"Part – financed by the European Union"

UNION OF ROMANIAN INLAND PORTS

STRATEGY FOR IMPLEMENTING A TRAINING SYSTEM BASED ON THE REVISED CATEGORIES OF TRADES AND SKILLS ON EMPLOYMENT IN THE PORT SECTOR

Bucharest, September 2015

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Contents

ACRONYMS AND ABBREVIATIONS USED IN THE PAPER

ANOFM – National Employment Agency

ANC – National Authority for Qualifications

CEF – (the programme) Connecting Europe Facility

CFR – Romanian Railways

COR – Classification of Occupations in Romania

CNRED – National Centre for Recognition and Equivalence of Diplomas

CSI – Community of Independent States

GPL – Liquefied Petrol Gas

IMM – Small and Medium Businesses

ISCO – International Standard Classification of Occupations

ME – Ministry of Economy

MENCS- Ministry of National Education and Scientific Research

MMFPS – Ministry of Labour, Family, Social Protection and Elderly

MO – Official Gazette

OIM – International Labor Organization

RO – Romania

UA – Ukraine

UE – European Union

UPIR – Union of Romanian Inland Ports

1. INTRODUCTION

Developing the capacity of an industry not only refers to legislation, norms, but also to development strategies and projects for employees of institutions and / or organizations that are part of the industry. The role of human resources is fundamental both to the effective operation of any institution or public authority, and for the development of an industry. Along with the other categories of resources required to perform any operational activities, human resources are an essential component without which you cannot achieve the development goals.

Focus on results and efficiency, a major change that the new strategic management approaches after the global economic crisis, could be achieved by efficient operations, and this can only be done by developing and improving the competencies of employees of each organization. In this respect it is necessary for organizations to distribute organizational tasks in relation to the skills of each employee and determine very precisely both the skills needed to be acquired / improved in relation to the objectives and development strategy of the company and need of training for each direction in part. Not least, the efficiency of each company within the shipping industry means the designing and developing a system of industry required competencies.

The hereby strategy is a vision on implementing a training system based on skills for personnel in the port sector in the light of technological development of ports, which is both consistent with developments in the area (see EU Strategy for the Danube Region[1]), and with the wider general European framework who, by the Europe 2020 Strategy puts forward three mutually reinforcing priorities:

[1] The strategy may be consulted, in the English language, at: http://www.danube-region.eu/component/edocman/?task=document.viewdoc&id=36&Itemid=0. More information in the Romanian language on the EU Strategy for the Danube Region may be found in the Panorama Inforegio magazine, no.73/2011, at: http://ec.europa.eu/regional_policy/sources/docgener/panorama/pdf/mag37/mag37_ro.pdf

- *"Smart growth: developing an economy based on knowledge and innovation;*
- *sustainable growth: promoting a more efficient economy in terms of resource use, greener and more competitive;*
- *inclusive growth: promoting an economy with a high rate of employment, ensuring social and territorial cohesion"*[2].

2. CONTEXT AND METHODOLOGY

The current strategy has been developed within the TRAINING4PORT strategy- "Building Competency-Based Training for Port Sector Labor Force in a Supportive Environment", project organized by the Romanian Union of Inland Ports (UPIR) as leader 01.03.2015-29.02.2016 through the "START Danube Region Fund of the European Union Strategy for the Danube Region" programme, according to the START/02_PA1a-C1/2015 financing programme.

The consortium of the project is made up of the project leader – UPIR and three partners, respectively the Agency for Cross-Border Cooperation and European Integration – ACTIE, of Kahul the Republic of Moldova, the Agency of Sustainable Development and European Integration– ASDEI, of Izmail – Ukraine and the Association Global Project of Galați- Romania.

In developing this strategy, first of all, three market research studies have been carried out, as it follows:

- a market research in order to inventory and analyze the current situation regarding the categories of trades in the port sector and labor market requirements regarding professional competencies;

[2] *EUROPE 2020 – A European strategy for smart, environmentally friendly and favorable inclusions, page* (the document may be accessed on: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:RO:PDF)

- a market research to identify the employers' requirements regarding the categories of trades required for port sector and the minimum skills required for these and
- a market research on the expectations of employees from the port sector regarding their professional career.

The market research conducted between 20.07 and 31.08.2015 included a secondary research and a primary research. During the secondary research information on key stakeholders operating in the ports sector have been analyzed. The database of these stakeholders has been made available by the Union of Romanian Inland Ports (Upir) as leader of the project mentioned above.

The primary research consisted in both collecting information based on questionnaires sent to the main organizations in the port sector in Romania, Republic of Moldova and Ukraine, as well as through one assembly consultation meeting with authorities and trade unions as well as with the relevant stakeholders, organized in each of the three partner countries in the project. The organization dates of these meetings and the participants are shown in Table 1 below.

Table 1: Date and locality where consulting meetings have been held within the project

Crt. no	Organization date	City	Country	Participant organization
1	13.08.2015	Galați	Romania	The Port Docks and Port New basin of Galati trade union, CNFR Navrom S.A Galați, TransEuropa Port, Romanian Naval Authority, ANOFM Galați, The Unitrans federation, CN APDM Galați.

2	11.08.2015	Izmail	Ukraine	Administration of Danube ports, Administration of Reni port, Administration of Izmail port, The Vocational training centre of Izmail
3	12.08.2015	Cahul	Republic of Moldova	Harbour master of Giurgiulești, Trade Registry of Cahul, Vocational school of Cahul, B.P. Hașdeu University of Cahul.

The list of questions addressed during the discussions in these meetings is presented in Appendix 1. Also, during the primary research two types of questionnaires were used:

- a questionnaire addresses to organizations in the port sector (see Appendix 2); and
- a questionnaire addresses to the employees working in organization in the port sector (see Appendix 3).

The questionnaire addressed to organizations in the port sector includes four sections:

- the first sections requires the fill in of general information on the employer;
- the second question is meant for the categories of trades demanded in the port sector;
- the third section refers to the competencies required to the operational staff in the port sector;
- the last section includes data and information regarding the strategic dimension of professional training/development of career in the port sector.

The questionnaire addressed to the employees working in organizations in the port sector is structures in three sections:

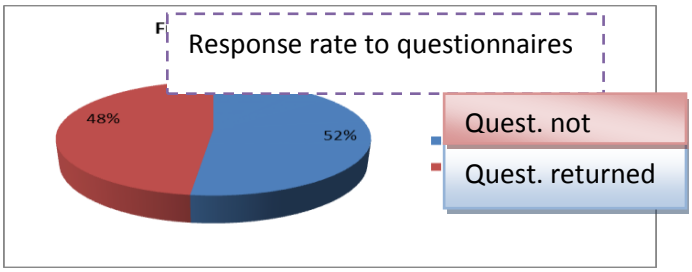
- the first section requires the fill in of information on the respondent's profile;

- the second section requires the fill in of information regarding the intention and expectations for a career development in the field;
- the final section is meant for any possible comments and suggestions regarding the professional career.

The questionnaires were sent to the organizations operating in the port sector of the three countries between 23.07 and 01.08.2015. Table 2 below presents the response rate to questionnaires:

Table 2: Response rate to questionnaires

Country	No. of organizations the questionnaires were sent to	No. of organizations that responded to the questionnaires	Response rate to questionnaires (%)
Romania	16	8	50%
Republic of Moldova	2	0 (no stakeholder responded, we received a response only from the B.P. Hașdeu University of Cahul	50%
Ukraine	7	4	57%
TOTAL	**25**	**13**	**52%**



Romania:

Of a total of 16 stakeholders, just 8 companies responded to the questionnaire. The other 8 companies did not respond to the questionnaire due to various reasons and namely:

- Frigorifer S.A. is no longer performing activities in the port sector;
- Spet Shipping S.A. is in insolvency;
- Technosteel Vest S.R.L. the phone numbers are not assigned and the e-mail sent received no reply.
- The other 5 companies (Trans Europa Port S.A., Deltanav S.A., Romanel International Group S.A., Unicom Oil S.A., CNFR Navrom S.A.) did not fill in the questionnaire, stating that the persons in charge with filling in the questionnaire were on vacation.

The result of filling in of questionnaires by organizations from Romania is missing!!! What are the organizations from Romania that responded to the questionnaire!!!

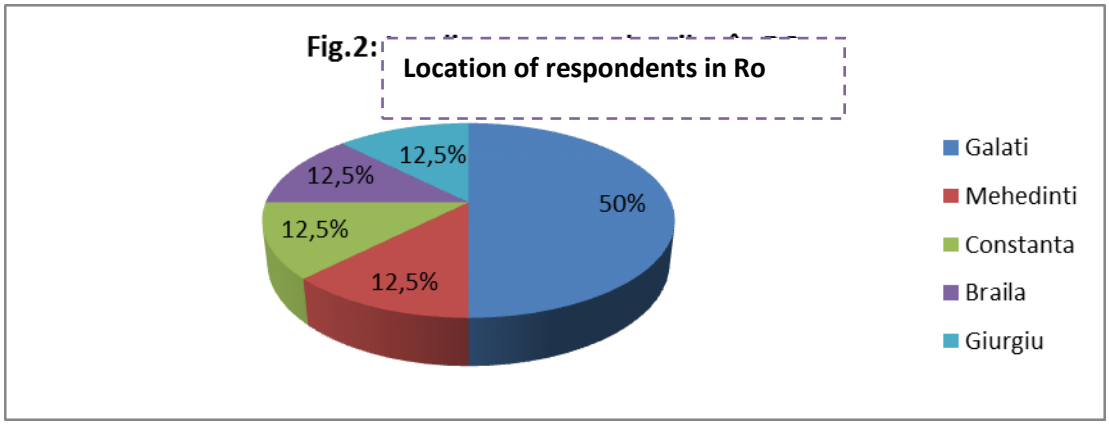
Republic of Moldova:

From a total of 2 stakeholders, no company from the port sector responded to this questionnaire. The questionnaire was completed only by the "B. P. Hasdeu" State University in Cahul.

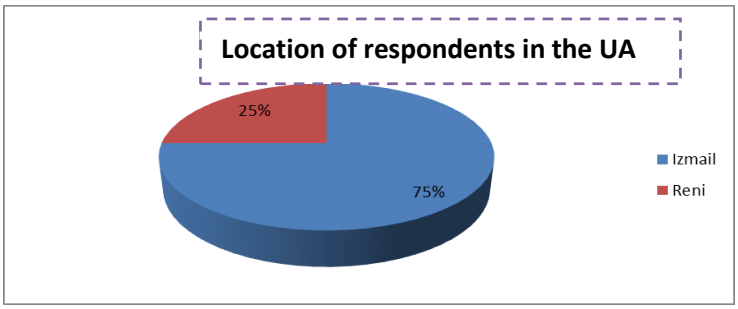
Ukraine:

Of a total of seven stakeholders, a total of 4 companies responded to the questionnaire, the other not participating in the market research.

50% (4 companies) of the respondents in Romania conduct their port activity in the county of Galat, the other respondents operating in the counties of Mehedinti (12.5%), Braila (12.5%), Giurgiu (12.5%), Constanta (12.5%).

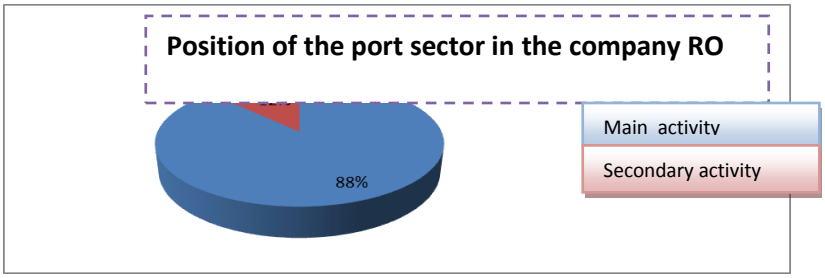


75% (3 companies) of the respondents in Ukraine carry out their port activity in Izmail, 25% (1 company) operating in Reni

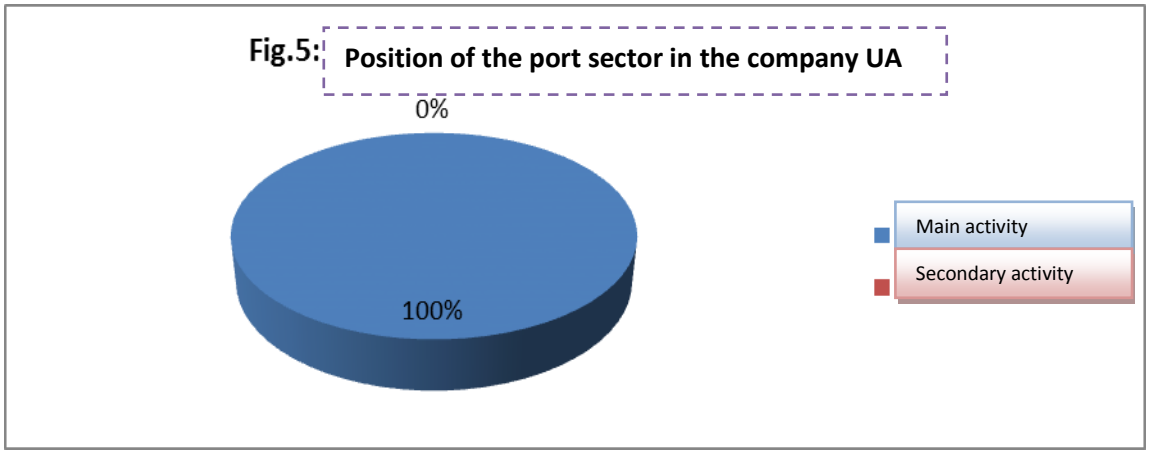


The respondent from the Republic of Moldova did not respond to this question.

88% of the respondents in Romania carry out a main activity in the port sector, and 12% (1 company) carry out a secondary activity in the port sector.



All the respondents from Ukraine (100%) carry a main activity within the port sector.



The respondent from the Republic of Moldova did not respond to this question.

Besides the primary research, for this inventory, information and data collected by the following sources have been analyzed:

a. **The National Qualifications Authority (ANC)** which acts as a national coordination point for the European Qualifications Framework, having duties as:
   - developing, updating and implementing the National Qualifications Framework and the National Qualifications Register, as well as
   - assuring quality in the continuous vocational training of adults.

b. The National Centre for Recognition and Equivalence of Diplomas (CNRED) is part of the Ministry of National Education and its main activity is the endorsement, recognition and

and exchange of information with the European network. . We resorted to the information from CNRED also because it is:

- contact point for professional recognition;
- national coordinator for the recognition of professional qualifications;
- collaborator with other Recognition Centres ENIC/NARIC, UNESCO-CEPES, IAU, SOLVIT;
- the Ministry's of National Education representative to the European Committee for the recognition of professional qualifications and the European Group of National Coordinators for the recognition of professional qualifications;

c. **The Ministry of Labour, Family, Social Protection and Elderly** on whose website there is a complete list of trades with their COR codes.

It is important to mention here that the International Labour Organization (ILO) has finalized and approved the International Standard Classification of Occupations - ISCO 08 through the Resolution of December 6, 2007. According to the information provided on the website of MMFPS[3], in order to ensure relevance, coherence and comparability of statistical data structured at occupation level, EUROSTAT proposed regulation by the European Commission on the use of ISCO 08, embodied by Regulation nr.1022 / 29.10.2009 which requires implementation of both ISCO 08 in national classifications of occupations and the adjustment of statistical surveys according to the structure of ISCO 08. The implementation of Regulation no.1022 / 29.10.2009 was done in two stages, namely:

- Step I: Approval, by Government's decision, of the Structure of Classification for Occupations in Romania according to the International Standard Classification of Occupations - ISCO 08, up to the basic occupational groups level. This stage was completed by Government Decision no. 1.352 / 2010 regarding the approval of

[3] See: http://www.mmuncii.ro/j33/index.php/ro/c-o-r/munca/2250-c-o-r-detalii

Classification of Occupations in Romania - the basic occupational group, in compliance with the International Standard Classification of Occupations - ISCO 08, published in O.G. no. 894 / 30.12.2010.

- Step II: Developing a new structure of the Classification of Occupations in Romania - at occupation level (six digits), which involved the conversion of occupations in the new version of the COR Structure. This second stage ended with Order no.1.832 of the Minister of Labour, Family and Social Protection and Order no. 856 of the President of the National Statistics Institute on the approval of the Classification of Occupations in Romania - occupation level (six digits), published in O.G. no. 561/2011

3. ANALYSIS OF THE CURRENT SITUATION OF THE PORT SECTOR IN TERMS OF CATEGORIES OF TRADES AND DEMANDED COMPETENCIES

3.1. Introduction

Following market analysis, a total of 42 trades have been identified in the port sector in Romania and a total of 4 trades in the port sector in Ukraine. No trades were identified in the port sector in the Republic of Moldova as there are no occupational standards for port operative trades in the country. It should be noted here that the port of Giurgiuleşti is the only port on the Danube of the Republic of Moldova. This port is relatively new and was put into operation on October 26, 2006 (after 10 years of construction) which explains, in a way, the lack of development of occupational standards in a field so new to the economy in the Republic of Moldova.

The research regarding the categories of trades in the port sector and the requirements regarding the professional skills showed differences between the three countries analyzed. Thus, Romania - as an EU Member State and having a greater number of ports on the Danube than the other two countries - covers a much broader spectrum of specific trades for the port

sector. On the other hand, the code of occupations in these two countries (Ukraine and the Republic of Moldova) has not been updated since the Soviet period, not including many new jobs in the occupational code (including those from the port sector).

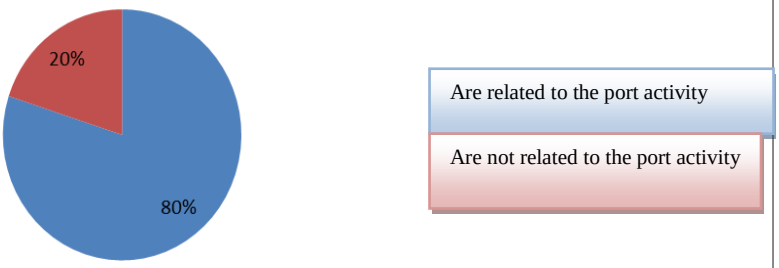
An atypical behavior was noticed during the focus group held in the Republic of Moldova: there are no qualified personnel for the port operative trades. When a ship docks in the port, the ship personnel asks the port operator the people it needs to unload the cargo. With no specialized port staff, the port operational staff is actually made of local villagers around the port area who are called to work when needed (they are seasonal workers). This mode of operation is, however, disturbed by the great turnover of personnel among these seasonal workers (90%).

3.2. Categories of trades demanded in the river port sector

Within the primary research, 80% of the respondents from **Romania** considerer that all the occupations listed in the questionnaire are related to the port operating activity. 20% of the respondents from Romania (one port operator) consider that the following three occupations listed in the questionnaire have no connection to the port operating activity:

- Machinist on fix transport machineries for horizontal and vertical transportation,
- Transport agent,
- Product sorter.

Fig. 6: **Relation of trades with the port activity (RO)**



Of the four respondents from **Ukraine**, 75% believe that all occupations listed in the questionnaire are related to the port operating activities, while one of them (25%) considers that many of the occupations listed in the questionnaire not related to port operating activities, namely:

▪ transport operator ▪ Cargo railway agent ▪ autotrailer driver ▪ Port auto-loader driver ▪ dispatcher ▪ International forwarding agent ▪ invoice operator ▪ Information clerk ▪ warehouse operator	▪ Trade operator ▪ Berth operator ▪ Port piling operator ▪ Port forwarding agent ▪ Port dispatcher /planner operator ▪ IT operator ▪ Reception operator ▪ Bin operator ▪ Receptionist – distributor materials and tools	▪ TIR and transit expert operator (higher studies) ▪ Product sorter ▪ Forklift operator ▪ Port piling operator ▪ Port tractor driver ▪ Loading-unloading supervisor ▪ Expedition documents checker

▪ lucrator gestionar ▪ store-keeper ▪ machinist on mobile machineries for inland transports	▪ Receptionist – distributor gas and diesel	

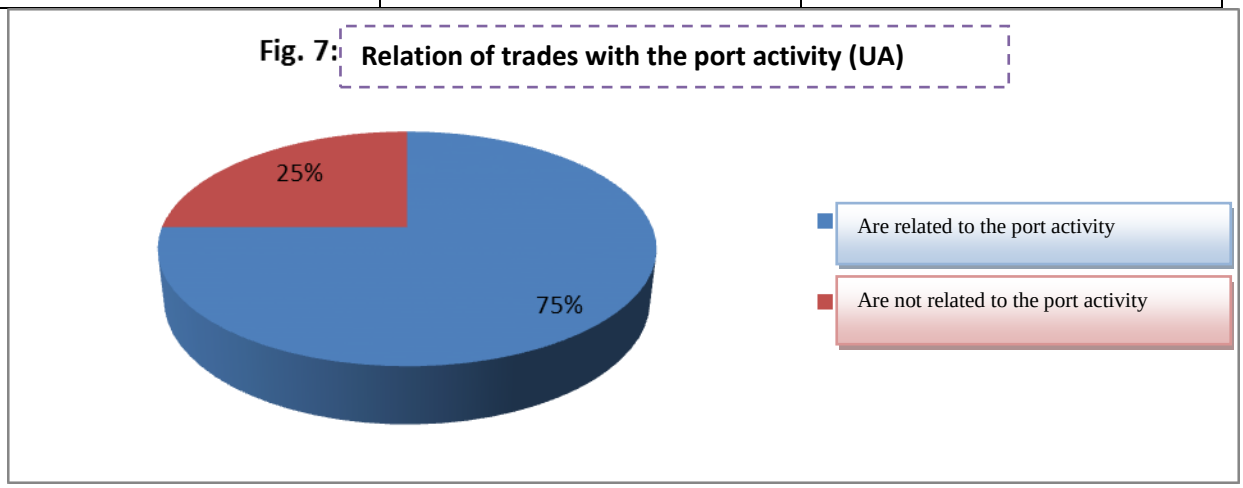
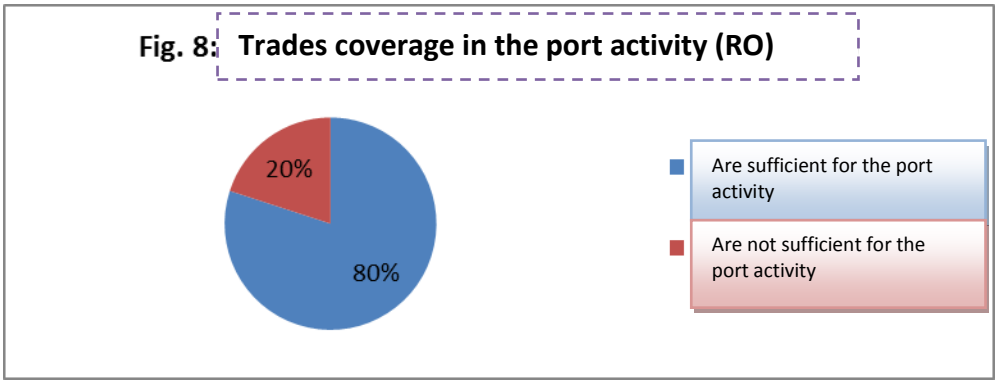


Fig. 7: Relation of trades with the port activity (UA)

80% of the respondents in Romania agree that the occupations listed in the questionnaire are sufficient to cover all the occupations necessary for conducting the port activity. One single respondent believes that the occupations in the questionnaire are not exhaustive and should be supplemented with other three occupations, namely

- electrician,
- locksmith,
- simple worker.



