



# **River Information Services Corridor Management Execution²**

## **Work Programme**

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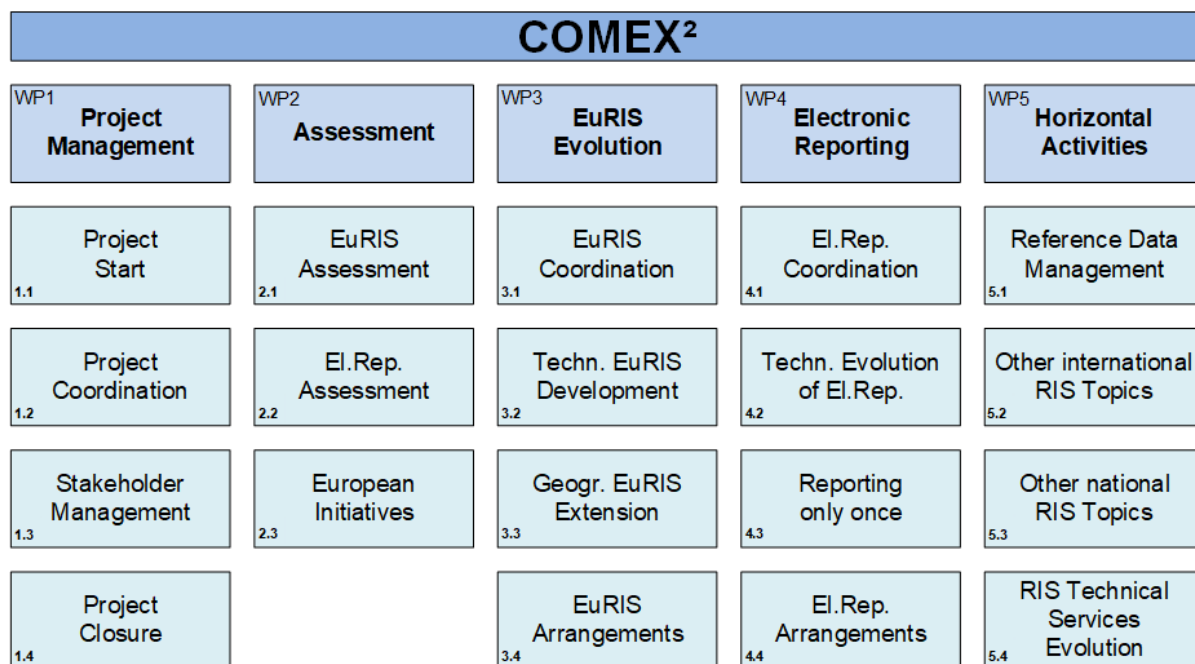


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## Table of content

1	Work Breakdown Structure.....	3
2	WP1 – Project Management.....	5
	Task 1.1: Project Start .....	5
	Task 1.2: Project Coordination .....	6
	Task 1.3: Stakeholder Management .....	7
	Task 1.4: Project Closure .....	8
3	WP2 – Assessment .....	10
	Task 2.1: EuRIS Assessment.....	10
	Task 2.2: Electronic Reporting Assessment .....	12
	Task 2.3: European Initiatives .....	13
4	WP3 – EuRIS Evolution.....	15
	Task 3.1: EuRIS Coordination .....	15
	Task 3.2: Technical EuRIS Development.....	17
	Task 3.3: Geographical EuRIS Extension .....	18
	Task 3.4: EuRIS Arrangements.....	19
5	WP4 – Electronic Reporting .....	21
	Task 4.1: Electronic Reporting Coordination.....	21
	Task 4.2: Technical Evolution of Electronic Reporting.....	22
	Task 4.3: Reporting Only Once .....	23
	Task 4.4: Electronic Reporting Arrangements .....	24
6	WP5 – Horizontal Activities .....	25
	Task 5.1: Reference Data Management .....	25
	Task 5.2: Other international RIS Topics .....	26
	Task 5.3: Other national RIS Topics .....	26
	Task 5.4: RIS Technical Services Evolution .....	32

# 1 Work Breakdown Structure



Work Package 1, Project Management, deals with the project start-up phase (Grant Agreement, Consortium Agreement, Work Programme), the continuous project coordination and steering (progress monitoring, reporting), stakeholder management including dissemination and events as well as project closure (documentation, financial statement).

Work Package 2, Assessment, focuses on a detailed analysis of EuRIS to identify measures to be tackled in WP3, on the analysis of electronic reporting to elaborate a concept for reporting-only-once which will be relevant for WP4 as well as on other relevant European projects and initiatives (DIWA, DTLF, etc.) to identify potential synergies and/or additional requirements towards COMEX<sup>2</sup>.

Work Package 3, EuRIS Evolution, focuses on all different aspects related to the further development, geographical extension and optimised frameworks for the sustainable operation of the common EuRIS system.

Work Package 4, Electronic Reporting, deals with the further development, interconnection and integration of existing applications, systems and services to foster enhanced electronic reporting to reduce administrative barriers and reporting burdens within Inland Waterway Transport (IWT) and therefore contribute to the ultimate goal to enable reporting-only-once within IWT in Europe.

Work Package 5, Horizontal Activities, deals with reference data management on national and European level and on other international topics of common interests as well on RIS specific national tasks and the support towards evolution of the RIS technical services (standardisation).

Besides WP2, which will provide additional input and measures to be tackled within WPs 3, 4 and 5, all other WPs are executed in parallel throughout the entire project duration.

The following chapters provide the work programme for all work packages and related tasks by defining the detailed sub-tasks including the roles of the participating partners as well as the expected results. For each described sub-task, at least the following roles are defined:

- **Responsible:** This is the project partner who is leading the related sub-task and is therefore responsible for the planning, execution and documentation of the work and results. That does not mean that this nominated partner has to execute the work on its own because this is always a joint effort of all involved partners.
- **Contribution:** These are the project partners who have to actively contribute to the sub-task under the lead of the partner who is nominated as "responsible".

In addition to the roles defined above, the following roles might appear optionally, depending on the nature and structure of the individual sub-tasks:

- **Coordination:** In case the responsibility for a sub-task is distributed among several partners, one partner is nominated to "coordinate" this sub-task among the responsible partners.
- **Involved:** In case of relevant external parties are relevant and to be involved in a sub-task, this party is mentioned under the role "involved". Examples are the contractors for EuRIS maintenance and EuRIS partnership coordinator.

## 2 WP1 – Project Management

Lead:	Project Coordinator viadonau
Partners:	All COMEX <sup>2</sup> partners
Start event:	Submission of project application within CEF call
End event:	Successful execution of the final payment procedure
Objectives:	Main objective of WP1 is to setup and execute profound project management to set all necessary measures on project management level in order to enable an efficient and optimised execution of the project conform the requirements defined in the Grant Agreement.
Duration:	The duration of WP1 typically lasts for the entire project lifetime and, related to the submission of the final report and financial statement, even beyond that.

Task 1.1: Project Start	Lead: viadonau
<p><b>Objectives</b></p> <p>Main objective of this task is to agree on all relevant aspects related to the organisation, structure and content of the project including clearly defined objectives, responsibilities and other relevant issues to guarantee an efficient and successful execution of the project based on common understanding and awareness.</p> <p>Elaborate and agree on a detailed work programme with clear and transparent work approach and responsibilities. Elaborate and set into force a project related consortium agreement clarifying the detailed organisational structure with roles, rights, duties and responsibilities as well as organisational procedures (decision finding, meeting documentation, liability, etc.).</p>	
<p><b>Subtasks</b></p> <ol style="list-style-type: none"> <li>Contribute to the Grant Agreement elaboration and execute signature process <ul style="list-style-type: none"> <li>Responsible: Project coordinator</li> <li>Contribution: Project managers</li> </ul> </li> <li>Establish the project governance structure (SCOM, PCT, PMT), elect the related chairs and agree on WP leads and task leads. <ul style="list-style-type: none"> <li>Responsible: Project coordinator and PMT lead</li> <li>Contribution: SCOM members, national coordinators</li> </ul> </li> <li>Elaborate the Consortium Agreement and execute signature process <ul style="list-style-type: none"> <li>Responsible: Project coordinator</li> <li>Contribution: SCOM members, national coordinators, project managers</li> </ul> </li> <li>Elaborate the Work Programme and get acceptance by the SCOM <ul style="list-style-type: none"> <li>Responsible: Project coordinator</li> <li>Contribution: WP leader, task leads, national coordinators</li> </ul> </li> </ol>	
<p><b>Expected results</b></p> <ol style="list-style-type: none"> <li>Grant Agreement provided by CINEA signed and in force</li> <li>Project governance structure established</li> </ol>	

3. Consortium Agreement signed by all project partners
4. Work Programme agreed among the consortium and approved by SCOM

**Task 1.2: Project Coordination**

Lead: viadonau

**Objectives**

Main objective of this task is the continuous coordination and steering of the project, to monitor the progress, to identify need for action and to set appropriate measures in order to ensure an efficient execution of the project with the main aim to reach all defined objectives and expected results according to the financial and timewise planning.

