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LITHUANIAN
MARITIME
ACADEMY

ANNUAL REPORT FOR 2021

KLAIPĖDA, 2022

CONTENT

INTRODUCTION: SIGNIFICANT EVENTS IN 2021

Public Enterprise Lithuanian Maritime Academy (*VšĮ Lietuvos aukštoji jūreivystės mokykla*), (hereinafter - "LMA", "Academy") is a state higher education institution of the Republic of Lithuania, the main activity of which is the execution of college studies. LMA is a unique and the only higher education institution in the country with a long-term experience in the field of international training of seafarers, the origins of which date back to 1948, i.e., the establishment of Klaipėda Maritime School. The status of the higher education institution was granted by the Resolution No. 1035 of 24 August 2001 of the Government of the Republic of Lithuania "On the Establishment of the State Colleges: Klaipėda College, Lithuanian Maritime Academy and Marijampolė College". The Academy provides college studies, non-formal adult education and develops applied research in the field of maritime transport sector.

Significant events in the development of LMA activities in 2021:

– An external evaluation of the activities organised by the Centre For Quality Assessment in Higher Education (Lith. Studijų kokybės vertinimo centras, hereinafter - "SKVC") was carried out at the Academy. A group of experts formed by SKVC assessed the activities carried out by LMA during an online meeting. The activities were evaluated positively and accredited for a maximum period of 7 years.

– The new organizational management structure of the Academy was approved by the decisions of LMA Council (Annex 1). The need for change in the LMA organizational management structure was driven by the change in the functions performed by the departments of the Academy. The structural units – the departments - were removed from the structure and the functional positions of the heads of study programmes were introduced. A new unit - the International Relations Division - was included in the structure. The expansion of the international activities of LMA has resulted in a greater need for their coordination. This division also shall be in charge of coordination of national and international projects.

– The Lithuanian Transport Safety Administration has approved two new informal adult training programmes of the Academy: "Basic training for service on ships subject to the IGF Code" and "Basic training for service on ships operating in polar waters".

– On the occasion of the 100th anniversary of the Lithuanian Navy, the Lithuanian Maritime Academy was awarded with an acknowledgement by Marius Skuodis, the Minister of Transport and Communications of the Republic of Lithuania, for the merits in strengthening and fostering the name of Lithuania as a maritime country.

– LMA became a Member of the Klaipėda Association of Industrialists.

1. VISION, MISSION, PRIORITIES AND STRATEGIC OBJECTIVE

Vision of LMA

LMA is a modern higher education institution offering internationally recognised study programmes and a leading institution in the Baltic States in training specialists in the maritime and inland waterway transport sector.

Mission of LMA

LMA mission is to train highly qualified specialists in the maritime and inland waterway transport sector to have successful professional activity and career in the national and international water transport sector, basing studies, non-formal adult education and continuing vocational training on maritime culture and traditions, respect for democratic values, responsibility and leadership

Priorities of LMA

1. Train highly qualified specialists capable of working aboard merchant, military or special purpose seagoing and inland waterway vessels as well as in sea and river ports in the conditions of rapid technological change by providing college studies in accordance with the provisions of European Higher Education Area and the requirements of the conventions of the International Maritime Organization and other national and international legal acts governing the training of seafarers.
2. Develop applied research and promote experimental development that meets the needs of the maritime and inland waterway transport sector as well as the needs of the region and the country.
3. Promote the identity of Lithuania as of a maritime state by implementing non-formal adult education and continuing vocational training that meets the needs of the maritime and inland waterway transport sector and by advocating professional activities and career opportunities in the national and international water transport sector.
4. Create a modern technological base of studies that meets international requirements for the training of seafarers by implementing and developing technological and engineering innovations, increasing the level of digitisation and taking into account challenges of the Fourth Industrial Revolution (Industry 4.0).
5. Improve the management of the Academy by optimising the management structure and increasing the efficiency of the quality management system.

Strategic Objective of LMA

LMA strategic objective is to train highly qualified specialists in the field of maritime and inland waterway transport through college studies, non-formal adult education and continuing vocational training, in accordance with national and international requirements for the quality of studies and training of seafarers as well as with the results of the latest research.

2. LMA QUALITY MANAGEMENT SYSTEM

LMA Quality Management System (QMS) was implemented in 2001. The scope of the quality management system, i.e., maritime education and training, is in line with the scope of the activities carried out by the Academy.

The conformity of the QMS to the requirements of the international quality standard ISO 9001: 2015 was certified by the certification company QMSCERT Q-CERT Ltd. in 2020. The oversight audit of

the QMS of the Academy was carried out on 7 and 9 December 2021. The performance of the Academy was assessed positively.

The QMS of the Academy consists of 4 main processes: QMS management; resource management; management of studies, courses, research and development; process improvement and planning. Performance and risk assessment indicators of QMS processes for 2021 are provided in Annex 2. Annual performance indicators are planned taking into account the context of the organization and the expected operational risks. The risk register is updated annually by assessing the changes in the external and internal environment and new challenges to the activities of the Academy.

QMS of LMA is electronic and can be accessed at the column eKVS on the Academy's website lajm.lt. During COVID-19 pandemic, the LMA registers and packages of important documents were uploaded in eKMS to ensure the continuity of the activities of the Academy while working remotely.

An external evaluation of the LMA activities organized by the Centre for Quality Assessment in Higher Education (SKVC) took place on 25-27 May 2021. The activities carried out by the Academy were evaluated positively and accredited for a maximum period of 7 years.

The Academy has been a member of the Lithuanian Association for Quality Management and Innovation (LAQM) since 2014. LMA Deputy Director for Academic Affairs, who is responsible for the management of the QMS of the Academy, is a member of the LAQM Council.

3. STUDIES AND CAREER

3.1. Study Programmes

Graduates of all study programmes provided by the Academy are awarded with a professional bachelor's degree. Upon successful completion of the study programmes Marine Navigation, Marine Power Plant Operation and Marine Electrical and Electronic Engineering accredited by the Maritime Department of the Lithuanian Transport Safety Administration, graduates are awarded with professional qualification of a ship navigator, ship engineer or ship electrical engineer. Graduates of the study programmes hereinabove who have completed the required seagoing service are awarded a maritime degree and a certificate of competency as officer (first mate) in charge of a navigational watch, as officer (engineer) in charge of a navigational watch or as an electromechanical engineer. In 2021 LMA carried out 6 study programmes (Table 1), 5 whereof are planned to be assessed in the following study fields: marine engineering, marine technologies and management study programmes.

Table 1

The List of LMA Study Programmes

No.	The title of the study programme	Study Form	Study Field	Group of Study fields	Date of external evaluation of the study fields	Language of instruction
1.	Marine Navigation	FT, PT[1]	Marine technology	Technological sciences	By 31 December 2022	Lithuanian, English, Russian
2.	Maritime Transport Logistics Technologies	FT	Marine technology	Technological sciences	By 31 December 2022	Lithuanian, English, Russian
3.	Shipping and Logistics Information Systems	FT	Information systems	Informatics	By 31 December 2023	Lithuanian, English, Russian
4.	Marine Electrical and Electronic Engineering	FT	Marine engineering	Engineering sciences	By 31 December 2022	Lithuanian
5.	Marine Power Plant Operation	FT, PT	Marine engineering	Engineering sciences	By 31 December 2022	Lithuanian, English, Russian

[1] FL – full-time studies, PT – part-time studies.

No.	The title of the study programme	Study Form	Study Field	Group of Study fields	Date of external evaluation of the study fields	Language of instruction
6.	Port and Shipping Management	FT	Management	Business and public management	By 31 December 2022	Lithuanian, English, Russian

LMA study programmes are provided on a full-time and part-time basis. In order to give students an opportunity to combine studies and professional activity, since 2016 the study programmes Port and Shipping Management, Finance of Port and Shipping Companies and Maritime Transport Logistics Technologies are carried out only in a full-time form, providing students a possibility to choose diurnal (study every day on working days) or sessional (study every second Friday and Saturday) schedule of lectures.

Taking into account the needs of the labour market and the development trend of the maritime transport sector, Shipping and Logistics Information Systems study programme of the information systems study field was prepared and accredited by the Centre for Quality Assessment in Higher Education (SKVC) in 2019. It is the only interdisciplinary study programme in Lithuania that provides knowledge and competencies in information systems as well as in shipping and international logistics. The programme was launched in September 2020 and admission to this study programme has been successful for the second year.

3.2. Promotion of Studies

In order to increase the demand for study programmes, LMA Career and Communication Department (CCD) carried out various activities to form an attractive image of the institution in the society and to promote studies at the Academy.

In effort of active promotion of the LMA study programmes, Open Days were organised and held online, also school visits and educational sessions for students were held in 2021.

LMA activities are regularly advertised in the media at the local, national, and international levels by providing information on the studies at the Academy, career opportunities and the achievements of the Academy community and alumni. The Academy cooperates with the regional and national media: "Atvira Klaipėda", "Klaipėda", "Vakarų ekspresas", "Litovskij Kurjer", international magazine "Jūra–Mope–Sea", journals for students REITINGAI, "KUO BŪTI. KUR STOTI", Delfi, 15min, etc. The information in the LMA account on social networks and target groups "Laivybos naujienos", "Jūra. Uostas. Žmonės" and so on, is updated regularly. Various informational promotional print materials are prepared and promotional videos about the Academy have been created.

Latest updates on the institution's activities and other information relevant to members of the academic community are provided regularly on the website of the Academy.

The Academy participated actively in events presenting its activities to target groups - students, youth, employers, members of the academic and maritime community and the general public. In the context of the COVID-19 pandemic, meetings, open lectures and discussions with students and social partners were organised online (a meeting with Tomas Mačiulskis, LMA alumnus, with a scientist associate professor dr. Indrė Isokaitė-Valužė "Where are the origins of the maritime law?" (*Iš kur atsirado jūrų teisė?*), meeting "Discover career opportunities at the GARANT SAFETY) (*Atrask karjeros galimybes UAB „GARANT SAFETY"*), What do you know about operators of cargo/stevedoring terminals? (*Ką žinai apie krovos terminalų operatorius?*) and so on.

In 2021, the International Relations Division was established to increase the internationality of the Academy and to promote studies abroad in order to attract more students from foreign countries for full-time studies. At the initiative of this division, in cooperation with the CCD, events for the promotion of

studies at the Academy were organised and held online in Russian and in English for target regions in foreign countries, such as Belarus, Ukraine, Georgia, Azerbaijan, India, etc., with the participation and in cooperation with student recruitment companies-partners operating abroad, in person events and online exhibitions arranged by Klaipėda ID, Studyin.LT and Education Abroad Virtual Fair (Ukraine). The study programmes, the available study base, living and admission conditions to the Academy were presented and questions were answered by the management of the Academy, heads of study programmes, students of international studies and an international relations specialist during the live broadcasts.

Together with the Lithuanian Sea Museum, the initiator of the event, and other maritime organisations, LMA participated in an event held in Jurbarkas on 19 June 2021 to commemorate the centenary of the Lithuanian Navy (a motor sailing ship "Jūratė", the first ship that entered Klaipėda Port flying the tricolour – the flag of the Republic of Lithuania - was registered in Jurbarkas on 4 March 1921). Various educational activities (Fig. 1), the Academy's demonstration drills "Man Overboard" with the training ship "LYRA" took place and a show of the fleet of ships was presented during the event. The festival was concluded solemnly with seeing off of the Academy's sailing ship "JUNGA LAJM" to Klaipėda along the Nemunas River (Fig. 2).

Fig. 1 Educational activity using a simulator

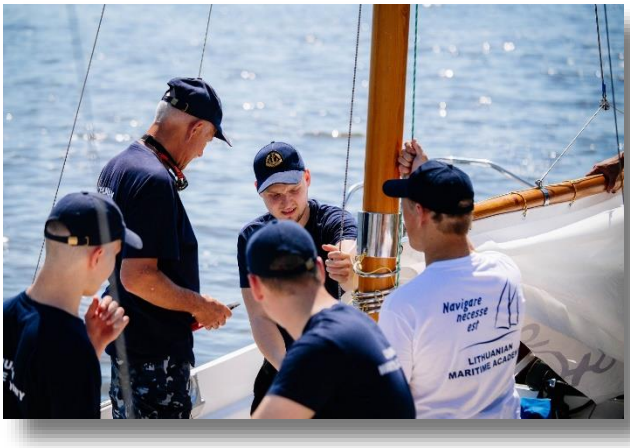


Fig. 2 Sailing along the Nemunas River

Authentic photographs of Klaipėda, which were exhibited in the city probably in the 1940s, are exhibited in the Academy. Photography exhibition by Vytas Karaciejus "Signs of the Grand Duchy of Lithuania" (*LDK buvimo ženklai*) and "Legend of the Sand" (*Smėlio legenda*) were presented in the Academy (Fig. 3). An exhibition of photos of Boskalis Baltic, UAB has been opened that has been given as a gift to the community of the Academy on the occasion of a long-term and close cooperation. An exhibition of the Lithuanian Sea Museum dedicated to the 100th anniversary of the Lithuanian Navy was exhibited in the yard of the Academy.

The Academy participated actively in events promoting maritime culture and maritime traditions - the Sea Festival (Fig. 4), the Ceremony to Honour the Seafarers, the hoisting of the sails of the sailing boat "Meridianas", etc.

Fig. 3 Opening of photo exhibition by V. Karaciejus

Fig. 4 Procession during the Sea Festival

LMA completed the implementation of the project "ABC of Nautical Knots" (*Jūrinių mazgų ABC*), i.e., developed an electronic publication ABC of Nautical Knots. The project was funded partially by Klaipėda City Municipality. The project is aimed at promotion of maritime culture and development of maritime education using one of the most interesting and practical attributes of maritime culture – nautical knots.

3.3. The Number of Students

According to the data of the Student Register as of 1 October 2021, 647 students are studying at the Academy, where 496 students are full-time students and 151 - part-time students (Table 2).

Table 2

The number of students in 2019-2021 (according to the data of the Student Register as of 1 October)

Study Programme	2019		2020		2021	
	FT	PT	FT	PT	FT	PT
Marine Navigation	148	145	133	115	136	81
Marine Power Plant Operation	89	109	73	77	63	70
Marine Electrical and Electronic Engineering	53	-	56	-	56	
Maritime Transport Logistics Technologies	81	-	63	-	46	
Port and Shipping Management	160	-	150	-	167	
Finance of Port and Shipping Companies	20	-	12	-	3	
Shipping and Logistics Information Systems	-	-	10	-	25	
In total:	**551**	**254**	**497**	**192**	**496**	**151**
	805		**689**		**647**	

The total number of students decreased by 17 percent in 2020 compared to 2019, and by about 6.5 percent in 2021 compared to 2020. The downward trend in the number of students is steeper in part-time studies, i.e., 21 percent decrease was recorded in 2021. When analysing the change in the number of students by study programmes, it was determined that the number of students decreased the most in the study programmes Maritime Transport Logistics Technologies (by 25% compared to 2020) and Marine Power Plant Operation (by 14% compared to 2020). However, the number of students in the study programmes Port and Shipping Management and Marine Electrical and Electronic Engineering remains stable and slightly increasing. After the introduction of two specialisations - Seaport Management and Maritime Business Finance Management in the study programme Port and Shipping Management, a decision was taken to terminate admission to the study programme Finance of Port and Shipping Companies.

The number of students admitted to the 1st year at the Academy is quite stable. However, a slight downward trend has been established: the total number of students admitted to the 1st year was156 in 2021, 159 in 2020, i.e., by 2 percent less than in 2020. In 2021, the number of admitted students was only by 2 percent less compared to the number of admitted students in 2019, which was 168. The total decrease in the number of students admitted in 2019-2021 is 5.5 percent, which is by 9 students less.

58 students are studying in the 1st and 2nd year in 5 study programmes of full-time and part-time studies provided in English and Russian at LMA in 2021 (Fig. 5). Most foreign students have come from Latvia and Belarus. 11 students from the latter country have received support from the Government of the Republic of Lithuania for their studies at LMA.