Opinions are divided among the four respondents in **Ukraine**: two of them (50%) consider that the occupations listed in the questionnaire are sufficient to cover all the occupations necessary to conduct the port activity, while a second respondent believes that the accountant and economist professions should be introduced. The last of respondents did not respond to this question.

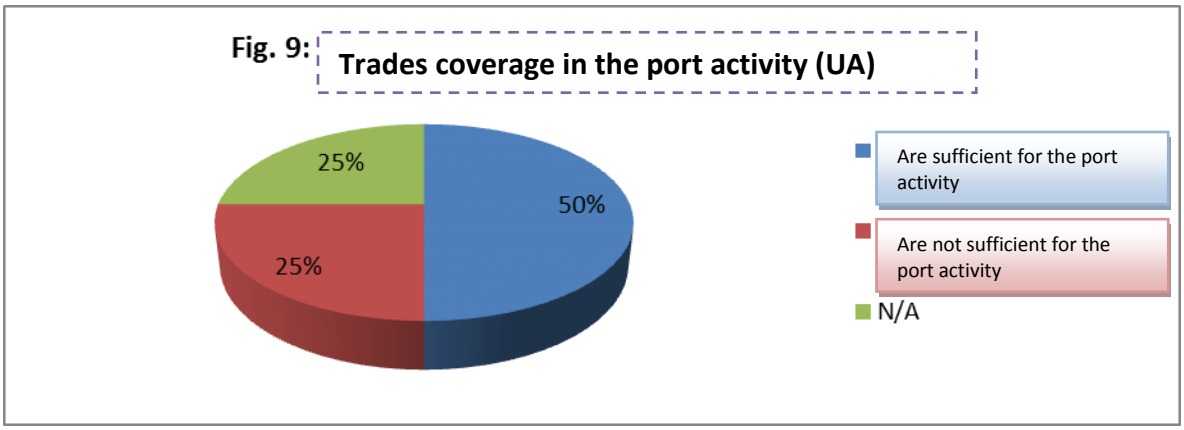


Table3: Categories of trades in the port sector[4]

[4] For the correspondence between the COR code and the ISCO 08 of these trades, see Appendix 4 at the end of this report taken from Carmen COSTACHE, Valeriu AJDER, Valentin STROIA and Natalita BUDESCU, *The Conclusion of*

Romania (42)		Ukraine (4)	Republic of Moldova
1. Railway cargo agent 2. Transport agent 3. Port auto-loader driver 4. Auto-trailer driver 5. Dispatcher 6. Loader 7. Lashing loader 8. Loader for loading/unloading facilities on the ship and quay 9. Loader-mechanizer 10. International forwarding agent 11. Invoice operator 12. Information clerk	22. Mechanizer (port worker) 23. Materials and tools recipient-distributor 24. Trade operator 25. Berth operator 26. Dispatcher / planner port operator 27. Port forwarding agent 28. Port piling device operator 29. IT Operator 30. Reception operator 31. Bin operator 32. Gas and diesel receptionist-distributor	1. Loader mechanizer 2. Crane operator 3. Piling device operator 4. Tractor driver	(There are no occupational standards for the port operational trades; there are only occupational standards for generic occupational as: piling device operator, tractor driver etc.)

Stakeholders and Training Services for Port Workers Survey, UPIR, Iunie 2015, accessed: http://danube-ports.ro/training4ports/documente/training4ports%20wp1%20study38.pdf on 12.08.2015, 16:45.

13. Warehouse operator 14. Administrator worker 15. Crane operator 16. Crane ship operator 17. Port crane operator 18. Store-keper 19. Machinist on fix transport machineries for horizontal and vertical transportation 20. Machinist on mobile machineries for inland transports 21. Bridge crane machinist	33. TIR and transit expert operator 34. Product sorter 35. Chief of the loaders'' team 36. Port chief 37. Head of Department / Deputy (sector) Transports 38. Piling device operator 39. Port piling device operator 40. Port tractor driver 41. Loading-unloading supervisor 42. Expedition documents checker		

In the focus group from Romania, participants suggested the review of some occupational standards based on the possibility of merging some jobs that have similar competencies. For example the *bound sailor* (a function that no longer exists in COR) works on land. One of its

main responsibilities is to tie the ship to quay. But he cannot do this consistently because that would mean to remain permanently ashore and lose all other sailor competencies. As a result, the ship can be tied to quay by a *sailor who is part of the ship crew*. Thus, this competency (tying the ship) should be common to both sailor and a person designated ashore.

Another example refers to the job of *stacker* that should be linked with the job of *mobile machinist* due to the similar competencies behind these two jobs. For this reason, in many cases, in the individual employment contract for the job of *stacker* there is written *mobile machinist* (that is the more comprehensive of the two).

Practice shows us that the *berth operator* fulfills, among others, the tasks of the *loading/unloading supervisor* (the latter being needed to have the CFR authorization). Therefore, the occupational standard for *berth operator* could assimilate the one for *loading/unloading supervisor*.

A special case is represented by the *maneuver chief* which appears in the COR where specific maneuvers are performed by the port operator. In practice, almost all operators do not have a job like this because they resort to a specialized company to do these maneuvers.
In Ukraine, the *loader* can be a *floating crane operator* or a *floating crane driver*.

3.3. Turnover of the personnel in the river port sector

For the **Romanian** companies, the occupation with the most personnel turnover (the employees quitting the job frequently) seems to be the **crane operator** one (mentioned by four of the five respondents, i.e. 80% of cases). Other jobs with high personnel turnover are: piling operator, loader, administrator, simple worker (with one entry each).

Of the four respondents in **Ukraine**, only one mentions problems with high personnel turnover at level of the workers / operators (workpeople), who – generally, have a small work volume and, therefore, are the poorest paid workers in the port..

3.4. Positions for which there are no candidates (or it is very difficult to find candidates)

For the companies in **Romania**, the occupations for which it is difficult to find candidates (or it is very difficult to find candidates) seem to be those of crane **operator** (mentioned by 80% of respondents) and **piling operator** (mentioned by 40% of the respondents). Other occupations which had only one mention are: berth operator, administrator, mobile machinery machinist for inland transport, loader, laboratory operator, bin operator. One single respondent (20%) said that it has no trouble in finding candidates for the positions they have in the organization.

One single respondent [5] from **Ukraine** noted that it has trouble finding candidates for the position of **captain of the port**, different positions of the team of port fleet, simple workers. For the position of port captain- according to the information from the focus group in Ukraine - the selection conditions are extremely complex and are inherited from the Soviet period. The person who wants to become a port captain shall, inter alia, sail around the world. This is a mandatory requirement in the code of occupations from Ukraine and that makes potential candidates to be extremely few. As a result, there are very few young people in this position because young people are not trained, and the elderly are retired, or are too few to cover the market demand.

3.5. Jobs in the port sector that will witness an increase/decrease in demand in coming years

[5] The other respondents did not respond to this question.

In **Romania**, the positions that will witness a rise in demand in the port sector in the following 5-10 are those of crane operator (mentioned by 80% of the respondents) and piling operator (mentioned by 40% of the respondents). Other positions which had only one mention are: berth operator, port electrician, machinists on mobile machineries for inland transport, lashing loader, administrator, forwarding agent, port engineer, stacking operator, international forwarding agent, auto-trailer driver, turner, loader / un-loader. One of the respondents (20%) did not respond to this question.

In **Ukraine** one respondent indicated as positions that will witness a rise in demand in the port sector in the following 5-10 years the ones of crane operator, electrician, repairs and maintenance mechanic, electric and gas welder, and a second respondent indicated different positions of the team of port fleet without detailing them. The other two did not respond to this question.

The positions in **Romania** which are expected to decrease in demand in the port sector in the next 5-10 years, seem to be those of: loader, loader mechanizer, tractor driver, port crane operator, electrician, information clerk, loading/unloading supervisor, product sorter, mechanizer (port worker), simple workers. Each of the above positions received a single mention.

In **Ukraine**, just one respondent states the decrease in demand, in the next 5-10 years, for the positions of accountant and economist, which are not part of the operational personnel positions. The other three did not respond to this question

Regarding the positions that do not currently exist in the port sector in **Romania**, but are expected to be introduced in the near future, only one respond was received: *port agent* (which will operate international shipping vessels that operate through ports at the request of ship-owners). The remaining respondents (80%) did not indicate any position to that question.

3.6. Competencies required in the port sector

Respondents in Romania

Regarding the **cargo handling** activity in **Romania**, all five respondents (100%) agreed that the minimum required level of education is secondary education. Four of the respondents (80%) agree that this activity demands a qualification (one of the respondents - 20% - has not expressed any option on the need for qualification). All five respondents (100%) consider that this activity requires a regular training, but only one of the respondents considers it necessary to undergo training to adapt to the workplace.

The most frequent fields of skills required for this type of activity are:

- K9 – Current operation and maintenance of devices / equipment / machineries used (5 mentions)
- K6 – internal procedures and instructions (4 mentions)
- K8 – technical and functional features of the held devices / equipment / machineries (4 mentions)
- K14 – tying, securing and loading of goods techniques in the handling devices (4 mentions)
- K15 – securing of goods techniques in the storage areas from the means of transport and associated risks (4 mentions).

The following have also been mentioned as competency areas required to the personnel in this activity:

- K1[6], K2, K3, K13, K21, K22, K23, K28 (3 mentions)
- K1, K4, K5, K16, K17, K18, K31 (2 mentions)
- K7, K10, K12, K19, K24, K25, K29, K34, K35 (1 mentions).

Regarding the activity of **handling/moving goods using the elevation and handling equipment**, all five respondents (100%) agreed that the required level of education is secondary education (one respondent mentioned higher education for the sub-task of *moving containers with the help of lifting facilities placed on the quay*). Four of the respondents (80%) agree that this activity requires a qualification (one of the respondents - 20% - has not expressed any option on the need for qualification). All five respondents (100%) believe that this activity requires regular training, but just one of the respondents considers it necessary to undergo training to adapt to the workplace.

The most frequent fields of skills required for this type of activity are:

- K6 – internal procedures and instructions (5 mentions)
- K9 – Current operation and maintenance of devices / equipment / machineries used (5 mentions)
- K8 – technical and functional features of the held devices / equipment / machineries (4 mentions).

The following have also been mentioned as competency areas required to the personnel in this activity:

- K1, K2, K3, K5, K14, K15 (3 mentions)
- K4, K11, K21 (2 mentions)
- K7, K10, K12, K13, K16, K17, K18, K31, K35 (1 mentions).

Regarding the **driving of road vehicles activity**, four of the five respondents (80%) agreed that the required level of education is secondary education and that this activity requires a qualification. One of the respondents - 20% - has not expressed any option related to this activity which could lead to the assumption that it is *not conducting such an activity*. Four of the five respondents (80%) consider that this activity needs regular training, but only one of four respondents believes that training is necessary to adapt to the workplace.

The most frequent field of skills required for this type of activity is:

- K6 – internal procedures and instructions (4 mentions).

The following have also been mentioned as competency areas required to the personnel in this activity:

- K1, K2, K3, K5, K12, K13 (3 mentions)
- K4, K8, K9 (2 mentions)
- K7, K11, K14, K15, K16, K18, K25, K30, K35 (1 mentions).

Regarding the activity of **auxiliary services for ships**, four of the five respondents (80%) agreed that the required level of education is secondary education, but only three of them support the demand of a qualification for this activity. One of the respondents - 20% - has not expressed any option related to this activity which could lead to the assumption that it is *not performing such an activity*. Four of the five respondents (80%) believe that this activity requires regular training, but only one of four respondents believes that training is necessary to adapt the workplace.

The most frequent fields of skills required for this type of activity are:

- K1 – occupational health and safety (3 mentions)
- K2 – environmental safety (3 mentions)
- K3 – risk of accidents, means of escape (3 mentions)
- K6 – internal procedures and instructions (3 mentions).

The following have also been mentioned as competency areas required to the personnel in this activity:

- K4, K5, K8, K14, K19, K20, K25 (2 mentions)
- K9, K16, K18, K31, K38 (1 mentions).

Regarding the **operation of the passenger ships** activity, one of the respondents considers that it takes a secondary education level, while the second respondent considers that, in addition to secondary education, it takes higher education to successfully perform this activity. Three of the respondents (60%) did not express any option related to this activity which could lead to the assumption that they are *not conducting such an activity*.

The most frequent fields of skills required for this type of activity, noted by the two respondents are:

- K3 – risk of accidents, means of escape (2 mentions)
- K24 – logistics of the passengers terminal operation (2 mentions)
- K26 – customs formalities (2 mentions)
- K38 – communication techniques (2 mentions).

The following have also been mentioned as competency areas required to the personnel in this field of activity: K1, K2, K25, K27, K28, K30, K31 (each with one mention).

Regarding the **port work safety and security** activity, two of the five respondents (40%) agreed that the required level of education is secondary education, one (20%) that it requires just secondary education, while the fourth respondent (20%) believes that higher education is needed. The last of the respondents (20%) did not express an option related to this activity which could lead to the assumption that it is *not conducting such activity*. Four of the five respondents (80%) believe that this activity requires a qualification and periodic training.

The most frequent fields of skills required for this type of activity are:

- K1 – occupational health and safety (4 mentions)
- K2 – environmental safety (4 mentions)
- K3 – risk of accidents, means of escape (4 mentions)
- K4 – port safety (4 mentions)
- K6 – internal procedures and instructions (4 mentions).

The following have also been mentioned as competency areas required to the personnel in this field of activity:

- K5, K11, K12 (3 mentions)
- K7, K8, K10, K13, K28 (2 mentions)
- K9, K14, K15, K16 (1 mention).

Regarding the activity of **port emergency situations management**, two of the five respondents (40%) agreed that the required level of education is higher education, other two of the respondents (40%) believe that secondary education is sufficient, while the fifth respondent (20%) considers that it takes a combination of secondary and higher education depending on the competencies included for this activity. All five respondents (100%) consider that this activity needs a qualification and periodic training.

The most frequent fields of skills required for this type of activity are:

- K2 – environmental safety (5 mentions)
- K3 – risk of accidents, means of escape (5 mentions)
- K1 – occupational health and safety (4 mentions).

The following have also been mentioned as competency areas required to the personnel in this field of activity:

- K4, K5, K11 (3 mentions)

- K6, K12, K28 (2 mentions)
- K9, K10, K13, K23, K30, K31, K34, K39 (1 mention).

Regarding the activity of **maintenance and repair**, two of the five respondents (40%) agreed that the required level of education is secondary education, while the other three respondents (60%) believe that higher education is needed. All five respondents (100%) believe that this activity requires periodical training, while only four of the five respondents (80%) think a qualification is needed to perform this activity (one of the respondents - 20% - did not mention anything concerning the qualification for this activity).

The most frequent fields of skills required for this type of activity are:

- K1 – occupational health and safety (3 mentions).
- K2 – environmental safety (3 mentions)
- K8 technical and functional features of the held devices / equipment / machineries
- K11 – technical characteristics and rules of operation of port constructions
- K12 – functional and technical features of the means for internal transport.

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The following have also been mentioned as competency areas required to the personnel in this field of activity:

- K3, K4, K5, K6, K13, K28, K33, K34 (2 mentions)
- K7, K15, K31 (1 mentions).

Regarding the **leading of operational teams'** activity, four of the five respondents (80%) consider that higher education is necessary, while only one of the respondents (20%) consider that secondary education is enough. All five respondents (100%) believe that this activity requires a qualification and periodic training.

The most frequent field of skills required for this type of activity is:

- K6 – internal procedures and instructions (3 mentions).

The following have also been mentioned as competency areas required to the personnel in this field of activity:

- K1, K2, K5, K8, K11, K12, K33, K34, K38 (2 mentions)
- K3, K4, K7, K9, K10, K13, K14, K15, K25, K26, K28, K30, K35, K37 (1 mentions).

Regarding the activity of **cooperation / collaboration at work**, three of the five respondents (60%) consider that higher education is required, while only one respondent (20%) considers that secondary education will do. The last of the respondents (20%) did not express any option related to this activity which could lead to the assumption that it *is not carrying out such an activity*. All five respondents (100%) believe that this activity needs training periodically, while only four of the five respondents (80%) think a qualification is required to perform this activity (one of the respondents - 20% - did not mention anything about qualification for this activity).

The most frequent fields of skills required for this type of activity are:

- K5 – special regulations concerning the port operation activity (2 mentions).
- K6 – internal procedures and instructions (2 mentions)
- K7 – port operation technologies (2 mentions)
- K28 – computer skills (2 mentions)
- K40 – quality management (2 mentions).

The following have also been mentioned as competency areas required to the personnel performing this activity:

- K1, K2, K3, K4, K8, K11, K12, K28, K31, K37, K38 (1 mention).

Regarding the **use of organizational resources in the port activity**, two of the five respondents (40%) consider the need for higher education, while only one respondent (20%) considers that secondary education is enough. Two other respondents (40%) did not express any option related to this activity which could lead to the assumption that they are *not conducting such an activity*. All five respondents (100%) believe that this activity needs training periodically, while only four of the five respondents (80%) think it takes a skill to perform this activity (one of the respondents - 20% - did not mention anything concerning the qualification for this activity).

The most frequent fields of skills required for this type of activity are:

- K2 – environmental safety (3 mentions)
- K28 – computer skills (3 mentions).

The following have also been mentioned as competency areas required to the personnel performing this activity:

- K5, K6, K7, K8, K33, K34 (2 mentions)
- K1, K3, K4, K11, K12, K23, K25, K26, K27, K29, K30, K31, K32, K33, K34, K35, K40 (1 mention).

All five respondents indicated that the periodic assessment of performance, competencies and skills should to be conducted annually, for all types of activities listed above.

Respondents in Ukraine – none of the respondends in Ukraine gave information on the competencies required to employees in the port sector.

Therefore, the research outlined the fact that almost all competencies required for the safe and effective achievement of jobs in the port sector are similar in the three countries submitted to

analysis. In **Romania**, the market research also tried to group these competencies on categories of trades as can be seen in Table 4 below:

Table 4: Joint competencies related to operative professions in the port sector in Romania

Trades	Categories of competencies	Joint copetencies
▪ Crane operator ▪ Ship crane operator ▪ Bridge crane machinist ▪ Mechanizer (port operator)	Fundamental competencies	▪ Interpersonal communication ▪ perfecting professional training ▪ team work
	General competencies	▪ implementation of the Occupational Health and Safety, fire prevention norms and ISCIR technical prescriptions ▪ filling in the documents
	Specific competencies	▪ preparing and checking the crane for work ▪ performing the loading, transport and unloading of loads ▪ signaling faults ▪ delivery of the crane
▪ Loader	Fundamental competencies	▪ work place communication ▪ team work ▪ perfecting the vocational training
	General	▪ implementation of Occupational Health and

	competencies	Safety, fire prevention and Environmental protection norms ▪ Implementation of the ISCIR technical prescription norms
	Specific competencies	▪ preparing the handling of cargo ▪ cargo handling on surfaces and in the warehouse ▪ carrying out the final activities of a working step ▪ participating in the handling of cargo with lifting devices
▪ Loader for loading/unloading facilities on the ship and quay ▪ loader-mechanizer	Fundamental competencies	▪ communication in the Romanian language ▪ social and civic competencies ▪ the skill of learning
	General competencies	▪ compliance with the legal provisions relating to health and safety and emergency situations ▪ compliance with the environmental protection norms
	Specific competencies	▪ Preparation of the loading / unloading facility of the ship and the quay ▪ The use of loading / unloading facility of the

		ship and the quay ▪ delivery of the facility for loading / unloading of the ship and the quay
▪ Port auto-loader driver ▪ Auto-trailer driver ▪ Machinist on fix transport machineries for horizontal and vertical transportation ▪ Machinist on mobile machineries for inland transports ▪ Port piling device operator ▪ Port tractor driver	Fundamental competencies	▪ perfecting the professional training
	General competencies	▪ implementation of the Occupational Health and Safety, fire prevention norms and ISCIR technical prescriptions ▪ filling in the documents
	Specific competencies	▪ Preparation and check of the vehicle for work ▪ performing the transportation and handling the goods ▪ signaling of faults ▪ delivery of the machinery and documents
▪ Transport agent ▪ International forwarding agent ▪ Information clerk	Fundamental competencies	▪ interactive work place communication ▪ computer use ▪ perfecting the professional training
	General	▪ implementation of occupational health and

▪ Trade operator ▪ Berth operator ▪ Programming operator ▪ Expedition documents checker ▪ Loading-unloading supervisor	competencies	safety norms ▪ prevention and firefighting ▪ monitoring the compliance with environmental safety rules
	Specific competencies	▪ organizing specific activities on berth ▪ coordinating the activities of complex formations ▪ liaising with the ship representative ▪ coordinating the stacking and storage of goods ▪ monitoring specific operations on berth ▪ coordinating the activities of expediting the goods ▪ drafting the specific paperwork regarding the operating of cargo in ports ▪ communication in the English language
▪ Cargo railway agent ▪ Dispatcher ▪ Port dispatcher/planner - operator	Fundamental competencies	▪ Interactive communication at the workplace ▪ social and civic competencies ▪ the skill of learning ▪ communication in foreign languages ▪ fundamental skills in Mathematics, sciences,

▪ Port forwarding agent ▪ Reception operator ▪ Port piling operator ▪ TIR and transit expert operator		technology ▪ entrepreneurial competencies
	General competencies	▪ compliance with legal provisions on occupational health and safety and emergency situations ▪ compliance with environmental protection norms
	Specific competencies	▪ the organization of specific activities on the ship ▪ coordinating the teams of loaders and mechanizers ▪ cooperating with the ship representative ▪ monitoring the stacking and storage of goods on the ship ▪ making the paperwork
▪ Invoice operator	Fundamental competencies	▪ communication in the official language ▪ communication in foreign languages ▪ fundamental competencies in mathematics, sciences, technology ▪ IT competencies ▪ learning skills

		▪ social and civic competencies ▪ entrepreneurial competencies ▪ competencies of cultural expression
	General competencies	▪ planning the organizational framework ▪ quality assurance ▪ Enforcing the occupational health and safety and fire prevention norms
	Specific competencies	▪ Verification of invoices ▪ Drawing up the invoices ▪ Record keeping ▪ Receipt of goods
▪ Warehouse operator ▪ Store-keeper administrator ▪ Bin operator ▪ Materials and tools recipient-distributor ▪ Gas and diesel	Fundamental competencies	▪ communication in foreign languages (how many foreign languages???) ▪ fundamental competencies in mathematics, sciences, technology ▪ IT competencies ▪ learning skills ▪ social and civic competencies

recipient-distributor ▪ Product sorter		▪ entrepreneurial competencies
	General competencies	▪ Enforcing the occupational health and safety norms
	Specific competencies	▪ ensuring the management for the stock of goods ▪ drawing up the record paperwork and activity reporting ▪ management of documents used
▪ Lashing loader	Fundamental competencies	▪ Interactive communication at the workplace ▪ social and civic competencies ▪ learning skills
	General competencies	▪ compliance with legal provisions on occupational health and safety and emergency situations ▪ compliance with environmental protection
	Specific competencies	▪ preparation of tools and devices necessary for the execution of lashing operations ▪ preparation of materials for lashing ▪ execution of lashing operations

Regarding the operational trades in the port sector identified in the **Ukraine**, we outlined only the specific skills - that differ from those identified in Romania (the fundamental and general competencies are somewhat similar to those in Romania).

