



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

# Supporting EU and National Policies

## Draft National Action Plan for Education and Training Issues in the Field of Inland Waterway Transport SERBIA

(Act. 3.4, Period 4)

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## 1. List of abbreviations

NAP(s)	National Action Plan(s)
NELI	Cooperation-Network for logistics and nautical education focusing on Inland Waterway Transport in the Danube corridor supported by innovative solutions
EU	European Union
IWT	Inland Waterway Transport
SBBH	School of shipping, shipbuilding and water civil engineering, Belgrade
GDP	Gross Domestic Product
E&T	Education and training
INeS	Evropski akcioni program za razvoj unutrašnjeg vodnog transporta
NAIADES	Navigation and Inland Waterway Action and Development in Europe
EDINNA	Education in Inland Navigation
JRB	JRB Company, Belgrade
BBP	BBP Company, Belgrade
PIM	PIM Company, Belgrade
STCIN	Standards of Training and Certification in Inland Navigation
RIS	River information service

## 2. Analysis of relevant policies

The main strategic documents in the Republic of Serbia concerning the education and training in the field of IWT are:

1. National Sustainable Development Strategy of Serbia (2008)
2. National Strategy of Serbia for EU membership (2005)
3. Transport Development Strategy in the Republic of Serbia for the period 2008-2015. year (2007)
4. National Employment Strategy of the Republic of Serbia 2005-2010.

### **National Sustainable Development Strategy of Serbia (2008)**

The National Sustainable Development Strategy of Serbia outlined the five national priorities. Two of them are of interest to education in the field of IWT:

- The development and education of people and increasing employment - the part that refers to investment in knowledge and skills of people through quality, efficient and practical and applicable education permanent education
- Development of infrastructure - the part that refers to the expansion and improvement of transport infrastructure.

One of the aims of sustainable development in the field of education is following: to provide financial conditions for informal forms of learning, continuous improvement of cooperation in education and reforms at the national, regional and international levels. Concerning the sustainable development in the transport sector goals are to increase the participation of intermodal transport in total transport of goods and passengers and to raise the use of river transport, especially the use of the Danube waterway.

### **National Strategy of Serbia for EU membership (2005)**

According to this document, in the field of vocational education one of the main goals is to set up a concept for lifelong learning. In the development of IWT, as one of the most important strategic goals is the process of liberalization with the adoption of harmonized legislation with EU standards in the field of occupational classification.

### **Transport Development Strategy in the Republic of Serbia for the period 2008-2015 (2007)**

According to this document, in the long-term perspective IWT has to provide attractive and necessary specific training for staff who work or are employed in the IWT sector.

### **National Employment Strategy of the Republic of Serbia 2005-2010**

In this document we find the following interesting conclusions:

- In order to attract more foreign investments one main goal is the development of infrastructure including the restoration and connection of waterways.
- To provide quality investment in human resources policies are: training on the job, accepting the lifelong learning concept, the establishment of a standardized and flexible system of informal education and compliance of the system to labour market needs.

**The Republic of Serbia still has no national strategy for the development of education. According to available information, it should be adopted by the end of 2011. Also, no specific national funding programs for the IWT sector are available in Serbia.**

## **3. SWOT analysis of Serbian education and training situation in the field of inland waterway transport**

The main objective is following:

- Provide enough qualified personnel in the field of inland waterway transport – both nautical and logistical

Strengths	Weaknesses
1. Captain is a job with perspectives – great demand	1. Lack of a school ship / practicing possibilities
2. Interesting and responsible job profile (captain)	2. Lack of new teaching tools (such as INeS, maps...)
3. The reform processes of education system are already started	3. Lack of teaching materials regarding IWT
4. There is independent nautical school (SBBH)	4. Schools without wireless internet
	5. Little interest of young people to join