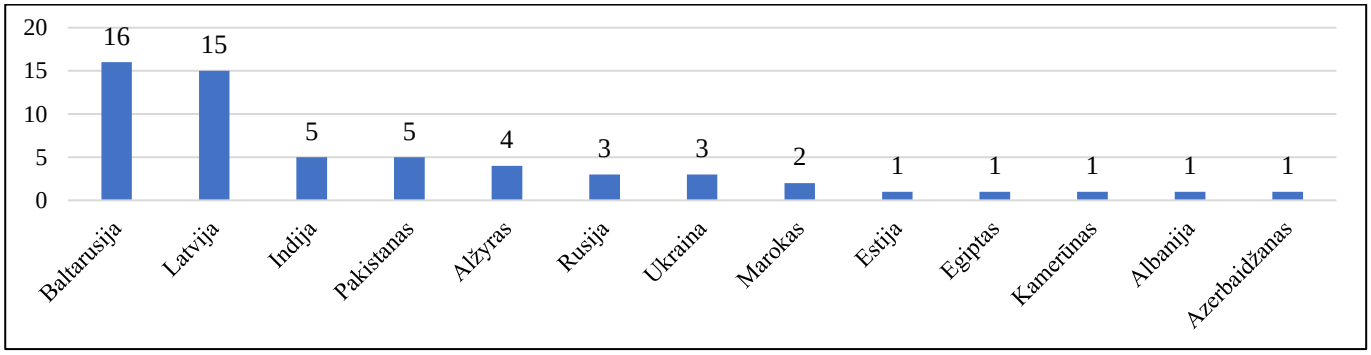


Fig. 5 Number of students studying in English and Russian and their distribution by country in 2021

In effort to improve the adaptation of the international students in the country and the Academy, additional activities for learning the Lithuanian language and culture, periodic meetings with the administration of the Academy and heads of study programmes are organised. The students' maritime English language skills are very important because of the specificity of maritime studies. Therefore, a decision was made to organise extra English language courses from 2022.

3.4. Study Facilities / Premises

The studies at LMA are provided in the central building and in the laboratory building. The total area of the facilities is 13,216.10 m^2. In 2021, the total area of LMA premises per student was 20.46 m^2; the total area of LMA premises per student was 20.27 m^2 in 2020 and 18.19 m^2 in 2019.

3.5. Student Mobility

Implementing Erasmus+ education exchange programme in 2021, 21 Academy students went to the educational institutions of foreign countries: 10 students went to study and 11 students went to have their internships. Student mobility has been constrained by COVID-19 pandemic management measures put in place both in Lithuania and abroad, so some of the candidates selected for studies have refused to take part in the programme due to increased morbidity rates. Several partner institutions did not admit students for Erasmus+ for the autumn semester in 2021.

35 foreign students came to study at LMA in 2021. 17 Erasmus+ students studied at LMA in spring semester in 2021, of which 4 students chose distance learning, while the remaining 13 came to study in Lithuania. 18 Erasmus+ students from six foreign partner institutions came to study during 2021 Autumn semester at the Academy: Istanbul Technical University (Turkey), Zonguldak Bulent Ecevit University (Turkey), Karadeniz Technical University (Turkey), Kocaeli University (Turkey), the University of Cadiz (Spain) and Mircea cel Batran Naval Academy (Romania). The dynamics of the number of outgoing (for

studies and practice) and incoming (for studies) students, differentiating according to study programmes, is presented in Table 3.

Table 3

Student mobility according to study programmes in 2019-2021

Student mobility	2019		2020		2021	
	Outgoing students	Incoming students	Outgoing students	Incoming students	Outgoing students	Incoming students
Marine Navigation	6	21	6	1	9	17
Marine Power Plant Operation	-	1	3	2	2	6
Marine Electrical and Electronic Engineering	-	-	-	-	2	2
Maritime Transport Logistics Technologies	2	-	3	-	1	2
Finance of Port and Shipping Companies	11	32	-	1	7	8
In total:	**19**	**54**	**12**	**4**	**21**	**35**

More and more students from different partner institutions are coming to the Academy, but there are also regular partners in the mobility program. Erasmus+ Partnership Network is being developed to promote the mobility of Academy students (Annex 3).

3.6. Naval Training

Since 1994 LMA has been cooperating with the Navy of the Lithuanian Armed Forces executing the Training of Junior Officers' Commanders (TJOC) for LMA students (Table 4).

Below is a list of the main objectives of TJOC:

1. To train students in what actions the crew onboard should take in emergency situations.
2. To form a subdivision of the active reserve from students.
3. To prepare the mobilisation reserve of the naval specialists of the Republic of Lithuania.
4. To develop students' national spirit and patriotism.

The number of unclassified students of TJOC tends to increase: the total number of unclassified students in by 20% higher than in 2019. However, the number of new unclassified students is decreasing (Table 4).

Table 4

The number of unclassified students of TJOC in 2019–2021

Unclassified students	2019	2020	2021
In total	**45**	**55**	**54**
Admitted to TJOC	29	15	17
Completed TJOC	19	16	15

Cooperation between the Academy and General Jonas Žemaitis Military Academy of Lithuania (*Generolo Jono Žemaičio Lietuvos karo akademija)* (MAL) is of high value for the naval training and implementation of the strategy for the training of reserve officers. Since 2012, cadets from MAL are sent to study Marine Navigation and Marine Power Plant Operation study programmes at LMA. Naval training is executed as TJOC. 3 cadets completed the studies in 2021, and 3 cadets are continuing their studies.

15 students of the 26th LMA graduation year completed TJOC successfully in 2021. Those who have passed the qualification examinations have been awarded the qualification of the commander of an electromechanical, navigational combat unit or a deck officer and the rank of naval reserve lieutenant.

In effort to improve the quality of TJOC activities, harmonise naval practice and increase the attractiveness of naval training, as well as to promote studies at the Academy, meetings were organised with the administration of the Academy, naval training management, representatives of General Jonas Žemaitis Military Academy of Lithuania and cadets of the Military Academy of Lithuania studying at LMA.

3.7. Students' Practical Training

Introductory, training and professional internships are organised for students at the Academy. The main objective of the internship is formation of the concept, operating provisions as well as practical skills of the future professional activity and consolidation of academic knowledge in the real-life environment. The internship is organised according to the plan of the specific study programme and the annual study schedule. The place and content of the internship is defined in the internship curriculum, taking into account the learning outcomes of a specific study programme. The place for internship is usually offered by the Academy. However, students may choose a place for internship independently. In such a case, the compliance of the place of internship with the requirements of the LMA study programme is assessed by the head of the study programme.

The professional practice of the study programmes Port and Shipping Management, Port and Shipping Finance and Maritime Transport Logistics Technologies related to the activities of the seaport is performed in the companies of Klaipėda Port and related companies in the country and abroad. 66 students completed their practice in 2021, internship placement for who was provided by 61 national and foreign companies.

The students of Marine Electrical and Electronic Engineering and Marine Power Plant Operation study programmes did the compulsory 3-month internship in 7 national ship building and repair companies in 2021.

The students of Marine Navigation, Marine Electrical and Electronic Engineering and Marine Power Plant Operation study programmes completed their seagoing navigation practice on board seagoing ships of the Lithuanian and foreign shipping companies. The seagoing navigation internship is organised by a specialist of international studies in close cooperation with interested national and foreign shipping and crew recruitment companies. In 2021, places for internship were provided by 24 companies from Lithuania, Latvia, Germany, the United Kingdom and other countries, and 94 students were referred for marine navigation internships (Annex 4).

In order to strengthen cooperation between the Academy and the national and foreign companies accepting students for seagoing navigation practice, remote meetings with the representatives of the companies were held at the initiative of the LMA administration in 2021. The quality of student practice and cooperation perspectives were discussed during the said meetings.

3.8. Number of Graduates and Employment

In 2021, 148 graduates graduated from LMA, of which were 138 full-time and 53 part-time students. The number of LMA graduates in 2019-2021 and their employment after 12 months following the graduation is presented in Table 5 according to the data presented by LMA and Career Management and Information System (CMIS).

Table 5

Employability of Graduates in 2019 -2021

Employability, percent	2019	2020	2021
Employed graduates	93	92	83
Employed graduates by study field	93	92	83
Employed graduates by qualification degree	93	92	83

Monitoring graduate employment and careers at the Academy is a critical ongoing and systematically controlled process. Monitoring is carried out by collecting individual data on graduates, employers and according to CMIS data. A survey on employment of graduates is conducted 6 and 12 months after the graduation.

Information on the employability of graduates and history of employability is reflected by the CMIS indicator only from economic entities located in Lithuania. The qualification of graduates of the maritime study programmes Marine Navigation, Marine Power Plant Operation and Marine Electrical and Electronic Engineering, regulated by the conventions of the International Maritime Organization, is recognized in the international labor market, therefore graduates work not only in national but also in foreign shipping companies. In this way, publicly available information, for example, in the portal www.karjera.lt, is inaccurate and may have a negative impact on the attractiveness of LMA studies. It is necessary to design and apply marketing measures to reduce or eliminate potential adverse effects. The Lithuanian maritime transport labour market is small, but the need for leading specialists, seafarers, such as Academy graduates, is extremely high in the global labour market. The need for more than 16.5 thousand leading seafarers is determined every year, taking into account the high technological level of shipping, the emergence of autonomous ships and other 4IR challenges, the demand for these specialists has increased by more than 24% in recent years. The demand for ordinary seafarers is declining, there is a surplus of these specialists in the market. So, the graduates of the Academy work not only in national but also in foreign shipping or crew recruitment companies. Therefore, the information published on the portal karjera.lt or in the publication "Reitingai" (both state that the employability of the graduates of marine technology and marine engineering study field is 48%) is inaccurate, misleading and has a negative impact on the attractiveness of LMA studies and maritime profession. The Academy shall foresee and apply marketing measures to reduce or eliminate the said adverse effects.

Factors leading to the discrepancy in the data available from national information systems with real employment rates of LMA graduates:

1. Information about seafarers who work on board a ship registered in the Maritime Register of the Republic of Lithuania and are paid by Lithuanian Shipping Company or Lithuanian Employment Agency is certainly included to SODRA IS data.

2. When seafarers work on board vessels belonging to a EU Member State: Social (and health) insurance contributions (under Regulation (EEC) No 1408171) are paid only in one EU country, usually the one in which they work. According to EU Regulation No. 1408/71, shipowners whose ships are flying a flag of any European Union Member State must also provide social insurance to employed foreign seafarers from EU countries, if they are not insured in their home country. When working at sea, seafarers do not pay personal income tax and are subject to a zero rate. Transfer of data to SODRA IS depends on whether cross-border agreements have been concluded

3. Seafarers work on board ships of countries that are not EU Member states. In this case, seafarers, who work on board non-EU ships and are citizens of the Republic of Lithuania, do not permanently reside in Lithuania. However, iIn accordance with Article 7 Part 2 Clause 6 of the Law on Declaration of Residence of the Republic of Lithuania (Official Gazette (*Valstybės žinios*), 1998, No. 66-1910), they are not considered to have changed their residence. This provision allows seafarers, who do not reside in Lithuania permanently and who work on board non-EU Member State vessels, in accordance with Article 6 Part 1 Clause 1 of the Law on State Social Insurance, to retain the status of a person insured with mandatory health insurance. Other citizens of the Republic of Lithuania working abroad who do not permanently reside in Lithuania do not have such a right. The data about the duration of employment, income, etc. of the graduates falling within this group is not included in SODRA IS.

Taking the said factors into account, the Academy collects employment information individually. Therefore, based on that information, it is estimated that 95–100% of graduates find employment after 12 months of graduation. The Academy's ability to train specialists, who are competitive in the international labour market, raises the prestige of LMA and the maritime transport sector, as well as the prestige of the

professions of employees working in this sector, guarantees 2–2.5 times higher (in seaports) and 4–10 times higher (seafarers') income than the average population and stimulates interest in these studies. LMA graduates contribute to the development of economic and social well-being of the region and the country. National and international shipping companies and crew recruitment agencies operating in Lithuania cooperate closely with the Academy regarding student internships and post-graduate employment on board the ships of the global shipping companies. Specialists trained for working in the seaport are in demand not only in Klaipėda Port stevedoring, logistics, shipping and other companies, but also in companies engaged in logistics and transport sector operating in other regions of the country.

4. LECTURERS, RESEARCHERS AND ADMINISTRATIVE STAFF

4.1. Structure of Lecturers, Researchers and Administrative Staff

The qualification requirements for LMA lecturers are based on the following documents: the Law on Higher Education and Research of the Republic of Lithuania; the General Requirements for the Provision of Studies; Descriptions of Study Fields and Study Field Groups (Engineering, Technology, Management, Finance, Informatics), the Statute of the Academy; Regulations for the Certification and Job Competitions of LMA Lecturers.

The subjects of the study programmes are taught by lecturers and researchers with relevant education and/or professional experience, whose areas of scientific interest coincide with the relevant study programme, and the practical activities correspond to the study subject taught by them. The education of all lecturers provides them with qualification that meets the general requirements for the implementation of the study programmes.

Studies at LMA are provided by 63 lecturers, including 1 professor, 18 doctors of science, 16 lecturers with a maritime degree (ship masters, mates, ship engineers, electromechanics, refrigeration mechanics) in the academic year 2021-2022. The structure of lecturers in 2021-2022 is presented in Table 6.

Table 6

The structure of lecturers in academic year 2021-2022

The number of lecturers					Lecturers distribution by age			
In total	Assistant	Lecturer	Associate Professor	with scientific degree	under 30	from 30 to 44	from 45 to 59	over 60
63	3	42	18	18	2	7	43	11

The share of basic study subjects taught by LMA lecturers with a scientific degree satisfies (exceeds) the requirements for the implementation of study programmes (minimum requirement - 10%). Table 7 presents the structure of study programme lecturers in the academic year 2021-2022. There was no admission of students to the programme Port and Shipping Finance of the study field of finance, therefore the workload of lecturers is not provided for in this programme.

Table 7

Structure of study programme teachers in 2020-2021

Program code	Group of study fields	Total full-time positions for program teaching	Number of full-time lecturers with a degree	Share of full-time lecturers with a degree in the program, %
L	Marine technology	10.85	2.05	19%
T	Marine technology	5.26	2.16	41%
M	Marine engineering	9.21	1.82	20%
E	Marine engineering	3.51	0.47	13%
F	Business and Public Management (Finance)	-	-	-

Program code	Group of study fields	Total full-time positions for program teaching	Number of full-time lecturers with a degree	Share of full-time lecturers with a degree in the program, %
V	Business and Public Management (Management)	7.35	2.53	34%
I	Informatics	3.30	1.97	60%
	In total:	39.48	11.00	28%

The professional activity of the lecturers and the available practical work experience correspond to the study subjects taught (Figure 6). 74-100% of lecturers have more than 3 years of practical work experience in the maritime transport and maritime business sector (minimum requirement is 50%). The largest number of the lecturers with practical experience work in the field of marine technology – in Marine Navigation (L) study programme, where they make 85 percent of the total number of lecturers, and in Shipping and Logistics Information Systems (I) - 83 percent; in marine engineering study programmes Marine Electrical and Electronic Engineering (E) – 79 percent and in Marine Power Plant Operation (M) - 76 percent; in marine technology study field programme Maritime Transport Logistics Technologies (T) and management study field programme Port and Shipping Management (V) - 76 percent in each programme. 100 percent of lecturers working in the finance study field programme Finance of Port and Shipping Companies (F) have practical work experience in the field.

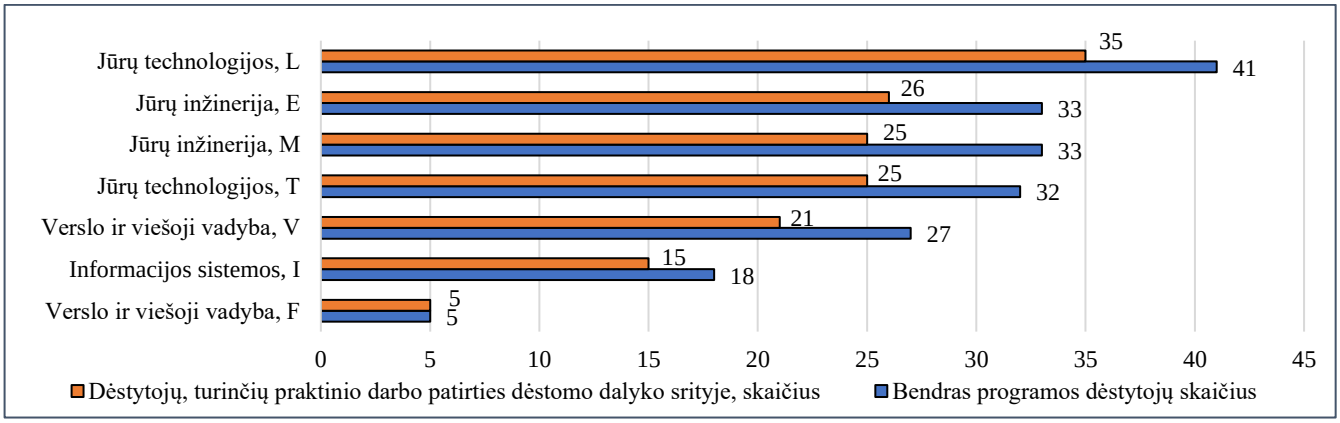


Fig. 6 Lecturers with 3 and more years of practical work experience in the field of the subject they teach

The change in the number of lecturers (Figure 7) is related to the change in the academic staff structure, i.e., with the consistent increase in the number of lecturers with a doctoral degree, the number of lecturers holding the position of associate professor is increasing and the number of lecturers holding the position of lecturers is decreasing accordingly.

