



# **DERIN** project

Digital Education Readiness in Maritime and Inland Navigation

A report of tools
for creating
a new European network
of possible educators/trainers
with the long-term goal
of multiplication of
innovative learning
in waterborne transport

How to maximise the potential of the project results and long term impact beyond the end of DERIN project

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## 1. Summary

Creating DeriNetwork <a href="https://www.linkedin.com/showcase/derin-network/">https://www.linkedin.com/showcase/derin-network/</a>, previously planned as "DERINNet", a network of teachers/trainers whose aims are to share knowledge and cooperation amongst professionals in digital education in maritime and inland navigation and to promote related practices across Europe, was one of the main activities of DERIN project.

With the long-term goal of multiplication of innovative e-learning in waterborne transport, this "report" is a tool to support maximisation of project results and impact and uses of the created materials beyond the project period.

Creating the network on LinkedIn platform was considered the best option, while the number of followers and the statistics regarding its activity, analysed one month before the end of the project, show that with considerable work and time invested, one may the get the expected results.

Objectives, name, media, needed resources and criteria for inviting members into DeriNetwork are detailed, as well as the digital tools that can enhance learning and teaching, considering content, digital communication, learning platforms, collaboration learning, assessment and feedback tools. Warp VR is also briefly introduces as the platform used in the elaboration of the project intellectual outputs.

Main immersive reality (virtual reality) teaching materials developed within the project can be found here:

✓ For an immersive experience:

https://app.warp.studio/p/229a2a2b2749821e4ddd44a7 https://app.warp.studio/p/f1f6c1c7dbe329d82581bd4c

✓ To watch the 2D recording of the Virtual Reality training scenario:

https://www.youtube.com/@DERINPROJECT

#### 2. DeriNetwork

#### **OBJECTIVES**

According to the Application Form and to be in line with project objectives, activities and verifiable indicators, one of the planned outcomes is an established framework for cooperation, a network of teachers/ trainers whose aims are to share knowledge and cooperation amongst professionals in digital education in maritime and inland navigation and to promote related practices across Europe.

DeriNetwork aims to impact and promote sector professionals' collaboration with industry stakeholders: forwarders, agents, shipping companies, port industry etc. while specialists engaged in water transport education and training can also establish joint learning programmes to become innovation process outcomes (employee technology-based training programmes or university students based training programmes).

DeriNetwork gives educators the opportunity to upgrade their knowledge and teaching skills in combination with innovative multimedia equipment, especially Virtual Reality devices and online platforms. Within the network, any interested party, regardless of their sector of activity, can find the materials developed by the project team thus not only multiplying the results of the project, but also allowing them to use the scenarios, to be inspired by the created scenarios in order to create their own or to self-evaluate, according to their needs.





The consortium had initially planned to refer to their community as DERINNet, but with the aim of having a more descriptive and pertinent title, they opted to go with DeriNetwork, which combines the acronym of the project (DERIN = Digital Education Readiness in Maritime and Inland Navigation) with the notion of network. This decision was made to ensure the name accurately communicates the purpose of the project both internally and externally, to those directly involved and the professionals interested in joining the group.

### **MEDIA**

To ensure that the communication channel is functioning optimally, the partnership had to take into account the types of media that the stakeholders in the sector are engaging with and most interested in. By taking this into consideration, it will make the communication channel more efficient and effective.

According to a study (<a href="https://www.linkedin.com/company/waterbornetp/posts/?feedView=all">https://www.linkedin.com/company/waterbornetp/posts/?feedView=all</a>) conducted within Lasting project powered by Waterborne Transport Platform, 53% of the stakeholders voted for SOCIAL MEDIA NETWORKS to be one of the preferred communication channels (the same percentage as WEBSITES and WEBINARS), right after EVENTS, which was the most voted channel (55%).

In order to better assess their current knowledge and increase the likelihood of professionals finding common ground for their discussions, the project partners agreed that LinkedIn was the most suitable platform to be used. By utilizing this platform to its fullest potential, they can make sure that all available resources are being taken advantage of and that they are able to achieve their desired outcomes.

Consequently, in August 2021, DeriNetwork was set: <a href="https://www.linkedin.com/showcase/derin-network">https://www.linkedin.com/showcase/derin-network</a>

#### **NEEDED RESOURCES**

- Human Resources
- Financial Resources
- Standard computer/ tablet/ mobile phone

#### **CRITERIA**

The project partners determined a set of criteria for stakeholders to become members of the network.