<p>5. Potentially high quality teaching staff</p>	<p>the profession</p> <p>6. Lack of professional lifelong learning offers for nautical personnel</p> <p>7. Very low rate of spending on education in GDP</p> <p>8. Lack of coordination between the Ministry of Infrastructure and Ministry of Education</p>
Opportunities	Threats
<ol style="list-style-type: none"> <li>1. International initiatives (NAIADES; EDINNA; NELI,...)</li> <li>2. Lifelong-Learning and e-Learning gain importance</li> <li>3. Unemployment crises as chance: attract career changers</li> <li>4. Membership EU</li> <li>5. Involvement in EU funds</li> <li>6. The introduction of EU norms and standards to ensure quality of education</li> <li>7. The interest of countries in the Danube region for the harmonization of education in the field of IWT</li> <li>8. The development of multimodal transport system - the need for new education employees in the IWT sector</li> </ol>	<ol style="list-style-type: none"> <li>1. Qualified nautical personnel is over aged</li> <li>2. Little IWT knowledge of transport logistics decision makers &gt; minor utilisation of IWT</li> <li>3. No harmonised certification and E&amp;T in Europe</li> <li>4. Backwardness of the region due to the unresolved political issues</li> <li>5. Unfavourable demographic trends</li> <li>6. Possible lack of political will for reform</li> <li>7. Resistance to change</li> </ol>

## Strengths

### 1. Captain is a job with perspectives – great demand

In times of economical crisis IWT offers relatively secure jobs with perspectives and higher wages than on land. Due to the lack of qualified personnel there is a great demand for newcomers to the IWT sector.

### 2. Interesting and responsible job profile (captain)

Nautical jobs are no regular 9-5 office jobs. They offer variation and responsibility. Longer periods away from home are compensated by longer periods of free time.

### 3. The reform processes of education system are already started

Serbia has started the process of reforms in several areas - one of them is education. The aim of the education reforms is adjust the education system to labour market needs. Also, the aim is integrate future learning technologies based taking the needs of the young generation in account in order to create a more efficient education system.

#### **4. There is independent nautical school (SBBH)**

In Serbia there is an independent nautical school (SBBH), which deals exclusively in the field of education of personnel for IWT.

#### **5. Potentially high quality teaching staff**

Very well-educated teaching staff. Practical teaching teachers who do have professional background (captains, people who worked on ships, shipbuilding engineers .....) are teaching at SBBH.

### **Weaknesses**

#### **1. Lack of a school ship / practicing possibilities**

Nautical education requires a great deal of practical education. Although IWT Companies take students to receive practical training, the school ship would give the possibility to gain practical experience with the help of professional teaching staff.

#### **2. Lack of new teaching tools (such as INeS, maps...)**

In the process of nautical education no modern teaching tools are used, which would certainly facilitate the process of education and increase the interest of young people in this profession.

#### **3. Lack of teaching materials regarding IWT**

Teaching materials for education in the IWT sector are outdated - many books were printed 20 or more years ago and do not cover the area of modern forms of transportation and logistics.

#### **4. Schools without wireless internet**

Most classrooms in schools have no internet access. Computer equipment is outdated, so there is no possibility for wireless internet.

#### **5. Little interest of young people to join the profession**

Many young people in Serbia do not know of the existence of nautical education in Serbia. Also, they have little or no knowledge about the possibilities of getting a job on the river ships.

#### **6. Lack of professional lifelong learning offers for nautical personnel**

In Serbia there is almost no professional training for inland navigation available.

#### **7. Very low rate of spending on education in GDP**

Appropriation for education in the Republic of Serbia is approximately 3.5% of GDP, while the OECD recommends that it should be 6-8%.

#### **g. Lack of coordination between the Ministry of Infrastructure and Ministry of Education**

In Serbia there is lack of coordination between the Ministry of Infrastructure, Department for Water Transport and the Ministry of Education, Department for

Secondary Vocational Education. Therefore, it is very difficult to IWT properly include the requirements in the reform of the education system of Serbia.

## **Opportunities**

### **1. International initiatives (NAIADES; EDINNA; NELI,...)**

Based on an active EU-IWT policy, new initiatives concerning E&T matters in IWT started. In a small sector like IWT cooperation and harmonisation are important instruments to achieve common goals.