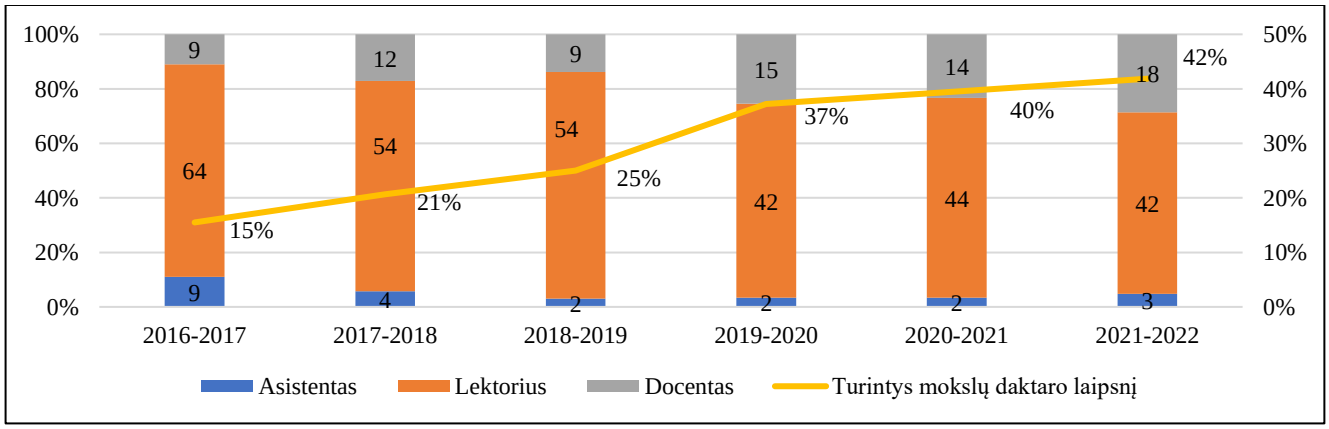


Fig. 7. Changes in the academic staff structure in 2016–2022

During the last 6 years of studies, a decrease in the number of lecturers has been recorded, i.e., from 82 in 2016-2017 to 63 in 2020-2021. This is explained by the fact that the number of lecturers and their workload depends directly on the number of students admitted: the number of students is decreasing and the workload per lecturer is "made bigger". However, there has been an increase in the number of teachers with a degree. Degrees were awarded to teachers: E. Valionienė in 2020 (Management); L. Dreižienė in 2019 (Mathematics), S. Briedienė in 2017 (Management). I. Diksė is studying for a doctoral degree in educology study field at Klaipėda University and G. Šimkonienė is studying for a Ph.D. in energy and thermal engineering at Kaunas University of Technology.

There are 24 employees working in the positions of heads and specialists in the departments that administrate studies (study department, library, accounting department, etc.). All of the said employees have higher education: 17 of them have a master's degree or an equivalent qualification. There are 23 employees working in the Seafarers' Training Center: specialists, senior instructors, instructors, members of the examination commission. 16 of them have a maritime degree (ship masters and mates, ship's engineers, chief engineers, electromechanics, refrigeration mechanics).

4.2. Professional Development

The Academy provides opportunities for professional development for both lecturers and administrative staff (Figure 8). The amount of funds allocated for the professional development of LMA staff has been increasing over the last 4 years: in 2021 – EUR 9,502 (where EUR 3,002 was allocated by project activities), in 2020 - EUR 3,352, in 2019 - EUR 6,684 and in 2018 - EUR 5,939. There was an obvious decrease in the amount of funds used for the professional development in 2020, which was caused by the quarantine announced in the Republic of Lithuania and foreign countries, restrictions on movement within and outside the country, restrictions on holding events and gatherings. However, the number of employees participating in training and professional development events held online has increased. As the staff participated in training courses online, LMA did not incur any business trip costs. To improve the subject competencies of lecturers, an internship was organised for 16 employees of the Academy in August 2021 on DFDS Seaways seagoing ferries sailing on the routes Klaipėda–Kiel–Klaipėda and Klaipėda–Karlshamn–Klaipėda. As LMA provides international studies, a strong focus was placed on improving English language skills in 2021. To this end, an English Language Club was established, and employees took part in intensive English language courses abroad (Barcelona) under the Erasmus+ exchange program. Being a member of various maritime transport sector, industry and business associations (LAQM, Klaipėda Chamber of Commerce, Industry and Crafts (KCCIC), Klaipėda Association of Industrialists, Lithuanian Maritime Cluster, etc.), LMA participates actively in the trainings organised by the associations hereinabove.

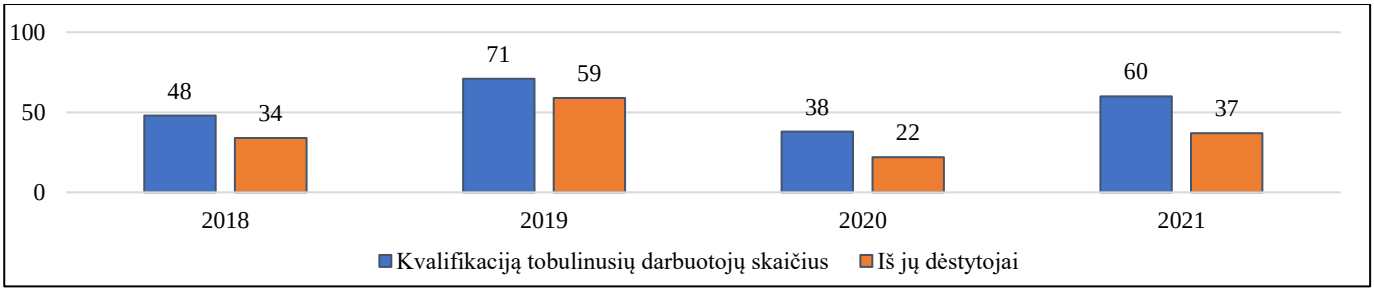


Fig. 8. Number of LMA employees who attended professional development courses in 2018-2021.

The specificity of LMA activities, quality management system, operational experience and strategic approach to innovation and initiative are the main factors that motivate the LMA staff to continue learning and developing their competencies.

4.3. Staff Mobility

Four (4) lecturers came to give lectures to LMA students from foreign countries in 2021. The visits of two highly qualified foreign lecturers were partially funded by the Education Exchanges Support Foundation: a visit of Dr. Ali Arshad (Riga Technical University, Latvia), who taught the course unit "Thermodynamics" online to students in groups 20-E-7 and 20-M-180, and Dr. Marine Zanne (University of Ljubljana, Slovenia), who came to teach a part of the course unit "Maritime Economics" to students in groups 20-T-13 and 20-I-1. Dr. Catalin Popa from Mircea cel Batran Naval Academy (Romania) arrived to LMA under the Erasmus+ exchange programme in September. Lecturers and staff from partner institutions in Montenegro and Ukraine could not come to the Academy due to COVID-19 pandemic and the related international movement restrictions.

3 lecturers from foreign countries were invited at the initiative of the Academy: from Lviv Polytechnic National University (Ukraine) - to teach informatics study field study programme Shipping and Logistics Information Systems, to teach maritime law study programmes Marine Navigation and Marine Power Plant Operation - from Ivane Javakhishvili Tbilisi State University (Georgia), to teach maritime English to students of study programmes Marine Power Plant Operation and Marine Electrical and Electronic Engineering – from Maritime Academy, Greece).

14 lecturers of the Academy went to give lectures at five foreign partner institutions: Liepaja Maritime College (Latvia), Mircea cel Batran Naval Academy (Romania), University of Montenegro (Montenegro), State University of Infrastructure and Technology (former Kyiv State Maritime Academy, Ukraine) and the Latvian Maritime Academy (Latvia).

Detailed information on mobility of lecturers and staff is provided in Table 8.

Table 8

Mobility of LMA lecturers and staff in 2019-2021

Mobility	2019	2020	2021
Incoming lecturers under Erasmus+ programme and visiting lecturers under visiting programmes from foreign countries	9	2 (online)	1 (online) 2 (face to face)
Incoming lecturers at LMA initiative	-	-	1 (face to face) 2 (online)
Outgoing lecturers	13	1	14
Incoming staff	3	-	4
Outgoing staff	7	-	7

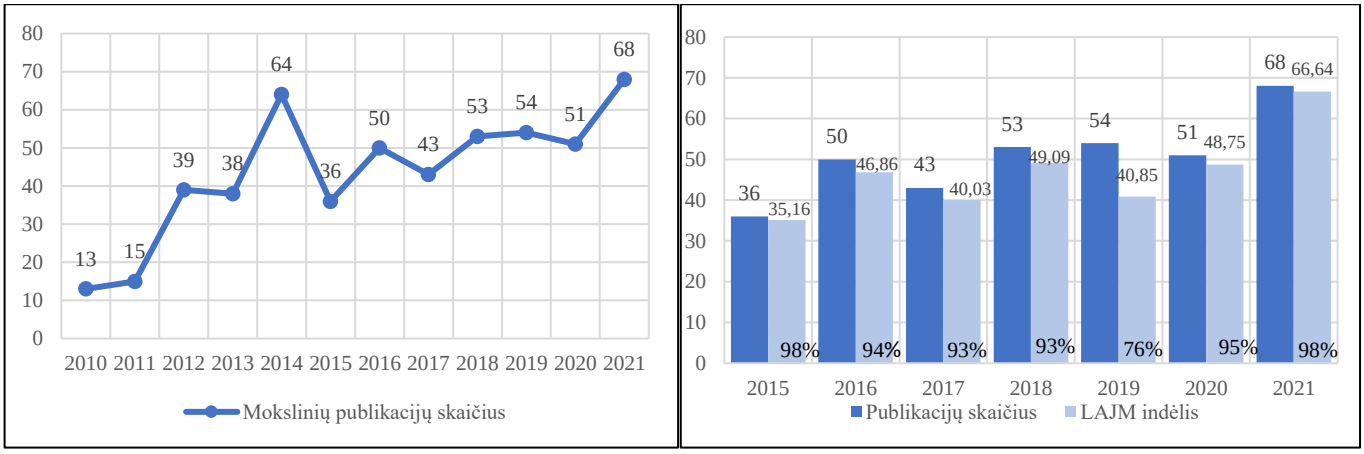
In total, 7 staff members of the Academy took part in staff training courses under the Erasmus+ exchange programme: 4 participants went to the University of Rijeka (Croatia) and 3 staff members took part in English language training courses at Clave Empresa Formacio SL (Spain).

5. SCOPE OF APPLIED RESEARCH

The outcomes of LMA applied research in 2021 are educational projects and scientific publications prepared for the development of applied research and student capacity to execute R&D activities. As the

LMA applied research is closely related to the project activities of the Academy, more information on the applicability of research in project activities is provided in chapter "Project Activities" (Chapter 9).

In 2021, 23 lecturers (by 8 lecturers more than in 2020) and 44 students (by 11 students more than in 2020) participated in the Academy's research activities, of which 3 were international students. During 2021, 68 scientific publications were prepared (Figure 9a), which is by 33% more than in the previous year. An upward trend in the number of publications has been observed over a 12-year period. On average, the total number of publications increases by 4 more publications each year. The involvement of lecturers and students of the Academy in R&D activities is increasing accordingly. The positive change in the number of publications in 2021 was determined by the implementation or ongoing implementation of RCL-funded (Research Council of Lithuania) projects for the development of students' research competencies. When analysing the ratio of the Academy's contribution to the number of publications in 2021 (Figure 9b), it can be observed that LMA contribution amounts to 98% of all publications, i.e., the majority of part-time lecturers make reference to LMA in their research paper. On the other hand, to achieve the internationalization of research activities, it is necessary to increase the number of research publications prepared in cooperation with foreign partners. During 2021, 5 publications representing the results of research conducted during strategic partnership projects accounted for 7% of the total sample of publications. A full list of research publications by types is provided in Annex 5.



a) b)

Fig. 9. Change in the number of scientific and other publications by LMA in 2010-2020.
a) total number of publications, units; b) change in the number of publications (units) and contribution of LMA

Compilation of scientific publications published by LMA lecturers in 2016–2021 by type is presented in Table 9.

Table 9

Scientific publications published by LMA lecturers in 2016-2021

Code*	Types of scientific and other publications	2016	2017	2018	2019	2020	2021
K1a	Monograph, book section, scientific research, and theoretical, synthetic research works, composed research works	-	-	1	-	-	-
K2b	Study literature: textbook or chapter, textbook or chapter, teaching and methodological tool, other study literature.	1	-	3	6	-	2
K2c, K2d	Study literature: teaching and methodological tool, other study literature	-	-	2	4	-	1
K3f, K4d	Other information publications not included in other types of information publications, other books	1	-	-	-	1	-
K5	Completed research work	-	-	-	1	-	2

Code*	Types of scientific and other publications	2016	2017	2018	2019	2020	2021
Y	Part (chapter) of a book, chapter of a book	-	-	-	3	-	-
S1/S2	Articles published in peer-reviewed scientific publications, referenced *Clarivate Analytics Web of Science* databases*: Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Emerging Sources Citation Index.*	-	-	2	1	2	6
S3/S4	Scientific article in peer-reviewed scientific publications entered in international databases of scientific information and/or published by internationally recognised publishers.	6	7	4	8	3	3
S5	Scientific article in other peer-reviewed scientific periodicals, continuous and one-off publications, not referenced in international databases and not included in them.	2	3	-	4	2	3
P1a	Article in a publication of conference papers DB *Clarivate Analytics Web of Science.* Articles in a publication of conference works referenced in *Clarivate Analytics Web of Science Conference* databases: *Conference Proceedings Citation Index- Science (CPCI-S), Conference Proceedings Citation Index- Social Science & Humanities (CPCI-SSH) (Proceedings Paper).*	4	-	-	3	4	-
P1b/ P1c	Scientific article in conference proceedings in an international database and/or in a publication published by an international publisher.	2	1	4	3	-	3
P1d	Scientific article in peer-reviewed material of a foreign international conference.	-	-	1	1	2	4
P1e/P1f/P1g	Scientific article in peer-reviewed material of a Lithuanian or foreign conference.	-	-	-	1	1	-
P2a/P2b/ P2c	Scientific article in non-peer-reviewed material of a foreign or international conference abroad.	1	-	-	-	-	1
T1c/T1e/T2	Abstracts in peer-reviewed and non-peer-reviewed publications	3	2	7	4	3	8
N5	Patents registered in Lithuania	-	1	1	-	-	-
V1/V2/V3	Book (translation), part of the book (translation), article (translation)	-	-	-	2	-	-
	In total:	**20**	**14**	**25**	**41**	**18**	**33**

***** eLABA classifier of types of scientific publications

In 2021, LMA lecturers prepared by 83% more publications compared to 2020. However, the annual number of publications remains by 20% lower compared to 2019 (Table 9). The analysis of publications shows qualitative changes – by 5 more articles were published in peer-reviewed journals referenced in the *DB Clarivate Analytics Web of Science* compared to 2019 and by 4 more articles compared to 2020.

In 2021, LMA organised 1 international internship for teachers and staff of Ukrainian higher education institutions and 2 international scientific practical conferences.

Abstracts of reports and articles of the international scientific conference "Development of higher education in the transport sector seeking to increase maritime, land and air transportation impact on country's economics" were published in peer-reviewed conference reports and one-off conference publications. The number of scientific production units increased by 10 units in one year due to this event.

The international scientific-practical conference of the BALTIC SEAS 3 "The Baltic Sea as the Energy Crossroads of the Future: Port, Shipping and Geopolitical Perspective" was organised by the francophone development foundation SEFACIL together with LMA, the DEVPORT project group at Le Havre Normandy University in cooperation with Embassies of France in Lithuania and Latvia and Riga Free Port Authority, as well as General Jonas Žemaitis Military Academy of Lithuania.

After analyzing the types of publications in 2016-2021 (Table 9), it is possible to determine the trend in the level of publications of LMA lecturers: publications prepared by LMA lecturers are mainly classified

as series of publications and one-time publications publishing conference materials included in significant international databases, such as *DB Clarivate Analytics Web of Science* and so on.

In 2021, scientific publications were prepared by 15 lecturers of the Academy, i.e., by 6 lecturers less than in 2020. This led to the involvement of a large proportion of lecturers with a doctor's degree in leading student research and leading the preparation of student publications in 2021. Therefore, the number of publications prepared by students together with lecturers and published in peer-reviewed serial and one-time publications increased by 71% in 2021, compared to 2020 – from 14 publications to 24 publications (Table 10). When analysing the structure of lecturers' publications according to the assignation of publications to the research fields, it should be noted that 35% of the total number of publications were assigned to the field of social sciences in 2021, i.e., publications in the field of management sciences were dominant, 29% of publications were assigned to the field of educational sciences, 29% of publications (10) were assigned to the field of technology sciences, of which 1 was assigned to the field of electrical engineering and 6 - to the field of transport engineering. Once the informatics study programme was launched, 3 publications in the field of informatics were published. The number of publications in the field of technological sciences is growing too slow, so it is necessary to increase the scope of technological research to achieve the consistency of research activities with the respective trends of study programmes.