Table 5: Joint competencies corresponding to the operative jobs in the port sector in the Ukraine

Trades	Categories of competencies	Competencies
▪ crane operator	Specific competencies	▪ monitoring of cranes equipped with radio control ▪ Knowledge of the structure and mechanisms related to the crane ▪ Knowledge of specifications and requirements that apply when starting the machine
▪ piling operator	Specific competencies	▪ Knowledge of forklift manufacturing ▪ Cargo handling methods for all types of transport ▪ Knowledge and implementation of regulations on lifting, handling and storage ▪ Compliance with orders, instructions received from the supervisor or chief ▪ Enforcing the occupational health and safety, fire prevention and extinguishing

▪ tractor driver	Specific competencies	▪ graduate of secondary vocational education ▪ driving licence category 'E' ▪ knowledge of tractors, providing repairs and maintenance ▪ physical strength and endurance ▪ other qualities such as: discipline, responsibility, having good hearing and a good sight
▪ loader mechanizer	Specific competencies	▪ knowledge of computer use, using a database, ▪ knowledge relating to bridge materials ▪ knowledge of the name of goods, visual determination of the mass of the transport load; ▪ knowledge and implementation of rules and methods for loading, unloading, handling and packing of goods; ▪ knowledge of the construction of cargo areas ▪ knowledge of types of packaging, packing and labeling of goods, the cargo load sizes permitted to transport on rolling materials (locomotives, wagons) and in vehicles ▪ skills regarding the unloading of cargo from wagons and stacking them ▪ knowledge of the production and technological sequence of operations in the port basin ▪ enforcement of occupational safety and signaling for

		conventional cargo handling ▪ knowing the basics of conducting commercial transactions

For the Republic of Moldova there are no occupational standards for the jobs in the port sector, so it was not possible to group the competencies.

Regarding Romania, it was tried to group the skills for leadership jobs in the port sector (as shown in Table 6 below).

Table 6: Joint competencies corresponding to the jobs with leadership role in the port sector from Romania

Trades	Categories of competencies	Joint competencies
▪ Head of the loading team ▪ Port chief ▪ Head of Department/Deputy (sector) Transports	Fundamental competencies	▪ Interactive communication at the work place ▪ communication in foreign languages ▪ fundamental knowledge in mathematics, sciences, technology ▪ computer skills ▪ team work ▪ social and civic competencies ▪ entrepreneurial competencies

	General competencies	▪ Enforcing the occupational health and safety norms
	Specific competencies	▪ planning the transport activity ▪ coordinating the supply activity ▪ planning and coordinating the storage and distribution of goods activities

4. ANALYSIS OF STAKEHOLDERS

To analyze the stakeholders we have looked for information on service and training providers in Danube ports from the three countries (see Table 7).

Table 7: River ports on the Danube in Romania, the Republic of Moldova and Ukraine

Crt. No.	Country	No. Of ports	Ports
1	Romania	22	Moldova Veche, Orșova, Drobeta Turnu-Severin, Calafat, Bechet, Corabia, Turnu Măgurele, Zimnicea, Giurgiu, Oltenița, Călărași, Fetești, Cernavodă, Medgidia, Murfatlar, Hârșova, Măcin, Brăila, Galați, Isaccea, Mahmudia, Tulcea , Sulina.
2.	Republic of Moldova	1	Giurgiulești

3.	Ukraine	2	Reni, Izmail

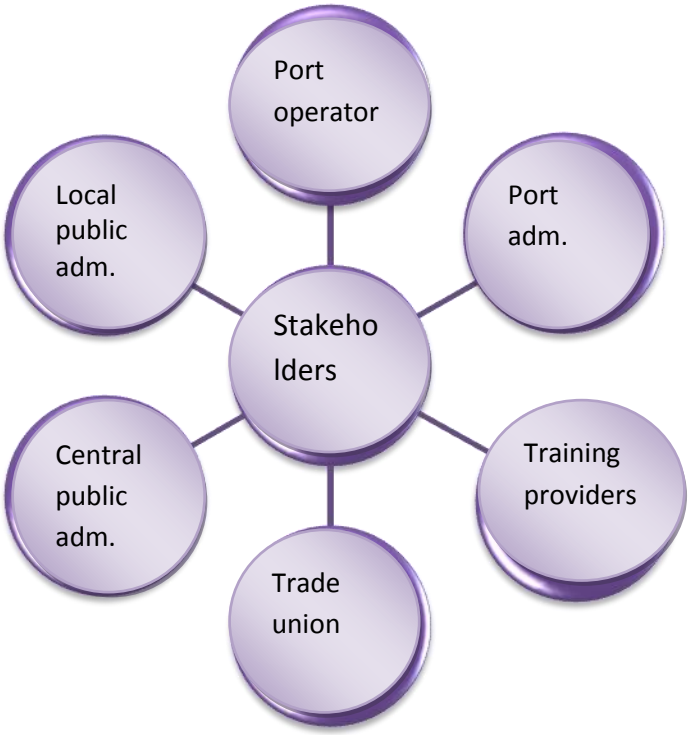


Fig. 12: Main categories of stakeholders in the port sector

The main stakeholders in developing a training system for the workforce in the port sector are:

- Administrations of the Danube ports
- Service providers in the port sector (port operators)
- Training service providers for the port sector personnel
- Trade unions of port workers
- central competent public authorities with impact in specialty training for staff in the port sector (line ministries: MEN, MMFPS, ME, Ministry of Transport, Ministry of Finances, authorities of the ANC type etc.)

- local public authorities (municipalities, county councils, county employment agencies etc.).

In what follows, we focused on the service providers in the port sector (port operators) as they are the main beneficiaries of this training strategy and continuous education centers for adults.

4.1. River port operators in Romania

- **Docuri S.A.** Galați– provides a wide range of port services, being equipped with storage capacities, means of mechanical handling, lifting, transport and stacking of goods, being specialized in grain and bulk cargo traffic. It has a turnover of 6,777,343 RON and a total of 11 employees.
- **Port Bazinul Nou S.A.** Galați– is the largest port on the Danube, providing forwarding and chartering services for a wide variety of products. It has a turnover of 34,767,328 lei and a total of 289 employees.
- **Trans Europa Port S.A.** Galați – has the following fields of activity: loading / unloading of ships; stowage of goods; cargo lashing; warehouse storage of goods. It has a turnover of 14,776,286 lei and a total of 160 employees.
- **City Gas S.A.** Galați– has as object of activity the handling, storage, loading / unloading of LPG (liquefied petroleum gas) in the terminal opened in the Free Zone of Galati.

  The operations can be executed in the Terminal City Gas Galati are the following:
  - transfer of LPG from CSI wagons to EU wagons (transfer rate of 12 CSI wagons/24 hours, approximately 350 tones) ;
  - transfer of LPG from CSI wagons to tankers;
  - transfer of LPG from CSI wagons to land tanks;
  - Unloading of LPG ships in EU wagons, CSI, tankers and land reservoirs (loading rate of 16 EU wagons / 24 hours, about 600 tones, with the possibility of

increasing the rate of loading to 1,000 tones / 24 hours with the completion of construction of the second railway line for EU wagons).

- It has a turnover of 81,425,165 lei and a total of 21 employees

- **Deltanav S.A.** Tulcea– provides operations of loading, unloading and storage of bulk goods and port maneuvers with own thrusters. It has a turnover of 41,365,438 lei and a total of 88 employees.
- **Hercules S.A.** Brăila - operates in the Braila port and is a port services operator who loads / unloads in / from sea and river ships, storing merchandise on platforms or in its warehouses. It has a turnover of 252,827 lei and a total of 231 employees.
- **Romanel International Group S.A.** Brăila–has a range of activities ranging from logging, conversion of logs into boards, drying to obtain the finished timber, to transporting goods from Braila or in container and delivery it to the largest retail sites in the world.
- **Romportmet S.A.** Galați– operates in the field of port services, and its main activity is the cargo handling. It has a turnover of 26,090,774 lei and a total of 163 employees.
- **Unicom Oil Terminal S.A. Galați** – the main activity consists of: unloading, transferring, transshipment, storing, conditioning, loading of petroleum products and petrochemical products in and from railway wagons, tankers, ships and barges.
- **Spet Shipping S.A. București** – has provided fast, reliable and quality transfer services for freight and passenger on ferries between Romanian and Bulgarian ports. This company has not filed balance since January 2012, entering into insolvency.
- **CNFR Navrom S.A.** Galați– the company offers customers integrated services: freight, passenger transport, ship repair, ship design and layout, etc.
- **Dobroport S.A. Cernavodă** - operates in the field of port services, and its main activity is the cargo handling. It has a turnover of 4,023,425 lei and a total of 33 employees.
- **Scaep Giurgiu Port S.A.** Giurgiu– using operating equipments it performs loading and unloading of ships, wagons / cars in combined and direct traffic. Meanwhile, the company features port platforms, warehouses for goods storage and silos for storing

grain. Equipped with a fleet of ships, the company carries out domestic and International River transport of goods, such as: grain, coal, chippings, rolling, etc. It has a turnover of 4,823,254 lei and a total of 62 employees.

- **Exploatare Portuară „Drobeta" S.A. Drobeta Turnu – Severin** – the object of activity consists of handling cargo in ports on the Danube between km 795 and km 1049; shipment of goods inland and internationally; extracting and marketing of gravel products from the Danube; processes the natural shore with floating cranes; repair, maintenance and technical support of port machineries; management and renting of port buildings for third parties and various other benefits. It has a turnover of 5,748,812 lei and a number of 125 employees.
- **Tehnosteel Vest S.R.L.** Where is it from???– provides port services, having as equipment: mechanical means of handling shipping containers, lifting, loading and unloading of oversized loads. It has a turnover of 996,828 and a number of 3 employees.

4.2. River operators from the Republic of Moldova

- **ÎCS Danube Logistics S.R.L.** – the Giurgiulesti International Free Port has the required infrastructure to operate both river and sea ships. In this context, this operator represents for its clients:
  - the only direct river-sea point of transshipment and distribution to / from the Republic of Moldova
  - a regional logistics center at the border of the EU with access to road, railway, river, sea communications, and
  - an excellent location for business development, due to its strategic location, tri-modal transport infrastructure, low cost environment and unique customs and tax regime.
- **Fluvial Port Ungheni** – provides services of transport and expedition of goods.

4.3. River operators from Ukraine

- **Danube Shipping Management Service Ukraine** – organizes transports along the Danube, carrying iron ore and coal from the Ukrainian and Russian manufacturers through the Ukrainian ports from Reni and Izmail to the largest steel factories in Europe. It also transports chemicals and products for the steel industry, such as iron ore and raw materials for the ports on the Danube.
- **Sea Commercial Port of Izmail** – provides the following services: transshipment, arrangement and storage of goods; issuing documents accompanying transport and customs operations; Danube river transport of small quantities of cargo for Bulgaria, Romania and Yugoslavia.
- **Commercial Sea Port of Reni** – provides the following services: loading / unloading of goods from the ship and their storage; offers a berthing place for vessels and for achieving handling operations; issues documents related to customs operations and transport of goods; organizes all necessary operations for the arrival and departure of a ship; performs fumigation and degassing of a vessel; provides services of customs broker; transports goods; other services which may be provided on request.

As shown, the port operators analyzed are, in most cases IMMs having between 11 and 289 employees and a turnover between approx. 50,000 and 2,000,000 euros. An estimate of the number of operational employees in the port sector in the three countries rises to the level of 2000-3000.

4.4. Training centers in the port sector

The information on these centers is presented in the table below:

Table 8: Details on the training centers in the port field

Country	Information on the training centers in the port field
Romania	The Foundation "Şcoala portuară Constanţa" (Port School of Constanta) was established in 1997 through a Romanian-Danish cooperation project with PHARE funding. The model of development of the institution is the Educational centre of Copenhagen of vocational and trade union training of port workers. The founding members are the National Federation of Trade Unions of Constanta and the Employers' Organization of the Constanta Port Operator. The foundation intends, through its work, to come in the support of port workers, unemployed individuals, union trade members and other applicants, by organizing training courses for lifelong training in jobs specific to the port sector and in jobs without port specific, selecting and placing the workforce and other types of activities on union education and adult education management. The Foundation has trained over 9,000 students with nationally recognized certification in accordance with the legislation in force at the time of holding the courses.
Republic of Moldova	The activity in the port sector is relatively new, there are no occupational standards for the operational trades in the port (but only for generic ones) and there is no training centre for jobs in the ports sector.
Ukraine	Within the port administration in this country there is an internal training centre providing the vocational training of the port staff, free of charge. By paying a fee, other individuals that are not employed in the port sector (but intend to work in

	this sector) may take part in the training. This training centre is accredited by the Ministry of Education and issues certificates that are valid and recognized only within the port. The license issued by the Ministry of Education is on category of trades, and not on jobs. Therefore, the vocational training centre has the right to train port personnel for a total of 900 jobs. In practice, this centre provides vocational training of the port staff for a total of 16 trades. For authorization of a category of trades, the training centre must meet the following requirements: • for each job there must be assigned a number of 9 to 10 trainers, 3 foremen and 2 instructors; • to possess a workshop, classrooms; • to be equipped with tools, materials, instruments etc. for practical work; • to develop all teaching materials required to organize the courses The trainers of the centre (60 trainers with higher studies and 30 foremen) are among the most experienced employees in the port sector and have the highest level of qualification. These trainers have no education as trainers, being recognized as trainers only internally. They are recommended as trainers by the employers where they are working and receive a certificate from them which certifies that they have the skills necessary for the job in question. They work on the principle of the best craftsman instructs his apprentices for that job. Trainers are allowed to teach just 2 hours per day, the rest of the day carrying out the job they were hired to do in the port. For those who are employees of the port, participation in the course is limited to only 2 hours per day of instruction. Instead, those not employed by the port take courses that last 8 hours a day. The average cost of such a course is 1,000 Hryvnia

	(UAH), about 40 euro. Courses can also be held as distance courses, as follows: the student receives the teaching materials to study at home, learns and returns to the centre to take the examination (the training centre is also the examination center). The training courses are promoted by means of mass-media advertising. The duration of a course is of one month and includes theory and practice.

5. ANALYSIS OF THE EXTERNAL ENVIRONMENT (THE PESTLE ANALYSIS)[7]

Politic factors

In times of drought, the biggest problems in the Danube navigation sector are recorded on the joint Romanian-Bulgarian sector of the Danube. Areas where there have been recorded low depths is on the joint Romanian-Bulgarian sector of the Danube, opposite the Batin and Belene localities. In recent years Bulgarians have assigned funds for the maintenance of navigation conditions and to ensure a constant navigation depth. To solve the problem, a solution would be to renegotiate the 1954 agreement between the two governments. Another would be accessing European funds with which they can solve these problems.

On the other hand, the port of Constanta can be considered the Black Sea port of the Danube riparian states: Austria, Hungary, Slovakia, Serbia which are landlocked, which is a good opportunity for infrastructure development and facilitation of freight and passengers transport on the Danube.

[7] In this section the information used are taken from the article of Mirabela Tiron, *Cum facem din fluviul Dunărea principala cale de acces spre Europa: menţinerea adâncimii optime şi investiţiile în porturi, prioritare*, published in the printed edition of the *Ziarului Financiar*, on 08.04.2014. The article may be read at: http://www.zf.ro/zf-24/cum-facem-din-fluviul-dunarea-principala-cale-de-acces-spre-europa-mentinerea-adancimii-optime-si-investitiile-in-porturi-prioritare-12423202

Another important factor to consider is that the Danube is part of the priority axis 18: Rhine / Meuse - Main - Danube. This axis, a corridor between eastern and western Europe, connects the port of Rotterdam, on the North Sea, to the port of Constanta, on the Black Sea, crossing or forming the border of eleven countries.

Both at the EU and at national level, the improvement of navigability on the Danube and the development of intermodal capabilities in each port of the three countries analyzed are considered to be a priority.

A threat to the development of freight and passenger traffic on the Danube is the political situation in Ukraine, namely the internal conflict that affects the country for more than a year.

Economic factors

River transport is a strategic sector of Romania, as the river ports along the Constanta port play an important role in foreign trade and transit of goods through Romania.

Romania has 1075 kilometers of the Danube (47% of total navigable sector of the river) - that provides a direct link to 9 European countries -23 of river ports (in Braila, Galati, Tulcea and Sulina sea ships can operate as well) and three navigable canals (Danube - Black Sea, Poarta Alba - Midia and Sulina canal) that connect the Black Sea to the port of Constanta. With only 645 kilometers of highway and a poor railway network, Romania could transform the Danube into the main gateway to Europe, considering that it holds the largest share of the total navigable river sector and several river and sea ports. These navigable sectors are already part of the 1075 km of Danube so these do not add as number of km. River transport is cheaper and more environmentally friendly than road or rail transport and can be useful for a variety of goods.

The biggest problem that river operators are facing is the river Danube variation in flow which creates navigation problems leading to delay of goods at the port of destination. In periods of drought, in certain areas (e.g. on the sector between Calarasi and Braila), the Danube drops to levels of 1.2 - 1.4 meters, far below the minimum level (2.5 meters) recommended by the Danube Commission.

This implicitly means wasted time and additional costs. A constant level is required throughout the year on the Danube, otherwise barges cannot be load to their full capacity. Moreover, due to problems of navigation on the Danube, part of the grain from Hungary that were transported in transit on the Danube through the port of Constanta (around 500,000 tons annually) have been diverted to other faster routes (Italy, Poland, the Rhine area). Among the goods diverted through the port of Constanta one should also include the Russian energy coal for power plants in Hungary and Austria, or the bauxite and alumina for aluminum production in Romania. As comparison, the Rhine River, which has a navigable area of 750 kilometers, is transporting 8-9 times more freight than the Danube.

The level decrease of the Danube leads to blocking of the ships. There have been years when tens of propelled ships and barges that carried ore, coal, grain, petroleum products etc. have been blocked due to lower Danube. In other cases, ships were disposed from their convoy to transit the area one by one. During low water levels, on the Calarasi-Braila sector, the vessels seeking to reach the port of Cernavoda and then cross the Danube Danube-Black Sea Canal, are forced to use the alternative route, respectively the Bala-Borcea branch which is longer with about 120 kilometers because of reduced depths.

Another opportunity in developing the Danube port sector is the attraction of European structural funds. The projects for modernization and development of port infrastructure are funded under the Transport Sectoral Operational Programme or the Sea Infrastructure

Operational Programme and through the CEF programme (Connecting Europe Facility) approved by the EU for 2014 - 2020. Romania may access 1.3 billion of euro for rail and river transport during 2014-2020 through the CEF.

Social factors

The project to improve navigation conditions on the Danube, but also develop infrastructure for intermodal transport in each port along the Danube - connectivity that can be carried out from each port both by rail and by road - could lead not only the development of transport on the Danube, but also the development of each port and need of new jobs, so that the European transport Corridor 7 become competitive.

One of the objectives of the EU Strategy for the Danube Region is "Increasing prosperity in the Danube Region" and the priority area coordinated by Austria and Romania is represented by the "Investment in people and skills". The EU considers that it is necessary to invest in people and skills so that the region can progress and grow sustainably, making a priority of knowledge and inclusion. Harnessing the existing strengths of the region must also involve promoting better access to further education and modernization of infrastructure and educational methods and techniques and social support. The actions to strengthen prosperity include: gathering and coordination of research funds to stimulate research and development in the Danube region; establishing joint research centers for advanced studies; developing joint programmes for vocational education and training; increased use throughout the region of e-government and e-health services for citizens; combating poverty and social exclusion of marginalized communities such as the Roma[8].

Qualification and workforce training in the port sector is insufficient also due to the fact that there are no requirements on the training of specialized personnel in this sector. According to data gathered from focus groups, the context varies from country to country (see table below):

[8] *Panorama Inforegio* no. 37/2011, p. 7.

Table 9: Social context according to information from focus-groups

Country	Social context
Romania	The port sector is affected by seasonality: in winter, when there are no grain shipments as during the summer, the staff is sent on leave or dismissed. As a result, the ports have a lower activity level in winter. The development of basic skills is achieved only when the equipment and / or work technology is being renewed. On this occasion, the teaching materials for vocational training courses are reviewed. Where there is a high degree of complexity and great risks, training is done periodically. Great importance is placed on training in the job of berth operator, as this must have skills of transport logistics. In the private sector this job is considered as the "port master". Unfortunately, some people come to be hired in this profession which requires skills in the field of transport logistics without having a specialized course in the field because some port operators consider to have very well defined duties and, therefore, the training of employees is not considered a necessity. The ANOFMs accuse port operators that they do not announce vacancies. In their turn, port operators respond that they do not announce them to the ANOFM until deemed financial appropriate to hire someone and they prefer to keep the vacancy as long as deemed necessary.
Republic of	As the activity in the port sector is relatively new, there are no occupational standards for port trades (but only general ones) and there are no training centers

Moldova	for jobs in the ports sector. Therefore, it is first required to develop the occupational standards for the operative trades in the sector. The port personnel is actually composed of residents from villages neighboring the port area who are employed on a daily basis depending on the level of port activity. Because there is no appropriately qualified personnel, high staff turnover occurs (approx. 90%). On the other hand, the port administration has no access to information from port operators.
Ukraine	Individuals who are unemployed and are over 45 years receive a voucher for studies that they can use to improve in the job they already have or to if they want to re-qualify. Unemployment benefits are received only during the first 6 months since the job loss. Only during the first 6 months of 2015, in the Izmail port 87 people got hired on the following positions: loader mechanizer, electrical engineer, welder, manager, painter, tractor driver.

Technologic factors[9]

Along the Danube river there are 23 ports, the most important being Drobeta-Turnu Severin, Calafat, Giurgiu, Cernavoda, Galati, Tulcea and Sulina. In general, the infrastructure of these ports is outdated and the building structure is unfavorable (piers pears that do not allow efficient operation of river vessels).

[9] In this section there were used information from Ticu Ciubotaru's article "750 million for the Danube ports", article in the electronic edition of the newspaper Romania Libera dated 10/27/2013, accessed at:http: //www.romanialibera.ro/actualitate/proiecte-locale/750-milioane-euro-pentru-porturile-dunarene-316254

To ensure optimal depths for navigation on the Danube throughout the year it is required to complete the dredging works and expedite the implementation of projects providing conditions for navigation on the Danube involving developing of the navigation infrastructure is safety.

Another opportunity in the Danube port development is represented by the attraction of European structural funds. The projects for modernization and development of port infrastructure are funded by the Transport Operational Sectoral programme, but also through the CEF programme (Connecting Europe Facility) approved by the EU for 2014 - 2020. Romania may access 1.3 billion of euros for rail and river transport during 2014-2020 through the CEF. *This is also included in social factors so I think it should not be repreated here. If possibly, we should include a list of infrastructure projects that are in progress as well as those submitted for approval. You should also referrer to the Transportation Master Plan which is a strategic document!*

The EU did not assign money for SUERD. The programmes supporting the SUED objectives and capable of assigning money should be identified!!! From the budget assigned to Romania through the CEF European funding Instrument, the Ministry of Transport plans to assign 750 million euros for the integrated transport project on the Danube. Romania must submit projects to obtain European funds aiming at developing the Danube ports and connecting them to the European road and rail infrastructure. Thus, the Danube ports shall become intermodal centres as the EU Strategy for the Danube Region aims not only to increase freight traffic on the Danube, but also to the possibility of taking over the goods by other ways, road and railways.

In this context, the Ministry of Transport analyzes various projects of development for the infrastructure adjacent to ports. For example, for the Galati-Braila there are already two projects: construction of a road and rail bridge over the Danube, in the Braila area, supported by CC Braila, and the construction of a tunnel under the Danube, at Galati, a project supported by the Municipality of Galati.