Initially, the consortium members took into account such criteria as the size of the organization and the location of the members. However, these criteria did not make the short list as they were deemed to be irrelevant.

After careful consideration, the partnership agreed that experience, profession, and sector of activity were the most important criteria by which future members should be judged.

Being a member of relevant associations, groups, etc. is considered a plus.

#### CRITERIA CHECK LIST

- ✓ 1. Type of business or sector
- ✓ 2. Occupation or position
- √ 3. Work experience
- ✓ 4. Member of professional networks/ groups

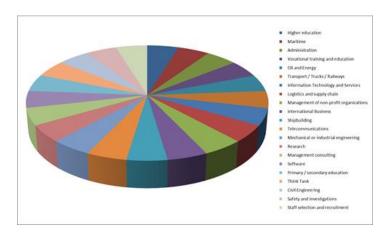




## Type of business or sector/ Field of activity

An analysis was conducted and it was concluded that, in order for a wide range of sectors to be reached, members of the network could be or have been active in one of the following fields:

- ✓ Vocational education and training
- √ Higher education
- ✓ Maritime
- ✓ Inland Waterway Transport
- ✓ Administration
- ✓ Oil and Energy
- ✓ Transport / Trucks / Railways
- ✓ Information Technology and Services
- ✓ Logistics and supply chain
- ✓ Management of non-profit organizations
- ✓ International Business
- ✓ Shipbuilding
- √ Telecommunications
- ✓ Mechanical or industrial engineering
- ✓ Research
- ✓ Management consulting
- ✓ Software
- ✓ Primary / secondary education
- ✓ Think Tank
- ✓ Civil Engineering
- ✓ Safety and Investigations
- ✓ Staff selection and recruitment



## 2. Occupation

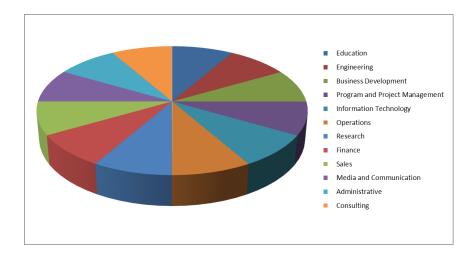
Regarding the occupations of the future members, the consortium took into consideration the following occupations that members of the network could have:

- ✓ Education
- ✓ Engineering
- ✓ Business Development
- ✓ Program and Project Management
- ✓ Information Technology
- ✓ Operations
- ✓ Research
- √ Finance





- ✓ Sale.
- ✓ Media and Communication
- ✓ Administrative
- ✓ Consulting

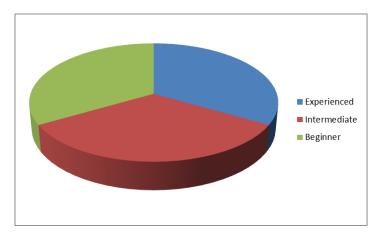


## 3. Experience

When considering the level of experience of the members, it was decided that members should mostly fall into one of the following categories:

- ✓ Experienced
- ✓ Intermediate
- ✓ Beginner

This criterion is in close connection with the previous one, as the level of experience in the sector of activity is only for statistics purposes and does not influence the decision for a party to be invited to join/ accepted in the group.



https://www.linkedin.com/feed/update/urn:li:activity:6954721408211894272

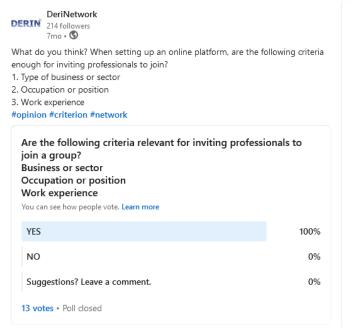
A poll was conducted in the LinkedIn group asking whether the following criteria are relevant for inviting professionals to join a group: Business or sector; Occupation or position; Work experience.

Although there were only 13 votes, the unanimity of the positive answer was considered a good indicator.

In conclusion, when setting up an online platform, the above mentioned criteria are enough for inviting professionals to join.







### Analysis of proposed criteria

Towards the end of the project, an analysis was conducted to compare the criteria selected by the partnership and the categories that actual members fall into.