The number of scientific publications by LMA students increased by 12% in 2021 compared to 2020 (Table 10). The number of publications in peer-reviewed serial and one-time publications and in foreign or international conference materials more than doubled. It should be noted that 4 publications are of high scientific level, i.e., these are articles published in peer-reviewed scientific publications and conference materials referenced in *Clarivate Analytics Web of Science* databases and other peer-reviewed publications.

Table 10

Scientific publications published by LMA students together with lecturers in 2016-2021

Code*	Types of scientific publications	2016	2017	2018	2019	2020	2021
S1/S2	Articles published in peer-reviewed scientific publications, referenced *Clarivate Analytics Web of Science* databases*: Science Citation Index Expanded, Arts & Humanities Citation Index, Emerging Sources Citation Index*	-	-	-	-	1	-
S3/S4/ S5	Scientific article prepared by lecturers together with students in peer-reviewed serials and one-time publications.	3	3	2	3	2	6
P1a, P1b, P1c	Scientific article in peer-reviewed conference proceedings, referenced in international scientific information databases and/or published in an internationally recognized publishing house	-	-	1	1	1	1
P1d/P1e/P1f/P1g	Scientific article, prepared by lecturers together with students, in peer-reviewed Lithuanian and foreign conference materials	7	-	7	1	12	18
P2a/ P2b/ P2c	Scientific article in non-peer-reviewed material of a foreign or international conference abroad	14	26	16	7	16	9
T1c/T1e/T2	Abstracts in peer-reviewed and non-peer-reviewed conference publications	6	-	2	1	-	1
	In total:	**30**	**29**	**28**	**13**	**33**	**35**

***** eLABA classifier of types of scientific publications

In 2021, student research was supervised by 14 lecturers, i.e., by 3 lecturers more than in 2020. According to the affiliation of articles published by students together with lecturers by research fields, publications in the field of social sciences are predominant – more than half (51%) of all publications prepared by students and lecturers in 2021 were in the field of management sciences, some of them (2 publications) were assigned to the field of economics. The authors of those publications are students of Port and Shipping Management study programme. 2 publications have been prepared in the field of informatics,

one of them has been prepared by the students of the Shipping and Logistics Information Systems study programme, the other with an adjacent affiliation - by a student of the Port and Shipping Management study programme. The share of publications in the field of technology is 46% of the total number of publications. 17 publications have been prepared in the field of transport engineering, the authors of which are distributed according to the study programmes as follows: 3 students from Ship Power Plant Operation study programme, 4 – from Marine Navigation and 10 – from Maritime Transport Logistics Technologies study programme.

Upon summarising the results of LMA applied research activities in 2016-2021, it was determined that the distribution of the Academy's research publications by research fields corresponds to the prevailing study fields and directions of the programmes implemented by the Academy – publications in the field of technological sciences account for 36% of all publications (51% in 2020), social sciences - 58% (45% in 2020), natural sciences informatics study field – 3% and humanities - 3%. The overall involvement of LMA faculty and students in applied research is increasing, but the increase is more pronounced in the field of social sciences. Therefore, there is a need to promote the involvement of LMA lecturers and students in research in the field of technology and computer sciences to achieve the evenness of research activities both between fields of research and between the study programmes of the Academy. The increase in the internationalisation of research and the fact that 8% of publications were prepared with co-authors from foreign higher education institutions can be identified as a strength in the field of applied research activities. However, it is still necessary to increase the diversity of such institutions by expanding the sample of co-authors in research publications. To increase the inclusion of the results of the latest research into the study content, it is necessary to increase the involvement of lecturers and students of Marine Navigation, Ship Power Plant Operation and Marine Electrical and Electronic Engineering study programmes in research activities.

6. NON-FORMAL ADULT EDUCATION AND CONTINUING VOCATIONAL TRAINING

Non-formal adult education and continuing vocational training programmes are part of R&D activities of the Academy aimed at meeting the needs of local and national stakeholders operating in the field of water transport sector. The Seafarers' Training Centre (STC) is responsible for the activities hereinabove.

In 2021, LMA provided 77 non-formal adult education and continuing training programmes regulated or not regulated by the IMO Conventions (Table 11, Annex 6).

Table 11

Number of non-formal adult education and continuing training programmes in 2019-2021

No.	Training programme	2019	2020	2021
1.	Full basic training course	38	37	56
2.	Refresher course	18	18	21
	In total:	**56**	**55**	**77**

2 new training programmes were accredited and authorised by the Lithuanian Transport Safety Administration:

- From 22 October 2021 – Basic Training for Service on Ships Subject to IGF Code designed for pilots, ship engineers, ship electricians and other persons assigned appropriate duties in accordance with section A-V/3-1 of the STCW Code. To be able to provide this training programme, training courses were arranged and held under the programme TechSim 5000 LNG Bunkering Simulation Instructor Operational Training Course that were completed successfully by 7 instructors of the Seafarers' Training Centre.

- From 27 December 2021 – Basic Training for Service on Ships Operating in Polar Waters designed for managing specialists in charge of the deck service and other persons assigned appropriate duties in accordance with section A-V/4-1 of the STCW Code. To be able to provide this training programme, 2 instructors of the Seafarers' Training Centre attended and completed successfully training courses arranged by IMO - Train-the Trainer Workshop for Seafarers on Ships Operating in Polar Waters.

A new training programme for yacht sailors Yacht Radio Equipment and Yacht GMESS Short Range Very High Frequency Radio Operator was approved by the order of LMA director and was launched in 2021.

In total, 3432 unclassified students finished training courses at the Seafarers' Training Centre in 2021, which is by 44% more than in 2020 (2385 unclassified students) and by 41% more than in 2019 (2436 unclassified students).

Non-formal adult education and continuing vocational training activities are carried out under contracts with unclassified students, under referrals from economic entities, under contracts with public organizations and at the request of the self-employed persons. The distribution of the unclassified students by contract groups is provided in Figure 10.

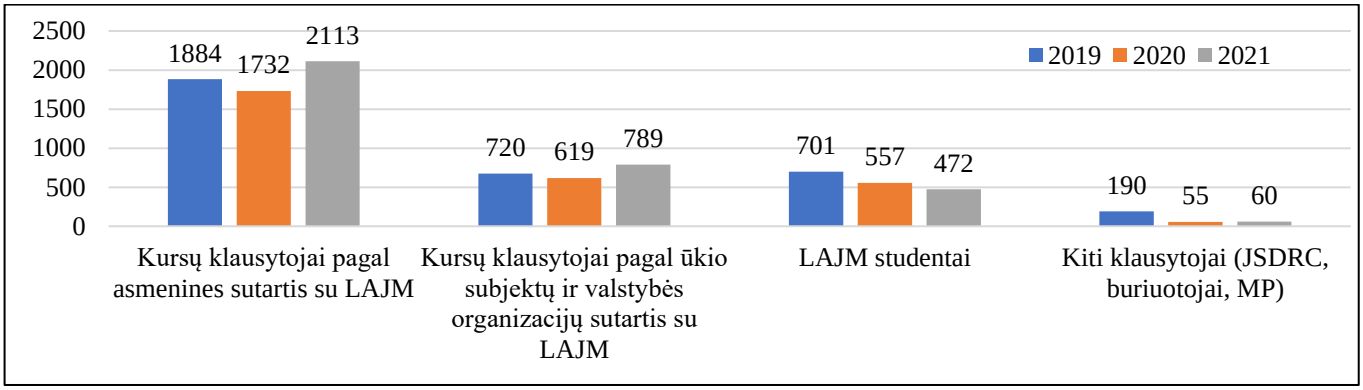


Fig. 10. Number and structure of LMA unclassified students in 2019-2021

Information on the number of unclassified students by training courses provided under contracts with public organizations and received earnings is provided in Table 12.

Table 12

Number of unclassified students and received earnings (EUR) for training courses provided under contracts between LMA and entities or public organizations

No.	Name of organization	2019		2020		2021	
		Number of unclassified students	Earnings, EUR	Number of unclassified students	Earnings, EUR	Number of unclassified students	Earnings, EUR
1.	AB DFDS Seaways	305	50,265.68	308	82,170.29	439	79,714.40
2.	UAB Boskalis Baltic	149	43,595.00	140	31,342.70	182	35,407.40
3.	UAB Limarkas	58	12,327.90	59	13,718.27	53	10,273.20
5.	AB Klaipėda Stevedoring Company (branch of KLASCO Towage Assistance)	26	7,277.40	19	5,822.60	38	11,457.00
6.	State Border Guard Service	35	After fulfilment of contract (July 2021)	24	Contract extended until 30/12/2021 and fulfilled	24	Earnings received only on 10/01/2022 18,505.00
8.	VšĮ Klaipėda University Marine	8	1,130.12	16	3,117.52	20	4,280.32

No.	Name of organization	2019		2020		2021	
		Number of unclassified students	Earnings, EUR	Number of unclassified students	Earnings, EUR	Number of unclassified students	Earnings, EUR
	Research Open Access Centre						
4.	Naval Forces of the Republic of Lithuania	44	11,212.81	10	5,923.00	18	3,655.00
9.	UAB Towmar Baltic	14	4,974.80	24	7,014.10	8	2,332.80
7.	UAB Atlantic High Sea Fishing Company	18	4,065.30	14	4,343.00	7	1,879.20
11.	UAB Hoegh LNG Klaipėda under special programme	3	11,526.00	-	5,763.00 (for December 2019, 3 incl. st.)	3	6,600.00
10.	UAB Baltlanta	9	3,083.40	3	1,162.80	1	351,00
13.	AB Klaipėdos nafta, Q-Flex type gas carrier operation tests	6	10,900.00	-	-	-	-
14.	AB Klaipėdos nafta“	4	616,00	-	-	-	-
15.	UAB Marlinas	4	1,051.20	2	1,530.00	-	-
17.	UAB Kreiserinio buriavimo mokykla	1	600,00	-	-	-	-
16.	Maritime English courses to crew members of AB DFDS Seaways ships	36	16,076.50	139	27,331.99-	-	-
	In Total:	**720**	**178,702.11**	**619**	**189,239.29**	**793**	**155,950.30 (174,455.30)**

Under referrals from economic entities and state organizations with which no contracts have been signed, 20 unclassified students completed non-formal adult education and continuing vocational training programmes in 2021, income received - EUR 17,735.00.

Training under STCW Convention is part of the maritime engineering and marine technology degree programmes. In 2021, 472 LMA students completed the said training courses at the Seafarers' Training Centre.

Distribution of the number of unclassified students at LMA Seafarers' Training Centre by the training programmes, upon completion whereof qualification is awarded or validated, for the period 2019-2021 is presented in Table 13.

Table 13

Distribution of the number of unclassified students in basic and continuing vocational training programmes, upon completion whereof qualification is awarded or validated, in 2019-2021

No.	Training programmes	2019	2020	2021
1.	Training and professional development of leading specialists of crew of ship's deck department (navigators)	8	4	4
2.	Training and professional development of leading specialists of crew of ship's engine department (engineers)	35	18	37
3.	Training and professional development of leading specialists of crew of ship's engine department (electromechanics)	-	1	-
4.	Training programme for leading specialists in the deck service of fishing vessels of 24 meters in length and over operating in unrestricted navigation waters	1	3	-
5.	Qualified seafarers training programme	5	8	6
6.	Ship motorists training programme	-	9	5
7.	Fundamentals of safe operation of high voltage electrical equipment on ships	9	-	-
8.	Basic training for safe operation of high voltage energy systems	9	4	2

No.	Training programmes	2019	2020	2021
9.	Special training for safe operation of high voltage energy systems	23	10	12
10.	International Qualification Certificate for Motor Recreation Boats	-	12	24
11.	Global Maritime Emergency and Safety Systems Operators	113	72	79
	In total:	**203**	**141**	**169**

The change in the number of unclassified students is determined by the cyclical nature of the professional development of seafarers (the term of validity of special certificates is normally 5 years) regulated by 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, as well as the Description of the Rules for Granting Maritime Degrees, Issuing and Approval of Maritime Diplomas and Certificates of Maritime Qualifications approved by the order of the Minister of Transport and Communications of the Republic of Lithuania.

STC also develops R&D activities by conducting outsourced research for business enterprises: in 2021, an agreement was signed with AB DFDS Seaways on the preparation of a research study for the management of a new passenger-freight ferry, Ro-Pax prototype, in the ports of Klaipėda, Kiel and Karlshamn, by carrying out a narrow-gauge navigation, normal and emergency quay/off-quay mooring operations, entry/exit to/from the port and training of 8 employees. from the port and training of 8 employees.

7. FUNDS AND USE OF FUNDS

In 2021, LMA received a total amount of EUR 2,250,943.3. the said amount of funds was distributed to 647 students. In 2021, the amount of funds available to LMA per 1 student was EUR 3,479.05, which is by 17 % more than in 2020. The size of the indicator is determined by the following funds: funds from state budget, projects, Erasmus+ education exchange programmes, income from studies, support funds, targeted scholarships (Table 14).

Table 14

The structure of funds per student in 2019- 2021, EUR

No.	Income	2019	2020	2021
1.	State budget funds	1,624,000.00	1,596,000.00	1,450,700.00
2.	Projects	297,983.59	66,022.82	217,017.55
3.	Erasmus+ program funds	80,647.48	54,404.47	83,754.04
4.	Income from studies	352,248.48	352,712.34	462,263.78
5.	Support funds	25,310.42	28,318.45	18,008.12
6.	Targeted scholarships	-	19,200.00	19,200.00
	In total:	**2,380,189.97**	**2,116,658.08**	**2,250,943.3**
	Number of students	792	714	647
	Funds per one student:	**3,005.29**	**2,964.51**	**3,479.05**

In 2021, EUR 1,450,700.00 was allocated to LMA from the state budget, which were distributed to the expenditure of the Academy (Table 15). The amount of state subsidies is largely determined by the number of students in state-funded study places.

Table 15

Distribution of Allocated State Budget Funds to LMA expenditures in 2019-2020, thousand EUR

No.	Economic classification of expenditure	2019	2020	2021
1.	Salary, including social insurance (SODRA)	1,321.00	1,225.50	1,198.50
2.	Utilities	52,00	25.00	29.8
4.	Communication services	-	-	-
5.	Maintenance of transport	-	-	-
6.	Purchase of clothing	11.00	6.00	-
7.	IT services	-	19.00	11
8.	Business trips	-	-	-
9.	Current repairs	-	-	-

No.	Economic classification of expenditure	2019	2020	2021
10.	Other goods and services	131.10	235.50	18.7
	Where R&D papers	103.70	231.50	-
11.	Student scholarships	108.90	85.00	72.9
12.	Social support	-	-	-
13.	For acquisition of software			25.2
14.	For acquisition of laboratory equipment			94.6
	In total:	**1,624.0**	**1,596.0**	**1,450.7**

The remaining balance of the funds from Erasmus+ exchange programme as of 31 December 2020 was EUR 298,185.87. the said balance was forwarded to 2021. The Education Exchange Support Fund allocated a grant of EUR 161,763.0 to the Academy for the implementation of mobility in the Erasmus+ programme countries in 2021. During 2021, EUR 83,754.04 from the funds of the programme were used (Table 16), the unused amount of grant - EUR 12,753.00 - was returned. So, the balance of the Erasmus+ exchange programme funds as of 31 December 2021 was EUR 363,441.83.

Table 16

Use of Erasmus+ exchange program funds allocated to LMA in 2019-2020, thousand EUR

No.	Economic classification of expenditure	2019	2020	2021
1.	Salary, including social insurance (SODRA)	13.3	11.1	65.7
2.	Student scholarships	33.8	42.4	1.2
3.	Lecturers' business trips	18.3	0.6	16.6
4.	Other goods and services	15.2	0,3	0.2
	In total:	**80.6**	**54.4**	**83.7**

In 2021, the following special funds spent by the Academy during implementation of projects were reimbursed (received):

- A grant by Research Council of Lithuania for the project Development of Students' Applied Research Competencies by Involving Them in Port Management Research – EUR 37,585.76;
- Cultural project by Klaipėda City Municipality "ABC of Naval Knots" (*Jūrinių mazgų ABC*) – EUR 2,880.00;
- Funds of the European Regional Development Fund allocated under the measure No. 01.2.1-LVPA-K-856 "Experiment" of the Priority 1 "Promotion of Research, Experimental Development and Innovation" under the European Union Funds Investment Operational Programme 2014-2020 for the implementation of the project "Development of an integration platform for the port cargo management solution support system operating on the basis of artificial intelligence" – EUR 36,906.46;
- Erasmus+ KA202 Strategic Partnerships for vocational education and training - project "Practical and Communication-based Maritime English" (PraC-MARENG) – EUR 8,795.33;
- Erasmus+ KA203 Strategic Partnerships for higher education: project Strategic partnership for supporting Blue Growth by enhancing Maritime Higher Education maritime cooperation framework on marine pollution and environment protection field (BLUE4SEA) – EUR 21,016.00;
- Erasmus+ KA220-VET – Cooperation partnerships in vocational education and training:
  - project Simulation of Sea Accidents for Effective Responses (SeaSAFER) – EUR 97,924.00;
  - project Maritime Engine Room Simulator On-Line (MERSOL) – EUR 11,910.00.