Establish the organisational structure and execute the procedures for continuous project coordination and steering. Continuous monitoring and update of the milestone status and the risk table in relation to the technical progress of the individual Tasks. Regular update of detailed budget overview per partner (spent costs, planned budget). Define and execute the approach for the elaboration of the required regular project reports (interim technical report, periodic report with interim payment claim).

**Subtasks**

1. Monitor and document the technical progress per task (milestones) and regularly report the status to the project SCOM
  - Responsible: PMT
  - Contribution: Task leader, national coordinators
2. Monitor and document the financial status (budget spent and expected costs) following the provisions of the Grant Agreement related to required reporting
  - Responsible: Project coordinator
  - Contribution: National coordinators, project managers
3. Elaborate and maintain a risk management table and regularly report an overview to the project SCOM
  - Responsible: PMT
  - Contribution: Task leader, national coordinators
4. Setup and execute quality management procedures to ensure the fulfilment of the project objectives in appropriate quality
  - Responsible: PMT lead
  - Contribution: WP leader, task leader, national coordinators
5. Organise, prepare and document regular SCOM meetings
  - Responsible: SCOM chair and SCOM secretary
  - Support: PMT lead, project coordinator
  - Contribution: WP leader, national coordinators
6. Organise, prepare and document Project Management Team meetings (monthly and on demand)
  - Responsible: PMT lead
  - Contribution: WP leader
7. Organise, prepare and document Project Coordination Team meetings (bi-monthly)
  - Responsible: Project coordinator
  - Contribution: WP leader, national coordinators, project managers
8. Elaborate and submit the progress reports to CINEA
  - Responsible: Project coordinator
  - Contribution: WP leader, task leader, national coordinators, project

managers

9. Elaborate and submit the periodic reports (including financial statements)
  - Responsible: Project coordinator
  - Contribution: WP leader, task leader, national coordinators, project managers

#### **Expected results**

1. Up to date overview on milestones
2. Up to date overview on financial status on yearly basis for progress- and periodic reports
3. Up to date risk table
4. All final documents are quality checked towards their purpose
5. Documentation of regular SCOM-, PMT- and PCT meetings
6. Progress reports are submitted timely to CINEA
7. Periodic reports are submitted timely to CINEA

### **Task 1.3: Stakeholder Management**

Lead: RWS

#### **Objectives**

Main objective of this Task is to disseminate the project results to the national and international stakeholders in order to create considerable awareness for this project and the achieved results as well as for RIS and its benefits in general as well as stakeholder management and evaluation of project results.

Elaborate a plan for appropriate dissemination activities throughout the project in-line with the EU funding visibility requirements, including stakeholder management and evaluation activities. Execute the identified dissemination activities in a coordinated approach on national and international level. Organise a project kick-off meeting for interested external stakeholders to present and discuss the planned project activities. Establish related stakeholder reference groups who are continuously informed on the progress of specific tasks in order to get their feedback and input to be further considered. Organise an efficient evaluation procedure related to EuRIS and electronic reporting. Elaborate a concept for a European IWT Stakeholder Feedback Tool with optional implementation of a demonstrator. Organise a RIS stakeholder symposium to present and demonstrate intermediate project results and further planned activities to a broad stakeholder audience to reflect their expectations. Organise a final project event to present and demonstrate the final project results.

#### **Subtasks**

1. Organise the Kick-Off Meeting
  - Responsible: RWS
  - Contribution: PMT, meeting host
2. Elaborate and agree on a Dissemination and Communication Plan describing all planned dissemination activities including the establishment of related stakeholder reference groups and an evaluation procedure related to EuRIS and electronic reporting
  - Responsible: RWS
  - Contribution: PMT, national coordinators
3. Execute the activities according to the Dissemination and Communication Plan
  - Responsible: RWS
  - Contribution: WP leader, task leader, national coordinators
4. Setup appropriate dissemination channels and publish news about the status of the project and achieved results regularly

<ul style="list-style-type: none"> <li>○ Responsible: RWS</li> <li>○ Contribution: WP leader, task leader, national coordinators</li> </ul> <p>5. Elaborate a concept for an IWT feedback tool</p> <ul style="list-style-type: none"> <li>○ Responsible: viadonau</li> <li>○ Contribution: Project partners</li> </ul> <p>6. Organise a RIS stakeholder symposium to present and demonstrate intermediate project results and further planned activities to a broad stakeholder audience to reflect their expectations</p> <ul style="list-style-type: none"> <li>○ Responsible: RWS</li> <li>○ Contribution: PMT, meeting host</li> </ul> <p>7. Organise a Final Event</p> <ul style="list-style-type: none"> <li>○ Responsible: RWS</li> <li>○ Contribution: PMT, meeting host</li> </ul>
<p><b>Expected results</b></p> <ol style="list-style-type: none"> <li>1. Kick-Off meeting with external stakeholders</li> <li>2. Dissemination and Communication Plan</li> <li>3. Regular news, dissemination material, project presentations</li> <li>4. Concept for IWT stakeholder feedback tool</li> <li>5. Stakeholder event(s) organised</li> <li>6. Final Event organised</li> </ol>

<b>Task 1.4: Project Closure</b>	Lead: viadonau
<p><b>Objectives</b></p> <p>Main objective of this Task is to plan and execute all required tasks related to a successful and efficient project closure with main focus on elaboration and finalisation of project documentation as well as to fulfil all requirements related to the Final Payment Request.</p> <p>Elaborate a masterplan with clear recommendations for actions to be continued or initiated in order to ensure further harmonised implementation and operation of RIS in Europe. Define and execute the approach for the elaboration and submission of the final report and final payment claim according to the requirements defined in the Grant Agreement.</p>	
<p><b>Subtasks</b></p> <ol style="list-style-type: none"> <li>1. Elaborate a masterplan with recommendations for the time after the project including a revision of the DIWA Masterplan by categorising the measures (e.g. implemented, under development, to be implemented, to be adapted, obsolete) <ul style="list-style-type: none"> <li>○ Responsible: Project coordinator</li> <li>○ Contribution: WP leader, task leader, national coordinators</li> </ul> </li> <li>2. Elaborate the Final Technical Report and the Final Financial Statement based on the templates provided by CINEA <ul style="list-style-type: none"> <li>○ Coordination: Project coordinator</li> <li>○ Responsible: PMT (technical report)</li> <li>○ Responsible: National coordinators (financial statements)</li> <li>○ Contribution: Task leader, project manager, project partners</li> </ul> </li> <li>3. Respond to any requests from CINEA related to the Final Financial Statement (clarifications, details on selected samples, etc.) <ul style="list-style-type: none"> <li>○ Coordination: Project coordinator</li> </ul> </li> </ol>	

- Responsible: Project managers
- Contribution: National coordinators

**Expected results**

1. Masterplan for the time after the project including revision of the DIWA Masterplan measures
2. Final Technical Report and Final Financial Statement accepted by CINEA
3. Final payment received by all Beneficiaries

### 3 WP2 – Assessment

Lead: RWS

Partners: all COMEX<sup>2</sup> partners

Start event: WP2 Kick-Off

End event: All WP2 Milestones approved by SCOM (MS07-09)

**Objectives:** Within WP 2 a detailed assessment of the actual status of relevant previous and ongoing initiatives will be carried out in order to identify necessary additional measures and the corresponding needs and requirements which will result in specific roadmaps to be considered within the following work packages.

During the EuRIS assessment (Task 2.1) all relevant open issues and already identified improvements shall be gathered and tackled by means of specific measures described in a roadmap for the further implementation within WP3.

During the assessment of electronic reporting (Task 2.2) the actual status of electronic reporting procedures and related systems shall be investigated and a detailed study and analysis shall result in an agreed approach and roadmap in order to foster the optimisation of electronic reporting procedures towards reporting-only-once within WP4.

Within Task 2.3 relevant European initiatives will be investigated in order to identify recommendations, measures and additional requirements which can be tackled during the further implementation of the project in the following WPs.

Duration: 01.10.2023 (Month 9) – 31.01.2025 (Month 24)

#### Task 2.1: EuRIS Assessment

Lead: RVCCR (CZ)

##### Objectives

During the EuRIS assessment all relevant open issues and already identified improvements shall be gathered and tackled by means of specific measures described in a roadmap, including recommendations for the decision about implementation under the umbrella of COMEX<sup>2</sup> and implementation within WP3. Specific emphasis will be gathered on different functional requirements for service interfaces by web portal and machine processed API interfaces for other client applications.