The analytics of the 225 followers on May 3<sup>rd</sup> 2023 were taken into account for the following findings.

Follower demographics in the analytics automatically generated by the platform (LinkedIn) were assimilated for the initially proposed criteria:

Industry = Type of business or sector

Job function = Occupation

Seniority = Experience

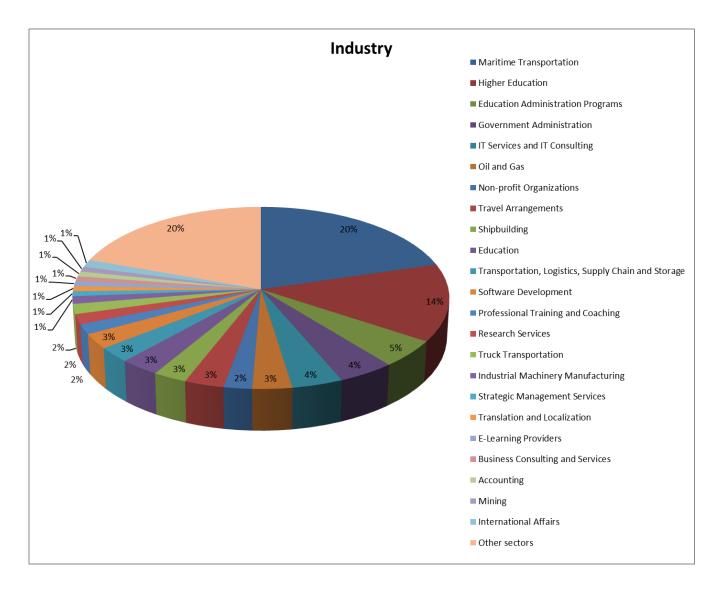
The tables and charts below show the categories of the 225 members of DeriNetwork.

Industry	Number of
	members
Maritime Transportation	46
Higher Education	31
Education Administration Programs	11
Government Administration	10
IT Services and IT Consulting	9
Oil and Gas	7
Non-profit Organizations	5
Travel Arrangements	7
Shipbuilding	6
Education	7
Transportation, Logistics, Supply Chain and Storage	6
Software Development	6
Professional Training and Coaching	4
Research Services	4





Truck Transportation	4
Industrial Machinery Manufacturing	3
Strategic Management Services	2
Translation and Localization	2
E-Learning Providers	2
Business Consulting and Services	2
Accounting	2
Mining	2
International Affairs	3
Other sectors	44
TOTAL	225

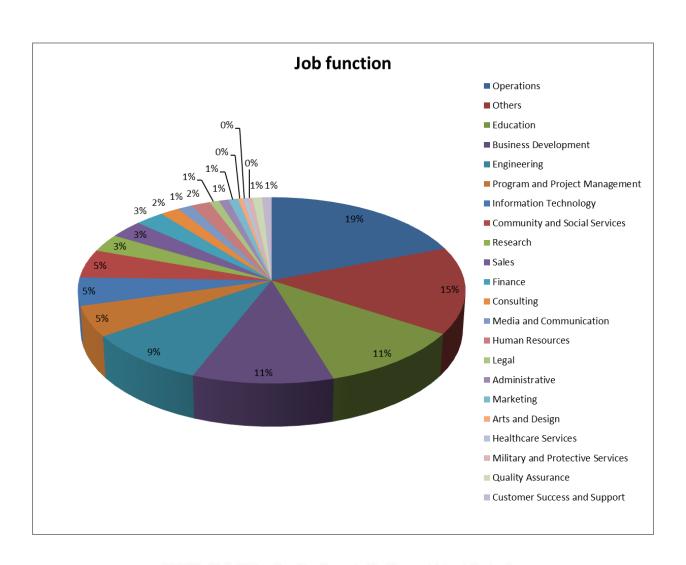


Job function	Number of members
Operations	43
Others	34
Education	25





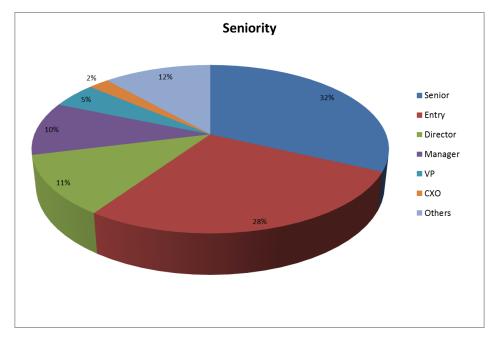
Business Development	24
Engineering	21
Program and Project Management	12
Information Technology	11
Community and Social Services	11
Research	7
Sales	7
Finance	6
Consulting	4
Media and Communication	3
Human Resources	4
Legal	2
Administrative	2
Marketing	2
Arts and Design	1
Healthcare Services	1
Military and Protective Services	1
Quality Assurance	2
Customer Success and Support	2
TOTAL	225