8. INFRASTRUCTURE AND IMPROVEMENT OF ASSETS

LMA manages the following property in trust: the training building (I. Kanto str. 7 – 3,724.66 m^2 and Kalvos str. 1 – 4,559.32 m^2), laboratory building (total area of premises 912.71 m^2) and a dormitory (Karklų str. 2 – 4,750.04 m^2) located in Klaipėda. The total area of the training premises is 9196.69 m^2.

8.1. Infrastructure

During the reporting period, the façade of the training building of the Academy was renovated in part and repair works were carried out at the Seafarers' Training Centre (Fig. 11 and 12). Whiteboards have been replaced with more modern glass boards in some auditoriums of the Academy (Fig. 13).

Fig. 11. Renovated entrance to STC

Fig. 12. Repaired stairwell

Fig. 13. Glass board

In effort to improve the living conditions of Academy students, part of the dormitory premises was renovated: repair works of living rooms and common-use areas were performed, part of the furniture was renewed and window blinds were installed.

Efforts are made to create more comfortable work and leisure spaces, so Klaipėda-themed graphics on glass were produced and hung in the professorium (Fig. 14) and STC (Fig. 15), which enlivens the environment and gives cosiness and exclusivity to the said spaces.

Fig. 14. Graphics on glass at the professorium

Fig. 15. Graphics on glass at STC

It is planned to continue updating the study and living environment of the Academy to improve conditions for students to learn and engage in extracurricular activities, as well as to introduce modern technologies. LMA dormitory needs to be renovated to make it energy efficient and save energy sources.

8.2. Improvement of Technological Base of Studies

To improve and modernise the infrastructure of the Academy, the port cargo handling terminal simulator was updated, the navigation simulator NTPRO 5000 Ro-Pax ship model was purchased (Fig. 17), and the electrical laboratory equipment was updated (Fig. 16). LMA purchased the following new equipment: oil quality test set, meteorological station, sedimentation laboratory test training stand and hydraulic laboratory modular training stand for the newly installed Marine Engineering Laboratory.

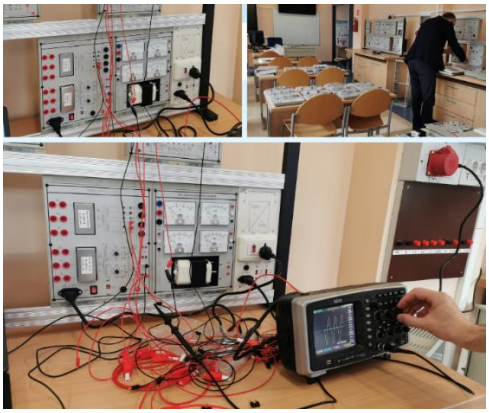


Fig. 16. Equipment of electrical laboratory

Fig. 17. NTPRO 5000 navigational simulator for Ro-Pax ship model

As COVID-19 pandemic was continuing in 2021, LMA was looking for ways to present lecture materials remotely efficiently and effectively and reach the target audience for publicity purposes. Therefore, a studio for development of training materials for remote learning (with software) was installed, where lecturers could record visual material and present it to students. The studio and its equipment were also used to promote the activities of the Academy - the Career and Communication Department conducted live broadcasts, during which various specialists were interviewed on relevant maritime topics.

Fig. 18. Studio for recording remote learning materials

Updates and development of the study material and technological base is planned in accordance with the principles of necessity and priority carrying out works in accordance with the approved plan for updating the material base for the financial year, taking into account the proposals of LMA departments and in accordance with Law on Public Procurement and other legal acts of the Republic of Lithuania.

In 2021, LMA effected public procurements for the total amount of EUR 429,898.17 (excluding VAT).

8.3. Information Resources

LMA Library fund is formed taking into account LMA study fields, directions and tasks of research development and the needs of the users. In 2021, EUR 19,302.63 was allocated for acquisition of resources for LMA Library, which is by about 11 percent more than in 2020 (EUR 17,917.91), but about 23 percent less than in 2019 (EUR 22,195.26).

As of the end of 2021, LMA Library Fund had 31,386 publications (Table 17). The number of open fund publications is up to 19 thousand, and traditional and electronic periodicals under 16 titles are

subscribed. Readers of LMA Library have access to 19,454 electronic publications, 3,715 of which are electronic books and other electronic documents.

Table 17

Information resources at LMA library in 2019-2021

No.	Resources	2019	2020	2021
1.	Number of publications in the library fund	31,873	32,086	31,386
2.	Publications of different titles	28,620	28,722	27,917
3.	Publications received	485	359	237
4.	Publications of different titles received	63	197	100
5.	Electronic publications	20,117	21,275	19,454

LMA students and lecturers can use electronic books, scientific articles, LST electronic standards of the Department of Statistics of Lithuania and other documents contained in subscribed databases. The Academy subscribes to 12 databases, i.e., EBSCO Publishing (eIFL.net Database Package), Taylor&Francis SHH Library and S&T Library, VILNIUS TECH, KTU publishing-house "Technology" and Taylor&Francis Group eBook collections.

All information about the existing and newly received books and publications in the library can be found in the library's electronic catalogue ALEPH, as well as in LMA virtual library (https://lajm.lvb.lt/).

LMA Virtual Library is an integrated search system that allows searching resources in LMA Library, the Lithuanian Academic Electronic Library eLABa, subscribed databases, and open access electronic resources. Information electronic resources may be used by members of LMA community at the Academy and at home by connecting to the network through VPN connections of LMA.

940 visitors were registered at LMA Library in 2021. Among them were the lecturers, students of the Academy and unclassified students of STC. In 2021, the total number of visitors was by 8 percent less than in 2020 (1106 visitors) and in 2019 (1191 visitors). The change is related directly to the decrease in the number of LMA students and STC unclassified, mobility restrictions put in place as COVID-19 pandemic management measures.

The infrastructure of LMA Library is adapted for individual and group work. In total, the library has 83 workplaces, of which 18 are computerised, 2 are individual computerised workplaces and 1 room is intended for group work.

The library is equipped with RFID-based fund use and protection equipment. Library users can use the self-service equipment for borrowing and returning books.

LMA students and unclassified students can get consultations on how to search for literature sources, compile a bibliographic description and other issues related to access to information and data sources.

LMA Library cooperates with other academic libraries, carries out joint activities and projects, and participates in professional events. The library is a member of the eLABa Consortium, the Lithuanian Research Library Association, and the Lithuanian Colleges Library Association.

9. PROJECT ACTIVITIES

LMA project activities are in many respects related to the applied research conducted at the Academy, so many of the ongoing institutional projects are related with the chapter "Scope of Applied Research" (see Chapter 6).

A distinctive feature of applied research in 2021 was the implementation of research and strategic partnership projects involving lecturers and students of the Academy (https://www.lajm.lt/lt/apie-lajm/projektai.html). In 2021, LMA implemented 31 projects, and 30 LMA researchers participated in the project activities, including 11 with a doctoral degree and 1 doctoral student, and 15 students studying in

Port and Shipping Management, Marine Navigation and Shipping and Logistics Information Systems study programmes. It is possible to single out the following types of projects implemented by LMA in 2021:

- R&D projects are implemented together with business partners in effort to promote the realisation of the idea of research and business partnership: 1 project is being implemented, wherein 5 LMA employees are participating, 3 of them with a doctoral degree;
- strategic partnership projects that LMA joined in as a partner: in 2021, 6 projects were implemented involving the following:
- partnership projects of higher education institutions of Lithuania: 1 project involving 8 LMA students from 2 study programmes – Port and Shipping Management and Marine Navigation and Shipping and Logistics Information Systems – as well as 1 LMA lecturer;
- projects funded by Klaipėda City Municipality: 1 project, into implementation of which 2 LMA researchers and 4 students of Port and Shipping Management and Marine Navigation and Shipping study programmes got involved;
- projects funded by the Research Council of Lithuania for the purpose of promoting students' research activities: in 2021, 22 projects were implemented in total, into research activities of which 15 students of Port and Shipping Management and Marine Navigation and Shipping study programmes got involved; 5 of them have already defended the theses on the topics related to research activities conducted during the implementation of the project. 10 LMA lecturers lead and supervised the research activities of the students during the implementation of the projects.

More detailed information about the projects under implementation is provide below.

1) In cooperation with Informacinė raida, UAB, the measure No. 01.2.1-LVPA-K-856 "Experiment" of the Priority 1 "Promotion of Research, Experimental Development and Innovation" is implemented under the European Union Funds Investment Operational Programme 2014-2020 for the implementation of the project No. 01.2.1-LVPA-K-856-01-0249 "Development of an integration platform for the port cargo management solution support system operating on the basis of artificial intelligence".

2) strategic partnership project "Strategic partnership for supporting Blue Growth by enhancing Maritime Higher Education maritime cooperation framework on marine pollution and environment protection field (BLUE4SEA)" of higher education institutions Mircea cel Batran Naval Academy (Romania), University of Piri Reis (Turkey), University of Ljubljana (Slovenia), National Maritime School (France) is being implemented. The project encompasses joint research and improvement of studies in the field of marine environment protection (6 LMA researchers, 2 of whom have a doctoral degree, and 2 students).

3) A strategic partnership project "*Practical and Communication based Maritime English (PraC-MARENG)"* No. 2019-1-FR01-KA202-063164 was implemented together with partners LAM France (France), Spinaker (Slovenia), Maritime Innovators (Turkey), Tuzla Kaymakamlıg (Turkey), Constanta Maritime University (Romania) in 2021. During the project, a specialised maritime English learning platform has been developed based on research results and the latest IT technologies, providing opportunities to improve English language competencies and effective communication on board ships (3 LMA researchers).

4) In 2021, LMA joined a strategic partnership project "Maritime Engine Room Simulator On-Line (Mersol)", where, together with partners South-Eastern Finland University of Applied Sciences (Finland), Image Soft Oy (Finland), Piri Reis University (Turkey), Polytechnic University of Catalonia (Spain), Spinaker (Slovenia), Kherson State Maritime Academy (Ukraine), who have joined into a consortium of seafarers' training colleges and programmers, they are going to develop a ship power plant simulator that can be used in studies remotely via a unified virtual platform and are going to prepare study modules for

the subjects taught during the use of the ship power plant simulator form an assessment methodology (2 LMA researchers , 1 of who is studying for a doctoral degree).

5) Also, in 2021, in the capacity of a partner LMA joined in the implementation of a project of a network of partners, i.e., Mircea cel Batran Naval Academy (Romania), MARITIME INNOVATORS (Turkey), Nikola Vaptsarov Naval Academy (Bulgaria), IDEC (Greece), National Maritime College (Portugal) – "*Simulation of Sea Accidents for Effective Responses (SeaSAFER)".* During the project, a virtual study platform will be developed to enable the development of safe navigation skills (6 LMA researchers, 2 of whom have a doctor's degree).

6) In 2021, LMA joined as a partner in research activities of the project "The Challenges of Academically Honest Distance Learning in Higher Education Institutions" implemented by Klaipėda State University of Applied Sciences, Kaunas University of Applied Sciences, Šiauliai State University of Applied Sciences; Panevėžys University of Applied Sciences, during which the challenges faced by the higher education institutions in ensuring academic integrity through distance learning were assessed. It should be noted that research in respective higher education institutions were carried out by the students, whose activities were supervised by the lecturers. 8 LMA students of Port and Shipping Management and Shipping and Logistics Information Systems study programmes participated in the project activities that were supervised by 1 LMA lecturer.

7) Project "ABS of Naval Knots" - creation of a cognitive textbook - was implemented in accordance with the Measure "Partial funding of projects in the fields and programs of culture and art", code 08.01.01.01, under Culture Development Program of the Action Plan for 20214 of Klaipėda City Municipality Administration.

8) In 2021, 6 projects that were started in 2020 according to the Measure No. 09.3.3-LMT-K-712 of activities "Development of students' abilities to carry out R&D (art research) activities" of the Research Council of Lithuania (RCL) of EU Funds Investment Operational Program for 2014–2020 "Development of Scientific Competence of Scientists, Other Researchers and Students through Practical Scientific Activities" were completed successfully and 6 scientific reports were submitted, and 7 projects were started and completed and 7 scientific reports were submitted, and 9 projects were started, the completion of which is planned for 2022, and in 2021, interim research reports were submitted to the Lithuanian Science Council:

- project No. 09.3.3-LMT-K-712-22-0312 "Development of Students' Applied Research Competences Involving Them in Maritime Transport Economics Research";
- project No. 09.3.3-LMT-K-712-22-0307 "Development of Students' Applied Research Competences Involving Them into the Development of Digital Marketing in the Maritime Transport Sector";
- project No. 09.3.3-LMT-K-712-22-0301 "Development of Students' Applied Research Competences Involving Them into Research on the Impact of Pandemic on Shipping Activities";
- project No. 09.3.3-LMT-K-712-22-0288 "Development of Students' Applied Research Competences Involving Them into Research into the Sustainable Development of the Interoperability of Maritime and Land Transport Systems;
- project No. 09.3.3-LMT-K-712-22-0278 "Development of Students' Applied Research Competences Involving Them into Research into the Logistic Connectivity of Maritime and Land Transport";
- project No. 09.3.3-LMT-K-712-22-0255 "Development of Students' Applied Research Competences Involving Them into Research in Seaport Management";
- 7 more projects were implemented successfully in July and August 2021:

- project No. 09.3.3-LMT-K-712-24-0153 “Assessment of Integration Opportunities on the Silk Road by Consolidating Alternative Freight Flows from Asia”;
- project No. 09.3.3-LMT-K-712-24-0169 “Research into the Possibilities for the Development of Liner Shipping Connectivity in the Curonian Lagoon Region”;
- project No. 09.3.3-LMT-K-712-24-0154 “Assessment of the Possibilities for the Sustainable Development of Short Sea Shipping”;
- project No. 09.3.3-LMT-K-712-24-0155, “Spatial Planning and Organisation of Liner Shipping Interconnection by Intensifying Shipping between Small Ports and Marinas”;
- project No. 09.3.3-LMT-K-712-24-0203 “Formation of Profile of a Visitor of Website of Organisations Training Maritime Transport Sector Specialists”;
- project No. 09.3.3-LMT-K-712-24-0156 “Assessment of the Efficiency of Port Management Based on the Attractiveness Formed by the Baltic Sea Ports”;
- project No. 09.3.3-LMT-K-712-24-0157 “Assessment of the Sustainability of the Seaport in Terms of Economic Progress”.
- The implementation of 9 more projects was started in 2021 that are planned to be completed in 2022:
- Project No. 09.3.3-LMT-K-712-25-0173 "Assessment of the Possibilities of Raising the Awareness of Organisations Training Maritime Business Professionals Using Social Networking Tools”;
- project No. 09.3.3-LMT-K-712-25-0168 “Research into the Attractiveness of the Maritime Transport Sector Labour Market”;
- project No. 09.3.3-LMT-K-712-25-0170 “Modelling the Profile of Management Competencies of an Smart Organisation in the Maritime Transport Sector”;
- project No. 09.3.3-LMT-K-712-25-0169 “Research into the Attractiveness of the Business Environment of the Maritime Transport Sector”;
- project No. 09.3.3-LMT-K-712-25-0172 “Modelling of Port Logistics Connectivity by Applying the Principles of Economic Sustainability of Short Sea Shipping”;
- project No. 09.3.3-LMT-K-712-25-0166 “Modelling of Alternative International Trade Patterns Using Port Logistics Connectivity Parameters”;
- project No. 09.3.3-LMT-K-712-25-0167 “Application of Spatial Planning and Modeling Principles in Assessing the Attractiveness of Small Port Ecosystems for the Development of Various Types of Liner Shipping”;
- project No. 09.3.3-LMT-K-712-25-0157 “Modelling of Digital Readiness Index for Assessment of the Readiness of the Maritime Transport Sector for Digitization of the Process”;
- project No. 09.3.3-LMT-K-712-25-0153 “Modelling of Applied Researcher’s Profile Based on the Research Field of the Institution”.

