



# 1<sup>st</sup> IMMERSE Transnational Exchange Lab

**12-13 June 2019, Gothenburg, Sweden**

(Draft programme, Version 14 May 2019)

The IMMERSE Transnational Exchange Labs provide a platform to share practices and progress on the development of solutions for estuarine management issues. The purpose is to advance development and transfer of solutions across those involved in estuary management in the North Sea Region (see further explanation below under Background Information).

The main theme of this first exchange lab is about **management of sediment** as experienced in the Port of Gothenburg, in particular development of innovative methods for treating and re-using contaminated sediment. **Flood protection and governance** will also be addressed during thematic sessions the Exchange Lab.

## 1. Draft programme

*Wednesday, 12 June 2019*

9:00 - 9:30 Arrival of participants / Registration

9:30 – 10:40 Plenary session: introduction

- Welcome and opening by IMMERSE (**Frederik Roose, MOW**) and representative from City of Gothenburg representative
- Introduction to sediment management activities in the Port of Gothenburg (description of the problem, how was it tackled before, current challenges), **representative from Port of Gothenburg**
- Introduction to IMMERSE, the TEL approach and specific goals for TEL 1, practical info about parallel sessions – **Frederik Roose, MOW**

10:40 – 11:00 Morning break



## 11:00-12:30 Break-out sessions I

Participants can choose which parallel session they would like to attend.

<b>Sediment Management I - Port of Gothenburg</b>	<b>Governance</b>
<p><b>Moderators:</b> Anna Wilhelmsson (COWI) and Ann-Margret Strömvall (Chalmers University of Technology)</p>	<p><b>Moderators:</b> Yvonne Andersson-Sköld (Swedish National Road and Transport Research Institute, VTI) and Sebastien Rauch (Chalmers University of Technology)</p>
<p><b>Description:</b> This session will share and work on measures related to sediment management from the Göta Älv estuary. Chalmers University (IMMERSE partner) and local institutions are developing methods to treat and reuse contaminated sediments from the Port of Gothenburg. This morning session will introduce a sediment stabilization pilot in the Port of Gothenburg and a similar case from the Scheldt estuary, and include a discussion of their activities and interaction among participants to contribute knowledge and expertise.</p>	<p><b>Description:</b> In addition to being complex natural environments, estuaries can also be subject to complicated management structures, responsible for considering diverse stakeholder interests. The initial preliminary results from an IMMERSE activity to improve stakeholder integration by analyzing and discussing past experiences will be presented for exchange among participants.</p>
<p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Introduction to the expansion of Nya Arendal. Port of Gothenburg – Eduardo Epifano, Port of Gothenburg</li> <li>2. Short film about the stabilization project. (Swedish speech with text in English)</li> <li>3. Stabilization of TBT polluted sediments: Technology and environment – Per Lindh, PEAB and Kristina Bernstén, COWI</li> <li>4. TBT treatment methods from AMORAS treatment plan, Port of Antwerp - Patrick Van Goethem, Port of Antwerp</li> </ol>	<p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Introduction to activity: improve stakeholder integration by analysing and discussing past experiences + Göta Älv case – N.N., VTI</li> <li>2. Elbe case – Kirsten Wolfstein, Hamburg Port Authority</li> <li>3. Humber case – Nick Cutts, University of Hull Institute of Estuarine &amp; Coastal Studies (TBC)</li> </ol>
<p><b>Interactive exercise</b> in small groups for brainstorming, followed by report back and summary of main conclusions</p>	<p><b>Interactive exercise</b> in small groups guided by discussion questions including recommendations from previous projects, followed by report back and summary of main conclusions</p>

## 12:30-13:30 Lunch



## 13:30-15:00 Break-out sessions II

### **Sediment Management II - Research treatment and management of TBT and metal contaminated sediment**

### **Flood Protection**

<p><b>Moderators:</b> Anna Wilhelmsson and Kristina Bernstén (COWI)</p>	<p><b>Moderators:</b> Frederik Roose (MOW) and Sebastian Rauch (Chalmers)</p>
<p><b>Description:</b> This session will continue from the topic as introduced in the morning session, with a focus on development of new methods for treatment of sediments polluted with TBT and at the same time recover metals from sediments in the Port of Gothenburg.</p>	<p><b>Description:</b> The objective of this session is to introduce the challenges that the City of Gothenburg is facing to protect the city from flooding and to share experiences from other estuary/city managers about flood protection in urban areas.</p> <p><u>Introducing the challenge of the City of Gothenburg</u></p> <p>Description of the problem in the City of Gothenburg and the challenges that lie ahead:</p> <ul style="list-style-type: none"> <li>- Who is the problem owner in Gothenburg?</li> <li>- What is the strategy to deal with the problem?</li> <li>- What input from other estuaries might be helpful?</li> </ul> <p><u>Exploration/assessment of solutions</u></p> <p>What solutions have been investigated? In what stage is the development of solutions: exploration of ideas, pilot studies, assessment of alternative solutions, design of a preferred solution?</p>
<ol style="list-style-type: none"> <li>1. <b>Speakers:</b>Background to the research. Aim and goal. Societal values. Research and scientific challenges - Associate Professor Karin Karlfeldt Fedje, Chalmers University of Technology/Renova waste and recycling company</li> <li>2. Results from the research - Enhanced leaching of metals and TBT from contaminated sediments. . Comparison of management strategies for metal-contaminated dredged sediments - Anna Norén, Chalmers</li> <li>3. Continuation of the research. Hypothesis? Ongoing tests with photocatalytic electrolysis and phytoremediation - Professor Ann-Margret Strömvall, Chalmers and Associate Professor Karin Karlfeldt Fedje, Chalmers/Renova</li> </ol>	<p><b>Speakers:</b></p> <ol style="list-style-type: none"> <li>1. Göta Älv presentation – flooding issues in City of Gothenburg - Ulf Moback/ Magnus Mott, City of Gothenburg (TBC)</li> <li>2. Flood protection strategies in other areas: <ul style="list-style-type: none"> <li>- Sigmaplan as flood protection strategy in Flanders. Koen Segher, City of Antwerp</li> <li>- Copenhagen case - TBC</li> </ul> </li> </ol>