##### Subtasks

1. Identify priority change requests for EuRIS, which are in implementation or under development, with assessment of its user benefits and objectives
  - Responsible: viadonau supported by DVW
  - Contribution: EuRIS partners, maintenance contractor, Advisory Board (OTF)
2. Assessment of APIs that provide services for the benefit of the inland waterway users by interconnected systems:

- a. Identify and assess potential other relevant systems/users to be interconnected with EuRIS (e.g. port community systems, logistics stakeholders, software suppliers)
  - b. Definition of requirements and open issues towards APIs
    - Responsible: DVW supported by VNF and RWS
    - Contribution: EuRIS partners, Advisory Board
- 3. Identification of open issues for COMEX<sup>2</sup> including user objectives from following sources:
  - a. Assess service definition documents (SDD) of RIS COMEX Activity 2 by comparison of realization grade of services in EuRIS, give an inventory of differences and propose either to continue with the realized service in EuRIS or propose changes as open issues for COMEX<sup>2</sup>
  - b. Identify and assess not implemented service definitions of RIS COMEX Activity 2 with recommendations to include as open issues for COMEX<sup>2</sup>
  - c. Identify and assess defined strategic ambitions of COMEX<sup>2</sup> and define as open issues for COMEX<sup>2</sup>
  - d. Assess experiences and identified ideas on the Service Desk with identification of open issues for COMEX<sup>2</sup>
  - e. Gather user feedback on existing EuRIS usage and identify open issues for COMEX<sup>2</sup>
  - f. Definition of open issues relevant for implementation by COMEX<sup>2</sup> from draft final results of Task 2.3 (specific focus on DIWA results)
    - Responsible: RVCCR supported by viadonau and DVW
    - Contribution: COMEX<sup>2</sup> partners
- 4. Identify waterways/regions for geographical EuRIS extension
  - a. Identify new waterways and missing sections of infrastructure respecting user feedback
  - b. Identify and specify missing geographical reference data (gaps) of waterways network or infrastructure and definition of open issues
  - c. Identify and specify missing operational data for EuRIS services
    - Coordination: RVCCR
    - Responsible: COMEX<sup>2</sup> national coordinators
    - Contribution: COMEX<sup>2</sup> partners
- 5. Identification and assessment of necessary national data input for services considering range and quality of data and impact on provided services
  - a. Identify issues with missing data of the infrastructure on existing EuRIS network
  - b. Identify issues with insufficient data quality
  - c. Identify data requirement and missing data necessary for new services
  - d. Collection of data open issues for each national partner to fulfil harmonized level of service on corridor
    - Coordination: RVCCR
    - Responsible: National coordinators
    - Contribution: Project partners
- 6. Collect all identified open issues and elaborate a clear approach and roadmap related to the further development and optimization of EuRIS with identification of individual structured measures and target user benefits
  - Responsible: RVCCR
  - Contribution: Project partners
- 7. Recheck of defined measures by final results of Taks 2.3 and forwarding of findings to WP3
  - Responsible: RVCCR
  - Contribution: Project partners

**Expected results**

1. Inventory of the priority changes for implementation in EuRIS
2. Identification and documentation of potential EuRIS interconnections and requirements for interfaces
3. Identification and documentation of open issues for EuRIS services
4. Identification and documentation of waterways for geographical EuRIS extension and required geographical reference data
5. Identification and documentation of data issues
6. Inventory of measures for the further development and optimization of the EuRIS system, including target user benefits
7. An approach and roadmap with recommendation on how to realise the identified measures in COMEX<sup>2</sup>
8. Optional, if applicable: Updated approach and roadmap for realisation of measures by COMEX<sup>2</sup> based on final T2.3 outcomes

**Task 2.2: Electronic Reporting Assessment**

Lead: RWS

**Objectives**

The objective of this task is to execute an assessment of electronic reporting within European IWT to acquire the actual status of electronic reporting procedures and related application systems (like reporting software, receiving systems, Vessel Traffic Management Systems etc.) and to elaborate a detailed study and analysis which shall result in an agreed approach and roadmap in order to foster the optimisation of electronic reporting procedures towards reporting-only-once within WP4.

**Subtasks**

1. Elaborate an overview on electronic reporting systems and applications including the covered reporting requirements, used messages and procedures
  - Coordination: RWS
  - Responsible: Partners responsible for related ERI systems
  - Contribution: All
2. Elaborate a study and impact analysis of the reporting-only-once principle including the identification of gaps (policy, legal and technical) and necessary measures to overcome those gaps
  - Responsible: RWS
  - Contribution: All
3. Elaborate a clear approach and roadmap related to the further development and optimisation of electronic reporting within European IWT, including individual measures, in order to foster reporting-only-once along the European Inland waterways.
  - Responsible: RWS
  - Contribution: All

**Expected results**

1. Inventory on electronic reporting systems and applications
2. Concept for the further development and optimisation of electronic reporting within IWT including an approach and roadmap to foster reporting-only-once

**Task 2.3: European Initiatives**

Lead: viadonau

**Objectives**

Main objective of this task is to investigate European initiatives that are of relevance for COMEX<sup>2</sup>, and to identify recommendations, measures and additional requirements to be tackled during the implementation of COMEX<sup>2</sup> in the corresponding Work Packages. Priority is already given to initiatives such as the Digitalisation Masterplan for European Inland navigation (CEF Action DIWA Masterplan), the DTLF (Digital Transport and Logistics Forum) / eFTI initiative (Electronic Freight Transport Information) of the European Commission and the IT systems for inland navigation under the umbrella of the European Commission (European Hull Database, European Crew Database, European Reference Data Management). This shall result in a clear approach and roadmap on how to consider relevant findings and foster a potential implementation of identified necessary measures in the scope of COMEX<sup>2</sup>.

In addition, this task will elaborate an impact analysis on the relevant legal EU Cyber Security framework towards River Information Services. Special focus will be on the EU Cybersecurity Act, the EU Cyber Resilience Act and the NIS 2 EU Directive. Findings of the CEF Action DIWA Masterplan will be duly considered, including already identified measures.

In parallel and where applicable, an inventory of other relevant European initiatives that could have an impact on COMEX<sup>2</sup> will be elaborated.

**Subtasks**

1. DIWA Masterplan assessment:
  - a. Investigate recommendations, measures and additional requirements resulting from the DIWA Masterplan that are of relevance for COMEX<sup>2</sup>
  - b. Elaborate an approach and roadmap on how to consider relevant findings and foster a potential implementation of identified necessary measures in the scope of COMEX<sup>2</sup>
  - c. Communicate with Leaders of Work Packages and Tasks affected by this subtask
    - Responsible: RWS
    - Contribution: COMEX<sup>2</sup> partners
2. eFTI/DTLF assessment:
  - a. Inform all relevant COMEX<sup>2</sup> partners about the EU eFTI Regulation and the related developments in DTLF, including the federation of platforms and the European mobility dataspace
  - b. Investigate recommendations, measures and additional requirements stemming from the eFTI Regulation and the work in DTLF that are of relevance for COMEX<sup>2</sup>. Specifically, this includes proposed architectural and functional measures, recommendations and additional requirements by the European Commission that could lead to the most efficient, budget friendly and thus adequate solution for the Member States / waterway authorities active in COMEX<sup>2</sup>.
  - c. Elaborate an approach and roadmap on how to consider relevant findings and foster a potential implementation of identified necessary measures in the scope of COMEX<sup>2</sup>, including clear responsibilities.
  - d. Communicate with the Leaders of Work Packages and Tasks affected by this subtask
    - Responsible: DVW
    - Contribution: COMEX<sup>2</sup> partners

3. EC inland navigation IT systems assessment:
  - a. Investigate recommendations, measures and additional requirements stemming from the European inland navigation IT systems under the umbrella of the European Commission that are of relevance for COMEX<sup>2</sup>
  - b. Elaborate an approach and roadmap on how to consider relevant findings and foster a potential implementation of identified necessary measures in the scope of COMEX<sup>2</sup>
  - c. Communicate with the Leaders of Work Packages and Tasks affected by this subtask
    - o Responsible: viadonau
    - o Contribution: COMEX<sup>2</sup> partners
4. Impact Analysis of the relevant EU Cyber Security Framework:
  - a. Investigate recommendations, measures and additional requirements in the domain of cyber security from the CEF Action DIWA Masterplan
  - b. Investigate the relevant legal EU Cyber Security Framework
  - c. Analyse the impact of the legal EU Cyber Security Framework on River Information Services (EU Cybersecurity Act, EU Cyber Resilience Act, NIS 2 EU Directive)
  - d. Elaborate measures resulting from the legal EU Cyber Security Framework
  - e. Elaborate an approach and roadmap for a potential implementation in COMEX<sup>2</sup> and beyond
  - f. Communicate with the Leaders of Work Packages and Tasks affected by this subtask
    - o Responsible: Ministry of Transport Slovakia
    - o Contribution: COMEX<sup>2</sup> partners
5. Inventory of other relevant European initiatives
  - a. Investigate other relevant European initiatives
  - b. Prioritize these initiatives and decide whether they might have an impact on COMEX<sup>2</sup>
  - c. Communicate with Leaders of Work packages and Tasks affected by this subtask
    - o Responsible: WSV
    - o Contribution: COMEX<sup>2</sup> partners

#### **Expected results**

1. Identified measures to be realised out of relevant European initiatives
2. Approach and roadmap on how to realise the identified measures in COMEX<sup>2</sup> and beyond
3. Impact Analysis of the legal EU Cyber Security Framework on River Information Services
4. Inventory of other relevant European initiatives

## 4 WP3 – EuRIS Evolution

Lead: viadonau

Partners: .) all COMEX<sup>2</sup> partners

.) EuRIS governance roles: EuRIS (ECMA) council, partnership coordinator, advisory board, operational task force and other task forces play a significant role in this WP and are integrated into the project as defined within the Consortium Agreement.