Seniority	Number of members
Senior	72
Entry	62
Director	26
Manager	23
VP	11
СХО	5
Others	26
TOTAL	225



## Conclusion:

Only minor differences can be observed between the categories foreseen by the partnership and the ones that members actually fall into.

## 3. Digital tools that can enhance learning and teaching

## Digital content tools

**Projeqt** is an incredibly useful and multi-faceted digital storytelling tool that has a plethora of exciting potential applications for use in classrooms from kindergarten to 12th grade. With Projeqt, teachers and students alike can harness the power of web 2.0 technology to create visually captivating and impactful presentations.

**Socrative** is an invaluable formative assessment tool that enables teachers and learners to assess understanding and measure progress in real-time through quizzes, questions, and reflection exercises.

**ThingLink** is an award-winning education technology platform that makes it easy to augment images, videos, and virtual tours with additional information and links.





**TED-ED** is a branch of the TED video creation platform that is tailored specifically to the school education market, making it the perfect resource for teachers looking to create stimulating lessons through the use of educational videos.

#### Digital communication tools

**Gmail** is a free email service provided by Google and is currently the world's most active email provider with 1.5 billion active users as of 2019. A user typically accesses Gmail in a web browser or the official mobile app. Google also supports the use of email clients via the POP and IMAP protocols.

**WhatsApp** is a messaging and voice calling app which is available for almost anyone in the world. It is a great tool for families and small collaborative workgroups, as it makes communication much easier and hassle-free.

**Facebook Messenger** is a FREE mobile messaging app that can be used to communicate with friends on Facebook, as well as with phone contacts. It is perfect for instant messaging, sharing photos, videos, audio recordings and group chats.

**Microsoft Teams** is a collaboration app built for hybrid work so you and your team stay informed, organized, and connected — all in one place. Explore how Teams can help you and your colleagues come together no matter where you are: Chat - Message someone or a group to talk about work, projects, or just for fun.

**Slack** is a messaging app for business that connects people to the information they need. By bringing people together to work as one unified team, Slack transforms the way organizations communicate.

**Zoom** provides a comprehensive suite of tools to facilitate communication between individuals and groups, making it an ideal platform for one-on-one conversations, training and education sessions, webinars, and virtual meetings with up to 1000 participants, with up to 49 on-screen videos. The ease of use and flexibility of this platform make it a great choice for both internal and external audiences.

**Google Meet** is a popular video conferencing app that is specifically designed for use in educational settings. This solution enables users to make high-definition video calls with up to 100 participants, helping to eliminate the technical difficulties of joining a video call for work related activities. The intuitive user interface and rich feature set enable users to easily connect with their remote colleagues and collaborate on projects in real time.

### Learning platforms

**Google Classroom** is a powerful tool that can be used in schools to enhance student assignments, promote collaboration, and facilitate communication. Not only is Classroom available through both their web and mobile applications, but it is also compatible with other services such as Gmail, Google Docs, and Google Calendar.

**Udemy** is a platform that allows instructors to create and design online courses on their preferred topics. Using Udemy's course development tools, they can upload videos, PowerPoint presentations, PDFs, audio, ZIP files and live classes to create courses.

**Moodle** is a platform for online learning that enables you to create online courses, add assignments, and keep an eye on your students' progress. Furthermore, with Moodle, instructors can communicate with their students and encourage communication with their peers through online forums and discussions.

**Kahoot!** is a game-based learning platform that makes it easy to create, share and play learning games or trivia quizzes in minutes. Unleash the fun in classrooms, offices and living rooms!





**Quizlet** is a web-based application developed to help students study information through interactive tools and games. Quizlet's mission is to help students (and teachers) practice and master what they're learning.

#### Collaboration learning tools

With **EdApp** you get a full content library that lets you pull in course content from a centralized source. From these courses, you can pick and choose any parts that you want. This gives you a lot of freedom in the design of your courses.