### **2. Lifelong-Learning and e-Learning gain importance**

In the education reform more importance is placed on lifelong learning and e-Learning services.

### **3. Unemployment crises as chance: attract career changers**

In Serbia there is a general crisis of unemployment. An increasing number of people are interested in new business (such as work on the ship) with a possible training.

### **4. Membership EU**

The declared strategy of the Serbian government is to obtain the EU membership (defined as a goal in the National Sustainable Development Strategy). It may mean that the government will support the development of sector IWT.

### **5. Involvement in EU funds**

With the involvement in EU funds Serbia has a chance to financially support the revival of the projects and reforming the existing education system.

### **6. The introduction of EU norms and standards to ensure quality of education**

Standards that relate to student achievement (basic competencies) are defined in the new education laws.

### **7. The interest of countries in the Danube region for the harmonization of education in the field of IWT**

There is an obvious interest of the Danube countries for the harmonization of education in the IWT.

### **8. The development of multimodal transport system - the need for new education employees in the IWT sector**

One of the goals of the Transport Development Strategy in the Republic of Serbia for the period 2008-2015 is the development of multimodal transport, which will result in a demand for new staff, customized to the needs of new forms of transport.

## **Threats**

### **1. Qualified nautical personnel is over aged**

The average age of qualified nautical personal (Captains) is 50+. Taking in consideration the lack of young people joining the profession the lack of qualified nautical personnel will still grow in the near future.

**2. Little IWT knowledge of transport logistics decision makers > minor utilisation of IWT**

Those who make decisions (responsible for the network of secondary vocational schools and education reform) have not a realistic picture of needs and development of IWT and new transport systems in Europe.

**3. No harmonised certification and E&T in Europe**

**4. Backwardness of the region due to the unresolved political issues**

Unresolved political issues stop Serbia and lead to its lagging in the region. Therefore, there is little interest private capital for investment in Serbia.

**5. Unfavourable demographic trends**

According to existing data 1990/91 enrolled 20 509 pupils of elementary school in Belgrade, whereas in 2005 only 14 238 pupils enrolled of elementary school. The reason for those reduced numbers is a general reduction in the number of live births in the last ten years.

**6. Possible lack of political will for reform**

Serbia finds itself still in unstable political situation which may affect the implementation of reforms in education, as well as in the field of transport policies.

**7. Resistance to change**

One can not ignore the psychological aspect of resistance to change, especially when it comes to the introduction of new teaching tools.

**4. Measures of the Serbian National Action Plans**

**4.1 Measures addressing nautical personnel**

<b>N1 – Create nautical training</b>	
Status quo	<p>There are almost no special trainings in the companies. They were before in some companies and nautical school in Belgrade and Novi Sad. The former practice of all major companies (JRB, BBP and PIM) required a mandatory preparation of candidates for the examination for certificate in inland navigation.</p> <p>In Serbia nobody prepare candidates for certification exams at the present time except captains on board.</p>
Proposed Measure	<ol style="list-style-type: none"> <li>1. To start initiatives for create and accept the new regulation about system of getting certifications in inland navigation. We propose that new regulation include necessity a minimum time on board and training obligation before exams for certification.</li> <li>2. The proposal of training curriculum</li> <li>3. Define minimal standards for training's teacher and minimal</li> </ol>



	standards for training's equipment. Points 2. And 3. Need to harmonise with another Danube countries or possibly with STCIN.
Expected impact	Create high-quality and licensed crew of inland navigation vessels. Target group – inland navigation's crew
Responsibility and stakeholders	R: Ministry of infrastructure S: SBBH, inland navigation's crew, shipping companies
Priority	high
Financing	The Budget of Government

