Cooperation-Network for logistics and nautical education focusing on
Inland Waterway Transport in the Danube corridor
supported by innovative solutions

NELI River Information Services Course - curriculum -

(Act. 3.2, Period 4)

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1. List of abbreviations

- **AIS –** Automatic identification system (transponder)
- **ARGO –** Advanced River Navigation
- **CAS –** Calamity abatement support
- **CCNR** – Central Commission for Navigation on the Rhine
- **CD –** Danube Commission
- **COMPRIS –** Consortium Operational Management Platform River Information Services (R&D project of the EU, 2003 – 2005)
- **D4D –** Data Warehouse for the river Danube
- **DGPS –** Differential global positioning system
- **ECDIS –** Electronic chart and display information system
- **EDINNA – Education in Inland Navigation**
- **FIS –** Fairway Information Services
- **IWT –** Inland Water Transport
- **PLATINA** – Platform for the Implementation of NAIADES
- **RIS –** River Information Services
- **NELI** - Cooperation-Network for logistics and nautical education focusing on Inland Waterway Transport in the Danube corridor supported by innovative solutions
- **STCIN –** Standard for Training and Certification for Inland Navigation
- **VTS** – Vessel Traffic Services
- **VTMIS** – Vessel traffic management and information services
- **UNECE –** United Nation for Economic Commission for Europe

2. Scope of document

The following document contains the curricula of a River Information Services (RIS) course for inland navigation personnel in the Danube region and also for shore personnel involved in IWT activity. It follows the recommendations of the future European Standards of Training and Certification in Inland Navigation, developed in the PLATINA project with support from EDINNA Association. Additionally, it will contain teaching material as a support to the trainers / teachers.

The NELI partners decided to develop a common RIS course because of following reasons:

- **New innovative technology** with a high potential to modernize the sector
- **Harmonized standards along the Danube** (various European projects to foster this harmonized implementation are in progress)
- Still, little or **no integration of RIS in nautical education & training** in the Danube region (see the conclusions of NELI research Act 3.1)

Concerning the structure of the learning modules and topics, the RIS curricula picks up the findings of the work done under the TEN-T project IRIS Europe I (www.iris-europe.net). In their report “Open Issues on Harmonisation and Standardisation” the

chapter "Education and Training" deals with possible training concepts, they were adapted, actualized and will be enlarged by the elaboration of teaching material.

3. Objectives

The RIS course curriculum follows the recommendations concerning professional competences for nautical personnel elaborated by the PLATINA Joint Working Group which will serve as basis for the future harmonized European Standards of Training and Certification in Inland Navigation (STCIN). It refers to following competences:

Management Level
Navigation
1.1.1 work with up-to-date charts/maps, Notices to Skippers/Mariners and other publications in order to determine vessel position exactly;
1.1.8 use of traffic supervision tools and ability to apply them

Communication
6.1.2. guide crew on information- and communication systems on board including internet for the operation of the ship;

Operational Level
Communication
6.1.1. use information- and communication systems
6.1.2. solve different tasks with the help of information- and communication systems
6.1.3. obtain information according to nautical, technical and safety subjects

This RIS course has a hands-on approach. Students should gain practical experiences in the use and combination of the different parts of River Information Services.
The RIS course is intended to be a useful marker in knowledge and the understanding of the concept of RIS and integrated tracking ship traffic on inland waters.

4. Course framework

4.1 Target group

The **target group** for the RIS course consists of:

- Students and trainees from educational or training institutes specialized in the field of IWT, and
- Inland navigation personnel
- Shore personnel involved in IWT activity
- Personnel from administrative authorities

Trainee requirements: computer user basics, basic nautical knowledge
The possible **course providers** are:

- Nautical education and training institutes
- RIS providers

4.2 Instructors

Instructors shall be qualified in the tasks for which trainings being conducted and have appropriate training in instructional techniques and training methods.
The instructors have to have knowledge and experience in operating AIS transponders, ECDIS viewer software and Notices to Skippers.

4.3 Training facilities and equipment

There are a lot of web-based River Information Services, especially fairway information which are of high relevance for skippers. For the practical parts it is necessary that the trainer and the trainees have **internet access**.

PC Software: PowerPoint (for trainer), web browser, ECDIS Viewer Software (country specific), flash player

For the AIS module: **AIS transponder(s)** usually used in the country where the course is held.