With **Google Forms**, you can create and analyze surveys right in your mobile or web browser—no special software required. You get instant results as they come in.

**ProofHub** is an excellent project management application designed to help teams organize and keep track of the progress of their projects while collaborating with each other. This app is perfect for teams handling projects that involve visual elements. It allows users to stay on top of their tasks, monitor their work, and keep their projects on track.

**OneNote** is an incredibly useful digital notebook that makes it easy to capture and store notes, ideas, and information. It provides users with the ability to type in information, insert it from other applications and web pages, take handwritten notes and draw diagrams, and highlights and tag for easy follow-up. OneNote automatically saves and syncs, so users never have to worry about losing their work.

#### Assessment tools

**Socrative** is a cloud-based student response system developed in 2010 by Boston-based graduate school students which facilitates the creation of simple quizzes for students to take quickly on laptops, classroom tablet computers or even their smartphones. It is a great way for teachers to increase engagement in classrooms and lecture halls.

**Mentimeter** is another innovative tool that can be used to help teachers boost student engagement and understanding. It allows for every student's voice to be heard, and can be used as a fun way to test knowledge retention, as well as gauge student comprehension. It is an easy and effective way to break up learning and keep students interested.

#### Feedback tools

**Audacity** is a free, easy-to-use, multi-track audio editor and recorder for Windows, macOS, GNU/Linux and other operating systems. The interface is translated into many languages. You can use Audacity to record live audio.

**Flipgrid** is a website and app that allows teachers to facilitate video discussions. Students are organized into groups and then given access to discussion topics.

**Screencastify** lets you record video from your device to playback later and share. You can even edit the video to perfect it before you put it to good use. That means being able to give a presentation across multiple websites.

**Talk&Comment** lets you create voice notes inside any service on the web, including Google Docs, Google Classroom, Facebook comments, Gmail, YouTube, Slack. Simply record your voice from the widget inside your browser, and paste the generated voice link anywhere you want.

**Kaizena** is a Google Docs add-on for feedback on student writing. Students can also collaborate on documents and use Kaizena to give peer feedback. Teachers can rate student writing on individual skills or through a rubric created by linking skills together.





**Warp VR** was used within DERIN project by the trainers for the task of developing multimedia learning materials for practical activities. Warp VR is a central hub for creating, distributing and analysing real and immersive training scenarios; the platform could be used for on-line e-learning by trainees; the advantage of this digital tool is that it may be used for a group of trainees or individually for a single trainee, at home, remotely, at a convenient time for each trainee.

Warp VR offers a unique story-based solution for immersive learning in a realistic and personalized way.

VR training helps companies to upskill their employees up to 4x faster than classroom training and elearning — even at a time when training budgets are shrinking and in-person training may be off the table.

VR learners are significantly more confident to act on what they learned after training, and show a 75% increase in learning quality and retention, a 40% reduction in training time, and a 70% performance improvement.

https://www.warpvr.com/



# 4. List of preferred software for different purposes teachers used and liked in 2021:

Teachers used for <u>communication tools</u>: Google meet, Zoom, MS Teams, Skype, BigBlueButton (BBB), Jitsimeet and Google Hangouts.

For <u>polls</u> teachers used: Google Forms, Mentimeter, Doodle, AnswerGarden, MS Forms, Wizer.me,Socrative, Tricider, Classtime, Limesurvey, JotForm, SurveyMonkey, Wooclap, Polleverywhere, Strawpoll.

Teachers choose following games in 2021: Kahoot, Learningapps, Quizizz, Quizlet, H5P, Socrative, Genially, Actionbound, Purposegames, Wordwall, Classtools, Tinytap, Triventy, Tarsia, Blooket.

For <u>Jeopardy</u> teachers chose: JeoparyLabs, JeoparyApp, eQuizShow, MS PowerPoint.

For different <u>card games</u> teachers used: Mindomo, Bubble.us, MindMeisters, Coggle, Camp, Popplet, Mindmuo, Diagrams.net, Miro.

For <u>picture series</u> teachers used Slide Show Creator, Adobe Spark, Photo Story, Animoto, BeFunky, Kizoa.