## N2 – Start promotion actions for nautical jobs

Status quo	It is hard to find (young) people who are interested to go on-board and the drop out rate is high. Besides that most young people do not even know of the possibility to “go on-board”, nautical jobs are very specific. In the Netherlands the bvb (Promotion centre for IWT) and the employment service created a recruiting and information folder on jobs in IWT for young people where the special characteristics of nautical jobs are laid down.
Proposed Measure	Inform young people and career changer about the job opportunities on-board of a vessel by creating information material, starting promotion activities and events, being present at job information fairs and cooperation with employment service.
Expected impact	Create awareness for nautical jobs Target group – future inland navigation's crew
Responsibility and stakeholders	R: SBBH S: Ministry of infrastructure , Chamber of Commerce , Association of river captains, inland navigation's crew, shipping companies
Priority	medium
Financing	

<b>N3 – Provide qualified teaching staff</b>	
Status quo	River captains are employed in SBBH as teacher of practical training. They have obligation to refine in pedagogical methods, but they don't have obligation to have advanced training of inland navigation. Also, there are hardly any active river captains interested to be a teacher. In our national educational regulation system part-time jobs do not exist. It is hard to balance teaching and job as river captain.
Proposed Measure	<ol style="list-style-type: none"> <li>1. Start initiatives for create and accept new regulations about conditions for teaching in sector IWT. Why river captains can't teach of inland navigation, ship manoeuvre or RIS?</li> <li>2. Facilitate the employment of river captains in school as part time teachers, e.g. for re-education and additional education</li> <li>3. Prepare teaching material for the captains (e.g. by SBBH)</li> <li>4. Change the regulations on the professional development of teachers - to enter into law the obligation of professional development of teachers in the field of IWT (river navigation, RIS ...). Vocational training can be on ships and domestic companies</li> </ol>
Expected impact	Theoretical education gains a higher practical relevance and up-to-datedness when active nautical staff (captains, skippers) is giving lessons. Also, teaching quality will increase if teachers of vocational subjects occasionally have professional work on board.
Responsibility and stakeholders	R: Ministry of Education S: SBBH, Ministry of infrastructure , Chamber of Commerce, Association of river captains, inland navigation's crew, shipping companies
Priority	medium
Financing	The Budget of Government

<b>N4 – Programmes of re-education and additional education for unemployed</b>	
Status quo	The employment on domestic ships is not stimulating because salaries are low and working conditions are sometimes poor (unregulated benefited work time, lack of basic hygiene and technical protection on board, working hours, inadequate business policy and technical state of ship fleet, etc.). The IWT sector mainly employs people without proper nautical education, people with primary education and people who have a degree in various other vocational schools.

Proposed Measure	Create new curriculum of re-education and additional education – during 3 months maximum; programme of practical training could be on board where the student is already employed as a crew member.
Expected impact	A quick way to get a professionally trained crew on vessels of inland navigation. The target group - the unemployed in the RS
Responsibility and stakeholders	R: SBBH S: Ministry of education, Ministry of infrastructure , Chamber of Commerce, shipping companies, National Employment Service
Priority	high
Financing	The Budget of Government

### **N5 – Improve the availability of training**

Status quo	In Serbia, specific training is very rare, but there are (e.g. certificates of radars, AND). The examinations and trainings are held irregular. The terms of training / exam or by some changes in the legal framework individuals receive information very rarely or not at all.
Proposed Measure	Increase availability of training so there will be an annual plan and the training and exam dates will be fixed. The plan should be made in coordination with stakeholders. Also, the training plan should be published in local media.
Expected impact	Coordinated training plan allow shipping companies better planning.
Responsibility and stakeholders	R: Training centre in future or existing training center S: Ministry of Infrastructure, shipping companies, crew members
Priority	medium
Financing	

## **4.2 Measures addressing IWT logistics personnel**

### **L1 - SBBH as a regional centre for education and training of human resources in IWT sector**

Status quo	SBBH was established more than 60 years ago. During this time period it has changed its names, structure and number of departments, teachers and students, but it was educated IWT personnel. What is the situation today? In the past were about 1000 students, today about 400. In the past, many children in eastern Serbia were educated at SBBH. Today, because of the economic crisis and poor financial status of parents, their children go to other schools. Many of them are employees on board without the necessary nautical school.
Proposed Measure	Create a project that SBBH becomes a regional centre for training personnel for IWT. Project to predict the opening of franchised department SBBH in local municipalities where there is an interest.