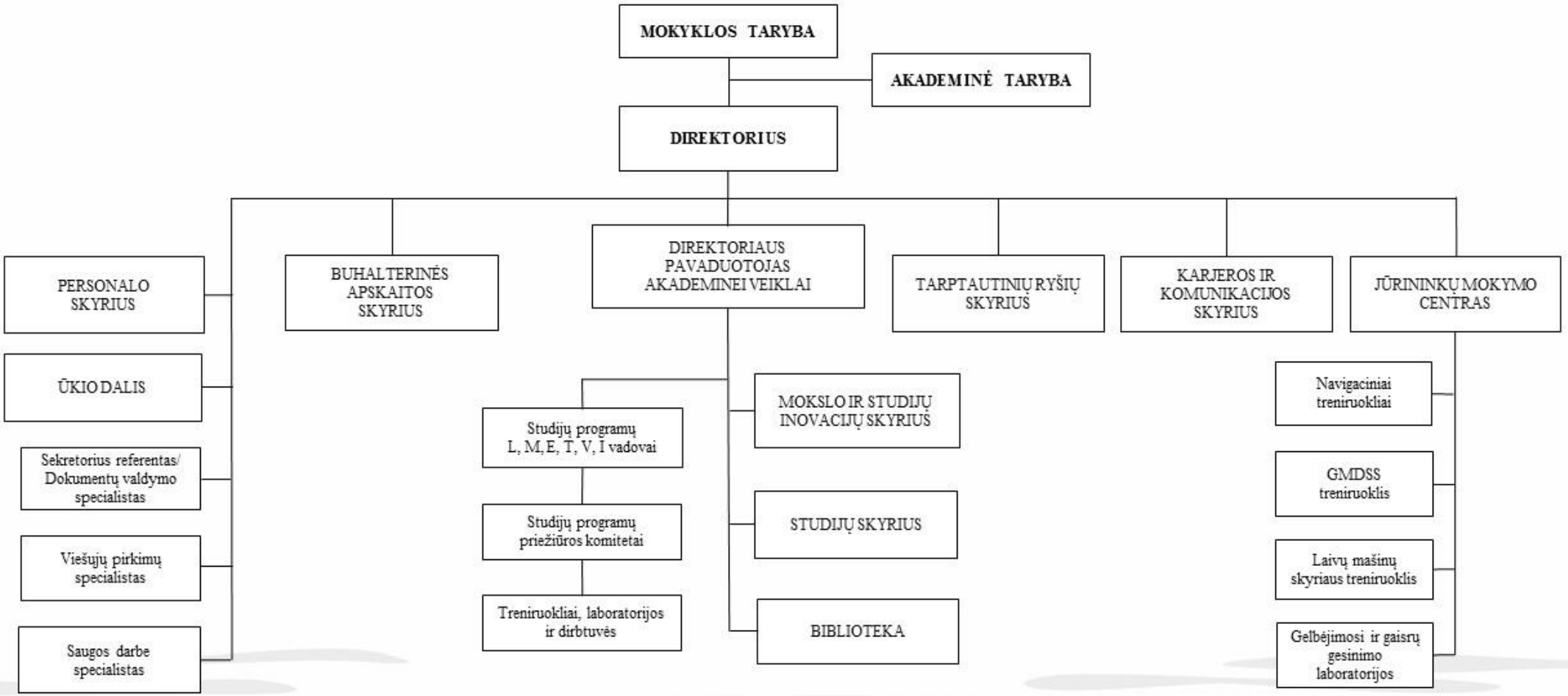
Summarising the information hereinabove, it can be stated that LMA increased activity in project activities significantly in 2021. The distinctive feature of this activity is the joining as a partner to the activities of the strategic partnership projects and the increasing the scope of joint activities of researchers and students in conducting the relevant research. It should be noted that 30 LMA researchers involved in research activities represent all study fields in the various project activities, but it is necessary to involve more students from the Maritime Navigation, Ship Power Plant Operation and Operation of Ship Electrical and Electronic Equipment study programmes. The area to be improved is project initiation and project preparation activities, which create conditions for attracting additional sources of applied research funding.

ANNEXES

Annex 1

APPROVED BY the Resolution No. TN-3 of 25 November 2021 of the Council of the Lithuanian Maritime Academy

LIETUVOS AUKŠTOSIOS JŪREIVYSTĖS MOKYKLOS ORGANIZACINĖ VALDYMO STRUKTŪRA



LIETUVOS AUKŠTOJI JŪREIVYSTĖS MOKYKLA

Annex 2

EVALUATION OF MEASUREMENT PLAN AND RISKS OF PERFORMANCE INDICATORS OF PROCESSES OF LMA QUALITY MANAGEMENT SYSTEM IN 2021

No.	QMS process	Indicator	Reporting period	Target value of the indicator	Actual value of the indicator	Performance of the QMS process	Risk factor	Target value of the risk factor indicator	Actual value of the risk factor indicator	Inherent/ residual risk level
1.	**QMS MANAGEMENT**	1.1. Implementation of QMS internal and external audit and inspection non-conformities and/or recommendations (%)	Reporting year	≥ 90%	100%	indicator reached / not reached				
		1.2. Number of QMS internal audits	Reporting year	≥6	6	indicator reached / not reached				
		1.3. QMS document update (number of documents)	Reporting year	≥5	28	indicator reached / not reached				
2.	**RESOURCE MANAGEMENT**	2.1. Share of special funds (earned, support, EU funds, etc.) from state budget allocations for studies (%)	Reporting year	≥65%	95% (1,397/1,460 thousand EUR)	indicator reached / not reached	Number of dormitory residents	Dormitory occupancy ≥80%, adjustment of the amount of fees for dormitory services 1 t/year	On average 40%, Maximum in October 57%	4/4 To determine inherent risk level 6
		2.2. Maintaining all types of LMA income per student compared to 2019.	Reporting year	90%-100%	117%	indicator reached / not reached				
		2.3. Efficiency of IT infrastructure, coefficient	Reporting year	>0,66	0,68	indicator reached / not reached				
		2.4. Proportion of significant value public procurements performed without suppliers' claims (%) of the total number of significant value procurements	Reporting year	≥80%	100%	indicator reached / not reached				
		2.5. Proportion of lecturers of subjects of the study field who participated in trainings for the improvement of subject, research or didactic competence, %	Reporting year	≥ 50%	59%	indicator reached / not reached				
		2.6. Proportion of positions occupied by lecturers teaching in study field programmes and working at least 0.5 full-time out of all positions occupied by lecturers teaching in programmes of each study field	Reporting year	≥ 40%	72%	indicator reached / not reached	Number and structure of lecturers	• ≥ 10% lecturers with a doctor's degree; • ≥ 50% lecturers with practical work experience;	• With a doctor's degree 13-60%, on average 28%; • Working more than 0.5	2/2

No.	QMS process	Indicator	Reporting period	Target value of the indicator	Actual value of the indicator	Performance of the QMS process	Risk factor	Target value of the risk factor indicator	Actual value of the risk factor indicator	Inherent/ residual risk level
								• ≥ 10% lecturers working more than 0.5 full-time, more than last year	full-time 72%; by 8% more; • with practical work experience on average 80%	
3.	**MANAGEMENT OF STUDIES, COURSES, APPLIED RESEARCH AND CONSULTING ACTIVITIES**	3.1. Maintaining the number of students studying in the study field programmes compared to the previous year	Reporting year (October 1)	≥ 80%	96% (647/674)	indicator reached / not reached	Admission to LMA	Number of students admitted to LMA not ≥ 85%, compared with the admission results of the previous year	96% (647/674)	9/6 To determine inherent risk level 6
		3.2. Number of study programmes instructed in foreign language, units	Reporting year	4	5	indicator reached / not reached				
		3.3. The average entrance competitive score of students admitted to the study field and who have signed a study contract	Reporting year	not lower than average CS of admitted to colleges according to LAMA BPO data	LMA/ college average LAMA BPO VF 5.71< 6.06 VNF 2.95<4.26	indicator reached / not reached				
		3.4. Proportion of students admitted to the study field and who dropped out during the 1st year of studies according to the reasons[2] (%) of dropping out of studies	Reporting year	≤ 50%/30% (by study field)	14.5%	indicator reached / not reached	Student drop-out (due to academic failure, non-attendance, failure of Final Qualifying Exam, non-preparation of the Final Thesis, etc.)	9.2% ≤N ≤ 46.6%	14.5%	6/4 To determine inherent risk level 4
		3.5. Share of state-funded graduates from those enrolled in the programme (%)	After student class graduation	≥ 70%	73%	indicator reached / not reached		≤ 30%	27%	
		3.6. The average evaluation of final exams and final theses of students of the study programme	After graduation	≥ 7.5	BD 8.64 BKE 8.63	indicator reached / not reached				

[2] The reasons of termination of studies indicated in the Student Register are as follows: student application, academic failure, non-attendance, unpaid tuition fees, health problems, school change, change of study form, violation of LMA regulations, military service, court decision, departure abroad to live and study, change of place of residence in the country, death.

No.	QMS process	Indicator	Reporting period	Target value of the indicator	Actual value of the indicator	Performance of the QMS process	Risk factor	Target value of the risk factor indicator	Actual value of the risk factor indicator	Inherent/ residual risk level
		3.7. The share of research papers[3] per one full-time lecturer of the study programme of the study field per year	Reporting year	0.5	2,7	indicator reached / not reached	Number and quality of lecturers' applied research publications	≤0.5; > 30 in the research publication system "Vieversys"	On average 2.7/ full-time unevenness 21% (Marine engineering field 0.56) points "Vieversys" 84,71, 32 publ.	9/6 To determine inherent risk level 6
		3.8. Number of students of the study programme who have prepared research publications (articles, reports)	Reporting year	4	35	indicator reached / not reached				
		3.9. Proportion of students who left for part-time studies (not less than 20 credits) of all students studying in the field, percentage	Reporting year	5%	3,3%, 21	indicator reached / not reached				To determine risk factor
		3.10. Proportion of students who came for part-time studies from foreign higher education institutions according to mobility programs, percentage	Reporting year	7%	5,6%, 36	indicator reached / not reached				To determine risk factor
		3.11. Number of lecturer of foreign higher education institutions who came to teach according to mobility programmes, persons	Reporting year	4	7 (4 of them at LMA initiative)	indicator reached / not reached				To determine risk factor
		3.12. Proportion of study / course programmes accredited for the maximum period (%)	After evaluation by accrediting bodies	100%	100%	indicator reached / not reached				
		3.13. Number of non-formal adult learning contracts	Reporting year	≥ 1000	2726 (32 of them VVS)	indicator reached / not reached	Number of unclassified students	≤ 15% decrease compared to previous year, number of contracts for trainings signed with organisations ≥ 14	14% increase, VVST increase 2.7 times	6/2 To determine inherent risk level 0

[3] Research papers are understood as defined in the Regulation on the Annual Evaluation of Research and Experimental Development and Artistic Activities of Universities and Research Institutes (TAR, 04/10/2017, No. 15710). The following research papers are evaluated: scientific monographs, scientific article in a journal with a citation index in the IF CA JCR and / or SNIP SCOPUS database, scientific article in an international journal, part of a scientific monograph published by an internationally recognized scientific publisher, scientific article in a peer-reviewed journal, applied research journal, scientific review, scientific dissemination publication, patent applications filed or issued by the EPO, USPTO or JPO.

No.	QMS process	Indicator	Reporting period	Target value of the indicator	Actual value of the indicator	Performance of the QMS process	Risk factor	Target value of the risk factor indicator	Actual value of the risk factor indicator	Inherent/ residual risk level
4.	**IMPROVEMENT AND PLANNING OF PROCESSES**	4.1. Performance of the implementation of the annual activity plans of the units (%)	Reporting year	≥ 90%	92%	indicator reached / not reached				
		4.2. LMA awareness index in the digital space	Reporting year	2.4	2.4	indicator reached / not reached				
		4.3. Assessment of students' satisfaction with studies	Semester	≥ 8	8.1	indicator reached / not reached	Students, unclassified students, employees' (administration, lecturers, pedagogues) level of satisfaction with services	satisfaction with provided services ≥7.5	8.1	6/4 To determine inherent risk level 2
		4.4. Assessment of graduates' satisfaction with studies	Reporting year	≥ 8	8.1	indicator reached / not reached			8.1	
		4.5. Assessment of unclassified students' satisfaction with courses	Reporting year	≥ 8	9.6	indicator reached / not reached		• satisfaction with provided services ≥7.5/10 • assessment of instructor's work quality ≥3.5/5	9.6 4.85	
		4.6. Assessment of the readiness of specialists trained by LMA for the labour market, score	Reporting year	≥ 8	8.7	indicator reached / not reached		satisfaction with provided services ≥7.5	8.7	
		4.7. Assessment of lecturers' satisfaction with working conditions and environment	Reporting year	≥ 8	8.8	indicator reached / not reached		Total employees' satisfaction indicator ≥8	8.8	
		4.8. Implementation of comments, complaints and/or requests received through feedback (%)	Reporting year	≥90%	100%	indicator reached / not reached				
		4.9. Share (%) of graduates of the study field, working in the main groups 1-3 of the Lithuanian Classification of Occupations and independently (self-employment), 12 months after graduation compared to all graduates of the study field	Reporting year	≥ 80%	KVIS 48% LAJM 83%	indicator reached / not reached				

Prepared by
Deputy Director for Academic Affairs

Annex 3

EU PARTNERS OF LITHUANIAN MARITIME ACADEMY AT ERASMUS+ PROGRAM

No.	Name of the foreign higher education institution	Country
Partners in EU Member States		
1.	Karel de Grote University College	Belgium
2.	University of National and World Economy (UNWE)	Bulgaria
3.	Nikola Vaptsarov Naval Academy	Bulgaria
4.	Estonian Maritime Academy of ETU	Estonia
5.	University of La Laguna	Spain
6.	University of Almeria	Spain
7.	University of Cadiz	Spain
8.	University of Granada	Spain
9.	University of Huelva	Spain
10.	University of Malaga	Spain
11.	University of Oviedo	Spain
12.	University of Vigo	Spain
13.	Universita Degli Studi Parthenope Di Napoli	Italy
14.	South Tyneside College	United Kingdom
15.	University of Rijeka	Croatia
16.	University of Zadar	Croatia
17.	University of Split	Croatia
18.	Liepaja Marine College	Latvia
19.	The University College of Economics and Culture	Latvia
20.	Latvian Maritime Academy	Latvia
21.	Riga Technical University	Latvia
22.	Gdynia Maritime University	Poland
23.	Maritime University of Szczecin	Poland
24.	University of Le Havre Normandy	France
25.	Constanta Maritime University	Romania
26.	Mircea Cel Batran Naval Academy	Romania
27.	University of Ljubljana	Slovenia
28.	South- Easten Finland University of Applied Sciences	Finland
29.	Aland University of Applied Sciences	Finland
30.	Novia University of Applied Sciences	Finland
31.	Kalmar Maritime Academy (Linnaeus University)	Sweden
32.	Karadeniz Technical University	Turkey
33.	Recep Tayyip Erdogan University	Turkey
34.	Kocaeli University	Turkey
35.	Mersin University, Maritime Vocational School	Turkey
36.	Istanbul Technical University	Turkey
37.	Zonguldak Bülent Ecevit University	Turkey

Partners from non-EU countries

No.	Name of the foreign higher education institution	Country
1.	Holly Cross of Davao College	The Philippines
2.	Lviv Polytechnic National University	Ukraine
3.	State University Infrastructure and Technologies (Kyiv State Maritime Academy)	Ukraine
4.	National Technical University Kharkiv Polytechnic Institute	Ukraine
5.	Poltava University of Economics (PUET)	Ukraine
6.	KARSHI Engineering – Economic Institute	Uzbekistan
7.	University of Montenegro, Maritime Faculty of Kotor	Montenegro

Annex 4

DATA ON LMA FULL-TIME STUDENTS' PLACES FOR MARITIME PRACTICE IN 2021

No.	Companies	Study programmes/ Number of students				
		Marine Navigation		**Marine Power Plant Operation**	**Marine Electrical and Electronic Engineering**	**Total**
		35* (3rd year)	27 ** (4th year)	18 + 1 TS, in total 19*** (4th year)	13**** (4th year)	**94**
1.	AB DFDS Seaways (Lithuania)	12	6	3	5	26
2.	Astor Shipmanagement (Latvia)		9	6		15
4.	Navy of the Lithuanian Armed Forces (Lithuania)	4	6			10
9.	TT-line (Sweden)	5	1	1		7
14.	UAB Boskalis Baltic (Lithuania)	1	4	1	1	7
5.	OJ Crew (Lithuania)	4	1	1		6
6.	Columbia Shipmanagement, Ltd. (Latvia)			1	2	3
15.	Baltnautic Shipping LTD (Lithuania)	3				3
18.	Askoldas (Lithuania)	3				3
21.	UAB Gretimybė (Lithuania)	3				3
8.	AB Limarkas (Lithuania)		1	1		2
11.	Navigator Gas (UK)		2			2
17.	Skaya (Estonia)	2				2
3.	Atlantic Offshore (Norway)				1	1
7.	REEDEREI Nord (Germany)		1			1
10.	Latvia Shipping Company				1	1
12.	Baltlanta (Lithuania)			1		1
13.	K Line LNG line (UK)			1		1
16.	Octo Smith (Lithuania)	1				1
19.	Dorian LPG (UK)		1			1
20.	Ultramarine Services SIA (Latvia)	1				1
22.	Vinde TT (Norway)				1	1
23.	Grete (Lithuania)	1				1
24.	Laivų aptarnavimo agentūra (Lithuania)			1		1
	Places for maritime practice, in total	**40**	**32**	**17**	**11**	**100**

* 1 student is on academic leave, 8 students did their practive in 2 companies.
** 1 student was expelled, 1 switched to part-time studies, 7 students did their practice in two companies.
*** 2 students were expelled.
**** 2 students are on academic leave.

