and environmental sustainability of transport services in the South Baltic area". The application will be submitted after a lead beneficiary has been found. It is aimed at using the 1st call for proposals (end of 2015).

6. LEAD BENEFICIARY

Name of the Organisation:	**Not yet found, discussions are in progress**
Address / contact data:	Xxx
Contact Person:	XXX

7. PARTNERS

The project addresses organisations from Germany, Poland, Denmark, Sweden and Lithuania.

The following kinds of institutions appear particularly suitable to become a partner:

- Ferry Operators (as Associated Organisation)
- Freight forwarders (as Associated Organisation)
- Ferry Ports
- Local / regional public transport providers
- Cities with Ferry Port
- Research institutions with expertise in IT for logistics chains (in particular real-time)

The following formal requirements have to be fulfilled to become a partner in "RTF":

- The organisation should be located in the South Baltic area.
- The partner has to fulfil the eligibility criteria of the South Baltic programme, i.e. it has to be a non-profit organisation that is serving public interests.

Private companies (e.g. ferry and forwarding companies) can participate in the project as Associated Organisations. That means e.g. that they can be invited by the partners to take part in project activities (e.g. conferences, study visits, workshops).

The following overview gives an account of organisations that might be interested to join the project. **It orientates on the partners needed for the relevant ferry passages to be upgraded with real-time**. It is envisaged to **focus the project on maximum three ferry connections**, because this will make it easier to manage a project and enables higher budgets of each partner. For this reason the list is to be seen as a very **preliminary overview**. Some of the listed organisations might not take part in the end, others that are not mentioned but interested to join are very welcome. Please feel free to make any proposals for further partners that may be involved in addition!

Ferry Passage	**Organisation**	**Country**	**As Partner**	**As associated Organisation**
Rostock-Trelleborg	Port of Rostock	DE	x	
	Public Transport Association Warnow	DE	x	
	Port of Trelleborg	SE	x	
	Skanetrafiken	SE	x	
	TT-Line	SE		x
	StenaLine	SE		x
	Freight forwarders using the ferry line	DE / SE		x
Rostock Hanko	Port of Rostock	DE	x	
	Port of Hanko	FI		x
	Swedish Orient Lines	SE		x
	Freight forwarders using the ferry line	DE / SE		x
Rostock Helsinki	Port of Rostock	DE	x	
	Port of Helsinki	FI		x
	Finnlines	FI		x
	Freight forwarders using the ferry lin	DE/FI		x
Trelleborg-Travemünde	Port of Trelleborg	SE	x	
	Port of Travemünde	DE		x
	Skanetrafiken	SE	x	
	TT-Line	DE		x
	Freight forwarders using the ferry line	DE / SE		x
Sassnitz - Rønne	Port of Sassnitz	DE	x	
	Port of Rønne	DK	x	
	Færgen	DK		x
	BAT	DK		x
	Rejseplanen	DK		x
	Freight forwarders using the ferry line	DE/DK		x
Puttgarden Rødby	Municipality of Guldborgsund	DK	x	
	Scandlines Denmark A/S	DK		x
	Scandlines Deutschland GmbH	DE		x
	Deutsche Bahn	DE		x
	Rejseplanen A/S or Movia	DK		x
	Freight forwarders using the ferry line	DE/DK		x

Ferry Passage	**Organisation**	**Country**	**As Partner**	**As associated Organisation**
Ystad - Swinoujscie	Port of Ystad	SE	x	
	Port of Swinoujscie	PL	x	
	Skanetrafiken			
	Pol Ferries	PL		x
	Unity Line	PL		x
	Freight forwarders using the ferry line	PL/SE/DE		x
Swinoujscie - Trelleborg	Port of Swinoujscie	PL	x	
	Port of Trelleborg	SE	x	
	Skanetrafiken	SE	x	
	TT-Line	DE		x
	Freight forwarders using the ferry line	PL/SE/DE		x
Ystad-Rønne	Port of Ystad	SE	x	
	Port of Rønne	DK	x	
	Skanetrafiken	SE	x	
	BAT	DK	x	
	Færgen	DK		x
	Freight forwarders using the ferry line	DK/SE		x
Gdynia-Karlskrona	City of Karlskrona	SE	x	
	City of Gdynia	PL	x	
	StenaLine	SE		x
	Blekingetrafiken	SE	x	
	Public Transport Operator Gdynia	PL	x	
	Freight forwarders using the ferry line	SE/PL		x

8. ERDF CO-FINANCING

The budget of a partner is composed of two parts: European Funds (ERDF) and partner co-financing. The co-funding rate of the EU is determined by the location of the partner.

Country	Eligible area	Funding Rate
PL	Szczeciński, Koszaliński, Słupski, Gdański, Gdańsk-Gdynia-Sopot, Elbląski sub-regions	85%
SE	Kalmar län, Blekinge län, Skåne län, Kronoberg län	75%
DE	Kreisfreie Stadt Rostock, Landkreise Rostock, Nordwestmecklenburg, Vorpommern-Rügen, Vorpommern-Greifswald	85%
DK	Regional Municipality of Bornholm, Region Zealand	75%
LT	Klaipeda apskritis, Taurage apskritis, Telsiai apskritis	85%

9. BUDGET

The total budget of the project depends on the activities and the number of partners. The project sets an internal **maximum of roundabout 3.000.000 EUR ERDF**. The **budget for each partner** depends on the final partnership and the concrete level of involvement and planned activities. It may range **between 50.000 - 600.000 EUR**.

A share of the total budget per partner should be reserved for **common costs**. These will include:

- Budget for project co-ordination & financial management
- Budget for joint publicity / dissemination measures or joint studies
- Budget for joint development and implementation activities