.) External involved parties: EuRIS maintenance contractor, EuRIS hosting contractor: These parties play a relevant role in specific tasks of this WP but are to be seen as project external parties as they are not part of the consortium. They are involved by and on behalf of the project partners, where relevant and necessary.

Start event: official project start date

End event: successful submission of final WP3 report

Objectives: WP3 focuses on the evolution of the jointly operated European RIS Platform EuRIS which is under the governance of the European Corridor Management Agreement (ECMA). Focus areas are the constant coordination of the EuRIS partners, the further technical development and optimisation of the EuRIS system, the geographical extension of the system coverage towards additional waterways and countries as well as the evolution of the contractual framework (legal, organisational, financial) to ensure sustainable operation.

Duration: 01.02.2023 (M1) – 31.12.2027 (M59)

### Task 3.1: EuRIS Coordination

Lead: DVW

#### Objectives

Main objective of this task is the continuous coordination and steering of the EuRIS related tasks according to ECMA. The ECMA has established a three-layered governance model comprising the permanent operational task force (operational level), the advisory board (tactical level) and the council (strategic level). The EuRIS related coordination and support activities are accompanied by the Partnership Coordinator. EuRIS related activities and decision-making processes have to run through all three governance levels to reach a decision following the provisions defined within the ECMA and within the COMEX<sup>2</sup> Consortium Agreement.

Furthermore, the preparation and execution of necessary procurement procedures and contracting, including order- and invoice management, in order to ensure continuous operation of EuRIS is handled in this task. This mainly affects the maintenance and support contract, the hosting contract and the partnership coordination contract but is not limited to those.

#### Subtasks

1. Support the ECMA governance in the continuous coordination and steering among the EuRIS related tasks within the project and the involved EuRIS partners
  - Responsible: DVW

- Contribution: EuRIS partners
2. Support the ECMA governance to plan and execute three ECMA council meetings per year
    - Responsible: ECMA council supported by partnership coordinator
    - Contribution: council members
  3. Support the ECMA governance to plan and execute six advisory board meetings per year
    - Responsible: EuRIS advisory board lead supported by partnership coordinator
    - Contribution: Advisory board members
  4. Support the ECMA governance to plan and execute a bi-weekly operational task force meeting
    - Responsible: Operational task force supported by partnership coordinator
    - Contribution: OTF members
  5. Organise WP3 meetings in order to coordinate the EuRIS related tasks and enable progress monitoring
    - Responsible: viadonau
    - Contribution: WP3 partners
  6. Support the ECMA governance to prepare and execute a Joint Public Procurement for the intermediate EuRIS hosting solution or ensure the continuation of the hosting
    - Responsible: RWS (as contracting entity)
    - Contribution: EuRIS partners
  7. Support the ECMA governance to monitor and approve the services and invoices related to the contracted intermediate EuRIS hosting solution, if applicable
    - Responsible: RWS (as contracting entity)
    - Contribution: EuRIS partners
  8. Support the ECMA governance to prepare and execute a Joint Public Procurement for maintenance and support of EuRIS (optionally including hosting) timely before the actual contract ends
    - Responsible: DVW (as contracting entity)
    - Contribution: EuRIS partners
  9. Support the ECMA governance to monitor and approve the services and invoices related to the contracted EuRIS maintenance and support and, later on, also including hosting
    - Responsible: DVW (as contracting entity)
    - Contribution: EuRIS partners
  10. Support the ECMA governance to prepare and execute a Joint Public Procurement for the partnership coordination of EuRIS timely before the actual contract ends
    - Responsible: DVW (as contracting entity)
    - Contribution: EuRIS partners
  11. Support the ECMA governance to monitor and approve the services and invoices related to the contracted partnership coordination of EuRIS
    - Responsible: DVW (as contracting entity)
    - Contribution: EuRIS partners

**Expected results**

1. Meeting documentation of all organised ECMA council, advisory board, operational task force and other WP3 coordination meetings
2. Overall planning, steering and monitoring of all EuRIS related activities
3. Intermediate EuRIS hosting contract concluded or hosting continued
4. Execution of a tender procedure resulting in an EuRIS maintenance and support contract (optionally including hosting)
5. Execution of a tender procedure resulting in an EuRIS partnership coordination contract

**Task 3.2: Technical EuRIS Development**

Lead: DVW

**Objectives**

Main objective of this task is the evolution and further development of EuRIS under the umbrella of ECMA. First, the implementation of already identified priority issues and changes related to the service functionality and usability of EuRIS shall be executed.

Further, the EuRIS services, data and interfaces shall be improved and extended from functional, technical and geographical point of view based on the results of the EuRIS assessment (WP2). This implies the web portal, the APIs and a potential mobile solution. Another focus point is the interconnection and integration of EuRIS APIs into existing other systems like port community systems fostering multi-/synchromodal data exchange across transport modes. Decisions in relation to the technical EuRIS developments are made following the provisions defined within the ECMA and within the COMEX<sup>2</sup> Consortium Agreement.

**Subtasks**

1. Specify and implement EuRIS priority issues and changes based on operational experience improving data and service functionality and on the results of T2.1
  - Responsible: DVW supported by advisory board
  - Contribution: EuRIS partners, partnership coordinator, operational task force
  - Involved: EuRIS maintenance contractor
2. Elaborate and specify a detailed development catalogue based on the results of Task 2.1 EuRIS Assessment
  - Responsible: DVW
  - Contribution: EuRIS partners, advisory board
  - Involved: EuRIS maintenance contractor
3. Implement/monitor the implementation by the related contractor(s) and test the related EuRIS developments
  - Responsible: DVW
  - Contribution: EuRIS partners, advisory board
  - Involved: EuRIS maintenance contractor
4. Improve (quality of) the national data sources and/or extend data provision to overcome the data issues and gaps identified in T2.1
  - Coordination: DVW supported by advisory board
  - Responsible: National coordinators
  - Contribution: EuRIS partners, operational task force

5. Optimise, test and implement EuRIS APIs based on requirements from external systems or users
  - Responsible: DVW
  - Contribution: Advisory board, EuRIS partners, operational task force
  - Involved: EuRIS maintenance contractor
6. Optional, if applicable: Interconnect EuRIS with other relevant systems (e.g. port community systems, logistics stakeholder, software suppliers) and adapt interfaces where feasible
  - Responsible: DVW
  - Contribution: Advisory board, EuRIS partners, operational task force
  - Involved: EuRIS maintenance contractor, parties responsible for the external system(s)
7. Elaborate a concept / feasibility study including the assessment of applicability for a mobile solution of EuRIS to ease the use on smart devices
  - Responsible: DVW
  - Contribution: EuRIS partners, advisory board
8. Optional, if applicable: Specify, test and implement a mobile solution of EuRIS
  - Responsible: DVW
  - Contribution: EuRIS partners, advisory board
  - Involved: Related contractors
9. Document the realised adaptations towards EuRIS and the national systems (services, systems, interfaces)
  - Responsible: DVW
  - Contribution: Advisory board, EuRIS partners, national coordinators
  - Involved: EuRIS maintenance contractor

#### **Expected results**

1. Documentation of the priority changes agreed and implemented
2. Specification, implementation and documentation of EuRIS developments
3. Specification, implementation and documentation of EuRIS API improvements
4. Documentation of implemented measures to overcome data issues and gaps
5. Documentation of realised EuRIS interconnections
6. Feasibility study for a mobile solution of EuRIS
7. Optional, if applicable: Specification, tendering, implementation and documentation of a mobile solution of EuRIS

### **Task 3.3: Geographical EuRIS Extension**

Lead: RWS

#### **Objectives**

Main objective of this task is the geographical extension of EuRIS in terms of additional waterways and countries. This affects the existing EuRIS partners by the extension of data provision related to waterways (e.g. CEMT class < 4) and infrastructure objects (e.g. locks, bridges, berths, terminals). Furthermore, additional (cooperation) partners are interested in joining EuRIS (Switzerland, Poland, Ukraine) who need to prepare and integrate the necessary data, interfaces and services for EuRIS (geographical reference data, fairway-, infrastructure- and traffic related data).