Annex 5

LIST OF RESEARCH PUBLICATIONS IN 2021

K Books

K2 Study literature

1. Lileikis, S. (2021). *Jūra mitų kultūroje: jūrų mitologijos metmenys:* studijų knyga. Klaipėda: Klaipėdos universiteto leidykla. [M.kr.: H 006,H 001] [Aut. lankų sk.: 8,571] [Aut. ind. aut. lankais: 8,571].
2. Dubra, V., Pašinskas, V., Navickaitė, V., Striaukas, N. ir Ašmontas, O. (2021). *Jūrinių mazgų ABC:* Vaizdinė mokymo medžiaga. Klaipėda: Lietuvos aukštoji jūreivystės mokykla. [M.kr.: T 003] [Aut. lankų sk.: 1,000] [Aut. ind. aut. lankais: 0,600].
3. Šimkonienė, G. (2021). Nuolatinės ir kintamos srovės laivų elektros mašinų darbo režimų tyrimų laboratoriniai darbai. Klaipėda: Lietuvos aukštoji jūreivystės mokykla. [M.kr.: T 001] [Aut. lankų sk.: 9,929] [Aut. ind. aut. lankais: 9,929].

K5 Compiled and/or reviewed research paper

4. Mickienė, R. (red.) (2021). Development of higher education in the transport sector seeking to increase maritime, land and air transportation impact on country's economics. *International scientific practical conference: collection of conference thesis, January 21, 2021,* Lithuanian Maritime Academy, Klaipeda.. [M.kr.: S 004,T 003,S 007] [Aut. ind.: 1,000].
5. Mickienė, R. (red.) (2021). Development of higher education in the transport sector seeking to increase maritime, land and air transportation impact on country's economics. *International scientific practical conference: conference proceeding, January 21, 2021*, Lithuanian Maritime Academy, Klaipeda. Klaipėda: Lithuanian Maritime Academy. [M.kr.: S 004,T 003,S 007] [Aut. ind.: 1,000].

S ARTICLES IN SERIAL AND SINGLE PUBLICATIONS

S1/S2 An article in DB *Clarivate Analytics Web of Science*

6. Urmoniene, L., Dikun, J., & Januteniene, J. (2021). Optimization of VFD operations for transporting equipment of packages. *Elektronika ir elektrotechnika = Electronics and electrical engineering*, 27(4), 4-11. doi:10.5755/j02.eie.26584 [DB: DOAJ; Central & Eastern European Academic Source (CEEAS); Scopus; Science Citation Index Expanded (Web of Science)] [M.kr.: T 001,T 009] [IF: 1,128; AIF: 3,617; Q4 (2020, InCites JCR SCIE)] [Aut. ind.: 0,166].
7. Bartusevičienė, I. ir Valionienė, E. (2021). An integrative approach for digitalization challenges of the future maritime specialists: a case study of the Lithuanian Maritime Academy. *TransNav: the international journal on marine navigation and safety of sea transportation,* 15(2), 349-355. doi:10.12716/1001 [DB: Academic Search Complete; DOAJ; Emerging Sources Citation Index (Web of Science); Scopus] [M.kr.: T 007,S 007] [Aut. ind.: 0,500].
8. Lileikis, S. (2021). Jūrinės savivokos potencialas uždaro gamtos ciklo pasaulėvokoje. *Logos*, 106, 92-99. doi:10.24101/logos.2021.10 [DB: Arts & Humanities Citation Index (Web of Science); Scopus; CEEOL – Central and Eastern European Online Library] [M.kr.: H 001] [Aut. ind.: 1,000].
9. Lileikis, S. (2021). Jūrinės valstybės mitologizavimas: hodegetinis matmuo. *Logos,* 107, 39-46. doi:10.24101/logos.2021.27 [DB: Arts & Humanities Citation Index (Web of Science); Scopus; CEEOL – Central and Eastern European Online Library] [M.kr.: S 002] [Aut. ind.: 1,000].
10. Lileikis, S. (2021). Refleksyviosios praktikos koncepcija: jūrų lyderystės linkmė. *Logos*, 56, 76-83. doi:10.24101/logos.2021.56 [DB: Lituanistika; Scopus; CEEOL – Central and Eastern European Online Library; Academic Search Research and Developement (EBSCO)] [M.kr.: S 003] [Aut. ind.: 1,000].
11. Mickienė, R. ir Valionienė, E. (2021). Modelling the effectiveness Index of digital marketing strategy oriented to increase the popularity of maritime education. *TransNav: the international journal on marine navigation and safety of sea transportation,* 15(3), 559-567. doi:10.12716/1001 [DB: Academic Search Complete; DOAJ; Emerging Sources Citation Index (Web of Science); Scopus] [M.kr.: S 007,S 003] [Aut. ind.: 0,500].

S3/S4 An article in other DB

12. Briedienė, S. (2021). The perspectives of small and medium-sized enterprises on participation in public procurement of innovation. *Viešoji politika ir administravimas*, 20 (2), 271-283. doi:10.13165/VPA-21-20-2-10 [DB: Academic Search Complete; Central & Eastern European Academic Source (CEEAS); Scopus] [M.kr.: S 003] [Aut. ind.: 1,000].
13. Gavėnas, J. ir Nikolajus, A. (2021). Šiltnamio efektą sukeliančių dujų emisijos iš laivų mažinimas naudojant alternatyvųjį jūrinį kurą analizė. *Darnios aplinkos vystymas = Sustainable environmental development: mokslo darbai*, 18 (1), 8-22. doi:10.52320/dav.v18i1.168 [DB: Index Copernicus] [M.kr.: T 003] [Aut. ind.: 1,000].
14. Inozemceva, A., Locaitienė, V., Dubra, V. ir Albayrak, T. (2021). Management tools for implementation and monitoring of requirements for enforcement of reducing sulphur oxides on ships: Latvia and Lithuania cases. *Scientific bulletin of naval academy*, 24 (1), 225-239. [DB: DOAJ; Scopus; OAJI] [M.kr.: S 003] [Aut. ind.: 0,750].
15. Lileikis, S. ir Dukel, P. (2021). Jūrų karininkų profesinio tapsmo organizavimas NATO gynybos misijos kontekste. *Inžinerinės ir edukacinės technologijos: mokslinių straipsnių žurnalas = Engineering and educational technologies: scientific journal*, 116-124. [DB: Index Copernicus] [M.kr.: S 003] [Aut. ind.: 1,000].
16. Pranckevičiūtė, V. (2021). Challenges of teaching maritime english in online studies. *Актуальні питання гуманітарних наук: міжвузівський збірник наукових праць молодих вчених Дрогобицького державного педагогічного університету імені Івана Франка = Humanities science current issues: Interuniversity collection of Drohobych Ivan Franko state pedagogical university: young scientists research papers*, 3(42), 133-139. doi:10.24919/2308-4863/42-3-23 [DB: Index Copernicus] [M.kr.: S 007] [Aut. ind.: 1,000].
17. Žukauskaitė, A., Apetroaei, M. R. ir Mickuvienė, K. (2021). Distribution of polycyclic aromatic hydrocarbons in the sea water column. *Scientific bulletin of naval academy*, 24 (1), 254-263. doi:10.21279/1454-864X-21-I1-028 [DB: DOAJ; Scopus; OAJI] [M.kr.: T 003] [Aut. ind.: 0,667]

S5 An article in other peer-reviewed publications

(Scientific articles in other peer-reviewed scientific periodicals, continuous and one-off publications, not referenced in international databases and not included in them.)

18. Denesevičius, G., Pažusis, L. ir Žagaras, E. (2021). Azoto oksido dujų emisijos iš jūrų laivų dyzelinių variklių mažinimo galimybės taikant išmetamųjų dujų recirkuliacijos sistemą. Analysis of the possibilities to reduce NOx emissions from marine diesel engines using exhaust gas recirculation system. *Miškininkystė ir kraštotvarka = Forestry and landscape management,* 1, 44-49. [M.kr.: T 003] [Aut. ind.: 1,000].
19. Jackuvienė, R. ir Žemgulys, L. (2021). Vandens gėlinimo mechanizmų laive modernizavimo galimybių tyrimas. *Miškininkystė ir kraštotvarka = Forestry and landscape management,* 1, 37-43. [M.kr.: T 003] [Aut. ind.: 1,000].
20. Jonušaitė, S. ir Žukauskaitė, J. (2021). Verslo aplinkos veiksnių įtakos jūrininkų įdarbinimo sektoriaus finansiniam rezultatui vertinimas. *Verslo aktualijos būsimųjų specialistų požiūriu 2021: recenzuotų straipsnių rinkinys,* 404-410. [M.kr.: S 003,S 004] [Aut. ind.: 1,000].
21. Kulvietis, A. E. (2021). Ispanų kalbos lietuviškos kilmės daiktavardžių, rodančių gyvenamąją vietą, tyrimas ir norminimas. *Šiuolaikinės visuomenės ugdymo veiksniai: mokslo žurnalas,* Tomas 6(Nr. 1), 345-358. doi:10.47459/svuv.2021.6.18 [M.kr.: H 004] [Aut. ind.: 1,000].
22. Lileikis, S. (2021). Multikultūrė savivoka ir religinė tolerancija jūrų versle. Mokslo ir tikėjimo dialogai. *Tiltai. Priedas: Mokslo darbai*, 181-198. doi:10.15181/mtd.v0i7.2313 [M.kr.: S 006] [Aut. ind.: 1,000].
23. Šiurienė, J. ir Dreižienė, L. (2021). Pakuotų medžio granulių transportavimo technologijų ypatumai. *Verslas, technologijos, biomedicina: inovacijų įžvalgos 2021: straipsnių rinkinys,* 1, 503-512. doi:10.52320/vtb.v12i1 [M.kr.: T 003] [Aut. ind.: 1,000].

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P1c An article in conference material publication in other DBs

24. Apetroaei, M. R., Avram, E. R., Žukauskaitė, A., Albayrak, T., Perkovic, M., Popa, C. ir Mauriac, R. (2021). Enhancing the capacities of maritime higher education institutions on marine pollution and environmental protection. Curricula harmonization. Iš *Sea - Conf 2021: proceedings of the 7th international scientific conference. Constanta, may 21-22, 2021*, 148-151). Constanta: "Mircea cel Batran" Publishing house. [DB: DOAJ; Scopus; OAJI] [M.kr.: T 003] [Aut. ind.: 0,142].
25. Bartusevičienė, I. ir Valionienė, E. (2021). Smart workplace: students' opinion on being prepared to meeting digitalization challenges. *Transport means 2021: proceedings of the 25th international scientific conference, part 1. October 06-08, 2021,* 64-69. Kaunas: Kaunas University of Technology. [DB: Scopus] [M.kr.: T 007,S 007] [Aut. ind.: 0,500].
26. Lileikis, S. ir Zakrevskij, J. (2021). A case study of digital technologies in intermodal freight forwarding. *Transport means 2021: proceedings of the 25th international scientific conference, part 1. October 06-08, 2021,* 127-130. Kaunas: Kaunas University of Technology. [DB: Scopus] [M.kr.: T 003] [Aut. ind.: 1,000].
27. Valionienė, E., Plačienė, B. ir Kaštaunienė, L. (2021). The multimodal transport portfolio: service development research. *Transport means 2021: proceedings of the 25th international scientific conference, part 2. October 06-08, 2021*. 835-841. Kaunas: Kaunas University of Technology. [DB: Scopus] [M.kr.: S 003] [Aut. ind.: 1,000].

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28. Abramovičiūtė, R. ir Briedienė, S. (2021). Jūrų uosto valdymo modelių palyginamų veiklos rodiklių sistemos formavimas. *Ekonomika. Verslas. Vadyba-2021: tarptautinės studentų mokslinės-praktinės konferencijos straipsnių rinkinys, balandžio 22 d. 2021 = Economics. Business. Management- 2021: proceedings of the international student scientific-practical conference, 22 april 2021*, 27-32. [M.kr.: S 003] [Aut. ind.: 1,000].
29. Baranauskaitė, B., Biknerytė, V. ir Valionienė, E. (2021). Uosto įmonių skaitmeninio identiteto formavimo tyrimas. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys*, 146-151). Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: S 003] [Aut. ind.: 1,000].
30. Bartusevičienė, I. ir Mickienė, R. (2021). Teachers in maritime education and training and VUCA world. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: international scientific practical conference: conference proceeding, January 21, 2021,* 6-12. Klaipėda: Lithuanian Maritime Academy. [M.kr.: S 007] [Aut. ind.: 0,500].
31. Bizauskas, L. ir Dubra, V. (2021). Navigacinių treniruoklių taikymas skirtingų Europos regionų aukštųjų mokyklų jūrinio profilio studijose. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys,* 7-13. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: T 003,S 007] [Aut. ind.: 1,000].
32. Donėla, S. (2021). Discrete event simulation (DES) approach as a way to validate technological change decisions - an overview of selected different paradigms levels tools application strengths and weaknesses. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: international scientific practical conference: conference proceeding, January 21, 2021, Lithuanian Maritime Academy, Klaipeda,* 121-128. [M.kr.: T 007] [Aut. ind.: 1,000].
33. Gedmintas, L. ir Lileikis, S. (2021). Konteinerių krova uoste: mokslinis požiūris. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys*, 157-161. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: S 003] [Aut. ind.: 1,000].
34. Laukinaitis, L. ir Lileikis, S. (2021). Trąšų paruošimo krovai uoste mokslinė problematika. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys,* 24-28. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: T 003] [Aut. ind.: 1,000].
35. Lileikis, S. ir Mizgerytė, M. (2021). Management of the port staff subcontracting process. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: international scientific practical conference:*