Legal factors

This category of factors includes the fees of port administrations which are quite high in some cases. Romania's Ministry of Transport intends to make an inventory of all fees paid by port operators, and where these taxes are doubled, these could be eliminated, this issue following to be discussed with the Ministry of Finance. According this, some port operators have complained of double taxation, and that time and money are lost due to repeated customs checks at the same shipment that arrives in various Romanian Danube ports. Transport and port operators have proposed the establishment, at level of the Ministry of Transport, of a separate department for the Danube.

Ecologic factors

Another objective of the four belonging to the EU Strategy for the Danube Region concerns the environmental safety. Romania will be involved, along with Hungary, in managing environmental risks. There are numerous natural and industrial risk places in the Danube basin; if we add the problems regarding the climate change, it is obvious that the analysis of risk potential, preparedness and rapid response mechanisms occupy a central place within the Strategy.The emergency situation caused by red sludge pollution in 2010 stressed the vital importance of rapid and effective collaboration[10].

[10] *Panorama Inforegio* nr. 37/2011, p. 6.

Despite efforts made by riparian countries, pollution on the Danube and the Danube Delta is another factor that puts in danger dozens of species of birds and fish. Accidental oil spills in the valley of the Danube are the main threat to the health of humans and to biodiversity of the river[11]. There are accidental oil spills caused by refineries operating in the Romanian-Bulgarian Danube sector and in Serbia, but also caused by barges carrying oil. The frequency of these events is fluctuating, but the impact of these discharges is even greater as some localities along the Danube get their drinking water from the river. Also, the nuclear plants at Kozlodui and Cernavoda cannot use polluted water for the cooling plants.

But environmental problems are not limited to oil spills. Austrian researchers estimate that 4.2 tons of plastic arrive daily from the Danube to the Black Sea [12], and experts from the National Institute for Research and Development Danube Delta (INCDDD) warn that the fish from the Danube, especially predatory fish (and carp) are potential carcinogens. The cause is the massive accumulation of heavy metals on the bottom of the Danube, affecting the fish populations. the Danube bottom is full of heavy metals from the polling metal coating / cadmium of the 12 shipyards where such sections used to be. All these shipyards had no effective sewage treatment plants, but only formal ones, and the water containing heavy metals (cadmium, copper, mercury, etc.) reached the Danube. Heavy metals do not biodegrade, but move from one place to another. Sturgeons are at the end of the food chain, are the largest predators living in the Danube and Black Sea. And then, all other fish that they eat already have accumulated heavy metals from crustaceans, algae. However, bottom fish, wels catfish, carp, barbel, which feed on the bottom of the Danube, are more or less accumulating heavy metals.

[11] In this this section, the information used is taken from the article of Cosmin Zaharia, *Dunărea poluată. Cine pune în pericol viața peștilor și care e riscul pentru populație,* published on the website *Green Report* at: http://www.green-report.ro/dunarea-poluata-cine-pune-in-pericol-viata-pestilor-si-care-e-riscul-pentru-populatie/ and accessed on 14.08.2015, at 13:00.

[12] The study did not calculate the PETs or other fragments that exceed the size of gillnet holes (large fishing nets) which were used to collect samples from the river water, in daytime and night-time.

The latest threat of Danube pollution seems to be a toxic waste deposit located in Ukraine that can generate an ecological disaster on the Nister River, contaminating territories from Ukraine, Republic of Moldova and Romania[13]. Such an environmental incident would affect the Danube Delta too. The Dombrowski tank, located in the village Kalush area, Ivano-Frankovsk region (western Ukraine, north of Romania), is in poor condition and the walls need to be reinforced. Dombrowski is a potassium quarry, extracted by open method. Wastes resulting from quarrying are stored in the 150 meters deep void, formed by extracting the ore. In the immediate vicinity is the Sivka riverbed, affluent of the Nister River, and the dams between the river bed and the quarry are already cracked. If the river floods the quarry, its content will leak into the Nister.

All these factors threaten the health of people in the Danube region and could lead to sanctions from the EU if it does not comply with the anti-pollution and environmental protection norms.

[13] The information is taken from the article *Bomba deșeurilor amenință Nistrul și Dunărea*, published on the website *Green Report* at http://www.green-report.ro/quotbomba-deseurilorquot-ameninta-nistrul-si-dunarea/ and accessed on 14.08.2015, 14:15.

6. SWOT ANALYSIS

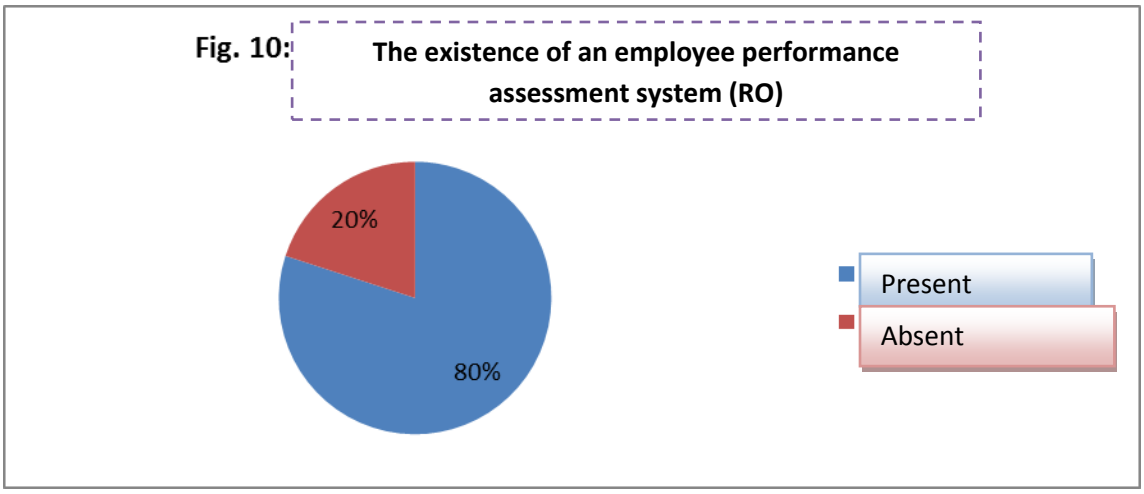
Strengths	Weaknesses
▪ common set of trades and skills recognized as necessary in the port and railway sector in the three countries analyzed ▪ existence in Romania and Ukraine of a large number of occupational standards for trades from the fluvial port sector ▪ A relatively high number of operational ports in the three analyzed countries (25???) ▪ A relatively large number of people working in the river port sector (aprox. 3000-4000) in the three countries and eligible for training courses, qualification and refresher courses ▪ The existence of an association of inland river ports with 10 years of experience ▪ Access to rail and road infrastructure of certain Danube ports, which could facilitate the development and operation of intermodal transport ▪ The existence of ANC in Romania for accrediting courses and training centers in the port field	▪ Lack of occupational standards similar or equivalent in the three countries through which the set of skills related to a trade would be the same in all these countries ▪ Lack of vocational training centres specialized in jobs in the port sector ▪ Lack of legal regulations concerning the minimum staff training in the port sector ▪ Failure to ensure optimal conditions and safe navigation on the Danube, which jeopardize the development of the Danube region and hence river ports ▪ The need for review of occupational standards to adapt the skills of jobs in the port sector to technological progress
Opportunities	**Threats**
▪ The EU is interested in developing the	▪ Variations in Danube water levels during

Danube region, both through the EU Strategy for the Danube Region and other programmes and strategies for the development of transport ▪ Developing the region, investments and increase of the volume of goods / people on the Danube could increase the number of jobs in the river port sector	the year which leads to blockage of vessels, delays in delivery of goods or forwarding thereof on faster alternative routes ▪ Political instability in Ukraine ▪ Port operators' mentality of not investing financial resources in training and professional development of personnel ▪ Identifying of routes (road, rail) alternative for freight transport ▪ Increase of work accidents in ports due to lack of adequate training of the human resource

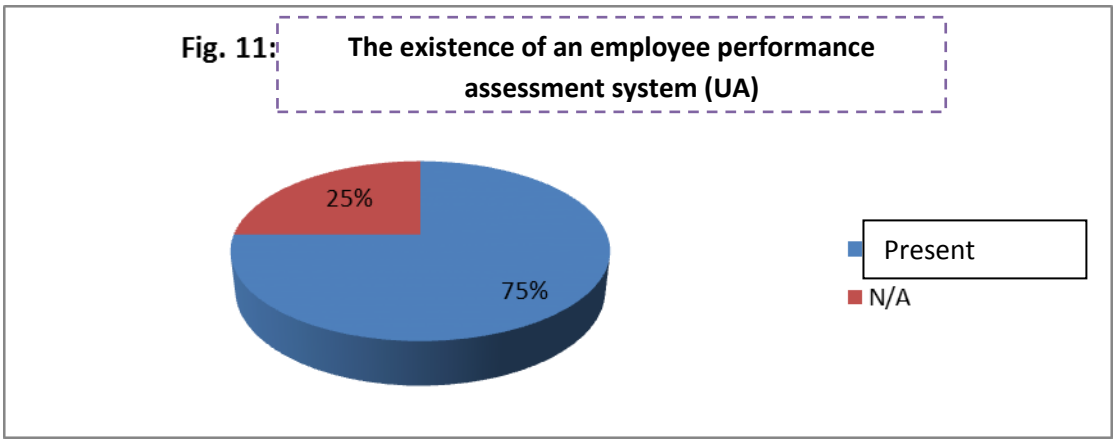
7. Success factors in implementing a qualification and refresher system for employees in the port sector

7.1. The existence of an assessment system

During primary research it was shown that 80% of the respondents in **Romania** have implemented a regular assessment system for employees in the organization. One single respondent (20%) does not have such a system of periodic assessment of employees in the organization.



Three of the four respondents in **Ukraine** (75%) have implemented a system of periodic assessment of employees in the organization. One respondent (25%) did not give any respond to this question.

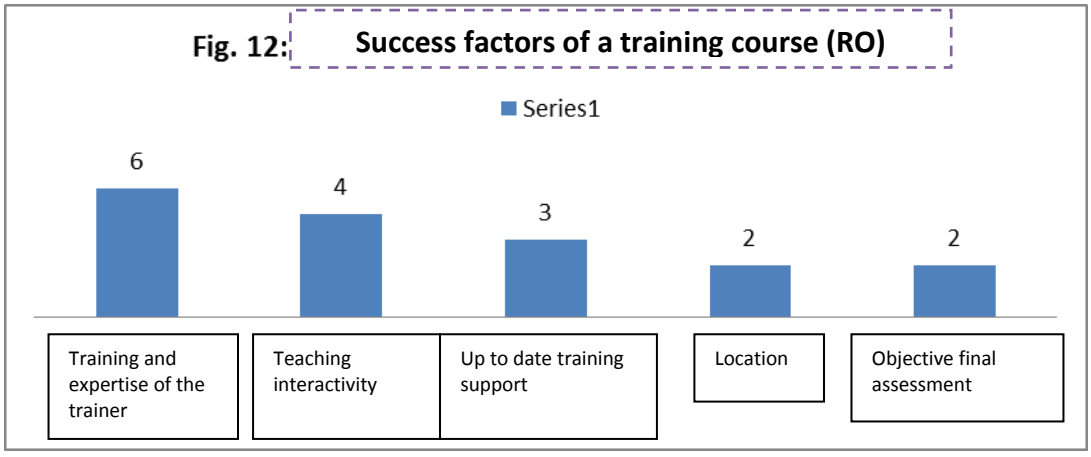


7.2. Success factors of a training course

In **Romania**, the factors contributing to the success of a training and development programme/course are considered to be:

- the training and expertise of the trainer (6 mentions– 100%)
- the interactivity (4 mentions – 70%)
- the useful and up to date course support (3 mentions – 60%)

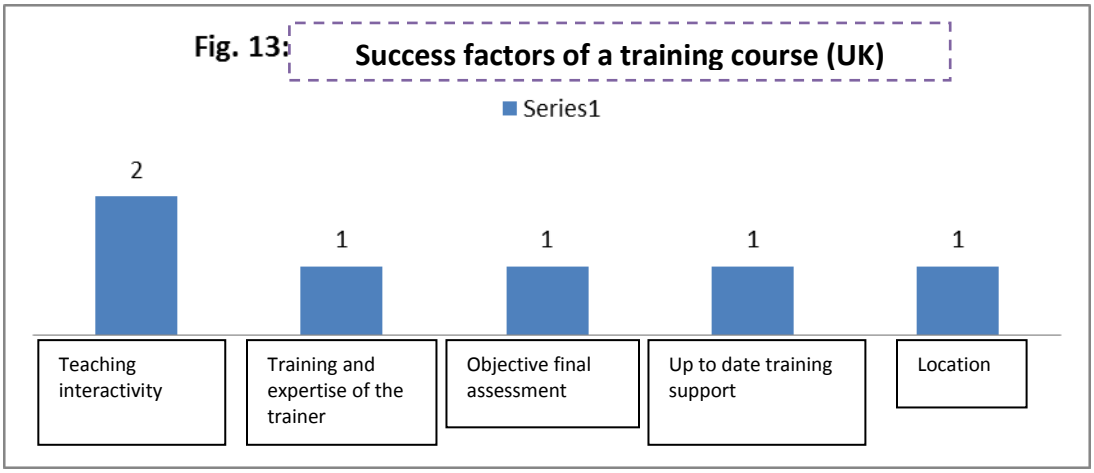
- the location (2 mentions – 70%)
- the final objective assessment (2 mentions – 30%)



In **Ukraine**, the factors contributing to the success of a training and development programme/course are:

- the interactivity (2 mentions – 50%)
- the training and expertise of the trainer (1 mentions – 25%)
- the final objective assessment (1 mentions – 25%)
- the useful and up to date course support (1 mentions – 25%)
- the location (1 mentions – 25%)

One respondent (25%) did not respond to this question.



In the **Republic of Moldova**, the factors contributing to the success of a training and development programme/course are:

- the location
- the interactivity
- the training and expertise of the trainer
- the final objective assessment
- the useful and up to date course support
- laboratory classes equipped with appropriate equipment

7.3. Optimal number of hours a day per training day

The optimal amount of classes (hours) per day for a course in **Romania** is:

- 4 hours (3 mentions – 60%)
- 6 hours (1 mention – 20%)
- 8 hours (1 mention – 20%)

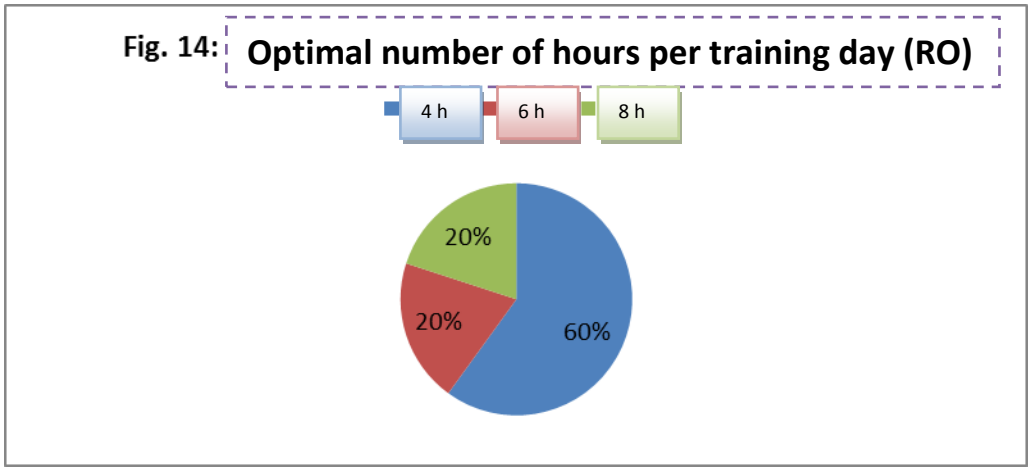


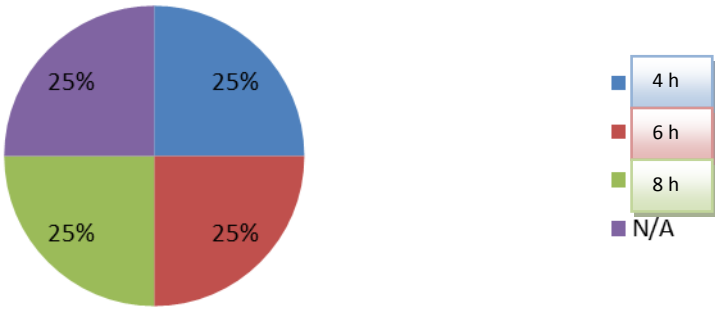
Fig. 14:

In **Ukraine**, the optimal amount of hours for a day of training is:

- 4 hours (1 mention – 25%)
- 6 hours (1 mention – 25%)
- 8 hours (1 mention – 25%)

- N/A = did not respond this question (1 mention – 25%)

Fig. 15: **Optimal number of hours per training day (UA)**



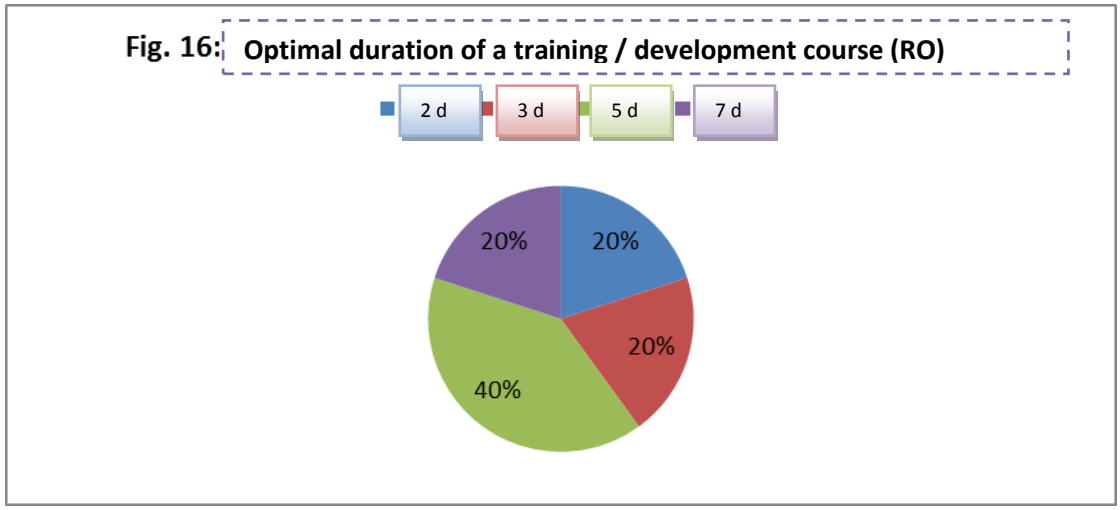
In the **Republic of Moldova**, the optimal amount of hours for a day of training is 6 hours.

7.4. Optimal duration of a course

Regarding the optimal duration of a training/development course in **Romania**, there is no consensus among the respondents, the answers received varying:

- 2 days (1 mention – 20%)
- 3 days (1 mention – 20%)
- 5 days (2 mentions – 40%)
- 7 days (1 mention – 20%)

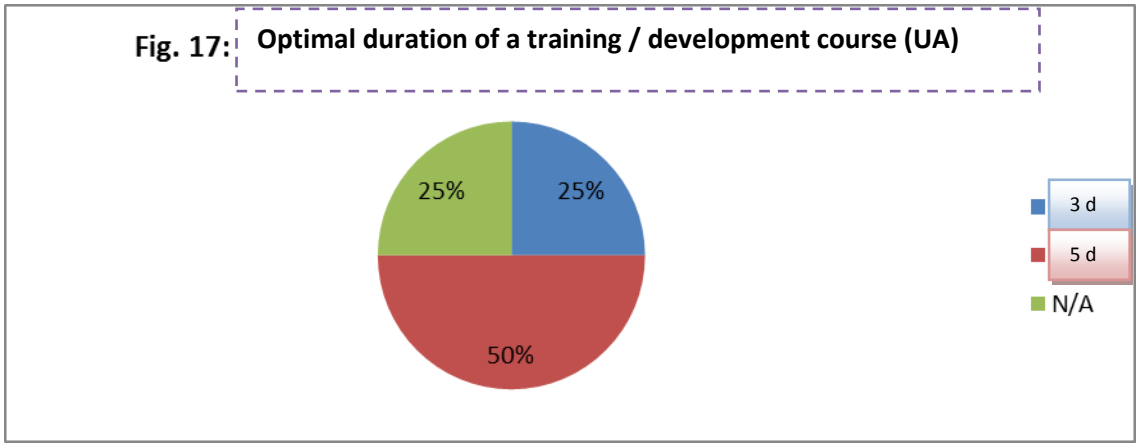
Fig. 16: **Optimal duration of a training / development course (RO)**



In **Ukraine**, the optimal duration of a training/development course is of:

- 3 days (1 mention – 25%)
- 5 days (2 mentions – 50%)
- N/A (1 mention – 25%)

Fig. 17: **Optimal duration of a training / development course (UA)**



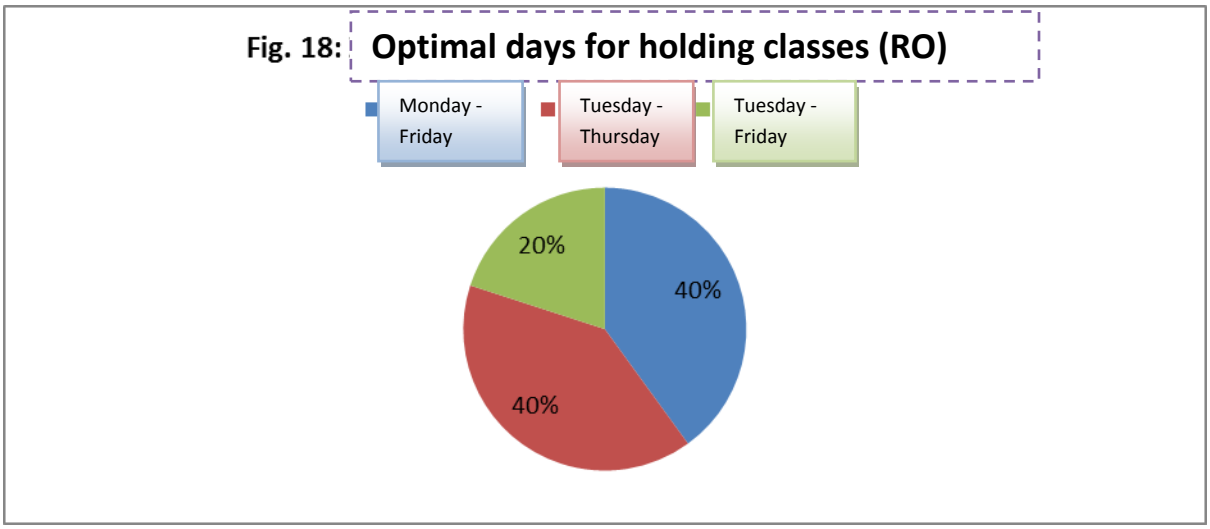
The response given by the respondent the **Republic of Moldova** shows that there is no optimal duration of a training/development course and that it depends on the specifics of the training course.

7.5. Days of the week considered to be optimal for courses

In **Romania**, the days of the week considered to be optimal for holding training/development courses are:

- Monday - Friday (2 mentions – 40%)
- Tuesday - Thursday (2 mentions – 40%)
- Tuesday - Friday (1 mention – 20%)

All the respondents (100%) prefer to organize classes during the week.