Expected impact	Increased number of nautical professions in the labour market.
Responsibility and stakeholders	R: SBBH S: Ministry of Education, local municipalities, shipping companies, Harbour Masters, parents
Priority	high
Financing	The Budget of Government

## L2 - Procurement of a training ship

Status quo	The equipment of SBBH is in a rather bad condition. Each nautical school should have access to a training ship where practical teaching takes place. School ship must be equipped with good nautical equipment. SBBH doesn't have a training ship.
Proposed Measure	Create a project about procurement for school ship. Also, enhance activities for change Regulations about school equipment – in the legal framework set up as a school ship duty.
Expected impact	Improvement of practical training
Responsibility and stakeholders	R: SBBH S: Ministry of Education, Ministry of Infrastructure, local municipalities, shipping companies
Priority	high
Financing	

## L3 - Develop IWT eLearning tools for education and training

Status quo	Nautical school is located only in Belgrade. There are interested young people from other Serbian regions who are not able to visit a school in Belgrade, because of financial reasons.
Proposed Measure	<ol style="list-style-type: none"> <li>1. Establish e-Learning service for re-education and additional education</li> <li>2. Opening of franchised department of SBBH supported by eLearning tools</li> </ol>
Expected impact	If we enlarge opportunities for nautical education, we will increase interest young people to work in the IWT sector.
Responsibility and stakeholders	R: SBBH S: Ministry of Education, Ministry of Infrastructure, local municipalities
Priority	high
Financing	

## L5 – Creating a new curriculum in field of IWT

Status quo	The existing curriculum in field of IWT is out of date (20+)
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Proposed Measure	Creating a new curriculum in field of IWT and its harmonising with other countries in Danube region
Expected impact	Modernization of the curriculum will enhance the quality of personnel in the field of IWT. Also, increase the interest of young people for jobs in the sector IWT.
Responsibility and stakeholders	R: SBBH S: Ministry of Education, Ministry of Infrastructure
Priority	high
Financing	

## 5. Identification of national or regional funding possibilities for Education and Training Measures in Serbia

No specific funding programmes for IWT are available in Serbia

## 6. Conclusions

During the creation of the NAP SBBH tried to involve all relevant key players. SBBH wants that the draft NAP will be helping as platform and support for all stakeholders in their efforts to improve the general situation in IWT sector. Also, we want to emphasize the importance and influence of education and investing in qualified staff. That is an important factor for the development of the whole IWT sector.

As a matter of fact, inland navigation on the Danube is an internationalized sector, especially when it comes to the mobility of crew members. Some of the identified problems cannot be tackled on national level (e.g. harmonisation of certification and E&T in Europe).

And for other topics strong transnational cooperation and the bundling of resources would be of great advantage:

- Creation of modern learning materials (e.g. eLearning)
- Sharing of teaching equipment (simulators, school ship)
- Recruitment initiatives
- Exchange programmes

## 7. Validation of Serbian National Action Plan

Interested entities were involved in the validation of the National Action Plan for the education and training in the field of IWT first of all, those who have the capacity to make decisions, and they are:

- Ministry of Infrastructure
- Ministry of Education.

Further entities for the validation of the dNAP are:

- Ministry of Education, Sector for secondary vocational education
- Ministry of Infrastructure, Sector for Water Transport and Safety of Navigation.

- Institute for the Advancement of Education
- Working Group of the Ministry of Infrastructure, Sector for Water Transport and Safety of Navigation
- SBBH.

Interested entities who gave advice and experience, as well as ideas and proposals to the preparation of NAP were:

- Educational institutions dealing with IWT (universities, vocational schools)
- Shipping companies
- Serbian Chamber of Commerce
- The Association of Serbian river captain
- Port authorities
- Local municipalities.