**Interactive exercise** in small groups for brainstorming, followed by report back and summary of main conclusions

**Interaction / discussion:**

- How can flood protection strategies can be integrated in urban(ised) environments?
- Additional benefits from flood protection works: urban development – city design, nature development, etc.
- Development of adaptable strategies: how can strategies be developed that serve their purpose during their design time and as ‘building block’ for future flood protection strategies?

15:00-15:30 Afternoon break

15:30-17:00 Plenary session

- Feedback from Break-out sessions
- Discussion and conclusion (Q&A/polls)
- Outlook to next IMMERSE TELs
- Introduction to the site visit on next morning

XX:00 – XX:00 Networking dinner

*Thursday, 13 June 2019*

8:30 Bus from Arken to quay 751/752 at Arendal

9:00 – 12:30 Boat trip along Göta Älv (including lunch)

Potential topics to be covered:

- The pilot project at Arendal on the quay
- History of Gothenburg port
- Gothenburg the largest ongoing infrastructure and construction project in the Nordic countries
- Flooding risks along Göta Älv
- The water quality in Göta Älv
- Stormwater contamination problems (Mölnålsån, Sävåån)



- Contaminated sites
- Landslides risks
- Implantation of Eelgrass
- Wading sea for birds at Torsviken (old landfill for toxic chemicals)

## 2. Background information

### a. About IMMERSE

IMMERSE is organising its first Transnational Exchange Lab in Gothenburg, Sweden from 12-13 June 2019. The interactive workshop is designed to support the project's objective of improving the quality of estuary management measures by drawing from transnational knowledge and experiences. The 1st Transnational Exchange Lab will focus on sediment management, flood protection and governance.

At the Exchange Lab, IMMERSE partners, North Sea Region estuary managers and relevant stakeholders will explore solutions and test new ideas share experiences together through a variety of discussion formats.

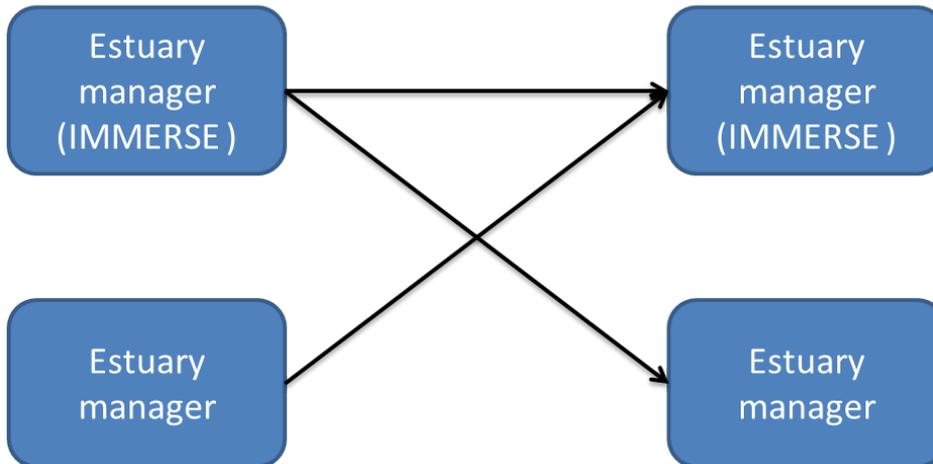
More information about the project is available at: <https://northsearegion.eu/immerse/>

### b. IMMERSE Transnational Exchange Labs

The IMMERSE Transnational Exchange Labs provide a platform to share practices and progress on the development of solutions for estuarine management issues. The aim of the TELs is to facilitate the transfer of solutions, primarily between IMMERSE partners, but also between IMMERSE partners and estuary managers (NSR and beyond) outside the IMMERSE partnership, as shown in this diagram:



## Transfer of knowledge



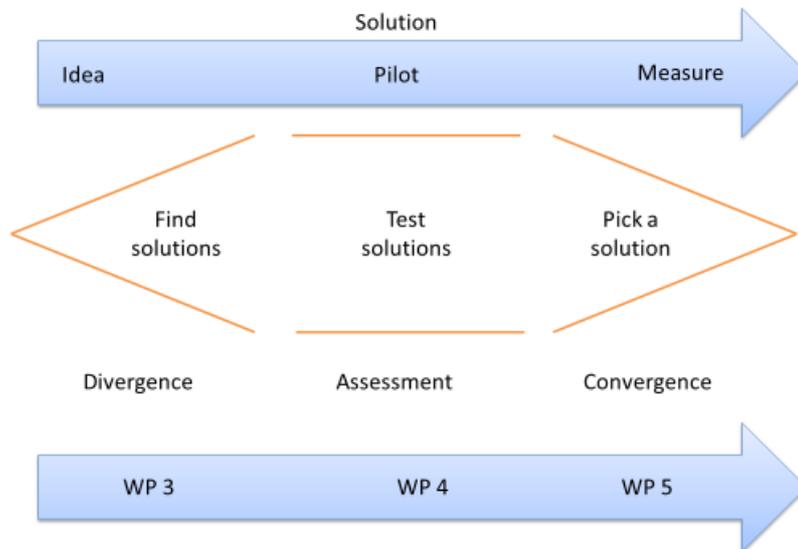
The TELs are critical in activating other organisations to share their relevant expertise and experience, as well as to eventually adopt new solutions developed as part of IMMERSE. This enables IMMERSE to contribute to the Interreg North Sea Region Programme's objective to **make results available in a way that effectively targets other organisations and enterprises** which could implement the same improvements, thereby multiplying the project's impact.

Ultimately, the TEL should contribute significantly to the desired legacy of IMMERSE, to create a community of practitioners and adopters of the considered solutions.

### **c. IMMERSE approach to developing solutions for estuary management**

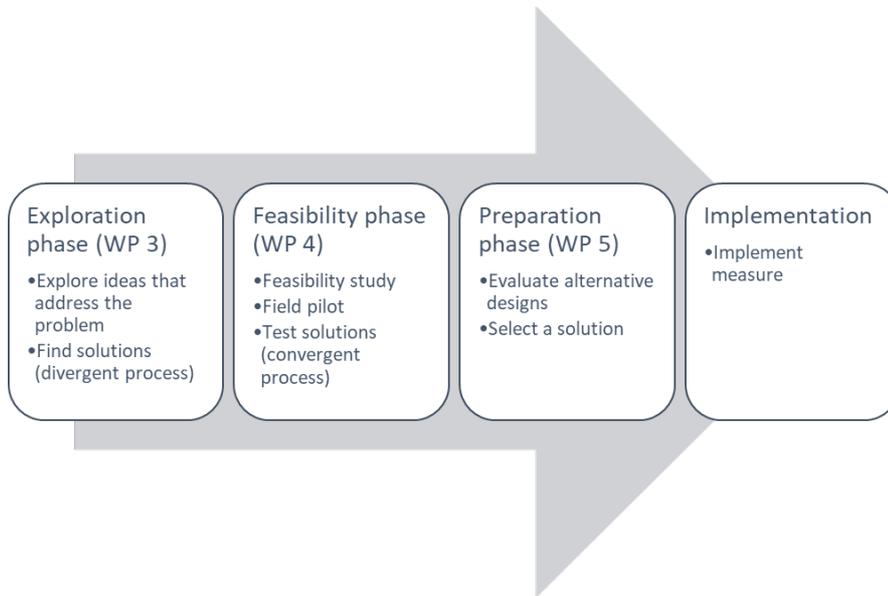
The measures advanced through IMMERSE activities are not only about technology, but are also related to any new approach or method to address an estuarine problem (like a new way of sediment management) or a new way to involve stakeholders (governance).

Different terms are used to address a new solution, depending on the stage of development. This is shown in the following figure:



- An **idea** refers to a new solution that has just been initiated, showing that it is a potential solution to the problem or the challenge that has to be dealt with. Ideally, multiple ideas can be formulated in parallel (through brainstorming or exploration). Typically, in this stage, the number of potential solutions increases and brainstorming or similar facilitation techniques may be helpful to find more ideas.
- As ideas become more tangible, it might be desirable to **test or assess** the performance or effectiveness of some alternative solutions. This can be done in an assessment study, a physical scale study or a field study (or pilot), resulting in an evaluation of the alternatives. In this stage, the number of solutions doesn't change, but information is collected on capacity of the solutions to address the problem. Evaluating potential solutions against a common set of criteria can support development of refined alternatives.
- With the information from the assessment, the solutions are evaluated against some (pre-defined) appropriate criteria, resulting in a selection and/or a ranking of the considered solutions. The most preferred solution can be developed into a **measure** that is ready for implementation. During this last stage, the number of solutions is reduced, and a preferred solution is selected.

The development of solutions during the 3 stages as described above, from idea, to pilot, to measure, is used to give structure to the IMMERSE activities. Three Work Packages correspond to each of the 3 development stages:



These three stages of development are also advanced through activities in cross-cutting work packages on stakeholder integration (WP6) and transnationality (WP7), as explained above.