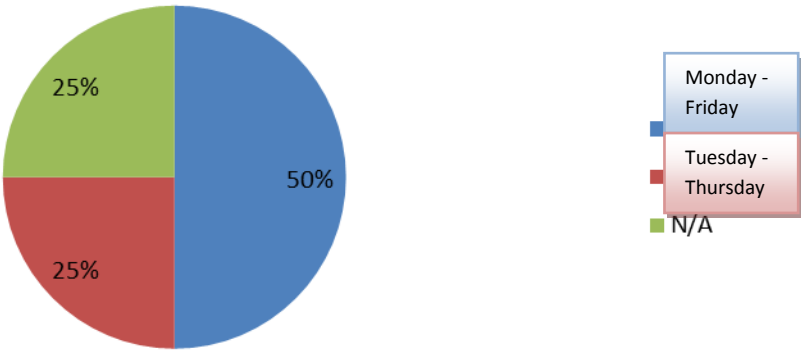


In **Ukraine**, the days of the week considered to be optimal for holding training/development courses are:

- Monday - Friday (2 mentions – 50%)
- Tuesday - Thursday (1 mention – 25%)
- N/A (1 mention – 25%)

Here too, all the respondents (100%) prefer to organize classes during the week.

Fig. 19: Optimal days for holding classes (UA)



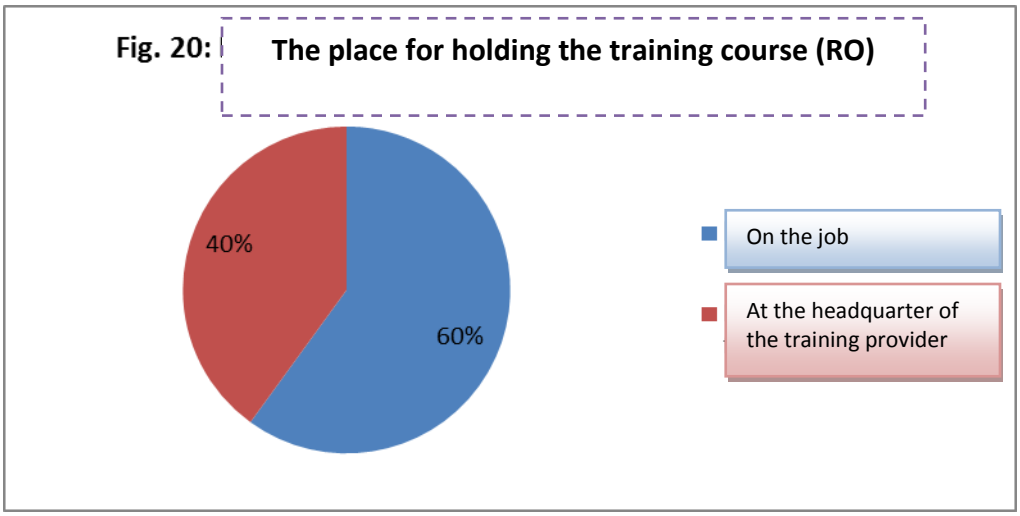
In the **Republic of Moldova**, the days of the week considered to be optimal for holding training/development courses are:

- Monday - Friday
- During the week-end: Saturday - Sunday
- It depends for whom the classes are intended: pupils, students or workers

7.6. Favorite place to have the courses

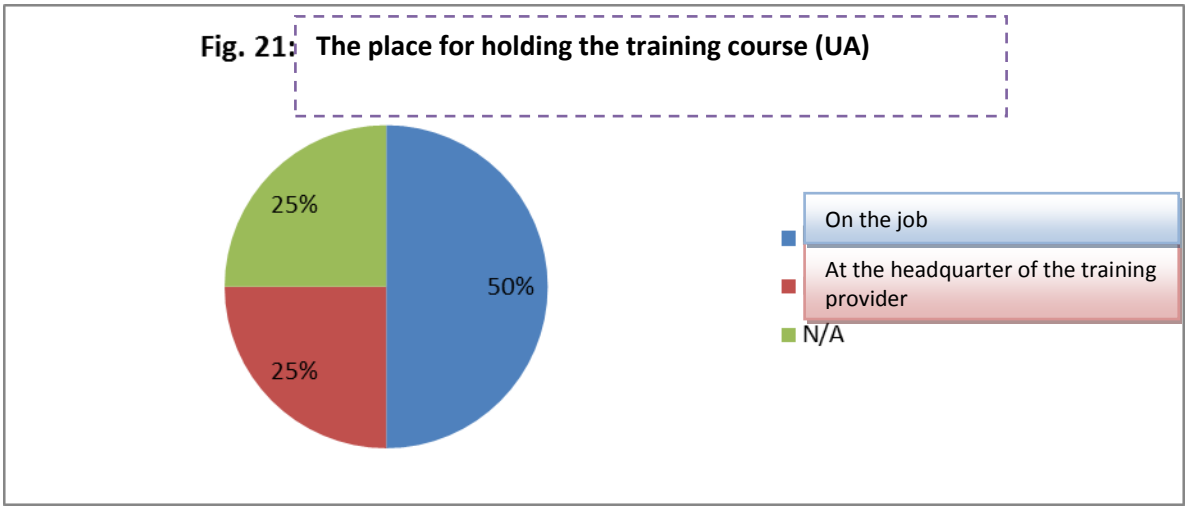
In **Romania**, the place for holding the training/development classes is:

- At the workplace (4 mentions – 60%)
- At the training provider headquarters (3 mentions – 40%)



In **Ukraine**, the place for holding the training/development classes is:

- At the workplace (2 mentions – 50%)
- At the training provider headquarters (1 mention – 25%)
- N/A (1 mention – 25%).



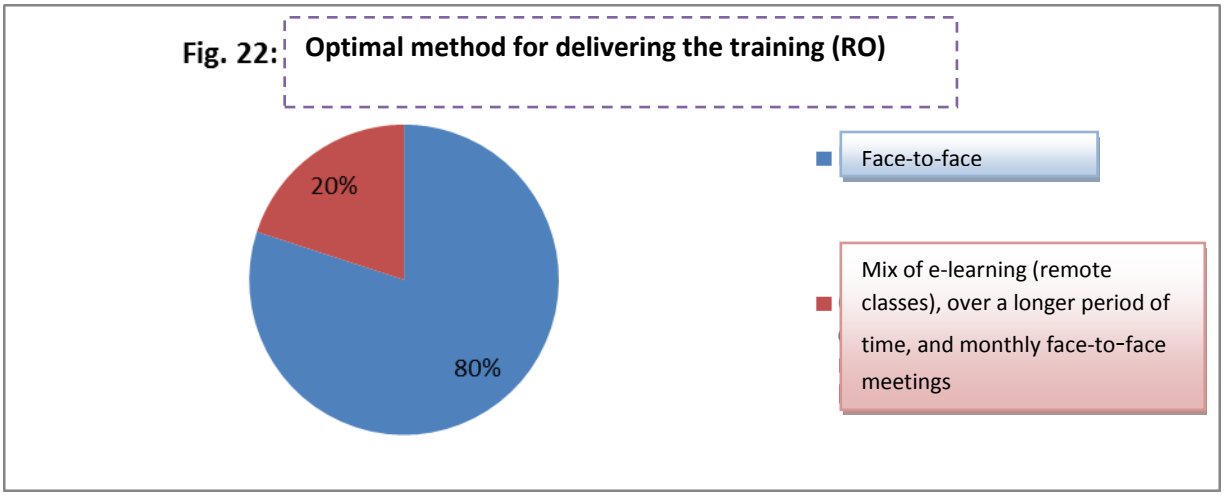
In the **Republic of Moldova**, the place for holding the training/development classes is at the training provider headquarters

7.7. Optimal method for delivering the course

In **Romania**, the optimal method for delivering training/development classes is:

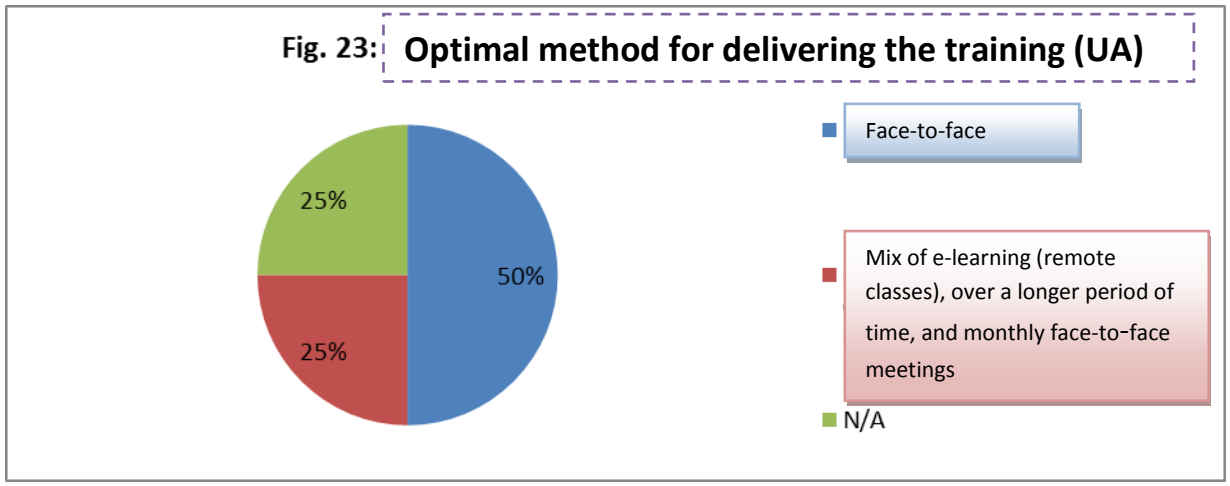
- Face-to-face (4 mentions – 80%)
- Mix of e-learning (remote classes), over a longer period of time, and monthly face-to-face meetings (1 mention – 20%)

Fig. 22: Optimal method for delivering the training (RO)



In **Ukraine**, the optimal method for delivering training/development classes is:

- Face-to-face (2 mentions – 50%)
- Mix of e-learning (remote classes), over a longer period of time, and monthly face-to-face meetings (1 mention – 25%)
- N/A (1 mention – 25%).



In the **Republic of Moldova**, the optimal method for delivering training/development classes is:

- Face-to-face
- Mix of e-learning (remote classes), over a longer period of time, and monthly face-to-face meetings

7.8. Training courses on the market

The respondents in **Romania** have checked the following trades for which they are aware of the existence of qualifications / training: port crane operator and stacker (6 mentions), crane-ship operator (4 mentions), port crane operator (3 mentions) and trade operator and machinist on mobile machineries for inland transports (2 mentions). The following features were mentioned only once: crane-bridge machinist, machinist on other fixed machineries for horizontal and vertical transport, trade operator, berth operator, warehouse manager, loader, storekeeper, port auto-loader driver.

In **Ukraine**, only 50% of the respondents (2 companies) have answered this question. The companies have checked the following trades for which they are aware of the existence of qualifications / training: crane operator, crane bridge operator, crane-ship operator, mechanizer, head of the team of loaders, loading/unloading facilities on ship and quay

operator, loader-mechanizer, port tractor driver, auto--trailer driver, machinist on mobile machineries for inland transport, stacker, port auto-trailer driver, port stacker, transport agent, information clerk, trade operator, berth operator, IT operator, loading-unloading supervisor, expedition documents checker, international shipper, reception operator, port stacking operator, port dispatch operator/ planner, specialty TIR and transition referent, cargo railway agent, dispatcher, invoice operator, store-keeper, bin operator, receptionist – distributor of goods and tools, product sorter, receptionist – distributor gas and diesel fuel, administrator worker.

The respondent in the **Republic of Moldova** did not respond to this question.

7.9. Taken training courses

The occupations for which the companies in **Romania** have accessed qualification / training services are: crane operator - 5 companies, stacker - 4 companies, crane-ship operator - 2 companies and the rest of occupations for which they accessed qualification services and were mentioned only once: berth operator, crane bridge machinist , port crane operator.

25% (1 company) of the respondents in **Ukraine** have accessed training services for the following positions: machinist on mobile machineries for inland transport, stacker, port autotrailer driver, port stacker, transport agent, information clerk, trade operator, berth operator, berth operator, IT operator, loading-unloading supervisor, expedition documents checker, international shipper, reception operator, port stacking operator, port forwarding agent, port dispatch operator/ planner, specialty TIR and transition referent, cargo railway agent, dispatcher, invoice operator, store-keeper, bin operator, receptionist – distributor of goods and tools, product sorter, receptionist – distributor gas and diesel fuel, administrator worker, the other 75% of the respondents did not respond this question.

The respondent in the **Republic of Moldova** did not respond to this question.

7.10. Training annual budget per employee

In **Romania**, companies assign the following budget per year per employee training: 2 mentioned 1,000 lei / employee, the rest of the stakeholders assigning a budget between 300 lei / employee and 5000 lei / employee. In **Ukraine**, only 25% of the companies have answered this question. The company assigns around 1500 – 200 UAH per year for the training of an employee. The respondent in the **Republic of Moldova** did not respond to this question.

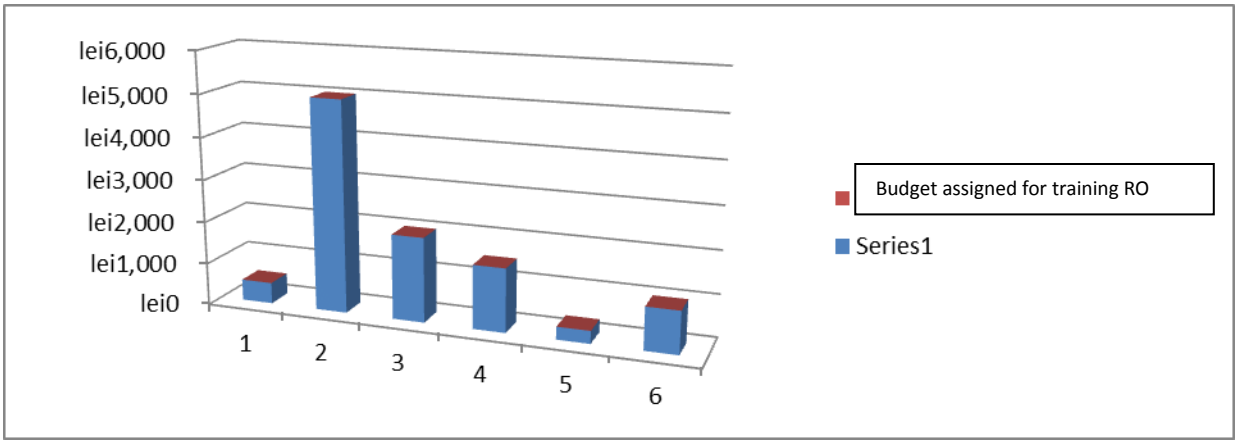


Fig. 25: Annual budget assigned for training per employee (RO)

7.11. Number of training courses per employee per year

At the question: *Approximately, how many training courses does an employee attend per year?*, the companies from **Romania** gave the following response:

- 2 courses– 2 mentions
- 0 courses– 1 mention
- 1 course– 2 mentions
- 1 course per month in internal system – 1 mention
- 1-2 courses – 1 mention

The employers in **Ukraine** stated that the participation of an employee in training courses during a year is the following:

- courses– 1 mention
- 3 courses- 1 mention

50% of the respondents did not respond to this question.

The respondent in the **Republic of Moldova** did not respond to this question.

7.12. Estimated number of trainees for the next year

In **Romania**, the companies will sent the following number of employees for training next year: 3 companies will send 10 employees, the other companies will send between 2 and 5 employees, and a respondent said they are going to send 15% of their total number of employees.

In **Ukraine**, just 50% of the companies responded to this question. They consider they are going to send 300 employees, respectively 15 employees to attend training courses in the next 5-10 years.

The respondent in the **Republic of Moldova** did not respond to this question.

7.13. Positions requiring training courses in the coming 5-10 years

The respondents in **Romania** consider they need to train their employees for the following jobs over the next 5-10 years: 2 companies responded they need to send the following job categories to training: crane operator, stacker, berth operator. The following jobs have been mentioned only once: crane operator, port crane operator, crane-ship operator, machinist on mobile machineries for internal transport, lab technician for food products, crane operator, stacker, administrator worker, berth operator, forwarding agent, dispatchers, and LPG operators. One company did not respond.

It should be noted here that the authorization issued by ISCIR for the jobs of fork-lift operator and crane operator should be checked annually. Thus, during the validity of the certificate, the

operating personnel should be trained and examined annually, to update the professional knowledge. Trainings take place under the guidance of the RSVTI operator who is required to draft the minutes of training. The examination shall be conducted by an internal committee of the owner / user and, mandatory, the RSVTI operator. Examination consists of a theoretical and a practical test. To be declared "passed", the person examined should pass both the theoretical and the practical examination. Confirmation of the validity of the authorization is made by signing and stamping by the RSVTI operator in the "annual visa" section in the coupon accompanying the authorization. Lack of the up to date annual visa on the certificate accompanying the *a*uthorization entails suspension of the right to exercise the activity for which it was authorized.

The 50% of the respondents from **Ukraine** had to train the personnel for the following jobs: electrician, boiler operator, sailors, mechanic, painter, plumber, crane operator, port tractor driver, port stacker operator. The respondent in the **Republic of Moldova** did not respond to this question.

7.14. Estimated number of trainees for the coming 5-10 years

In **Romania**, the companies responded that the number of employees they shall send for training in the next 5-10 years will be the one stated in the table below:

Table 10: Jobs requiring training in the coming 5-10 years

Name of position	Number of employees	Number of companies
Crane operator	10	3
Stacker operator	4	1
Berth operator	4	1
Port crane operator	4	1

Crane-ships operator	3	1
Machinist on mobile machineries for inland transport	3	1
Lab technician – food products analyses	3	1
LPG operators	4	1

In **Ukraine** only one company responded to this question, stating that it shall send a number of 2000 persons occupying various positions to training courses in the following 5-10 years.

The respondent in the **Republic of Moldova** did not respond to this question.

7.14. Evolution of the turnover

70% of the companies from **Romania** consider that their turnover is going to increase in the next 5-10 years, while 30% of the companies said that this shall stagnate. The companies from Romania consider that their turnover shall increase with the following percentage:

- 20-30% - 1 mention
- 15% - 2 mentions
- 10% - 2 mentions

In **Ukraine** just 25% of the respondents stated that their turnover shall stagnate, while the rest of them did not respond to this question. The respondent in the **Republic of Moldova** did not respond to this question.

7.15. Factors influencing the turnover

80% of the respondents from **Romania** listed as factors contributing to the increase, respectively stagnation of the turnover the following:

- Volume increase of handled cargo

- Increase in cargo traffic
- Cargo import and export
- Internal and external politic context
- Demand on the goods market
- Weather forecast and weather
- Investment increase to attract new cargo
- Increase of efficiency and competitiveness in cargo handling
- Increase of the tonnage of goods handled by short stationing of cargo in warehouses or direct transshipment

And 20% of them, respectively one company did not respond to this question. None of the stakeholders from **Ukraine** responded to this question. The respondent in the **Republic of Moldova** did not respond to this question.

8. Current situation of the training demand in the port sector

All personnel employed in ports should have access to training and education courses. In ports and many other sectors of economic activity, particularly in those industries that are exposed to global competition, companies now recognize the importance of investing in human capital as much as in physical capital. According to the ILO (International Labor Organization), the competencies development objectives must include:

- Promoting sustainable enterprises that apply workplace practices based on respect for fundamental principles and rights, namely the international labor standards;
- Improving productivity which includes improving the lifestyle of workers, companies' sustainability, social cohesion and economic development;

- Developing the skills and employability of people, thus allowing them to have a better career, a higher income, and for companies to remain competitive and keep their employees;
- Developing an effective response to local, national and international challenges, such as technological change, globalization, climate change, environmental protection and demographic change

In ports worldwide there is a significant demand for change in what concerns the development of new competencies. Work in the port sector has been transformed recently by: trade growth, containerization and other mechanized ways of handling goods, introduction of new information and communications technologies to track the movement of goods throughout the transport chain, vertical integration of transportation companies offering customers "door to door" services, increased port activity under the control of global operators.

Table 1 includes changes in the port sector. Taken together, these changes have transformed the skills required to a port worker, into a demand for a system of education and training for port workers. These changes have led to a notable increase in the number of women employed in this sector, driving vehicles, controlling merchandise, performing information technology, having jobs in the operational control departments in all ports around the world.

Changes in the port sector

Table no. 1

From		To
Workers with general skills	→	Specialized workers – with multiple skills
Operations requiring manual labor	→	Technologized operations
Individual handling of goods that are not shipped in containers	→	Specialized operations
Occasional employment	→	Permanent employees
Informal training at the job	→	Formal training
Male workforce	→	Varied workforce

The vocational training programmes have been adapted to thes change of manpower and according to the demand of new competencies or multiple competencies. There has been a big change from the job analysis that was used to indicate the skills required to identifying the minimum competencies required for a particular function. Many of these competencies are common to a large number of port functions and are, indeed, necessary within the whole transportation logistic chain. The skills can be combined to create recognized qualifications for port workers as part of the National Qualifications Framework, but it should be noted that an approach to the sector concerned is more viable than an attempt to create a single system of education and training for everybody, applying to all industries.

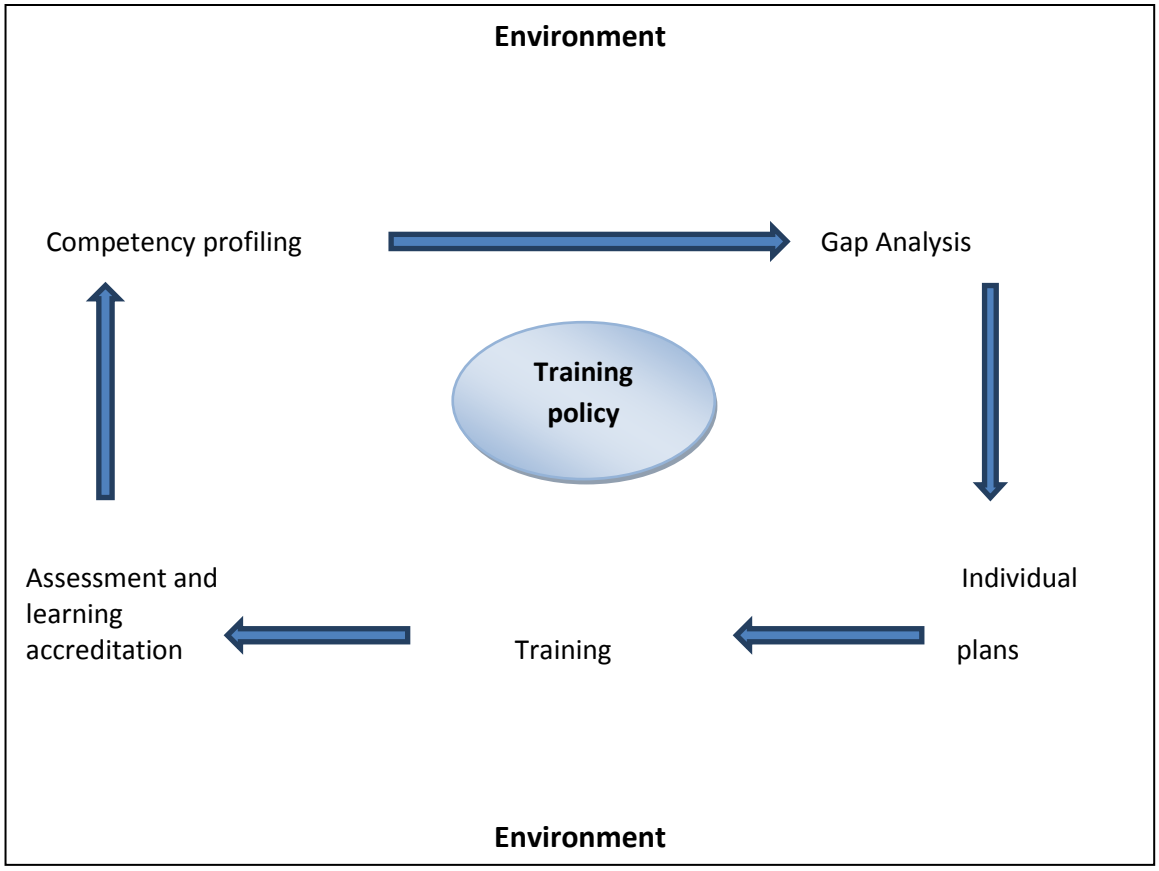
The proposal for a system of skill-based training is not just a simple assurance of the fact that employees know how to respond to actual job requirements, but it aims to provide workers with the skills that companies require (need) today and in the near future. The competency - based training consists in the development of custom vocational training allowing the acquiring of skills and competencies to individuals successfully graduating these trainings.