#### **Subtasks (existing EuRIS parties)**

1. Prepare and develop missing geographical reference data of existing EuRIS partners and adapt national systems or services where necessary
  - Coordination: RWS supported by advisory board
  - Responsible: EuRIS partners, national coordinators
  - Contribution: Operational task force
2. Implement and make missing geographical reference data of existing EuRIS partners available in EuRIS
  - Coordination: RWS supported by advisory board
  - Responsible: EuRIS partners, national coordinators
  - Contribution: Operational task force
  - Involved: EuRIS maintenance contractor

#### **Subtasks (new EuRIS parties)**

3. Elaborate the procedure and roadmap for the onboarding of new partners considering legal, organisational, financial, contractual and technical aspects and provide the results to Task 3.1 (for financial and contractual aspects) and to Task 3.4 (for organisational and legal aspects related to ECMA)
  - Responsible: RWS
  - Contribution: Task Force "Accession of new parties", EuRIS partners, advisory board
4. Prepare and develop missing geographical reference data and data services (APIs) of new EuRIS partners and adapt national systems or services where necessary
  - Coordination: RWS supported by advisory board
  - Responsible: new EuRIS partners, related national coordinators
  - Contribution: Operational task force
5. Implement and make missing geographical reference data and data services (APIs) of new EuRIS partners available in EuRIS
  - Coordination: RWS supported by advisory board
  - Responsible: new EuRIS partners, related national coordinators
  - Contribution: Operational task force
  - Involved: EuRIS maintenance contractor

#### **Expected results (existing EuRIS parties)**

1. Specification and documentation of missing geographical reference data of existing EuRIS partners and implemented measures

#### **Expected results (new EuRIS parties)**

2. Procedure and roadmap for the onboarding of new partners (legal, organisational, financial, contractual and technical aspects)
3. Geographical reference data and data services (APIs) of new EuRIS partners available in EuRIS
4. Specification and documentation of data integrated into EuRIS from new EuRIS partners

#### **Task 3.4: EuRIS Arrangements**

Lead: GDWS

#### **Objectives**

Main objective of this task is the legal investigation of the current EuRIS arrangement (ECMA: European Corridor Management Agreement) as well as the legal basis for data

provision and exchange (Core Arrangements) and the identification of possible amendments in order to improve both the ECMA and the Core Arrangements. The improved arrangements shall be elaborated, agreed by the ECMA Council and put into force following the provisions as defined within the ECMA.

### **Subtasks**

1. Investigate possible improvements of ECMA considering lessons learnt from the EuRIS operation and the cooperation based on ECMA
  - Responsible: GDWS
  - Contribution: EuRIS partners
2. If considered necessary, draft and agree on an amended version of ECMA and provide it to the ECMA council for approval
  - Responsible: GDWS
  - Contribution: EuRIS partners
3. If an amended version of the ECMA has been approved by the ECMA council, put the new version of ECMA into force
  - Responsible: ECMA council
  - Contribution: EuRIS partners
4. Investigate possible improvements of the existing core arrangements 1 and 2 considering lessons learnt from the EuRIS operation and the cooperation
  - Responsible: GDWS
  - Contribution: EuRIS partners
5. If considered necessary, draft and agree on amended versions of the core arrangements and provide it to the ECMA council for approval
  - Responsible: GDWS
  - Contribution: EuRIS partners
6. If amended versions of the core arrangements have been approved by the ECMA council, put the new versions of the core arrangements into force
  - Responsible: ECMA Council
  - Contribution: EuRIS partners
7. Consider the necessity of other legal documents being necessary to fulfil good governance within the cooperation
  - Responsible: GDWS
  - Contribution: Actual and future EuRIS partners, national coordinators, Advisory Board

### **Expected results**

1. Report on proposals for the improvement of ECMA
2. If necessary, updated version of ECMA put into force
3. Report on proposals for the improvement of the core arrangements and other legal documents
4. If necessary, updated versions of the core arrangements and other legal documents put into force

## 5 WP4 – Electronic Reporting

Lead:	RWS
Partners:	all COMEX <sup>2</sup> partners
Start event:	official project start date
End event:	successful submission of the final WP4 report
Objectives:	WP4 focuses on the further development, interconnection and integration of existing applications, systems and services to foster enhanced electronic reporting to reduce administrative barriers and reporting burdens within Inland Waterway Transport (IWT) and therefore contribute to the ultimate goal to enable reporting-only-once within IWT in Europe. The required coordination and cooperation among the involved parties will be the main focus within Task 4.1. Task 4.2 deals with the further development and optimisation of existing electronic reporting systems (BICS-HERMES, CEERIS, eRIBa, etc.). Within Task 4.3 the interconnection and geographical extension of existing electronic reporting applications and systems shall take place with the objective to foster reporting-only-once within IWT. Task 4.4 deals with the required legal, organisational, financial and contractual framework to ensure a continuous sustainable operation of electronic reporting related systems.
Note:	Electronic reporting systems should be read as a container concept and is not limited only to software with which electronic notifications can be sent, but includes all systems in the chain such as electronic reporting applications, vessel traffic management systems, messages brookers, converts, etc.
Duration:	01/02/2023 (M1) - 31/12/2027 (M59)

Task 4.1: Electronic Reporting Coordination	Lead: RWS
<b>Objectives</b> The main objective of task 4.1 is to provide the required coordination, monitoring, steering and decision-making among the WP4 tasks and the involved parties.	
<b>Subtasks</b> <ol style="list-style-type: none"> <li>Observe, contribute and coordinate with Task 2.2 concerning a realistic concept to foster reporting-only-once within European IWT <ul style="list-style-type: none"> <li>Responsible: RWS</li> <li>Contribution: Partners</li> </ul> </li> <li>Planning and execution of regular WP4 meetings to coordinate, steer and take decisions on developments related to the electronic reporting and to enable progress monitoring. <ul style="list-style-type: none"> <li>Responsible: RWS</li> <li>Contribution: WP4 partners</li> </ul> </li> <li>Support the CEERIS governance in planning and execution of regular CEERIS Council and Advisory Board meetings to coordinate, steer and take decisions</li> </ol>	

related to CEERIS developments and to enable the progress monitoring according to the CEERIS Management Agreement.

- Responsible: viadonau
  - Contribution: COMEX<sup>2</sup> partners involved in the CEERIS Council and Advisory Board
4. Preparation and execution of necessary procurements, including contract and order management, linked to the technical and technological developments and the continuous operation of existing electronic reporting systems and applications (T4.2 & T4.3)
    - Responsible: Partners responsible for related systems
    - Contribution: Related partners and contracting authorities
  5. Optional, if required: Preparation and execution of necessary procurements, including contract and order management, linked to the electronic reporting arrangements, incorporating legal, organisational and financial considerations within a flexible and future-proof contractual framework (T4.4)
    - Responsible: RWS
    - Contribution: WP4 partners

#### **Expected results**

1. Meeting documentation from WP4 coordination meetings
2. Meeting documentation from CEERIS related meetings
3. Contracts/orders related to the technical and technological developments of existing electronic reporting systems and applications
4. Optional, if required: Contracts related to the establishment and/or improvement of legal, organisational, financial and future-proof contractual arrangements related to electronic reporting (towards reporting-only-once)

#### **Task 4.2: Technical Evolution of Electronic Reporting**

Lead: RNA

#### **Objectives**

Task 4.2 deals with the further development and optimisation of existing electronic reporting systems (BICS-HERMES, CEERIS, eRIBa, etc.).