4.4 Teaching aids

N°	Title	Author	year	Format
1	River Information Services – Overview and Background	NELI / VIA	2011	.ppt
2	Tracking and Tracing via AIS	NELI / VIA	2011	.ppt
3	Inland ECDIS	NELI / VIA	2011	.ppt
4	Fairway information incl. Notices to Skippers	NELI / VIA	2011	.ppt
5	Applied Services and Future of RIS	NELI / VIA	2011	.ppt
6.	Guidelines and recommendations for river information services	UNECE	2005	.pdf.
7.	Guidelines and Criteria for Vessel Traffic Services on Inland Waterways (Europe)	UNECE	2005	.pdf.
6	River Information Services	European Union	2010	.pdf
7	Leaflet Inland AIS	CCNR	2008	.pdf
8	Leaflet Inland ECDIS	CCNR	2009	.pdf
9	Leaflet Notices to Skippers	CCNR	2008	.pdf

Online-Information

- **RIS portal**, history, standards and news on RIS: www.ris.eu
- **Ines Danube**, eLearning platform on Danube navigation and intermodality including a detailed RIS chapter: www.ines-danube.info

The PowerPoint presentations include further links, e.g. to national RIS providers.

5. Teaching syllabus

I. Module: River Information Services Overview and Background Introduction

Familiarize students with the concept of RIS services, legal framework and implementing this service in ports on the Danube.
The student will get an idea on the different parts, functions and users of River Information Services. The national RIS providers will be presented as well as the connecting European legal basis. The introduction of online information services will help the student to stay in touch with ongoing developments in the field of RIS, even after the course.

Thematic plan

- Introduction of RIS
- Users and Functions
- Development and legal basis
- RIS services and tasks
- RIS systems and providers along the Danube
- eLearning and online information on RIS
- Legal and technical provisions
- Benefits of RIS

II. Module: Tracking and Tracing via AIS

The student understands the procedure to use Inland AIS and knows how to transmit and receive information.
The student will learn about the basics of AIS, the benefits one has trough carrying a transponder, the data sent and received by AIS, the opportunities one has and the requirements fort he installation of an AIS transponder on board. The programming of the transponder including trouble shouting will be trained as well.

Thematic plan

- Basics and opportunities of AIS
- Different modes of operation
- Interpretation of data delivered through AIS
- Provider of AIS and other important facts
- Transponder settings
- Retrieving of data and programming of the Transponder
- Requirements for AIS on board
- Approaches in case of problems with the transponder
- Shore Infrastructure

III. Module: Inland ECDIS

The student knows how to read ECDIS charts, is able to handle ECDIS viewer and connect it with AIS information.
In the Inland ECDIS module the users are provided with basics and exercise trainings. Students will gain the knowledge to obtain and work with ENCs on board (hardware, viewer software and ENC updates). One part of the practical training is the combination of ECDIS with AIS information and radar.

Thematic plan

- Basics and benefits of ECDIS
- Common standards of ECDIS
- Requirements on Hard- and Software
- Handling of the ECDIS Viewer
- General idea of the symbols used in ECDIS
- Differences in the navigation and the operation mode
- Getting to know Pick-Reports and Depth Data
- Combination with AIS and radar
- Loading and downloading charts
- Approaches in case of problems with the ECDIS Viewer
- Requirements on Board

IV. Module: Fairway Information Services incl. Notices to Skippers

The student knows how and where to get relevant actual information and how to use them.
The student learns how and where to get relevant fairway information via internet. The use, interpretation and displaying of Notices to Skippers will additionally be trained in practice.

Thematic plan

- Basics and benefits of NtS
- Different kinds of NtS (FTM, WRM, ICEM, WERM)
- Structure of the Notice to Skippers
- Technical requirements to use NtS on board
- Confidentiality and security of information
- Messaging procedures
- Retrieving NtS: internet, e-Mail
- Displaying NtS within ECDIS
- Using NtS for voyage planning
- Approaches in case of problems with the Notices to Skippers
- Standard for Electronic Ship reporting in Inland Navigation
- National information points (Online) and services
- EDIFACT messages

V. Module: Applied services and Future of RIS

The student knows some applied services of RIS and has an idea of the RIS „visions.
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Thematic plan

- Existing applied services (e.g. logistics, locks, port management)
- Next steps in RIS development and implementation (international data exchange, Electronic reporting ERI,)
- Staying up-to-date
- What are the next steps in RIS development and implementation (international data exchange, Electronic reporting,…)

6. Timetable of the course

No.	Module	ratio [%]	Teaching aids and equipment used
I.	River Information Services Overview and Background	15	1,6, Ines Danube: RIS basics / Internet
II.	Tracking and Tracing via AIS	25	2,7 / Transponder
III.	Inland ECDIS	25	3,8 / ECDIS Viewer, Internet
IV.	Fairway Information Services incl. Notices to Skippers	20	4,9 / Internet
V.	Applied services and Future of RIS	15	5
	Total	**100**	

7. Sources and references

- UNECE Resolutions
- CCNR Leaflets on AIS, ERI, ECDIS, NtS
- Danube Commission recommendations
- INeS Danube e-learning platform
- IRIS Europe (II) „Training & Education“
- National RIS Provider
- NEWADA project