For <u>sharing pictures</u> teachers used: GoogleDrive, GooglePhotos, Facebook, Dropbox, Onedrive, Instagram, iCloud, Flickr





For <u>crosswords</u> teachers liked: LearninApps, Crossword Labs, Puzzlemaker, WordWall, HotPotatoes, Eclipse Crossword, ArmoredPenguin

For <u>word cloud</u> teachers used: Mentimeter, wordArt, AnswerGarden, WordCloud, Slido, Tagxedo, Worditout, Wooclap

For <u>presentations</u> teachers liked: MS PowerPoint, GoogleDrive Slides, Canva, Prezi, Genially, Nearpod, MS Sway, Emaze, PearDeck, LibreOffice Impress

For <u>screen recorder</u> teachers used mostly: Screencast-o-matic, MSPwoerPoint, Screencastify, OBS studio, Camtasia, QuickTime, Loom, Camstudio, AZ Screen Recorder, Zoom

For webpages teachers used: Google Slides, Weebly, Wordpress, Blogger, Wix, Joomla, Voog, Moodle

For office software teachers liked: GoogleDrive, office365, MS office, One Drive, Libre Office, open Office

For <u>cartoon software</u> teachers liked: Go Animate, Storyboardthat, Cartoon Story maker, Pixton, Comic Strip Creator, Make Beliefs

### 5. Conclusion

Just before the end of the project, in a brief analysis, the criteria selected by the partnership and the categories that actual members fall into were compared only to find that there are no major differences, while it is worth mentioning the wide range of industries and job functions of members, both above expectations.

To be in line with project objectives, activities and objectively verifiable indicators, the planned DERIN project outcomes were:

- 1) Developed innovative multimedia tools and applications in training and assessing competences;
- 2) Developed Toolkit for trainers capacity building;
- 3) Established Train the Trainer actions;
- 4) Established framework for cooperation DERINNet;
- 5) Delivered framework Policy Recommendations and Guidelines;
- 6) Multiplier events for promoting project results.

Interconnected and interdependent with the objectives of the project, on a wider scale, the results observed at the completion of the project will consist of E&T institutions better equipped to cope with the needs of the labour market and more appealing to young learners attracted by the digital environment.

The staff of project partners has improved digital and communication skills leading to an impact at organisations level and further on at E&T system level, committed to fulfilling the necessary requirements in the sector of training and education on EU level. The specificity of the water transport sector reflects the need for coordinated and coherent modernization and development of high quality of digital education process throw achieving of planned results. The need for joint activities in the field of education and training stems from the mobility of employees in water transport and planned results could not be obtained by activities carried out in a single country, therefore efficient combining of competences and resources was necessary.

Developed strategic DERIN partnership established the framework for cooperation within DeriNetwork <a href="https://www.linkedin.com/showcase/derin-network/">https://www.linkedin.com/showcase/derin-network/</a> and will continue activities on strengthening dissemination and better utilization of project results thus ensuring sustainability of results after project completion.



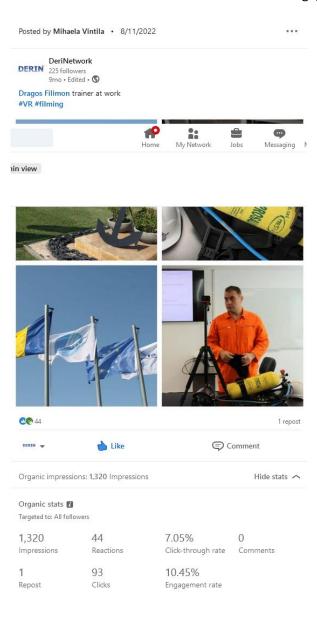


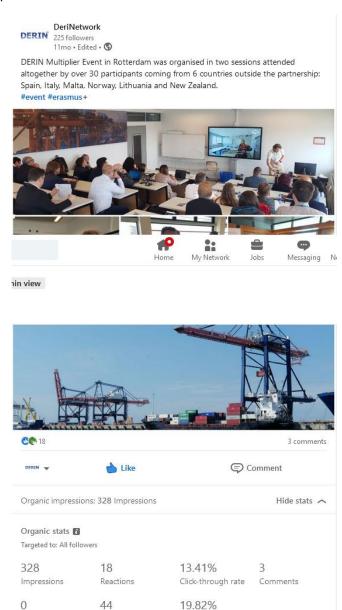
Transferability of project results is reflected in the impact of the project on the extended group of stakeholders currently reunited in DeriNetwork group, active from the beginning of the project and that will continue beyond project lifetime.