#### **Subtasks**

1. Identification and specification of developments of existing (and possible future) el. re. systems and applications based on identified needs and requirements (user feedback related to operational systems, Task 2.2 and potentially Task 2.3 output)
  - Coordination: RNA
  - Responsible: Partners responsible for related systems
  - Contribution: on demand
2. Improvement of the services and functionality as well as, if applicable, the coverage of additional reporting requirements provided by existing electronic reporting systems and applications (e.g. the CEERIS system, BICS-HERMES, eRIBa).
  - Coordination: RNA
  - Responsible: Partners responsible for related systems
  - Contribution: On demand
3. Elaboration of an inventory of potential interconnections of existing el. rep. systems with external systems and applications (output T2.2)
  - Coordination: RNA

<ul style="list-style-type: none"> <li>○ Responsible: Partners responsible for related systems</li> <li>○ Contribution: on demand</li> </ul> <p>4. Testing and optimisation of the web service interfaces (APIs) provided by existing electronic reporting systems and foster interconnections and integration into existing in-house systems of reporting parties and receiving authorities based on the inventory.</p> <ul style="list-style-type: none"> <li>○ Coordination: RNA</li> <li>○ Responsible: Partners responsible for related systems</li> <li>○ Contribution: On demand</li> </ul>
<p><b>Expected results</b></p> <ol style="list-style-type: none"> <li>1. Specification of improved functionality and usability as well as, if applicable, coverage of additional reporting requirements within existing electronic reporting systems and applications based on identified needs and requirements</li> <li>2. Inventory of envisioned interconnections and API improvements</li> <li>3. Report on the evolution of electronic reporting within this task, describing the developments which were realised within the existing electronic reporting systems and applications</li> </ol>

<b>Task 4.3: Reporting Only Once</b>	Lead: DVW
<p><b>Objectives</b></p> <p>Within Task 4.3 the interconnection and geographical extension of existing electronic reporting applications and systems shall take place with the objective to foster reporting-only-once within IWT.</p>	
<p><b>Subtasks</b></p> <ol style="list-style-type: none"> <li>1. Following the concept and roadmap out of Task 2.2, set necessary measures to extend existing electronic reporting systems in terms of integrating additional countries, regions, related authorities in order to increase the number of covered reporting requirements along European Inland Waterway Transports. <ul style="list-style-type: none"> <li>○ Coordination: DVW</li> <li>○ Responsible: Partners responsible for related systems</li> <li>○ Contribution: Related partners and contracting authorities</li> </ul> </li> <li>2. Following the concept and roadmap out of Task 2.2, set necessary measures to interconnect existing electronic reporting systems and establish the related procedures for the operational exchange of related transport reports in order to foster reporting-only-once along European Inland Waterway Transports. <ul style="list-style-type: none"> <li>○ Coordination: DVW</li> <li>○ Responsible: Partners responsible for related systems</li> <li>○ Contribution: Related partners and contracting authorities</li> </ul> </li> </ol>	
<p><b>Expected results</b></p> <ol style="list-style-type: none"> <li>1. Report on geographical extension of electronic reporting systems (Report describing the geographical extension of existing electronic reporting systems and applications by integrating additional countries, authorities and reporting requirements)</li> <li>2. Report on electronic reporting system interconnections (Report describing the realised interconnections of existing electronic reporting systems and applications which were realised)</li> </ol>	

Task 4.4: Electronic Reporting Arrangements	Lead: RWS
<p><b>Objectives</b></p> <p>Task 4.4 deals with the required legal, organisational, financial and contractual framework to ensure a continuous sustainable operation of electronic reporting related systems.</p>	
<p><b>Subtasks</b></p> <ol style="list-style-type: none"> <li>1. Investigation of current organisational and financial arrangements related to existing electronic reporting systems, identification of necessary amendments in order to make these arrangements flexible and future-fit followed by the update and entry into force of the improved arrangements. <ul style="list-style-type: none"> <li>○ Responsible: RWS, respectively viadonau (for CEERIS)</li> <li>○ Contribution: National coordinators</li> </ul> </li> <li>2. Investigation of current legal basis related to the operation of the existing electronic reporting systems and the exchange of transport reports among them. Identification of necessary measures to adapt the existing legal arrangements or establish new ones in order to enable reporting-only-once along European Inland Waterway Transports from legal point of view. <ul style="list-style-type: none"> <li>○ Responsible: RWS, respectively viadonau (for CEERIS)</li> <li>○ Contribution: National coordinators</li> </ul> </li> </ol>	
<p><b>Expected results</b></p> <ol style="list-style-type: none"> <li>1. Concept for the organisational (and financial) arrangements related to the interconnections of and operational exchange of transport reports among existing electronic reporting systems and applications</li> <li>2. Organisational (and financial) arrangements established</li> <li>3. Concept for the legal arrangements related to the operational exchange of transport reports among existing electronic reporting systems and applications</li> <li>4. Legal arrangements established</li> </ol>	

## 6 WP5 – Horizontal Activities

Lead:	DVW
Partners:	all COMEX <sup>2</sup> partners
Start event:	WP 5 Kick-Off
End event:	Publication deliverables
Objectives:	The main objective of WP5 is to ensure an optimal development of the Corridor RIS Services and the support of different national and common projects dealing with RIS Technical Services.
Duration:	The duration of WP5 lasts for the entire project lifetime, starting on 1 January 2023 and ending on 31 December 2027.

WP 5 contains various horizontal Activities dealing with important issues to ensure optimal development of the Corridor RIS Services (RIS stakeholder consultation to consider the needs and requirements of the users as much as possible, reference data management in order to ensure interoperability among the services, evolution of RIS standards) as well as dealing with the potential of Corridor RIS services towards increased safety (Inland Waterway Transport Safety Aspects) and interfaces to other fields (e.g. Statistics, Multimodality).

Task 5.1: Reference Data Management		Lead: viadonau
<b>Objectives</b> The main objective of this task is to identify the gaps in harmonisation and standardisation of RIS related reference data and develop coordinated mechanisms for the proper creation and management of the European reference data.		
<b>Subtasks</b> <ol style="list-style-type: none"> <li>1. Improve and further develop the RIS.net concept, which includes specifications for a digital inland waterway network supporting rout- and voyage planning.               <ul style="list-style-type: none"> <li>o Responsible: viadonau</li> <li>o Contribution: National data managers</li> </ul> </li> <li>2. Implement RIS.net in EuRIS and CEERIS.               <ul style="list-style-type: none"> <li>o Responsible: viadonau</li> <li>o Contribution: National data managers</li> </ul> </li> <li>3. Implement / optimise national reference data management including the provision of reference data according to the RIS.net concept.               <ul style="list-style-type: none"> <li>o Responsible: viadonau</li> <li>o Contribution: National data managers</li> </ul> </li> <li>4. Elaborate maintenance procedures for RIS reference data.               <ul style="list-style-type: none"> <li>o Responsible: viadonau</li> <li>o Contribution: National data managers</li> </ul> </li> <li>5. Provide input to CESNI/TI on RIS reference data management and support the implementation of RIS.net in the RIS technical services.               <ul style="list-style-type: none"> <li>o Responsible: viadonau</li> <li>o Contribution: National data managers</li> </ul> </li> </ol>		
<b>Expected results</b>		

1. RIS.net concept including
  - Specification of the RIS.net exchange dataset
  - RIS.net Encoding Guide
  - Validation rules
2. Publication of national RIS waterway network reference data according to the agreed RIS.net format
3. Proposal for maintenance procedures for RIS.net and other RIS reference data

**Task 5.2: Other international RIS Topics**

Lead: RSOE

**Objectives**

The main objective is to investigate and implement the optimisation of Notices to Skippers messages by developing a common NtS editor, the tracking & tracing of unmanned barges and the availability of onboard data that supports the skippers in their daily business.

**Subtasks**

1. Specify and implement a joint Notices-to-Skippers Editor among interested partners for the common, harmonized generation and publication of NtS messages, including potential joint procurement and contracting procedures.
  - Responsible: viadonau
  - Contribution: Nominated project partners
2. Investigate and document potential solutions for tracking & tracing of barges which are not equipped with an Inland AIS transponder and demonstrate promising solutions(s).
  - Responsible: RSOE
  - Contribution: Nominated project partners
3. Identify and execute necessary measures in order to increase onboard data availability and integration for the skippers.
  - Responsible: RWS
  - Contribution: Nominated project partners
4. Investigate the necessity of potential additional international RIS topics
  - Responsible: RSOE
  - Contribution: Nominated project partners

**Expected results**

1. A harmonized NtS editor tool including established operational arrangements
2. Report on possible solutions for the tracking & tracing of unmanned barges
3. Analysis and solutions for the improvement and implementation of onboard data availability

**Task 5.3: Other national RIS Topics**

Lead: RVCCR (CZ)

**Objectives**

The main objective is to investigate, implement and optimise River Information Services along the related Corridors by related specific national activities.

**Subtasks**

1. Austria
  - Specification, procurement, implementation and transfer into operation of the new Austrian national vessel certification data base (Hull DB) including interconnection to the European Hull DB (EHDB2).