conference proceeding, January 21, 2021, Lithuanian Maritime Academy, Klaipeda, 75-80. [M.kr.: S 003] [Aut. ind.: 1,000].
36. Matvejeva, D., Bučiūtė, V. ir Valionienė, E. (2021). Jūrų uostų darbo rinkos patrauklumo teorinis modeliavimas. *Ekonomika. Verslas. Vadyba- 2021: tarptautinės studentų mokslinės-praktinės konferencijos straipsnių rinkinys, balandžio 22 d. 2021 = Economics. Business. Management- 2021: proceedings of the international student scientific-practical conference, 22 April 2021,* 347-352). [M.kr.: S 003] [Aut. ind.: 1,000].
37. Mickienė, R. (2021). The seaport economics role in the reinforsment of the advanced industrial specialisation of the Baltic sea East coast countries. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: international scientific practical conference: conference proceeding, January 21, 2021, Lithuanian Maritime Academy, Klaipeda,* 81-96. [M.kr.: T 003,S 004] [Aut. ind.: 1,000].
38. Miselytė, A. ir Valionienė, E. (2021). Per Klaipėdos valstybinį jūrų uostą importuojamų ir eksportuojamų krovinių logistinės grandinės jungiamumo vertinimas. *Ekonomika. Verslas. Vadyba- 2021: tarptautinės studentų mokslinės-praktinės konferencijos straipsnių rinkinys, balandžio 22 d. 2021 = Economics. Business. Management- 2021: proceedings of the international student scientific-practical conference, 22 April 2021,* 353-361). Vilnius: Vilniaus kolegija. Ekonomikos fakultetas. [M.kr.: S 003] [Aut. ind.: 1,000].
39. Paškauskas, P. ir Valionienė, E. (2021). Veiksmingų darbuotojų skatinimo priemonių teorinis modeliavimas. *Ekonomika. Verslas. Vadyba- 2021: tarptautinės studentų mokslinės-praktinės konferencijos straipsnių rinkinys, balandžio 22 d. 2021 = Economics. Business. Management- 2021: proceedings of the international student scientific-practical conference, 22 April 2021,* 388-394). Vilnius: Vilniaus kolegija. Ekonomikos fakultetas. [M.kr.: S 003] [Aut. ind.: 1,000].
40. Paulauskaitė, I. ir Valionienė, E. (2021). Jūrų transporto sektoriaus įmonių skelbiamo turinio patrauklumo socialiniuose tinkluose tyrimas. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys,* 12, 191-196. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: S 003,T 003] [Aut. ind.: 1,000].
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42. Prudnikov, A. ir Plačienė, B. (2021). Konteinerių terminalų rytinės Baltijos jūros uostuose tyrimai. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys,* 12, 50-55. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: T 003] [Aut. ind.: 1,000]/
43. Šaltis, Š. ir Dreižienė, L. (2021). Jūrų uosto sąsajos su šalies socialine ekonomine pažanga vertinimas. *Ekonomika. Verslas. Vadyba- 2021: tarptautinės studentų mokslinės-praktinės konferencijos straipsnių rinkinys, balandžio 22 d. 2021 = Economics. Business. Management- 2021: proceedings of the international student scientific-practical conference, 22 April 2021,* 463-468). Vilnius: Vilniaus kolegija. Ekonomikos fakultetas. [M.kr.: S 004] [Aut. ind.: 1,000].
44. Šiurytė, S. ir Plačienė, B. (2021). Šaldytos žuvies gabenimo technologijos optimizavimo galimybės. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys,* 12, 61-65. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: T 003] [Aut. ind.: 1,000].
45. Stočkus, D., Saksa, V. ir Valionienė, E. (2021). Jūrų transporto sektoriuje fiksuojamų incidentų rizikos valdymo galimybių tyrimas. *Ekonomika. Verslas. Vadyba- 2021: tarptautinės studentų mokslinės-praktinės konferencijos straipsnių rinkinys, balandžio 22 d. 2021 = Economics. Business. Management- 2021: proceedings of the international student scientific-practical conference, 22 April 2021,* 452-458). Vilnius: Vilniaus kolegija. Ekonomikos fakultetas. [M.kr.: S 003] [Aut. ind.: 1,000].
46. Valionienė, E. (2021). Assessment of maritime transport attractiveness based on the a multi-criteria decision - making method. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: international scientific practical conference: conference proceeding, January 21, 2021, Lithuanian Maritime Academy, Klaipeda,* 61-74). [M.kr.: S 003,T 003] [Aut. ind.: 1,000].
47. Valterytė, N. ir Valionienė, E. (2021). Jūrų transporto sektoriaus specialistų rengimo organizacijų rinkodaros priemonių efektyvumo didinimo galimybių vertinimas. *Ekonomika. Verslas. Vadyba-*

2021: tarptautinės studentų mokslinės-praktinės konferencijos straipsnių rinkinys, balandžio 22 d. 2021 = Economics. Business. Management- 2021: proceedings of the international student scientific-practical conference, 22 April 2021, 496-504. Vilnius: Vilniaus kolegija. Ekonomikos fakultetas. [M.kr.: S 003] [Aut. ind.: 1,000].

48. Vyšniauskas, L., Pociūtė, L. ir Valionienė, E. (2021). Transporto sektoriaus skaitmeninio pasirengimo tyrimas. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys,* 12, 89-93. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: T 007,S 003] [Aut. ind.: 1,000].
49. Zakrevskij, J. ir Lileikis, S. (2021). Skaitmeninių technologijų poreikis intermodalinių krovinių ekspedijavimo procese. *Mokslo šaknys 2021: studentų tiriamųjų darbų konferencijos straipsnių rinkinys,* 12, 94-98. Panevėžys: Panevėžio kolegija. Studentų mokslinė draugija. [M.kr.: T 003] [Aut. ind.: 1,000].

P2 Articles in non-peer-reviewed publications publishing conference proceedings

P2a An article in non-peer-reviewed material of a foreign international conference proceedings

50. Bilienskis, I. (2021). Психолого-соціальні аспекти підготовки компетентних фахівців у контексті гендерної рівності. Iš Сучасні підходи до високоефективного використання засобів транспорту: XII Міжнародна науково-практична конференція: Збірник матеріалів конференції, 9– 10 грудня 2021 року (pp. 300-304). Ізмаїл: Дунайський інститут Національного університету «Одеська морська академія». doi:10.13140/RG.2.2.14310.55368 [M.kr.: T 003,S 005]
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P2c An article in non-peer-reviewed Lithuanian conference proceedings

53. Dumčiūtė, A., Petraitis, M. ir Locaitienė, V. (2021). Technological factors of selection of seaport terminal for acceptance of different types of ships. *Akademinio jaunimo siekiai: ekonomikos, vadybos ir technologijų įžvalgos: 18-osios studentų mokslinės-praktinės konferencijos straipsnių rinkinys,* 183-194. Klaipeda: Lietuvos verslo kolegija. [M.kr.: T 003].
54. Girdžiūnaitė, M. ir Varnienė, M. (2021). Incidentų mažinimo galimybės tobulinant sandėliavimo technologijas UAB „Autoverslo logistika“ Klaipėdos logistikos centras. *Aukštojo mokslo vaidmuo visuomenėje: studentų taikomieji tyrimai: mokslo darbai*, 77-83. Alytus: Alytaus kolegija. [M.kr.: T 003].
55. Jankauskas, D., Dumbliauskas, M. ir Jankauskas, A. (2021). Navigacinio treniruoklio efektyvumas mokymo metodikoje. *Aukštojo mokslo vaidmuo visuomenėje: studentų taikomieji tyrimai: mokslo darbai*, 91-96. Alytus: Alytaus kolegija. [M.kr.: S 007,T 003].
56. Maksimovaitė, I. ir Varnienė, M. (2021). Pandemijos įtaka krovinių srautų duomenų valdymo technologijoms Klaipėdos valstybiniame jūrų uoste. *Aukštojo mokslo vaidmuo visuomenėje: studentų taikomieji tyrimai: mokslo darbai*, 134-140. Alytus: Alytaus kolegija. [M.kr.: T 003].
57. Šiurna, E., Kanišauskas, N. ir Locaitienė, V. (2021). Evaluation of logistic connectivity of short sea shipping and Klaipėda port in the context of sustainable development. *Akademinio jaunimo siekiai: ekonomikos, vadybos ir technologijų įžvalgos: 18-osios studentų mokslinės-praktinės konferencijos straipsnių rinkinys,* 195-212. Klaipėda: Lietuvos verslo kolegija. [M.kr.: S 003].

T ABSTRACTS OF CONFERENCE PAPERS

T1 Conference abstracts in non-peer-reviewed publications

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59. Dubra, V. (2021). Current ice navigation situation in the South and Eastern Baltic sea: reality and challenges. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: International scientific practical conference: Collection of conference thesis, January 21, 2021, Lithuanian Maritime Academy, Klaipeda*, 9-10. Klaipėda: Lithuanian Maritime Academy. [M.kr.: T 003].
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61. Mickienė, R. (2021). The seaport conception formation methodology in order to give the country a competitive advantage in the region. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: International scientific practical conference: Collection of conference thesis, January 21, 2021, Lithuanian Maritime Academy, Klaipeda*, 13-14. Klaipėda: Lithuanian Maritime Academy. [M.kr.: T 003,S 004].
62. Perminas, K. ir Spiriajevas, E. (2021). Opportunities for the development of educational water tourism in the Curonian Lagoon. *Societal interactions: rethinking moodern issues. Conference abstract book*, 22-22. [M.kr.: S 003]
63. Spiriajevas, E. (2021). Can higher education facilitate development of linear navigation in the Curonian lagoon ? *Development of higher education in the transport sector seeking to increase maritime, land and air transportation impact on country''s economics: international scientific practical conference: collection of conference thesis, january 21, 2021, Lithuanian Maritime Academy, Klaipeda*, 5-6). Klaipėda: Lithuanian Maritime Academy. [M.kr.: T 003,S 007].
64. Valionienė, E. (2021). Assessment of maritime transport attractiveness based on the a multi-criteria decision making method. *Development of higher education in the transport sector seeking to increase maritime, land and air transport ation impact on country''s economics: International scientific practical conference: Collection of conference thesis, January 21, 2021, Lithuanian Maritime Academy, Klaipeda*, 12-13. Klaipėda: Lithuanian Maritime Academy. [M.kr.: T 003,S 003].

T2 Conference abstracts in non-peer-reviewed publications

65. Bilienskis, I. (2021). Проблемы социальных, экономических, психологических и педагогических аспектов профессиональной подготовки будущих моряков в контексте создания открытого и глобального рынка Европейского союза. *Інноваційні підходи розвитку компетентнісних якостей фахівців в умовах професійного становлення: тези V Міжнародної науково-практичної конференції (Ізмаїл, 28 - 29 червня 2021 року),* 278-284. Ізмаїл: Міністерство освіти і науки України Національний університет «Одеська морська академія» Дунайський інститут. [M.kr.: S 007].
66. Dubra, V. (2020). Новые вехи эффективности использования навигационных тренажеров при обучении морских судоводителей. *Інноваційні підходи розвитку компетентнісних якостей фахівців в умовах професійного становлення: тези IV Міжнародної науково-практичної конференції (Ізмаїл, 23 - 24 квітня 2020 року),* 291-295. Ізмаїл: Міністерство освіти і науки України Національний університет «Одеська морська академія» Дунайський інститут. [M.kr.: S 007].
67. Fawzy, M. (2021). Shipping Sustainability: GHG Emissions Problematics. Supervisor Rima Mickiene. *V student international scientific conference, 17 May, 2021, Batumi navigation teaching university.* [M. kr. T 003].
68. Ngangmi, F.S. (2021). Shaping The Global Seafarers Demand, Case Study-Cameroon. Supervisor Rima Mickiene. *V student international scientific conference, 17 May, 2021, Batumi navigation teaching university.*[M. kr. S 007. S003].

Annex 6

NONFORMAL ADULT EDUCATION AND VOCATIONAL TRAINING PROGRAMMES

Ser. No.	Name of training programme	STCW Regulation	Duration of the full course hrs./d.	Duration of the refresher course hrs./d.
Programmes approved by the Lithuanian Transport Safety Administration				
1.	Personal Survival Techniques, Fire Prevention and Fire Fighting, Elementary First Aid, Personal Safety and Social Responsibilities training programme	A-VI/1	68/7	20/2
2.	Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats training programme	A-VI/2-1	32/3	14/2
3.	Proficiency in Fast Rescue Boats training programme	A-VI/2-2	26/3	11/1
4.	Advanced Fire Fighting training programme	A-VI/3	32/3	14/2
5.	Medical First Aid	A-VI/4, 1-3	31/3	17/2
6.	Ship Security Officer training programme	A-VI/5 A-VI/6-1, 2	16/2	8/1
7.	Security Awareness Training for All Seafarers training programme	A-VI/6-1	4/0.5	
8.	Security Training for Seafarers with Designated Security Duties training programme	A-VI/6-1, 2	9/1	
9.	Bridge Resource Management training programme	A-II/1, A-II/2, A-VIII/2	40/5	20/2.5
10.	Engine-room Resource Management training programme	A-III/1, A-III/2, A-VIII/2	40/5	
11.	General Operator's Certificate for the Global Maritime Distress and Safety System	A-IV/2	108/10	50/5
12.	Restricted Operator's Certificate for the Global Maritime Distress and Safety System	A-IV/2	51/7	30/4
13.	Upgrading training programme from Restricted Operator's Certificate to General Operator's Certificate for the Global Maritime Distress and Safety System	A-IV/2	62/8	
14.	Radar Navigation, Radar Plotting and Use of ARPA, Operational level	A-II/1, A-II/2	80/9	45/5
15.	Radar, ARPA, Bridge Teamwork and Search and Rescue, Management level	A-II/2	40/5	20/2.5
16.	The Operational Use of Electronic Chart Display and Information Systems	A-II/1, A-II/2	40/4	20/2.5
17.	Safety training for Personnel Providing Direct Service to Passengers in Passenger spaces, Crowd Management and Proficiency in Crisis Management and Human Behaviour on All Passenger Ships programme	A-V/2-2-4	32/3	10/1
18.	Passenger Safety, Cargo Safety and Hull Integrity on All Passenger Ships training programme	A-V/2-5	7/1	
19.	Basic training for Oil and Chemical Tanker Cargo Operations	A-V/1-1-1	47/5	27/4
20.	Basic training for Liquefied Gas Tanker Cargo Operations	A-V/1-2-1	36.5/4	23/2,5
21.	Advanced training for Oil Tanker Cargo Operations	A-V/1-1-2	54/5	30/4
22.	Advanced training for Liquefied Gas Tanker Cargo Operations	A-V/1-2-2	60/6	
23.	Advanced training for Chemical Tanker Cargo Operations	A-V/1-1-3	60/6	29/4
24.	Ordinary Seaman's training course	A-II/4	194/24	
25.	Motorman's training course	A-III/4	96/12	
26.	Training programme for the Professional Development course for Deck Officers	A-II/1, A-II/2, A-VIII/2	40/5	
27.	Training programme for the Professional Development course for Engineer Officers	A-III/1, A-III/2, A-VIII/2	40/5	

Ser. No.	Name of training programme	STCW Regulation	Duration of the full course hrs./d.	Duration of the refresher course hrs./d.
28.	Training programme for the Professional Development course for Electro-technical officers	A-III/6, B-III/6	32/4	
29.	Training programme for the Professional Development course for Deck Officers on Fishing Vessels of 24 meters in length and over operating in unlimited water	F II/1, II/2	60/7	
30.	Training programme for Ships Turbine Equipment Management	A-III/1, A-III/2, A-III/3	26/4	
31.	Basic training for service on ships subject to IGF Code	A-V/3-1	24/3	16/2
32.	Basic training for service on ships operating in polar waters	A-V/4-1	34/4	
Programmes coordinated with the Lithuanian Transport Safety Administration				
33.	Dangerous, Hazardous and Harmful Cargoes	B-V/b, B-V/c	24/3	12/1.5
34.	Introduction to safe operation of High Voltage equipment	A -III/5, A -III/7	8/1	
35.	Basic training for Safe Operation of High Voltage Power Systems	A -III/1, A -III/2 , A -III/3, A -III -6, B -III/2	8/1	
36.	Advanced training for Safe Operation of High Voltage Power Systems	A -III/1, A -III/2 , A -III/3, A -III -6, B -III/2	32/4	
37.	Training programme for persons seeking to operate motor pleasure craft without restrictions on engine power in inland waters of the Republic of Lithuania, except for inland water bodies in which inland waterways are installed		20/3	
38.	Training programme for persons seeking to operate motor pleasure craft without restrictions on engine power in the inland waters, inland waterways and territorial sea of the Republic of Lithuania		68/9	
39.	Training programme for persons seeking to operate motor pleasure craft without restrictions on engine power in inland and maritime waters		140/18	
40.	Training programme for the navigators who have the right to manage motor pleasure craft without restriction on engine power in the inland waters, inland waterways and territorial sea of the Republic of Lithuania are seeking to to operate motor pleasure craft without restrictions on engine power in inland and maritime waters		70/9	
41.	Training programme for masters and navigators of inland waterway vessels, fishing vessels and floating equipment		132/17	
42.	Upgrading training programme for masters and navigators of inland waterway vessels, fishing vessels and floating equipment		42/6	
43.	Training programme for engineers of inland waterway vessels, fishing vessels and floating equipment		112/14	
44.	Upgrading training programme for engineers of inland waterway vessels, fishing vessels and floating equipment		42/6	
45.	Training programme for rivermasters of inland waterway vessels, fishing vessels and floating equipment		90/12	
46.	Upgrading training programme for rivermasters of inland waterway vessels, fishing vessels and floating equipment		42/6	
47.	Training programme for motormen of inland waterway vessels, fishing vessels and floating equipment		90/12	
48.	Upgrading training programme for motormen of inland waterway vessels, fishing vessels and floating equipment		42/6	
49.	Practical training of operators of a motor pleasure craft		12/6	
Programmes approved by Resolution of the Director of LMA				
50.	Proficiency in Survival Craft training programme		14/2	

Ser. No.	Name of training programme	STCW Regulation	Duration of the full course hrs./d.	Duration of the refresher course hrs./d.
51.	Training programme in navigation, bridge resource management, tactical maneuvering and SAR operation for Naval Officers (1 stage)		24/3	16/2
52.	Training programme in navigation, bridge resource management, tactical maneuvering and SAR operation for Lithuanian Naval Officers (2 stage)		24/3	16/2
53.	Vessels Traffic Service Operators training programme		40/5	
54.	Basic training for Fire Prevention and Fire Fighting		5/1	
55.	Training programme for Yacht Radio Equipment and Yacht GMESS Short Range Very High Frequency Radio Operators		12/2	
56.	Port stevedoring/cargo terminal management simulator training		32/3.5	