Functional/Behavioral approach	Multidimensional approach
Passive employees (pointing to prove that they have the skills required)	Active employees (involved in acquiring knowledge)

Special skills required to perform specific tasks as specified by the employers	Ability to manage complex work situations, relying on the multiple resources that the employee "brings" to the workplace
Emphasis on practical knowledge	Combining practical and theoretical knowledge
Imposed standards – represents a person's ability to achieve performance according to imposed standards	Competencies (skills) – holistic concept, comprises the whole person and includes various dimensions, such as: occupational, personal, interpersonal
One method is considered to be the best	Various ways of solving any given task
Binary assessment (qualified – unqualified)	Gradual assessment (exceptional, very skilled, efficient, less efficient)
Individual skills – „owned" individually	Organizational skills – individual, group, managerial and technological system interaction
Limited transferability (between jobs of the same industry)	Higher transferability (between jobs of the same industry or related industries)
The employer leads	Consultation, negotiation and agreement concerning skills between the social partners
Workplace / organization oriented	Career / industry oriented

A generic model for the competency-based training in the port sector is detailed in Figure 1. In the center of this model there is the training policy. Each company employing workers in the port should have such a vocational training / refresher courses. Such a policy can be regarded as a declaration of intent or commitment in terms of which a company can be held liable. With a high-level plan embracing the organization's objectives, the vocational training / refresher courses policy in the port sector provides a guide with answers to the questions "what" and "why" that may arise during the training process in a given context.

Figure 1. Cycle of the competency-based training in the port sector



This cycle begins with "competency profiling" – this concept defining the skills required to perform a certain work task and it combines various skills to create a new recognized qualification that meets the needs and aspirations of the workforce, employers' requirements and customers' requests. The "competency profiling" - the international designation- is a method of identifying the specific skills, knowledge, attitudes and behavior required for a task / activity. Once the competency profile has been established for all kind of port jobs, an analysis of the training demand must be performed to identify any deficiencies in the training programme. The Gap analysis consists in listing the characteristics factors (as level of competency, performance) of the current situation (which is the present moment) respectively listing of factors that should reach the future objectives (what it should be) and then emphasizing the gaps and their removal.

It is common to find for the Gap analysis deficiencies in the training / refresher policy concerning the competencies required to be gained by the workforce (working in the port sector or going to work in the port sector), both in terms of the employer and the training provider. Following this analysis, the companies providing training services may find that the training documentation and training facilities used within the training programmes are outdated or, worse, non-existent. Port workers may need new competencies as a result of technological changes, which require an update of the training programmes so the participants in these training programmes acquire new competencies and the knowledge required on the labor market.

The competency-based training model shown in the figure 1 is created on the principle of "active learning", which combines theoretical knowledge and practical training with the continuous assessment of learners' progress. An old adage says that "you need to steal the skill". Through active learning methods it is recognized that the experience and ideas of employees are the most valuable resources of a company. Active learning is actually focused on the learner and is seen as a process of interaction between participants / learners and facilitators / trainers.

This approach guides itself on three principles:

1. Meditation helps us to understand the importance of our experience;
2. Empirical data helps us to compare our experiences in certain contexts;
3. Theory helps us understand and explain our experiences.

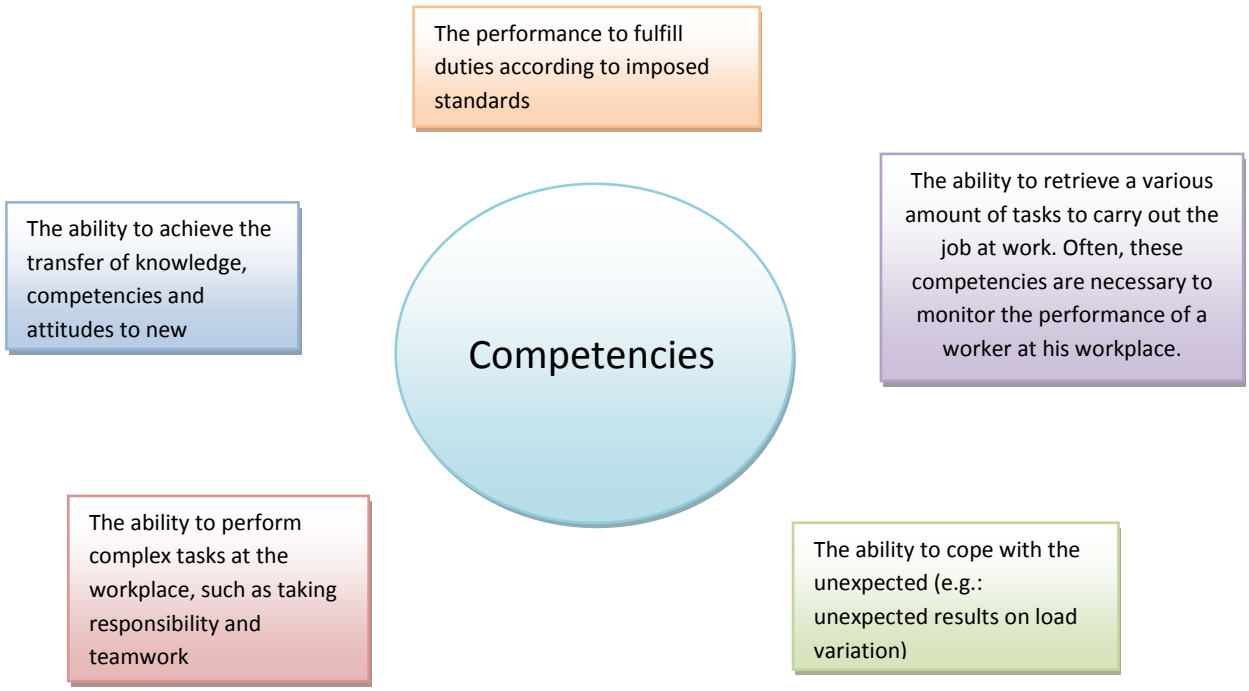
8.1. Competency-based training in an environment that supports this

An organization cannot grow and perform without having engaged, trained and motivated employees. To reach this goal, the employer should organize regular training sessions and skills assessment for the staff employed, in order to assess the assumed goals, their involvement and motivation. The assessment criteria are "units of measure" for all aspects of activity of an employee, both at the level of practical skills and attitudinal and behavioral skills. It results that

one of the level of training performance is the of the employed personnel and the regular updating of their skills and abilities, based on a system of competency-based training and assessment. Employers must provide the employees the performance assessment criteria, according to the legal regulations.

These and other dimensions of the competency are detailed in Figure 2.

Figure 2. Dimensions of competencies



The competencies required for the performance of a single task are usually presented as a "unit of competency". The unit of competency describes: the scope, the tasks to be performed, the standard of performance, as well as the knowledge, competencies and skills required. The units of competency are aggregated in various ways to create recognized qualifications, which may be part or not of a national system of qualifications.

At the micro sector port), level (enterprise or the competency-based training can be seen entirely as a “specific job” system, with which the employee receives a detailed analysis of the job and identifies the technical competencies necessary to accomplish the tasks. However, an effective system of competency-based training involves much more than that.

The commitment between management and learners is a prerequisite to be able to develop successfully a training programme. Three distinct, but related, levels can be found in these training programmes, such as: the macro level (economy), the meso / middle one (industry) and the micro level (company)

Table no. 3 Levels of the training programmes

MACRO level (economy)	MESO level(industry)	MICRO level (company)
The commitment of the government in training and development	Specialized training institutions or organizations established by employers	A human resources management where the vocational training plays a specific and clearly defined role
An education and permanent training system recognized at national level and compatible with the international one	Trainers with expertise in the industry and with skills in adult training	Planning and development of the human resources to identify the future demands of employers regarding fundamental vocational training and/or permanent training of employees
An approved national system of qualifications and recognized at the European level	Opportunities and/or facilities for practical training Categories of trades recognized by their inclusion in the Code of Occupations and training requirements for each of them	Detailed analysis of the job
Certified vocational training providers		The opportunity of on job training
A system of certification and	Proper resources for carrying out the vocational training programmes (qualified trainers,	

assessment of vocational competencies recognized at national level An implemented system of quality management	proper learning material and practice facilities, time off for the employees in order to follow the vocational training to acquire new competencies) A recognized system of vocational training, certification and assessment of competencies for the personnel in the port sector and related industries	Training paid leave Workplace facilities for conducting practical applications and specially equipped classrooms for theoretical training Facilities for the proper conduct of training programmes: IT facilities, video presentation equipment etc., simulation equipment Professional counseling of the employer and employees to determine the training need in the present and future

It is essential for all ports to hire competent trainers. The basic principle of any system of continuous vocational training of adults consists in the selection of trainers having the skills necessary to train other – numerous ports emphasizing the very high level of technical competencies that the employees should acquire at the end of the vocational training programme. All trainers must be trained through an appropriate training to understand the concepts of a training programme based on results (new competencies). Trainers should know how to perform the assessment of participants' competencies throughout the training session. They must have knowledge of IT and excellent communication skills. However, trainers should not lack the desire and ability to teach.

8.2. Competencies/results based training

To build a scope for the competency based training system one should identify the competency units for each task. A unit of competency describes the scope, the tasks they have to perform, performance elements and KSA required. A single unit of competency shall determine the performance requirements in order to occupy a certain position or a certain function.

In order to define the unit of competency, the following steps are required:

- Defining the industry;
- Functional analysis to be able to identify jobs and occupations (involving process analysis, proper analysis of the employment, analysis of the job and tasks, analysis of results);
- Combination of detailed competencies into a unit of competency to be able to create a matrix of competencies

The definition should anticipate the standard areas of competency for the industry sub-sectors and jobs. At this stage it is necessary to conclude an agreement between the industry employers and the social partners. If national standards are developed (e.g.: occupational standards), the definition takes into account the industries where the jobs are similar and where standards are more general. When occupational standards are developed to meet the specific demands of the industry, the definition should include the following information:

- The size, diversity and area of the sector;
- The geographic area of port activities;
- The occupational field;
- The work mode for various jobs (full time, part time, permanent (temporary) employment contract etc.)
- The training requirements for all qualifications (or for part of them);
- The applicability of standards available from other industries;
- The demand for competencies specific to the industry for all job offers;

- Demographic analysis (sex, age, language, education level);
- Disadvantaged groups for specific jobs (e.g.. People with disabilities);
- The main stakeholders (associates, trade unions, professional groups etc.);
- The future directions of development that include the demands for technological development and vocational qualification

The purpose of the functional analysis is to create a list with the jobs having common functions / roles and the required competencies to be able to accomplish a certain work task. The functional analysis is usually performed by the largest part of stakeholders with the help of an outside expert. This analysis implies:

- the analysis of the workplace limits based on initial definition and organization charts;
- the analysis of the processes flow within the job clarifies the connections between different jobs or occupations and identifies the similarities between occupations using the same general competencies of the occupational standard;
- the analysis of tasks / duties identifies the type of tasks to be executed for each job and identifies the person responsible for each job / task

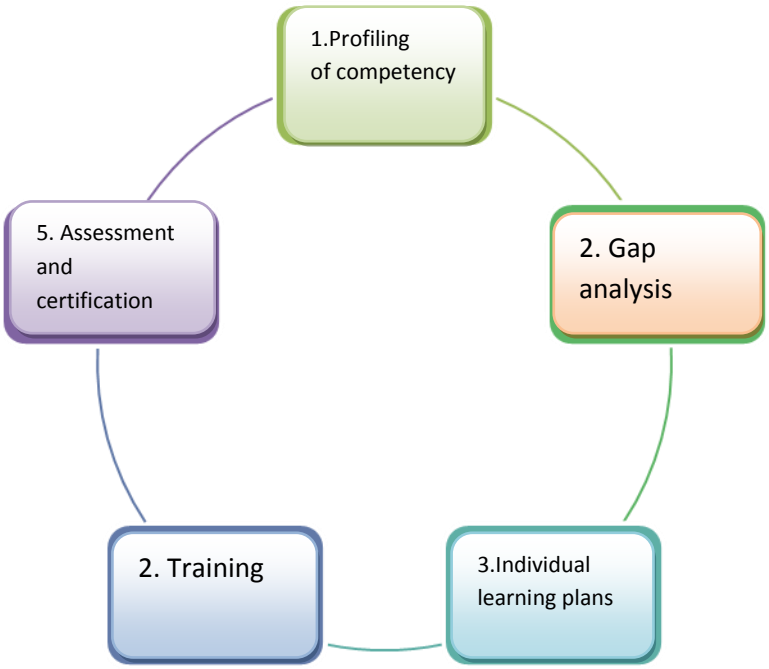
Based on the results obtained during the functional analysis, the units of competency are composed of:

- standard tasks to be included in a job;
- the minimum requirements necessary to perform each task, such as: knowledge, abilities, skills;
- the context in which each task shall be performed: equipment, materials, management of unforeseen situations, responsibilities resulting from the unit of competency;
- criteria for measuring performance for each unit of competency;
- the necessity of the general competencies required within a job or industry

The description of a unit of competency includes the following information:

- Categories of competencies – gives information on the area where these competencies can be found (e.g. customer service, health and safety, occupational safety etc.)
- Code of the unit of competency – abbreviation used for the easy and fast identification of various characteristics of the competencies part of the standard;
- Title of the unit of competency – describes a particular role in the job, a duty or position, forming the smallest group of competencies;
- Description of the unit of competency – provides an overview on the content of the occupational standard;
- Level of the unit of competency– reflects the complexity degree of the competencies from the standard;
- Value of credits – number of points corresponding to each of the modules;
- The performance criterion – specifies the expected results;
- Area and context – specifies the area and context where each performance criterion must be demonstrated;
- Fundamental knowledge– represents the information that the learners must acquire; may influence the manner in which a task is performed ;
- Record of sources - provides information on the type and quality of services required to demonstrate the competencies needed.

The training cycle for port sector workers

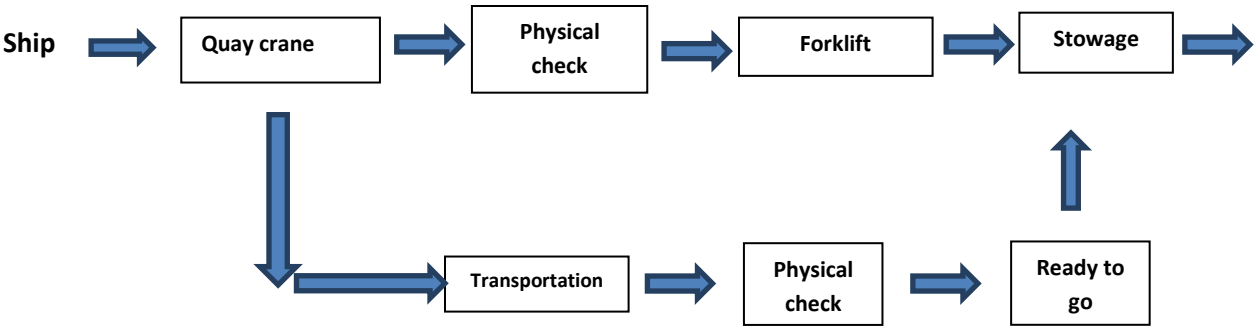


1. Profiling of competency

It is the first vocational stage of the training programme. The purpose of this first stage is to compile a competencies matrix that connects all the competencies (skills and knowledge) for the various jobs of the organization. The profiling of competencies involves several stages, namely: analysis of the processes flow within the job, analysis of job limits, system analysis, task analysis, analysis of results.

The analysis of the processes flow within the job/trade is performed based on collaboration with all parties involved, in order to elaborate this process from start to finish, recording both the ideal and the actual process. The analysis of processes flow for the container terminal is as simple as "freight container tracking", beginning with the storage on the ship to the stowage space in the yard, as highlighted in Figure 4.

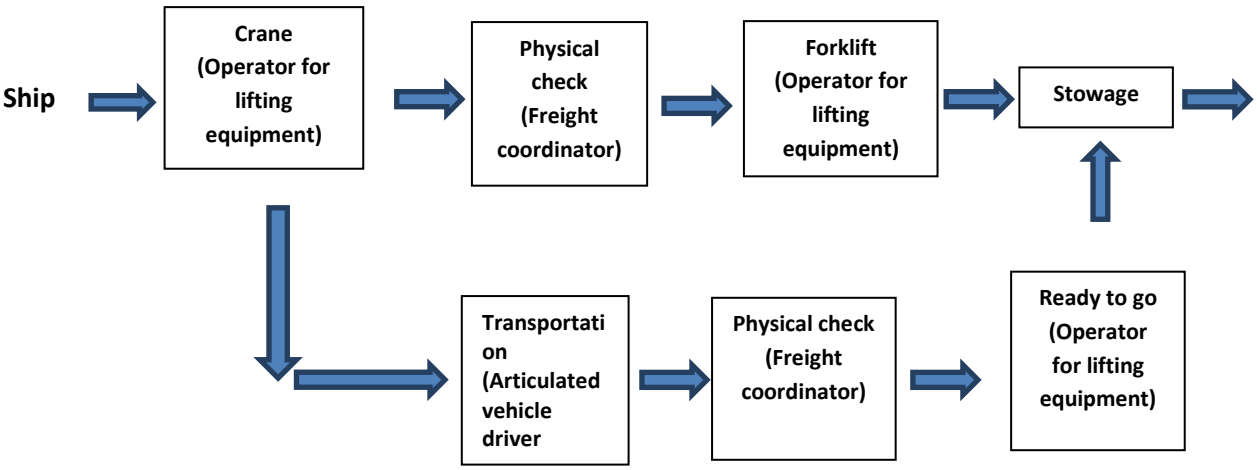
Figure 4. Analysis of the processes flow - the container terminal



Once the basic flow has been determined, the actual process can be established, defined as a process or as part of a process where added value is added to the products (e.g. physical check of the container, ship for unloading). The equipment used in each limit process must be clearly specified, especially the inputs and outputs of the process. This allows compiling a list of competencies for each process.

The analysis of a job is performed to identify all competencies that should be met by the same individual. Once completed, it is important for all stakeholders to approve this analysis, especially trade unions, in order to determine the complexity degree of the trade/occupation that has a significant impact on remuneration and future competencies that must be developed and the career opportunities.

Figure 5



The systems analysis is designed to identify other additional systems that are essential for carrying out the work process, such as communications systems or IT system. These systems will create additional competencies for the job (e.g. communication skills, IT skills).

The task analysis is then used to finalize the list of competencies and identify skills that form different competencies. This stage is time consuming because it involves the detailed analysis of each competency.

The analysis of results completes this frame by identifying the performance criteria for specific competencies. The results are based on operational requirements and must be measurable (for example, tones per hour).

2. Gap analysis

In certain cases, the Gap analysis can be concerning for the workforce, especially for the people who have been employed for many years in a row on the same job or in countries where there is no culture concerning continuous vocational training. Telling to an experienced worker that he doesn't have the necessary skills to operate in a secure, efficient manner in compliance with the quality standards required, can be daunting.

3. Individual learning plans

The third stage of the continuous training cycle uses information from the Gap analysis to develop a vocational training plan for each worker. Shortages related to a job must be filled / removed for the employee to be considered competent and perform tasks better. In many cases, the employee is already carrying out the tasks to the required standard, but has not yet followed an appropriate training program or a specific unit of the standard.

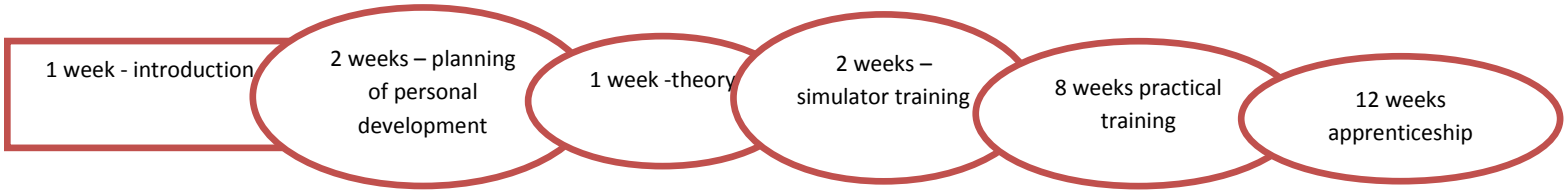
4. Training

The recommended physical and human resources for continuous vocational training in the port sector are shown in **Appendix 6**. Not all ports have their own training facilities or will be able to use other external facilities in their country or ask for the services of an international organization providing vocational training of adults. A Chinese proverb says: "Tell me and I'll forget. Show me and I'll remember. Involve me and I'll understand."

The vocational training programmes are based on the following principles:

- The results should be defined for each vocational training programme
- Active learning - the theory and the practical applications should be part of the programme
- The standard procedures from ports should be part of the training programme
- The continuous assessment of participants should be performed according to a schedule
- The final assessment of participants must be carried out based on predefined criteria

Ex: training for the operator of lifting equipment



5. Assessment and accreditation

Continuous assessment is a training practice providing feedback to trainers and learners. The good practices indicate that all assessment should be:

- Relevant
- Correct
- Achievable
- Firm/reliable
- Systematic
- Coherent
- Appropriate
- Integrated
- Valid/authorized
- Open/transparent
- Sufficient

9. STRATEGIC LINES AND STRATEGIC OBJECTIVES

From the above analyses, one of the **strategic directions** on which we could act is the **training and development of competencies of the workforce in the port sector**.

The strategic objective of this line is **to design and implement a training system based on the revised categories of trades and competencies concerning workforce in the port sector.**

9.1. OPERATIONAL OBJECTIVES AND PERFORMANCE CRITERIA

For the strategic objective stated above, the operational objectives are:

OO1: Review of the occupational standards for operational jobs in the fluvial port sector

- **Performance criterion:** number of occupational standards reviewed and approved by ANC – National Qualifications Authority in Romania in the COR – Code of Occupations in Romania

OO2: Establishing and opening a vocational training center for the jobs specific to operational activities in the river port sector

- **Performance criteria** (related to the action in Chapter 9 below)**:** number of developed concepts, number of feasibility studies, number of recruited and trained trainers,

number of training programmes accredited and realized, number of monthly appearances in the media, number of students/course, turnover.