- Elaboration of a concept for national waterway infrastructure resilience focusing on continuous (remote) lock operation under challenging conditions (pandemic, peak-season, lack of personnel), the introduction of cutting-edge technologies to increase safety of lock operations, the optimisation of lock algorithms to lower the water-loss in the energy production caused by lock chamber filling and the conceptual preparation for automated vessels.
  - Specification, procurement, implementation and transfer into operation of a sophisticated lock management and resource planning application on the Austrian Danube locks to improve locking procedures resulting in better planning, reduced waiting times and locking durations.
    - Responsible: viadonau
2. Bulgaria
- Berth depth measurement. Actual depth information at berths is necessary for safety of navigation at the time of transshipment. Especially at port basin entrances.
  - Evaluation of possible methods for depth measurements.
    - Investigation of drone with echo sounder and laser usage
    - Analysing of hydrographic data and developing of depth model
  - Evaluation of appropriate points for installation of the equipment.
  - Design for the technical solution
  - Purchase of the measurement equipment.
  - Pilot installation of depth measurement sensors for real time data acquisition.
  - Implementation of measurement, display of values on BULRIS site and transfer to EuRIS.
    - Responsible: BPI
3. Croatia
- Inland single window application. Provide a single application to governmental as well as private entities with direct access to all RIS corridor service levels optimised for national use. Requires API to CEERIS and EuRIS.
  - Renewal of national vessel certification data base and interconnection to EHDB2
  - Upgrade on national Web VTS including integration of AtoNs, ENC development platform, inland port API, bridge clearance data, real time depth data, RIS index integration, anchorage areas, EuRIS API.
  - Renewal of the crucial RIS infrastructure relevant for obtaining higher level of stability and functionality of the entire system. Backup equipment at base station locations and RIS operators work stations.
    - Responsible: MMPI
4. Czech Republic
- Extension of bridge clearance sensors comprising the installation of sensors for measurement of actual clearance values on bridges with low clearance on Elbe and Vltava. Data will be provided via the EuRIS platform to skippers and enable more reliable voyage planning of high vessels.
    - (a) Investigation of real user needs of actual clearance and identification of bridges to be equipped by measurement
    - (b) Design for the technical solution on bridges
    - (c) Implementation of measurement, display of values on site and transfer to EuRIS
  - Evaluation of dangerous weather conditions will be done by development and implementation of automated modelling of weather risks for safe navigation (e.g. wind, fog, storm) and provision of data for distribution by RIS technologies.
    - (a) Assessment of available data sources and possible procedures for weather risks modelling
    - (b) Development and implementation of technology for evaluation of

dangerous weather conditions

- (c) Implement measures for distribution of information via RIS
- Further development of lock and bridge planning by extending the functionalities of lock management software for increased reliability and to enable automatic evaluation and distribution by RIS technologies, which could reduce waiting times and improve reliability of voyage planning.
  - (a) Assessment of previous developments and operation on Elbe and Vltava and identification of possible improvements
  - (b) Assessment of integration of EuRIS, AIS and common standardised communication channels
  - (c) Pilot implementation of the extended lock and bridge management, if functional approach will be reached
- Extension of AIS ASM and AtoN services with collection of experiences for further standardisation
  - (a) Assessment of current implementation and experiences of AIS ASM and AtoN, identification of possible functional improvements
  - (b) Implementation of extension of AIS ASM and AtoN services and standardisation feedback towards CESNI
- Development of safety services for ferries
  - (a) Assessment of safety issues on ferries operation by interaction with fairway traffic and identification of possible measures
  - (b) Development and implementation of additional services for improvement of ferry service safety, and (optional, if will be relevant) standardisation feedback towards CESNI
- Development of synthetic AIS AtoN that fits to specific requirements of small waterways (like Elbe and Vltava)
  - (a) Definition of functional requirements and development of synthetic AIS AtoN
  - (b) Implementation of the system of synthetic AIS AtoN on series of buoys on Elbe and Vltava
  - (c) Assessment of reached functional parameters and operational feedback
    - Responsible: RVCCR

## 5. France

- National bridges clearances calculation and provision through NtS WRM webservice.
- Upgrade of iENCs to ECDIS 2.4.
- Integration of RIS Index and RIS network data into the national GIS database.
- Transfer of RIS GIS editor into the national GIS scope.
- Interconnection of the ERI routing service with EuRIS route calculator.
- Implementation of the national endpoint for receiving ERINOT messages.
- Interconnection of the facility files generator with the national calendar database.
- WRM and FTM integration of external parties.
- Development of additional services in the national mobile app Navi.
  - Responsible: VNF

## 6. Germany

- Development of a Smart Buoy for surveying of the water level: Evaluation and enhancement of a "measuring buoy" that records the water level at its location with high accuracy. The smart buoy provides a measuring tool with which the water level heights can be recorded at any point and over any period of time. The development aims to further enhancement of the technical concept, to investigate the power supply on a buoy, to compensation of dissident immersion depth of the buoy including enhancement of the evaluation software and server infrastructure.
  - (a) Assessment of available sensor for accurate measurement of the water level height taking into account the dissident immersion depth of the measurement buoy in the water.

- (b) Development and implementation of measurement technology and post processing.
  - (c) Pilot implementation in a free-flowing river and/or canal.
- Evaluation and implementation of RIS standards: Implementation of Inland AIS AtoN stations on signal floats. Signal floats are intended to mark temporary danger spots and traffic restrictions, e.g. after accidents, during construction work or during ordnance clearance. Signal floats will be equipped with AIS AtoN stations according ES-RIS 2023 to improve the situation awareness onboard a vessel using Inland AIS and electronic navigation display (e.g. IECDIS).
  - (a) Evaluation of the display of signal float and its information provided in IECDIS
  - (b) Assessment of available Inland AIS AtoN equipment taking into account ES-RIS 2023.
  - (c) Development for implementation of Inland AIS AtoN equipment on Signal floats (antenna, energie, programming).
  - (d) pilot implementation on signal floats.
- Software tool for maintaining the German RIS-Index: The German RIS-index is complex with a lot of data. The use of Excel to work on the RIS-Index is no longer convenient; a Software tool should be developed to ease the work on the RIS-Index.
  - Responsible: GDWS

#### 7. Hungary

- Enhancement of Vertical Bridge Clearance data processing and publishing via NtS web service to EuRIS and other systems.
- Investigation of blockchain technology use in RIS, especially in electronic reporting such as CEERIS, transnational coordination.
- Enhancement of PannonRIS and KIR Integrated Port Management Information System to better interconnect with EuRIS and CEERIS interfaces (e.g. API connection). Enhancement of WASDIS services for waste management controls.
  - Responsible: RSOE

#### 8. Netherlands

- Improvement of National Reference Data Base and Publication Platform including amending of VTM systems for this service.
- Fairway Feedback Function (Vaargwegmelder)
- Adjustment of national VTM Services in order to provide ref-data to EuRIS (e.g. support Kisters-API, improvement of uploading iENC).
- Berth Occupancy Predictor.
- Platform for National Services (like request bridge/lock operation).
  - Responsible: RWS

#### 9. Poland

- National data integration into EuRIS platform, including analysis and adjustment of national RIS Services in order to provide the required data to EuRIS.
  - (a) Analysis of guidelines including the base files available
  - (b) Development of RIS data in accordance to the specification provided
  - (c) Workshops and trainings on technical integration of RIS data and intake into EuRIS services
  - (d) Inclusion of newly adjusted data into EuRIS Services
  - (e) Testing process
- National data integration into CEERIS platform, including analysis and adjustment of national RIS Services in order to provide the required data to CEERIS.
  - (a) Analysis of guidelines available as best practices for integration of the national data

- (b) Development and adjustment of national RIS data in order to include into the CEERIS platform
- (c) Workshops and trainings
- (d) Inclusion of data into CEERIS
- (e) Testing process

- IENCs data collection used for new IENCs production to extend the charts coverage. Data will be created as ortho-photo-map and vector format.
  - (a) Collection of the topographic necessary and additional non-mandatory data in vector or raster format
  - (b) Orthophoto map production with the vectorisation of the coastline
  - (c) Functionally testing process

- Responsible: Inland Navigation Office in Szczecin (UŻŚ Szczecin)

- Analysis and concept for RIS integration with ports and data for skippers.
  - (a) analysis and evaluation of existing systems, including the assessment of their effectiveness
  - (b) analysis of systems connection possibilities (e.g. legal analysis, costs, variants, security assessment, technical solutions)
  - (c) elaboration of feasibility study for project RIS integration with Szczecin & Świnoujście Sea Ports system

- Responsible: Ministry of Infrastructure

#### 10. Romania

- Renewal of national vessel certification database and interconnection to EHDB2.
- Further development of national NtS services, focusing on integrating the relevant weather data sources for automatic WERM messages and the development/adjustments of the existing national NtS components.
- Concept and implementation of the national platform for inland waterways anchorage areas management, focusing on allocation, timings, automatic anchorage/turn detection, exclusion zones, reports, interfaces for data consumers etc.).
- AIS infrastructure partial renewal for Danube and Danube – Black Sea Canal.
- Integration of CEERIS data with the national associated services (billing, navigation personnel, data storing, reporting etc).