Events, activities and developed materials were consistently promoted and discussed within the group. Considering that no sponsored posts were included in the activity, for the 365 days before the date of the analysis (3<sup>rd</sup> May 2023), the following aggregated engagement metrics for the posts can be noted: Impressions (total):12464; Unique impressions (organic): 5569; Clicks (total): 724; Reactions (total): 425.

## Screenshots of the most engaging posts on DeriNetwork

Here are the screenshots of some of the most engaging posts:





Engagement rate

Reposts









Very successful multiplier event in Croatia! 70 participants from 4 countries were involved in the activities organised by University of Zagreb/ Faculty of Transport an Traffic Sciences on October 28 in Split. Congratulations!

#### **#VR** #education



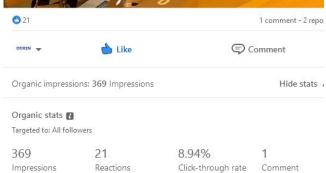
nin view

Impressions

2

Reposts





15.45%

Engagement rate

Reactions

33

Clicks

DeriNetwork DERIN 225 followers 1yr • Edited • 🚱

Posted by Mihaela Vintila • 5/12/2022

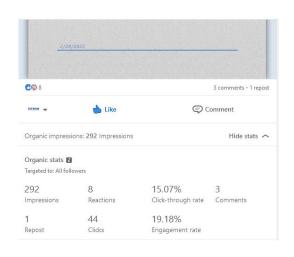
The use of virtual and augmented reality in maritime and inland navigation education is one of the revolutionizing strides in developing computer-assisted instruction. Since the implementation of AR/VR technologies is still relatively new in maritime and inland navigation industry, the 6 partner organisations involved in DERIN project designed a detailed online questionnaire to assess the impact of AR/VR-based education and training in maritime and inland navigation and to analyse the need and growth of these technologies in the industry.

Moreover, it investigated the opportunities for AR/VR technologies to improve

stakeholders' communication and identify expert-predicted results. Here is the full Report on the answers received to the questionnaire. #report #stakeholder #training

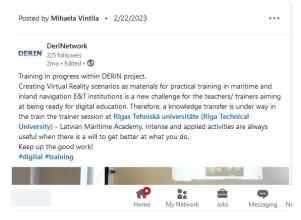


in view

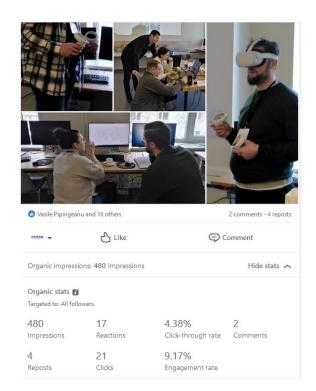


Comment



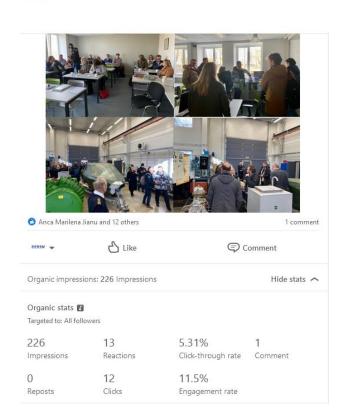


nin view



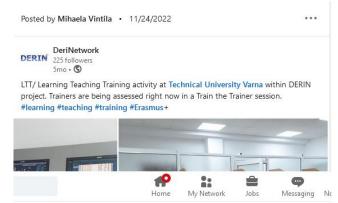


nin view

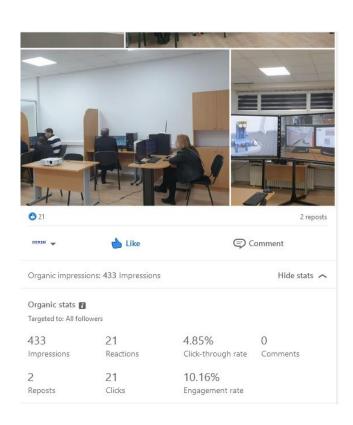








in view













## Intellectual Output 2:

Building capacities of trainers and trainees for innovative multimedia tools and applications





2020-1-R001-KA226-VET-095726