BIBLIOGRAPHY

1) *EUROPA 2020 – O strategie europeană pentru o creștere inteligentă, ecologică și favorabilă incluziunii*, Comunicare a Comisiei Europene, accesată la adresa: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:RO:PDF în data de 03.09.2015, ora 10:30

   (Europe 2020 - A European strategy for smart, sustainable and inclusive growth, Communication from the European Commission, accessed at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010 : 2020: FIN: EN: PDF on 03/09/2015 at 10:30)

2) *European Union Strategy for Danube Region*, Communication from The Commission fo The European Parliament, The Council, The European Economic and Social Committee and The Committee of The Regions, Brussels, 08/12/2010, accesată la adresa: http://www.danube-region.eu/component/edocman/?task=document.viewdoc&id=36&Itemid=0 în data de 18.08.2015, ora 13:40

3) *Ghid transportul pe Dunăre: Porturi dunărene*, RIA/PLATINA, 2010-2011 accesat la adresa: http://ria.org.ro/ria/images/platina/danube/porturi%20dunarene.pdf în data de 14.08.2015, ora 10:10

   (Transportation on the Danube: Danube ports - Guide, RIA / PLATINA 2010-2011 accessed at: http://ria.org.ro/ria/images/platina/danube/porturi%20dunarene.pdf on 14.08. 2015 10:10)

4) *ILO Guidelines on Training in the Port Sector*, International Labour Office, Sectoral Activities Department, Geneva, 2012, accesate la adresa *(accessed at)*: http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/normativeinstrument/wcms_214609.pdf în data de: 19.08.2015, ora 09:30 *(on 19/08/2015 at 09:30)*

5) *Panorama Inforegio* nr. 37/2011, accesată la adresa: http://ec.europa.eu/regional_policy/sources/docgener/panorama/pdf/mag37/mag37_ro.pdf în data de 03.09.2015, ora 10:45
(Inforegio Panorama No. 37/2011, accessed at: http://ec.europa.eu/regional_policy/sources/docgener/panorama/pdf/mag37/mag37_ro.pdf on 03/09/2015, 10:45)

6) CIUBOTARU, Ticu, *750 milioane euro pentru porturile dunărene*, articol în ediția electronică a ziarului *România Liberă* din data de 27.10.2013 accesat la adresa: http://www.romanialibera.ro/actualitate/proiecte-locale/750-milioane-euro-pentru-porturile-dunarene-316254 în data de 12.08.2015, ora 13: 22
(750 milion euros for the Danube ports, article in the digital version of *România Liberă, on 27.10.2013, accessed at:* http://www.romanialibera.ro/actualitate/proiecte-locale/750-milioane-euro-pentru-porturile-dunarene-316254, on 12.08.2015, at 13:22)

7) COSTACHE, Carmen; AJDER, Valeriu; STROIA, Valentin și BUDESCU, Natalita, *The Conclusion of Stakeholders and Training Services for Port Workers Survey*, UPIR, Iunie 2015, accesat la adresa: (accessed at) http://danube-ports.ro/training4ports/documente/training4ports%20wp1%20study38.pdf în data de 12.08.2015, ora 16:45

8) TIRON, Mirabela, *Cum facem din fluviul Dunărea principala cale de acces spre Europa: menţinerea adâncimii optime şi investiţiile în porturi, prioritare*, articol în *Ziarul Financiar* din data de 08.04.2014 accesat la adresa: http://www.zf.ro/zf-24/cum-facem-din-

fluviul- dunarea- principala-cale-de-acces-spre-europa-mentinerea-adancimii-optime-si-investitiile-in-porturi-prioritare-12423202 în data de 18.08.2015, ora 11:27.

(How to transform the Danube into the main access path to Europe: keeping the optimal depth and main port investments, article in the Ziarul Financiar newspaper, of 08.04.2014, accessed at: http://www.zf.ro/zf-24/cum-facem-din-fluviul-dunarea-principala-cale-de-acces-spre-europa-mentinerea-adancimii-optime-si-investitiile-in-porturi-prioritare-12423202, on 18.08.2015, 11:27)

9) ZAHARIA, Cosmin, *Dunărea poluată. Cine pune în pericol viața peștilor și care e riscul pentru populație,* postat pe site-ul *Green Report* la adresa: http://www.green-report.ro/dunarea-poluata-cine-pune-in-pericol-viata-pestilor-si-care-e-riscul-pentru-populatie/ și accesat în data de 14.08.2015, la ora 13:00

10) (The polluted Danube. Who endangers the life of fish and what is the risk for the population, published on the Green Report website, at: http://www.green-report.ro/dunarea-poluata-cine-pune-in-pericol-viata-pestilor-si-care-e-riscul-pentru-populatie/ and accessed on 14.08.2015, at 13:00)

11) *Bomba deșeurilor amenință Nistrul și Dunărea*, articol postat pe site-ul *Green Report* la adresa **http://www.green-report.ro/quotbomba-deseurilorquot-ameninta-nistrul-si-dunarea/** și accesat în 14.08.2015, la ora 14:15.

(The waste bomb is threatening the Nister and the Danube, article published on the Green Report website, at **http://www.green-report.ro/quotbomba-deseurilorquot-ameninta-nistrul-si- dunarea/** and accessed on 14.08.2015, at 14:15*)*

12) International Labour Office, "*Guidelines on training in the port sector", Geneva 2011*

Appendix 1: Questions for the focus-group

Regarding the strategy to implement a training system based on the reviewed categories of trades and skills on employment in the port sector.

After presenting the preliminary results of the questionnaire, participants will be asked whether the information presented reflect the reality of that country or not (and why). Discuss with the participants each slide with statistical data taken from questionnaires (or at least the most important slides of such data).

Then, during the focus group, the participants shall respond to the following questions:

A. MAIN QUESTIONS

1. What are the main occupations for which you need people in your organization?
2. How do you intend to recruit people for these occupations?
3. What are the main skills that are lacking in the port sector employees?
4. How do you plan to form / develop these skills?
5. What factors / obstacles prevent the formation / development of these skills?
6. How many courses have they done so far (how often and with whom)? How satisfied are they or not (and why)?
7. Are there occupations in the port sector that are not grounded on an occupational standard? What are these occupations?
8. What are the occupations that should appear in the port sector in the next 5-10 years?
9. How do you see the development of the port sector in the next 5-10 years?
10. What skills do you think shall be needed in the port sector in the next 5-10 years?

B. BACKUP QUESTIONS (if there are few respondents and we have time)

1. What are / will be success factors in the port sector?
2. How does the policy / EU rules affect the port sector?
3. What are the main threats (main factors that can constitute a threat) in the port sector? What should we pay attention to in the ports sector?
4. What are the opportunities that currently exist (or will exist in the near future) for training and skills development in the port sector?
5. What can be done (what action can be taken or what activities can take place) on the human resources to ensure that the activity in the port sector will increase?

Appendix 2: QUESTIONNAIRE 01 (For General Managers or Human Resources Managers)

Dear Sir,

The UNION OF ROMANIAN INLAND PORTS - UPIR, as project leader, is implementing the TRAINING4PORT project (no. 02_PA1a-C1).

The project is funded by the START programme of the European Commission and the Municipality of Vienna.

The overall project objective is to identify the existing gaps on the labor market in the port field, related to the compliance of skills of the port operational staff with the needs of employers and the expectations of employees regarding their professional development.

One of the project's specific goals is to develop a strategy and action plan for the implementation of a competency-based training for employment in the port sector

In this purpose, it is necessary to collect sufficient and relevant information by means of market research with the help of which, the demands of employers shall be identified regarding the categories of trades, competencies and required qualification/training for the port staff in the port sector.

The questionnaire for the analysis of training demands is structured into 5 sections:

- *Section I General information:* This sections collects the initial information on your company as stakeholder in developing the competencies of your employees in the operational port sector
- *Section II Categories of trades demanded in the port sector*
- *Section III Competencies required for the operational staff in the port sector*
- *Section IV Strategic dimension of the training/development of staff in the port sector*

We kindly ask you to complete this questionnaire by Monday, the **3rd of August 2015**. Please pay attention when reading the questions and respond as clear as possible, following the instruction. The responses you give on this questionnaire shall be used exclusively for this project.

Thank you once again for completing this questionnaire that will help us to develop a strategy for implementing a competency-based system for personnel in the port sector.

We kindly ask you to send the completed questionnaire at the following e-mail address: ralucalazar89@yahoo.com

Yours sincerely,

President of UPIR

Carmen COSTACHE

QUESTIONNAIRE 01

INFORMATION REGARDING THE EMPLOYERS

SECTION I: GENERAL INFORMATION

1. Name _____
2. Address_____
3. Contact person and data _____
4. Port(s) where the activities take place
5. Position of the port sector within the company:
   - □ Main activity
   - □ Secondary activity
6. Complete the table with the positions of the operational staff in the port sector, including the management, within the company

COR Code	Name according to COR	Name according to the pay plan	No. of individuals	Activities they take part to (complete the activity code from column 1 of the table from Chapter III, pt.1)

Add more rows if required

SECTION II CATEGORIES OF TRADES DEMANDED IN THE PORT SECTOR

1. In the Romanian Classification of Occupations (Republic of Moldova, Ukraine) there are the following trades for the port sector:

- ❒ Crane operator
- ❒ Bridge crane machinist
- ❒ Crane ship operator
- ❒ Mechanizer (port worker)
- ❒ Loader
- ❒ Chief of the loaders'' team
- ❒ Loader for loading/unloading facilities on the ship and quay
- ❒ Lashing loader
- ❒ Loader-mechanizer
- ❒ Port crane operator
- ❒ Machinist on mobile machineries for inland transports
- ❒ Machinist on fix transport machineries for horizontal and vertical transportation
- ❒ Piling device operator
- ❒ Port tractor driver
- ❒ Auto-trailer driver

- ❒ Port auto-loader driver
- ❒ Port piling device operator
- ❒ Transport agent
- ❒ Information clerk
- ❒ Trade operator
- ❒ Berth operator
- ❒ Programming operator
- ❒ Loading-unloading supervisor
- ❒ Expedition documents checker
- ❒ International forwarding agent
- ❒ Reception operator
- ❒ Port piling operator
- ❒ Port forwarding agent
- ❒ Port dispatcher/planner operator
- ❒ TIR and transit expert operator (higher studies)
- ❒ Cargo railway agent
- ❒ Dispatcher
- ❒ Invoice operator
- ❒ Warehouse operator
- ❒ Store-keeper
- ❒ Bin operator
- ❒ Materials and tools recipient-distributor
- ❒ Product sorter
- ❒ Gas and diesel recipient-distributor

❒ Administrator worker

❒ Port Chief (level of education not stated in the COR)

❒ Transports Head of Department/Deputy (sector) (education level not-mentioned in the COR)

❒ Other (mention which) _____

1. Of these, do you consider that some are not related to the port operating activity?

   □ YES (mention which by checking them above)

   □ NO

2. Are these trades enough to cover all positions required to carry out the port operation activity?

   □ YES

   □ NO (mention which are the jobs that are not found on the list of trades above)

   _____
   _____
   _____

3. What are the positions in your organization with a high turnover of staff (positions in the organization that employees frequently leave)?

   _____
   _____
   _____

4. What are the positions in your organization, for which you cannot find or it is very difficult to find candidates?

   _____
   _____
   _____
   _____

5. According to you, what are the positions that shall register an increase in demand in the port sector over the coming 5-10 years?

   _____
   _____
   _____
   _____

6. According to you, what positions that shall register a decrease in demand in the port sector over the coming 5-10 years?

_____
_____
_____

7. What are the positions currently non-existent in the port sector in the country, but should appear in the future? Motivate this need. Shortly describe the activities these shall perform.

_____
_____
_____
_____

SECTION III COMPETENCIES REQUIRED TO THE OPERATIONAL STAFF IN THE PORT SECTOR

1. Please complete the following table paying attention to the instructions below

Activities carried out by the operational staff in the port*	**Vocational training demands**			**Competency areas**											Periodic assessment requirements (write in the box the time interval at which assessment should be conducted- number of months)		
	Education level	Qualification	Training	Complete the boxes using the codes (K..) related to the competency fields you consider necessary in performing the activity										Suggest other competency fields, if any	Performance	Competency	Skills
Cargo handling																	
A1. inspection, marking, registration of cargo																	
A2.securing the load																	
A3.moving the goods																	
A4.loading/un-loading																	
A5.reception, storage and																	

shipping																	
A6.manual handling																	
A7.auxilliary activities when operating the ships RO-RO																	
A8.operation of facilities for handling bulk liquids																	
A9.handling of stored goods																	
Moving the goods with the help of lifting and handling equipment																	
A10.moving the load with the help of mobile lifting devices																	
A11.moving containers with the help of lifting devices located on the quay																	
A12.lifting and positioning the load with cranes																	
A13.cargo transfer by means of ship facilities																	
A14. handling of dry bulk cargo handling with automated equipment																	
A15.cleaning of																	

ship's storages																	
Driving of road vehicles																	
A16.driving of tractors																	
A17.driving of tractors inside ships RO/RO																	
A18.driving of vehicles in/out of ships RO/RO																	
Auxiliary services for ships																	
A19.tying/untying ships																	
A20.placing the devices for ship access																	
A21.supplying the ship with fuel																	
A22.supplying the ship with water and electricity																	
A23.collecting of waste produced by ships																	
Operating passengers ships																	
A24.interacting with the passengers																	
A25.transporting the passengers to/from the boarding/disem																	

barking place																	
A26.meeting passengers needs																	
A27.transfering passengers to/from small vessels																	
A28.processing the travel documents																	
A29.processing the passengers' luggage																	
Occupational health and safety in the port																	
A30.providing occupational health and safety in the port																	
A31.safe handling of dangerous goods																	
A32. ensuring of safety measures in near water activities																	
A33. ensuring of safety measures in individual activities																	
A34. ensuring of safety measures in activities performed at height																	

A35. ensuring of safety measures in activities performed in narrow spaces																	
A36. ensuring safety in the port																	
Emergency situations management in the port																	
A37.emergency situations response																	
A38.response to environmental pollution situations																	
A39.giving first aid in the port																	
A40.response to emergency situations on board of ships in the port																	
Activities of maintenance and repairs																	
A41. planning and coordinating of the current maintenance and repair of port constructions, facilities and equipment																	
A42.providing the																	

maintenance and repair of port constructions																	
A43.providing the maintenance and repair of facilities, equipment and means of inland transportation																	
A44.providing maintenance and repair of technical ships																	
Leading the operational teams																	
A45. organization and assignment of tasks																	
A46.leading and supervising the activity																	
On the job cooperation																	
A47. development of collaboration relations within the structure																	
A48. maintaining and developing of cooperation with other structures																	
Use of organizational resources in the port activity																	

A49.resource management																	
A50.use of IT systems																	
A51. use of radio broadcasting equipment																	
A52.maintaining of good practices in the field of environmental safety in the port activity																	

* the operational staff is responsible with the activities associated with the transfer of goods and passengers from ship to storage/passenger terminal area

Required education (complete with S or H)

Secondary education	S
Higher education	H

Requirement for the qualification course (complete using YES or NO)

Requirements for the training (both options, one option or no option may be selected)

Training to adapt on the job	JT
Periodical training	PT

field code	**Competency field**

K1	occupational health and safety
K2	environmental safety
K3	risk of accidents, means of escape
K4	port safety
K5	Special regulations on port operating activities
K6	internal procedures and instructions
K7	Port operating technologies
K8	technical and functional features of the held devices / equipment / machineries
K9	Current operation and maintenance of devices / equipment / machineries used
K10	technical and functional characteristics of ships including means of equipping them for handling and cargo designated spaces
K11	technical characteristics and rules of operation of port constructions
K12	functional and technical features of the means for inland transport
K13	Knowledge on the maintenance and operation of means for inland transport
K14	Techniques for tying, securing and loading of goods in the handling devices
K15	Techniques for securing of goods in the storage areas from the means of transport and associated risks
K16	Dangerous goods – characteristics, risks, regulations
K17	Handled goods – characteristics and accompanying documents
K18	Wastes- characteristics, risks, legal regulations
K19	Operation of facilities for water and electricity supply on ships
K20	Operation of facilities for the supply of ships with fuel
K21	Cargo storage technologies

K22	Administration of goods
K23	Storage logistics
K24	logistics of the passengers terminal operation
K25	Transport and distribution logistics
K26	customs formalities
K27	Ship formalities when arriving and leaving the port
K28	Computer skills
K29	Statistics and economic analyses
K30	Use of technical means of radio communication
K31	English language
K32	Legislation of commercial contracts
K33	Planning and prognosis
K34	Organization of work
K35	Work standardization
K36	Marketing services
K37	Negotiation techniques
K38	communication techniques
K39	Calculation of costs and setting of prices
K40	quality management

2. Have you implemented within your organization a periodical assessment system of the employees?

- □ YES
- □ NO

3. Which do you think that are the factors that contribute to the success of a training / development programme? (You may check more than one response for this question.)

❒ location
❒ training and expertise of the trainer
❒ interactivity (the use of exercises, study cases, activities, role games, practical applications)
❒ useful and up to date course support
❒ objective final assessment
❒ other (mention which): _____

4. Which is the optimal number of hours per days within a course?

❒ 4 hours
❒ 6 hours
❒ 8 hours
❒ other (mention which): _____

5. Which is the optimal duration for a programme /training/development course (keeping in mind the number of hours mentioned above) ?

❒ 1 day
❒ 2 days
❒ 3 days
❒ 5 days
❒ 7 days
❒ other (mention which): _____

6. Which are the days of the week optimal for organizing programmes/training/development courses?

❒ during the week: Monday-Friday
❒ during the week: Monday-Thursday
❒ during the week: Tuesday-Friday
❒ during the week: Tuesday-Thursday
❒ during the weekend: Saturday-Sunday
❒ during the extended weekend: Friday-Sunday
❒ during the extended weekend: Saturday-Monday
❒ other option (mention which): _____

7. Where do you think it would be best to have such training/development courses?

❒ at the headquarters of the organization /on the job
❒ at the headquarters of the training provider
❒ outside the city, at the mountainside
❒ outside the city, at the seaside
❒ a different place (mention which): _____

8. Which is the best way, in your opinion, to have the training/development courses?

❒ face-to-face courses
❒ e-learning (distance) courses

❒ mix of e-learning (distance courses) over a large period of time with monthly face-to-face meetings

❒ other option (mention which): _____

SECTION IV STRATEGIC DIMENSION OF TRAINING/DEVELOPMENT IN THE PORT SECTOR

1. Provide information on the availability of the training/qualification services by checking the trades for which you are aware of the existence of a training/qualification form

- ❒ Crane operator
- ❒ Bridge crane machinist
- ❒ Crane ship operator
- ❒ Mechanizer (port worker)
- ❒ Loader
- ❒ Chief of the loaders'' team
- ❒ Loader for loading/unloading facilities on the ship and quay
- ❒ Lashing loader
- ❒ Loader-mechanizer
- ❒ Port crane operator
- ❒ Machinist on mobile machineries for inland transports
- ❒ Machinist on fix transport machineries for horizontal and vertical transportation
- ❒ Piling device operator
- ❒ Port tractor driver
- ❒ Auto-trailer driver
- ❒ Port auto-loader driver
- ❒ Port piling device operator
- ❒ Transport agent
- ❒ Information clerk
- ❒ Trade operator
- ❒ Berth operator
- ❒ Programming operator
- ❒ Loading-unloading supervisor
- ❒ Expedition documents checker
- ❒ International forwarding agent

2. p
   - ❒ Reception operator
   - ❒ Port piling operator
   - ❒ Port forwarding agent
   - ❒ Port dispatcher/planner operator
   - ❒ TIR and transit expert operator (higher studies)
   - ❒ Cargo railway agent
   - ❒ Dispatcher
   - ❒ Invoice operator
   - ❒ Warehouse operator
   - ❒ Store-keeper
   - ❒ Bin operator
   - ❒ Materials and tools recipient-distributor
   - ❒ Product sorter
   - ❒ Gas and diesel recipient-distributor
   - ❒ Administrator worker
   - ❒ Port Chief (level of education not stated in the COR)
   - ❒ Transports Head of Department/Deputy (sector) (education level not-mentioned in the COR)

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on regarding the accessing of these services by checking the trades you have accessed the training/qualification services up to this point

❒ Crane operator
❒ Bridge crane machinist
❒ Crane ship operator
❒ Mechanizer (port worker)
❒ Loader
❒ Chief of the loaders'' team
❒ Loader for loading/unloading facilities on the ship and quay
❒ Lashing loader
❒ Loader-mechanizer
❒ Port crane operator
❒ Machinist on mobile machineries for inland transports
❒ Machinist on fix transport machineries for horizontal and vertical transportation
❒ Piling device operator
❒ Port tractor driver
❒ Auto-trailer driver
❒ Port auto-loader driver
❒ Port piling device operator
❒ Transport agent
❒ Information clerk
❒ Trade operator
❒ Berth operator
❒ Programming operator
❒ Loading-unloading supervisor
❒ Expedition documents checker
❒ International forwarding agent
❒ Reception operator
❒ Port piling operator
❒ Port forwarding agent
❒ Port dispatcher/planner operator
❒ TIR and transit expert operator (higher studies)
❒ Cargo railway agent
❒ Dispatcher
❒ Invoice operator
❒ Warehouse operator
❒ Store-keeper
❒ Bin operator
❒ Materials and tools recipient-distributor
❒ Product sorter
❒ Gas and diesel recipient-distributor
❒ Administrator worker
❒ Port Chief (level of education not stated in the COR)
❒ Transports Head of Department/Deputy (sector) (education level not-mentioned in the COR)

3. Approximately, what is the training budget you assign annually per employee? (average, in lei)

_____

4 .Approximately, in how many training per year does an employee take part?

_____

5. How many employees do you approximate you are going to send for training in the following year?

_____

6. What are the positions for which you estimate you are going to have to train your employees over the coming 5-10 years?

_____
_____
_____

7. How many employees do you estimate you are going to send for training in the coming 5-10 years?

Name of job	No. of employees

Add more lines if necessary

8. Considering the external factors, estimate the turnover of the organization in the coming 5-10 years

- ❒ it shall increase
- ❒ it shall decrease
- ❒ it shall stagnate

9. By what percentage do you consider the turnover will increase / decrease /stagnate in the coming 5-10 years?

_____

10. What are the main factors you estimate are going to cause this increase/ decrease/ stagnation?

_____

Appendix 3: QUESTIONNAIRE 02 (EMPLOYEE)

To _____ write the name of the trade union

For the attention of _____

Dear Sir/Dear Madame,

The UNION OF ROMANIAN INLAND PORTS - UPIR, as project leader, is implementing the TRAINING4PORT project (no. 02_PA1a-C1).

The project is funded by the START programme of the European Commission and the Municipality of Vienna.

The overall project objective is to identify the existing gaps on the labor market in the port field, related to the compliance of skills of the port operational staff with the needs of employers and the expectations of employees regarding their professional development.

One of the project's specific goals is to develop a strategy and action plan for the implementation of a competency-based training for employment in the port sector

In this purpose, it is necessary to collect sufficient and relevant information by means of market research with the help of which, the demands of employers shall be identified regarding the categories of trades, competencies and required qualification/training for the port staff in the port sector.