- Responsible: ANR

#### 11. Slovakia

- Implementation of online hydrodynamic water level model for calculation and prediction of corrections of navigation depths and for displaying the fairway in electronic charts for safe and efficient inland waterway transport as a standard on the Danube.
- Implementation of a system for continuous measuring of bridge clearances and provision of the data to the users. Installation of sensors and displays on selected bridges on the Danube. Interconnection with SlovRIS in order to provide measured vertical clearances by means of NtS WRM.
- Impact assessment of the Cyber Resilience Act on national RIS system SlovRIS. In accordance with the requirements of the "NIS Directive2: High Common Level of Cybersecurity in the EU", which tightens the requirements to increase the cyber resilience of institutions and business entities operating in the EU, it is essential for the sustainability of the operation of the national RIS system to increase its cyber resilience.

- Responsible: Ministry of Transport of the Slovak Republic

#### 12. Switzerland

- Renewal/Replacement of national hull database and evaluate connection

to European Hull DB (EHDB 2).

- Responsible: SRH

### Expected results

1. AT:
  - New Austrian national vessel certification data base (Hull DB) in operation and interconnected to the European Hull DB (EHDB2)
  - Concept for national waterway infrastructure resilience
  - Sophisticated lock management and resource planning application in operation
2. BG:
  - Actual berth depth measurement is of utmost importance during low waters.
  - Provision of real time data for depth at certain berth will assure safety for skippers
3. CZ:
  - Reliable bridge clearance data provided to the users via EuRIS based on real-time measurements by means of bridge clearance sensors for bridges with low clearance on Elbe and Vltava
  - Automated modelling of weather risks for safe navigation (e.g. wind, fog, storm) is implemented and related data is provided to the users by means of RIS technologies
  - National lock (and bridge) planning system is upgraded for increased reliability and to enable automatic evaluation and distribution of data by RIS technologies
  - Implemented solution for higher safety level of ferries Implemented synthetic AIS AtoN services on Elbe and Vltava
4. HU:
  - Enhanced Vertical Bridge Clearance data processing and publishing
  - Concept on blockchain technology use in RIS, especially in electronic reporting - CEERIS
  - Enhanced RIS DGNSS services and analysis of on-board DGNSS problems
  - implementation of API connection between EURIS and CEERIS and PannonRIS and KIR systems.
  - Implementation of enhanced WASDIS services for waste management controls
5. DE:
  - Pilot implementation Smart Buoy for surveying of the water level
  - Pilot implementation of AIS AtoN equipment for signal floats
  - Software tool for maintaining the RIS-Index
6. PL:
  - Report of results of PL national activities
  - Increasing resilience of RIS as critical infrastructure
  - RIS integration with ports supports the traffic management process with ensuring high level data for skippers and authorities
  - Database containing the data necessary to new IENCs production with extended charts coverage
  - the analysis of the possibilities of integrating the RIS system with the systems of seaports
  - the feasibility study for project RIS integration with Szczecin & Świonujskie Sea Ports systems
7. SK:
  - Water level model for the Slovak part of Danube including pilot operation of providing data correction for inland ECDIS viewers on ships.
  - Implementation of a system for continuous measuring of bridge clearances and provision of the data to the users including visualisation of data on bridges.
  - Proposal of measures for a high level of cyber security for the Slovak RIS system according to the NIS2 Directive.

## 8. CH:

- Optimization of national processes regarding ship registration and data management. Detailed concept of connection to EHDB2 and implementation of requirements into new NHDB.

**Task 5.4: RIS Technical Services Evolution**

Lead: DVW

**Objectives**

The main objective is to contribute and support the work of the Temporary Working Groups of CESNI/TI in the development or maintenance of the RIS related standards and services.

**Subtasks**

1. Active participation in relevant meetings and contribution to the work of the Temporary Working Groups of CESNI/TI to support the development of the standards for the RIS technical services.
  - Responsible: Project partners
2. Identification of relevant tasks to be tackled by the COMEX<sup>2</sup> consortium related to the evolution of RIS technical services in cooperation with the CESNI/TI TWGs. The four temporary working groups have identified a first set of tasks in which COMEX<sup>2</sup> can contribute. These tasks are on the current or will be on the next work programme of the TWGs or have at least a relevance and need support:
  - 2.1. Topics with relevance to the work of CESNI/TI/TWG VTT
    - The further development AIS AtoN and ASM taking into account the experiences build up in the different countries.
      - National implementation by the different partners (CZ, HU, DE):
        - CZ: Extension of AIS ASM and AtoN services with collection of experiences for further standardisation:
          - (a) Assessment of current implementation and experiences of AIS ASM and AtoN, identification of possible functional improvements
          - (b) Implementation of extension of AIS ASM and AtoN services and standardisation feedback towards CESNI
      - Consolidate the results towards the TWG
      - Amend the results (new requirements) into part II of ES-RIS
    - Evaluation and implementation of RIS standards: Scope and elaboration of guidelines on the use of Application Specific Messages (ASM) and the use of Inland AIS Aids-to-Navigation Report (AIS AtoN) in inland waterway according ES-RIS 2023. Those guidelines should explain the implementation of ASM and AIS AtoN into the existing RIS environment. The guidelines should be input to CESNI/TI in support of the further development of ES-RIS.
      - elaboration of the required content and target groups of guidelines for ASM and AIS AtoN,
      - develop of the structure for the guidelines,
      - drafting the guidelines,
    - Study/development VDES standard:
      - National trials by the different partners (DE, HR, HU, BG):
        - DE: Study on the use of VDES in Inland Waterways: VDES is currently being developed in maritime as a kind of next generation of AIS to increase the capability for data exchange and address cyber security issues of AIS. The study shall investigate the potential use of VDES in inland waterways considering radio propagation, colocation with existing AIS and VHF voice stations,

methods of data exchange.

- (c) Investigation of technical potential for VDES in Inland Waterways
- (d) Evaluation of cyber secure measures for AIS AtoN report and ASM via VDES
- (e) Pilot implementation for the distribution on secured virtual AIS AtoN and ASMs on shore and on board
  - HR: Realisation of a VDES pilot
  - BG: Integration of VDES technology for provision of additional services.
  - HU: Enhancement of RIS GNSS services and realisation of a VDES pilot as well as analysis of on-board problems and IWT EGNSS projects, participation at standardisation.
- Consolidate the results towards the TWG
- Study intention sharing by using VDES for communication
  - Coordination: GDWS
  - Responsible: National coordinators
  - Contribution: Project partners

## 2.2. Topics with relevance to the work of CESNI/TI/TWG ERI

### a) Impact analysis of eFTI on RIS

- Responsible: DVW
- Contribution: Project partners

## 2.3. Topics with relevance to the work of CESNI/TI/TWG IECDIS

### a) Revision of part I and V ES-RIS

- Integration of edition 2.6 of the IENC standard

### b) Development of the requirements for the visualization of TGAIN (trackpilot)

### c) Development of the test standard for the visualization of ASMs in IECDIS

### d) Analysis and possible integration of requirements for intention sharing

### e) Further development of the S-401 standard within the framework of S-100

- Finalizing the Feature Catalogue 1.1.0
- Developing of Portrayal Catalogue (redesign symbols, development LUA scripts)
- Creation Data Classification and Encoding Guide
- Setup conversion guidance

- Responsible: DVW

- Contribution: Task leader, nominated project partners

## 2.4. Topics with relevance to the work of CESNI/TI/TWG NtS

### a) Elaborate an efficient, state-of-the art service to provide time series for Water Level Related information

### b) Improve usability of NtS for voyage planning applications (e.g. limitation information)

### c) Exploit RIS.net capabilities for improvement of geographic applicability of NtS messages

### d) Improve validation of NtS messages

### e) Enforce required information via the XSD in addition to provisions set-out in the NtS Encoding Guide

### f) Improve definition of codes (to avoid codes are used in a non-intended way)

### g) Investigate new APIs

- Responsible: viadonau

- Contribution: Project partners

## 3. Execution of the identified and agreed tasks related to the evolution of the RIS

technical services including the elaboration and sharing of the documentation in cooperation with the CESNI/TI TWGs.

- Coordination: DVW
- Responsible: Related sub-task leader
- Contribution: Project partners

### **Expected results**

1. List with identified task in which COMEX<sup>2</sup> can support the TWGs.
2. Version of the S-401 standard for Inland ECDIS that can be tested and implemented.
3. Test standard for the visualization of AIS AtoN and ASMs (and implementation in ES-RIS 2027).
4. Results of the implementation of AIS AtoNs and ASMs:
  - CZ: Extended AIS ASM and AtoN services including ferries
5. Guidelines for the use of AIS AtoN and ASMs.
6. Results on a possible standard for the use of VDES:
  - DE: Draft guidelines for AIS AtoN and ASMs
  - DE: Pilot implementation of secure AIS AtoN and ASM using VDES
  - HU: Implementation of a VDES pilot activities in Hungary
  - BG: Implementation of a VDES pilot activities in Bulgaria
  - HR: Implementation of a VDES pilot activities in Croatia
  - Consolidated report on the results in the different countries
7. Report on the impact of eFTI on RIS.