- *Section I General information:* This sections collects the initial information on your company as stakeholder in developing the competencies of your employees in the operational port sector
- *Section II Categories of trades demanded in the port sector*
- *Section III Competencies required for the operational staff in the port sector*
- *Section IV Strategic dimension of the training/development of staff in the port sector*

We kindly ask you to complete this questionnaire by Monday, the **3rd of August 2015**. Please, pay attention when reading the questions and respond as clear as possible, following the instruction. The responses you give on this questionnaire shall be used exclusively for this project.

Thank you once again for completing this questionnaire that will help us to develop a strategy for implementing a competency-based system for personnel in the port sector.

We kindly ask you to send the completed questionnaire at the following e-mail address: ralucalazar89@yahoo.com

Yours sincerely,

President of UPIR,

Costache Carmen-Mariana

QUESTIONNAIRE 01

INFORMATION REGARDING THE EMPLOYEES

SECTION I: GENERAL INFORMATION

1. Name _____
2. Address_____
3. Contact person and data _____
4. Port (s) where the activities take place and your employers are
5. Number of members _____
6. Membership in other organizations:
   _____
   _____

SECTION II CATEGORIES OF TRADES DEMANDED IN THE PORT SECTOR

In the Romanian Classification of Occupations (Republic of Moldova, Ukraine) there are the following trades for the port sector:

❒ Crane operator

❒ Bridge crane machinist

❒ Crane ship operator

❒ Mechanizer (port worker)

❒ Loader

❒ Chief of the loaders'' team

❒ Loader for loading/unloading facilities on the ship and quay

❒ Lashing loader

❒ Loader-mechanizer

❒ Port crane operator

❒ Machinist on mobile machineries for inland transports

❒ Machinist on fix transport machineries for horizontal and vertical transportation

❒ Piling device operator

❒ Port tractor driver

❒ Auto-trailer driver

❒ Port auto-loader driver

❒ Port piling device operator

❒ Transport agent

❒ Information clerk

❒ Trade operator

❒ Berth operator

❒ Programming operator

❒ Loading-unloading supervisor

❒ Expedition documents checker

❒ International forwarding agent

❒ Reception operator

❒ Port piling operator

❒ Port forwarding agent

❒ Port dispatcher/planner operator

❒ TIR and transit expert operator (higher studies)

❒ Cargo railway agent

❒ Dispatcher

❒ Invoice operator

Of these, do you consider that some are not related to the port operating activity?

❒ Warehouse operator

❒ Store-keeper

❒ Bin operator

❒ Materials and tools recipient-distributor

❒ Product sorter

❒ Gas and diesel recipient-distributor

❒ Administrator worker

❒ Port Chief (level of education not stated in the COR)

❒ Transports Head of Department/Deputy (sector) (education level not-mentioned in the COR)

❒ Other (mention which) _____

□ YES (mention which by checking them above)

□ NO

8. Are these trades enough to cover all positions required to carry out the port operation activity?

□ YES

□ NO (mention which are the jobs that are not found on the list of trades above)

_____

_____

_____

9. According to you, what are the positions that shall register an increase in demand in the port sector over the coming 5-10 years?

_____
_____
_____

10. According to you, what are the positions that shall register a decrease in demand in the port sector over the coming 5-10 years?

_____
_____
_____

11. What are the positions currently non-existent in the port sector in the country, but should appear in the future? Motivate this need. Shortly describe the activities these shall perform?

_____
_____
_____

SECTION III COMPETENCIES REQUIRED TO THE OPERATIONAL STAFF IN THE PORT SECTOR

1. Please complete the following table paying attention to the instructions below

Activities carried out by the operational staff in the port*	**Vocational training demands**			**Competency areas**		Periodic assessment requirements (write in the box the time interval at which assessment should be conducted- number of months)		
	Education level	Qualification	Training	Complete the boxes using the codes (K..) related to the competency fields you consider necessary in performing the activity	Suggest other competency fields, if any	Performance	Competency	Skills
Cargo handling								
A1. inspection, marking, registration of cargo								

A2. securing the load																
A3. moving the goods																
A4. loading/un-loading																
A5. reception, storage and shipping																
A6. manual handling																
A7. auxiliary activities when operating the ships RO-RO																
A8. operation of facilities for handling bulk liquids																
A9. handling of stored goods																
Moving the goods with the help of lifting and handling equipment																
A10. moving the load with the help of mobile lifting devices																
A11. moving containers with the help of lifting devices located on the quay																
A12. lifting and positioning the load with cranes																
A13. cargo transfer by means																

of ship facilities																
A14. handling of dry bulk cargo handling with automated equipment																
A15.clening the storages of the ship																
Driving of road vehicles																
A16. driving of tractors																
A17. driving of tractors inside ships RO/RO																
A18. driving of vehicles in/out of ships RO/RO																
Auxiliary services for ships																
A19. .tying/untying ships																
A20. placing the devices for ship access																
A21. supplying the ship with fuel																
A22. supplying the ship with water and electricity																
A23. collecting of waste produced																

by ships																
Operating passengers ships																
A24. interacting with the passengers																
A25. transporting the passengers to/from the boarding/disembarking place																
A26. meeting passengers needs																
A27. transferring passengers to/from small vessels																
A28. processing the travel documents																
A29. processing the passengers' luggage																
Occupational health and safety in the port																
A30. providing occupational health and safety in the port																
A31. safe handling of dangerous goods																
A32. ensuring of safety measures in near water																

activities																
A33. ensuring of safety measures in individual activities																
A34. ensuring of safety measures in activities performed at height																
A35. ensuring of safety measures in activities performed in narrow spaces																
A36. ensuring safety in the port																
Emergency situations management in the port																
A37. emergency situations response																
A38. response to environmental pollution situations																
A39. giving first aid in the port																
A40. response to emergency situations on board of ships in the port																
Activities of maintenance and repairs																

A41. planning and coordinating of the current maintenance and repair of port constructions, facilities and equipment																	
A42. providing the maintenance and repair of port constructions																	
A43. providing the maintenance and repair of facilities, equipment and means of inland transportation																	
A44. providing maintenance and repair of technical ships																	
Leading the operational teams																	
A45. organization and assignment of tasks																	
A46. leading and supervising the activity																	
On the job cooperation																	
A47. development of collaboration relations within																	

the structure																
A48. maintaining and developing of cooperation with other structures																
Use of organizational resources in the port activity																
A49. resource management																
A50. use of IT systems																
A51. use of radio broadcasting equipment																
A52. maintaining of good practices in the field of environmental safety in the port activity																

* the operational staff is responsible with the activities associated with the transfer of goods and passengers from ship to storage/passenger terminal area

Required education (complete with S or H)

Secondary education	S
Higher education	H

Requirement for the qualification course (complete using YES or NO)

Requirements for the training (both options, one option or no option may be selected)

Training to adapt on the job	JT
Periodical training	PT

field code	**Competency field**
K1	occupational health and safety
K2	environmental safety
K3	risk of accidents, means of escape
K4	port safety
K5	Special regulations on port operating activities
K6	internal procedures and instructions
K7	Port operating technologies
K8	technical and functional features of the held devices / equipment / machineries
K9	Current operation and maintenance of devices / equipment / machineries used
K10	technical and functional characteristics of ships including means of equipping them for handling and cargo designated spaces
K11	technical characteristics and rules of operation of port constructions
K12	functional and technical features of the means for inland transport
K13	Knowledge on the maintenance and operation of means for inland transport
K14	Techniques for tying, securing and loading of goods in the handling devices
K15	Techniques for securing of goods in the storage areas from the means of transport and associated risks
K16	Dangerous goods – characteristics, risks, regulations

K17	Handled goods – characteristics and accompanying documents
K18	Wastes- characteristics, risks, legal regulations
K19	Operation of facilities for water and electricity supply on ships
K20	Operation of facilities for the supply of ships with fuel
K21	Cargo storage technologies
K22	Administration of goods
K23	Storage logistics
K24	logistics of the passengers terminal operation
K25	Transport and distribution logistics
K26	customs formalities
K27	Ship formalities when arriving and leaving the port
K28	Computer skills
K29	Statistics and economic analyses
K30	Use of technical means of radio communication
K31	English language
K32	Legislation of commercial contracts
K33	Planning and prognosis
K34	Organization of work
K35	Work standardization
K36	Marketing services
K37	Negotiation techniques
K38	communication techniques
K39	Calculation of costs and setting of prices
K40	quality management

2. Do you consider it necessary to have a periodic assessment system of employees?
   - □ YES
   - □ NO

3. Do you think it's necessary for the employees to have access at a system of self-assessment?
   - □ YES
   - □ NO

4. Do you consider it's necessary to certify the competencies of employees?
   - □ YES
   - □ NO

Section IV CAREER DEVELOPMENT FOR THE EMPLOYEES IN THE PORT SECTOR

1. Provide information on the availability of the training/qualification services by checking the trades for which you are aware of the existence of a training/qualification form

❒ Crane operator
❒ Bridge crane machinist
❒ Crane ship operator
❒ Mechanizer (port worker)
❒ Loader
❒ Chief of the loaders'' team
❒ Loader for loading/unloading facilities on the ship and quay
❒ Lashing loader
❒ Loader-mechanizer
❒ Port crane operator
❒ Machinist on mobile machineries for inland transports
❒ Machinist on fix transport machineries for horizontal and vertical transportation
❒ Piling device operator
❒ Port tractor driver
❒ Auto-trailer driver
❒ Port auto-loader driver
❒ Port piling device operator
❒ Transport agent
❒ Information clerk
❒ Trade operator
❒ Berth operator
❒ Programming operator
❒ Loading-unloading supervisor
❒ Expedition documents checker
❒ International forwarding agent
❒ Reception operator
❒ Port piling operator
❒ Port forwarding agent
❒ Port dispatcher/planner operator
❒ TIR and transit expert operator (higher studies)
❒ Cargo railway agent
❒ Dispatcher
❒ Invoice operator
❒ Warehouse operator
❒ Store-keeper
❒ Bin operator
❒ Materials and tools recipient-distributor
❒ Product sorter
❒ Gas and diesel recipient-distributor
❒ Administrator worker
❒ Port Chief (level of education not stated in the COR)
❒ Transports Head of Department/Deputy (sector) (education level not-mentioned in the COR)

2. Prioritize the fields of competency ac

cording to the training and intensity of the qualification demand, assigning numbers on a scale from 1 to 10 (1 = minimum demand; 10 = maximum demand). The same number may be assigned for more competencies. It is not mandatory to assign all numbers.

field code	Competency field
	occupational health and safety
	environmental safety
	risk of accidents, means of escape
	port safety
	Special regulations on port operating activities
	internal procedures and instructions
	Port operating technologies
	technical and functional features of the held devices / equipment / machineries
	Current operation and maintenance of devices / equipment / machineries used
	technical and functional characteristics of ships including means of equipping them for handling and cargo designated spaces
	technical characteristics and rules of operation of port constructions
	functional and technical features of the means for inland transport
	Knowledge on the maintenance and operation of means for inland transport
	Techniques for tying, securing and loading of goods in the handling devices
	Techniques for securing of goods in the storage areas from the means of transport and associated risks
	Dangerous goods – characteristics, risks, regulations
	Handled goods – characteristics and accompanying documents
	Wastes- characteristics, risks, legal regulations
	Operation of facilities for water and electricity supply on ships
	Operation of facilities for the supply of ships with fuel

	Cargo storage technologies
	Administration of goods
	Storage logistics
	logistics of the passengers terminal operation
	Transport and distribution logistics
	customs formalities
	Ship formalities when arriving and leaving the port
	Computer skills
	Statistics and economic analyses
	Use of technical means of radio communication
	English language
	Legislation of commercial contracts
	Planning and prognosis
	Organization of work
	Work standardization
	Marketing services
	Negotiation techniques
	communication techniques
	Calculation of costs and setting of prices
	quality management

4. Are the employees interested to invest their own resources for developing their competencies?
    a. YES
    b. NO

5. What is the maximum annual amount the employees are willing to assign to develop their competencies?

_____

6. Which do you think that are the factors that contribute to the success of a training / development programme? (You may check more than one response for this question.)

❒ location
❒ training and expertise of the trainer
❒ interactivity (the use of exercises, study cases, activities, role games, practical applications)
❒ useful and up to date course support
❒ objective final assessment
❒ other (mention which): _____

7. Which is the optimal number of hours per days within a course?

❒ 4 hours
❒ 6 hours
❒ 8 hours
❒ other (mention which): _____

8. Which is the optimal duration for a programme /training/development course (keeping in mind the number of hours mentioned above) ?

❒ 1 day
❒ 2 days
❒ 3 days
❒ 5 days
❒ 7 days
❒ other (mention which): _____

9. Which are the days of the week optimal for organizing programmes/training/development courses?

❒ during the week: Monday-Friday
❒ during the week: Monday-Thursday
❒ during the week: Tuesday-Friday
❒ during the week: Tuesday-Thursday
❒ during the weekend: Saturday-Sunday
❒ during the extended weekend: Friday-Sunday
❒ during the extended weekend: Saturday-Monday
❒ other option (mention which): _____

10. Where do you think it would be best to have such training/development courses?

❒ at the headquarters of the organization /on the job

❒ at the training provider headquarters of the

❒ outside the city, at the mountainside
❒ outside the city, at the seaside
❒ a different place (mention which): _____

11. Which is the best way, in your opinion, to have the training/development courses?

❒ face-to-face courses
❒ e-learning (distance) courses
❒ mix of e-learning (distance courses) over a large period of time with monthly face-to-face meetings
❒ other option (mention which): _____

Appendix 4: Port operational trades (42)

(from Carmen COSTACHE, Valeriu AJDER, Valentin STROIA și Natalita BUDESCU, *The Conclusion of Stakeholders and Training Services for Port Workers Survey*, UPIR, June 2015, accessed at: http://danube-ports.ro/training4ports/documente/training4ports%20wp1%20study38.pdf of 12.08.2015, 16:45)

COR	Trade	**Place in the COR**	**Correspondence**	**Short description**

code			with ISCO 08	
834301	Crane operator	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834302	Bridge crane machinist	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834304	Ship crane operator	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834308	Mechanizer (port worker)	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.

		similar		
834310	loader	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834311	Chief of the loaders team	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834312	Loader for loading/unloading facilities on the ship and quay	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834313	Lashing loader	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.

		similar		
834314	Loader-mechanizer	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834315	Port crane operator	Major group 8/ Major subgroup 83/Minor group 834/**8343** Crane, bridge crane, ship crane, underground elevators and those similar	8343 - Crane, hoist and related plant operators	Crane, bridge crane, ship crane, underground elevators and those with similar positions operate and supervise the fix and mobile cranes and other lifting equipment.
834401	Machinist on mobile machineries for inland transports	Major group 8/ Major subgroup 83/Minor group 834/**8344** Operators of facilities for transport of palletized goods	8344 - Lifting truck operators	Operators of facilities for transport of palletized goods act and supervise the forklifts or similar vehicles for transportation, lift and stack pallets of goods.
834402	Machinist on fix transport machineries for horizontal and vertical transportation	Major group 8/ Major subgroup 83/Minor group 834/**8344** Operators of facilities for transport of palletized goods	8344 - Lifting truck operators	Operators of facilities for transport of palletized goods act and supervise the forklifts or similar vehicles for transportation, lift and stack pallets of goods.
834403	Piling device	Major group 8/ Major	8344 - Lifting	Operators of facilities for

	operator	subgroup 83/Minor group 834/**8344** Operators of facilities for transport of palletized goods	truck operators	transport of palletized goods act and supervise the forklifts or similar vehicles for transportation, lift and stack pallets of goods.
834404	Port tractor driver	Major group 8/ Major subgroup 83/Minor group 834/**8344** Operators of facilities for transport of palletized goods	8344 - Lifting truck operators	Operators of facilities for transport of palletized goods act and supervise the forklifts or similar vehicles for transportation, lift and stack pallets of goods.
834405	Auto-trailer driver	Major group 8/ Major subgroup 83/Minor group 834/**8344** Operators of facilities for transport of palletized goods	8344 - Lifting truck operators	Operators of facilities for transport of palletized goods act and supervise the forklifts or similar vehicles for transportation, lift and stack pallets of goods.
834406	Port auto-loader driver	Major group 8/ Major subgroup 83/Minor group 834/**8344** Operators of facilities for transport of palletized goods	8344 - Lifting truck operators	Operators of facilities for transport of palletized goods act and supervise the forklifts or similar vehicles for transportation, lift and stack pallets of goods.
834407	Port piling device operator	Major group 8/ Major subgroup 83/Minor group 834/**8344** Operators of facilities for transport of	8344 - Lifting truck operators	Operators of facilities for transport of palletized goods act and supervise the forklifts or similar vehicles for transportation, lift and

		palletized goods		stack pallets of goods.
432301	Transport agent	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432302	Information clerk	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432314	Trade operator	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432315	Berth operator	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of

				passengers, freight transport and prepare reports for the senior management.
432316	Programming operator	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432329	Loading-unloading supervisor	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432330	Expedition documents checker	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432331	International forwarding	Major group 4/ Major subgroup 43/Minor	4323 - Transport	Transport clerks keep record of operational

	agent	group 432/**4323** Transport clerks	clerks	aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432332	Reception operator	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432337	Port piling device operator	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432338	Port piling operator	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior

				management.
432339	Port dispatcher/planner operator	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432341	TIR and transit expert operator (higher studies)	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432342	Cargo railway agent	Major group 4/ Major subgroup 43/Minor group 432/**4323** Transport clerks	4323 - Transport clerks	Transport clerks keep record of operational aspects and coordinate the timing of trains, road and air transport of passengers, freight transport and prepare reports for the senior management.
432201	Dispatcher	Major subgroup 43/Minor group 432/**4322** Clerks for planning and tracking	4322 - Production clerks	Clerks for planning and tracking production calculate the quantities of materials required at specified dates for

		production		manufacturing, construction and similar production programmes, prepare and check the progress of the production schedule
432202 -	Invoice operator	Major subgroup 43/Minor group 432/**4322** Clerks for planning and tracking production	4322 - Production clerks	Clerks for planning and tracking production calculate the quantities of materials required at specified dates for manufacturing, construction and similar production programmes, prepare and check the progress of the production schedule
432101	Warehouse operator	Major subgroup 43/Minor group 432/**4321** Clerks in charge of stocks	4321 - Stock clerks	Clerks in charge of stocks keep records of goods produced and production materials received, weighed, issued, dispatched or put in stock.
432102	Store-keeper	Major subgroup 43/Minor group 432/**4321** Clerks in charge of stocks	4321 - Stock clerks	Clerks in charge of stocks keep records of goods produced and production materials received, weighed, issued, dispatched or put in stock.
432103	Bin operator	Major subgroup 43/Minor group 432/**4321** Clerks in	4321 - Stock clerks	Clerks in charge of stocks keep records of goods produced and production materials received,

		charge of stocks		weighed, issued, dispatched or put in stock.
432104	Materials and tools recipient-distributor	Major subgroup 43/Minor group 432/**4321** Clerks in charge of stocks	4321 - Stock clerks	Clerks in charge of stocks keep records of goods produced and production materials received, weighed, issued, dispatched or put in stock.
432106	Product sorter	Major subgroup 43/Minor group 432/**4321** Clerks in charge of stocks	4321 - Stock clerks	Clerks in charge of stocks keep records of goods produced and production materials received, weighed, issued, dispatched or put in stock.
432110	Gas and diesel recipient-distributor	Major subgroup 43/Minor group 432/**4321** Clerks in charge of stocks	4321 - Stock clerks	Clerks in charge of stocks keep records of goods produced and production materials received, weighed, issued, dispatched or put in stock.
432111	Administrator worker	Major subgroup 43/Minor group 432/**4321** Clerks in charge of stocks	4321 - Stock clerks	Clerks in charge of stocks keep records of goods produced and production materials received, weighed, issued, dispatched or put in stock.
132421	Port Chief (level of education not stated in the COR)	Major subgroup 13/Minor group 132/**1324 The heads of units for supply and sale of goods**		The heads of units for supply and sale of goods and their subordinates plan, manage and coordinate the supply, transportation, storage

				and distribution of goods activity.
132425	Transports Head of Department/Deputy (sector) (education level not-mentioned in the COR)	Major subgroup 13/Minor group 132/**1324 The heads of units for supply and sale of goods**		The heads of units for supply and sale of goods and their subordinates plan, manage and coordinate the supply, transportation, storage and distribution of goods activity.

Appendix 5: Type of competencies – codes

Field code	Competency field
K1	occupational health and safety
K2	environmental safety
K3	risk of accidents, means of escape
K4	port safety
K5	Special regulations on port operating activities
K6	internal procedures and instructions
K7	Port operating technologies
K8	technical and functional features of the held devices / equipment / machineries
K9	Current operation and maintenance of devices / equipment / machineries used
K10	technical and functional characteristics of ships including means of equipping them for handling and cargo designated spaces
K11	technical characteristics and rules of operation of port constructions
K12	functional and technical features of the means for inland transport
K13	Knowledge on the maintenance and operation of means for inland transport
K14	Techniques for tying, securing and loading of goods in the handling devices
K15	Techniques for securing of goods in the storage areas from the means of transport and associated risks
K16	Dangerous goods – characteristics, risks, regulations
K17	Handled goods – characteristics and accompanying documents
K18	Wastes- characteristics, risks, legal regulations

K19	Operation of facilities for water and electricity supply on ships
K20	Operation of facilities for the supply of ships with fuel
K21	Cargo storage technologies
K22	Administration of goods
K23	Storage logistics
K24	Logistics of the passengers terminal operation
K25	Transport and distribution logistics
K26	Customs formalities
K27	Ship formalities when arriving and leaving the port
K28	Computer skills
K29	Statistics and economic analyses
K30	Use of technical means of radio communication
K31	English language
K32	Legislation of commercial contracts
K33	Planning and prognosis
K34	Organization of work
K35	Work standardization
K36	Marketing services
K37	Negotiation techniques
K38	Communication techniques
K39	Calculation of costs and setting of prices
K40	Quality management

Appendix 6: Conditions for developing a training in the port

The class rooms for the training must be designed to fit small groups of 15 -20 students. It is desirable to create an area for a library or study room, a room for the audiovisual equipment, computer and other technical equipment needed for the materials.

The room where the training takes place should not be noisy, should be far from building sites or crowded rooms and corridors, the temperature and ventilation should be optimal for conducting the training sessions. The classroom should have natural light and be equipped with curtains for when using the projector. The rooms must be equipped with a computer, flipchart, video-projector, projection screen, DVD player and monitors.

To hold the training in the port sector it is required to have a well equipped laboratory, where absolutely all employees of the port would fit, to become familiar with the computer-based training and management tools, all of which could be used in a flexible and ingenious manner.

The materials used for training must be completed to a high standard. Many ports and port operators successfully use simulators for quay cranes. In some ports, the simulators were

constructed knowledge and using in-house materials in collaboration with IT and engineering departments.

The simulators have the following advantages:

- They're a universal milestone for all ports
- The weather is no impediment
- All trainees are assessed
- The incident risk decreases once the training is completed
- The students become confident in an environment that is not stressful
- Time and personnel are used more efficiently (may be used 24/7)
- Provide the initial training and may introduce new equipment

Appendix 7: General characteristics of trainers

- Relevant expertise in the port sector
- Specific qualification for the job
- The ability to create an environment characterized by trust and
- The ability to perceive and respond to the group dynamics
- Excellent interpersonal skills
- Expertise in various learning environments and contexts
- The ability to value ideas and suggestions
- The ability to value collaboration
- The ability to stand aside / to reflect and be flexible
- To seek assistance and feedback from colleagues
- The ability to recognize learners with learning problems and adopt the proper material and method
- Capacity to be creative
- Having a sense of humor