ESTONIAN MILITARY ACADEMY

Mente et ense pro patria!

SELF-EVALUATION REPORT
FOR INSTITUTIONAL ACCREDITATION
AND
VOCATIONAL EDUCATION QUALITY ASSESSMENT

Tartu 2020

Contents

ANNEXES

Abbreviations

APEL	Accreditation of Prior and Experiential Learning
EASS	Estonian Academy of Security Sciences
EAVA	Estonian Aviation Academy
ECTS	Credit points according to the European Credit Transfer and Accumulation System
ECVET	Estonian vocational education credit points
EDF	Estonian Defence Forces
EDIDP	European Defence Industrial Development Programme
EDL	Estonian Defence League
EHIS	Estonian Education Information System
EKKA	Estonian Quality Agency for Higher and Vocational Education
EMA	Estonian Military Academy
EMILYO	Exchange of Military Young Officers
ENDC	Estonian National Defence College
ETIS	Estonian Research Information System
FL	Foreign lecturers
HQ	Headquarters
JCATS	Joint Conflict and Tactical Simulation programmes
MA	Master's degree studies
MER	Ministry of Education and Research
MoD	Ministry of Defence
NATO STO	NATO Science and Technology Organization
NCO	Non-commissioned Officer
NDAP	National Defence Action Plan
NDDP	National Defence Development Plan
NORDEFCO	Nordic Defence Cooperation
PHE	Professional Higher Education
R&D	Research and Development
RKRN	Rectors Conference of Universities of Applied Sciences
SIS	Study Information System
TalTech EMarA	Tallinn University of Technology, Estonian Maritime Academy
THCC	Tartu Health Care College
UT	University of Tartu
VBS	Virtual Battlespace
WDMC	War and Disaster Medicine Centre (EMA)

1. INTRODUCTION

Table 1. Estonian Military Academy in 2020

Name	**Estonian Military Academy** (EMA)
Address	Riia 12, 51010 Tartu, Estonia
Degree study programmes and their EHIS[1] codes	***Master's degree studies*** 1. Military Leadership in the Land Forces, EHIS code: 80204, level 7. ***Professional higher education*** 2. Military Leadership in the Land Forces, EHIS code: 80045, level 6. 3. Military Leadership in the Air Force, EHIS code: 120243, level 6. 4. Military Leadership in the Navy, EHIS code: 109247, level 6. ***Vocational education*** 1. Military Leadership for Senior Non-commissioned Officers, EHIS code: 140843, level 5.
Budget	EUR 12,159,000
Infrastructure	Buildings in Tartu (main building) and Võru (with a total area of 34,567 m²), outdoor area 214,305 m²
Number of students (01.03.2020)	Degree students 255, including 14 external students: • Master's studies – 44, including three on academic leave and 4 external; • professional higher education – 140, incl. 8 on academic leave and 10 external; • vocational education – 71, including one on academic leave.
Number of employees (01.03.2020)	205 (122 active service members, 82 employees and one official)
Commandant/ Rector	Brigadier General Enno Mõts
Contact person	Colonel Riivo Valge, Deputy Commandant e-mail: riivo.valge@mil.ee, Ph. + 327 717 6002
Referred documents	https://www.ksk.edu.ee/en/general/documents/[2]

1.1. Estonian Military Academy – its mission, tasks, and distinctive role

Pursuant to the Higher Education Act, the Estonian Military Academy (hereinafter referred to as the *EMA* or the *Academy*) is a state-owned professional higher education institution for national defence operating under the purview of the Ministry of Defence (MoD). As such, the EMA is the only higher education institution that focuses on the areas of military science[3] and military leadership, as well as the development of Estonian military terminology.[4]

Due to its legal status as a state-owned education institution, the EMA's activities are also governed, in addition to the MoD, by the Ministry of Education and Research (MER). As a professional higher education institution, the EMA's organisation of studies, and the levels and quality of education take guidance from the Higher Education Act and the Vocational Educational Institutions Act, as well as other related legislation. Furthermore, as a structural unit of the Estonian Defence Forces (EDF), the EMA operates on the basis of the Estonian Defence Forces Organisation Act and other relevant regulations guaranteeing officers and non-commissioned officers training request for the EDF and Estonian Defence League (EDL).

[1] Estonian Education Information System (*Eesti Hariduse Infosüsteem*, EHIS) is an online database, managed by the MER, pooling information on the Estonian education system.
https://e-estonia.com/solutions/education/estonian-education-information-system

[2] All in this report referred documents can be viewed on the EMA's website (except the documents intended for internal use). The documents are linked when they are first mentioned.

[3] *Military science* is an interdisciplinary field of research that focuses on the development of military capabilities and the use of military force in all domains of warfare across the entire spectrum of conflict (EMA, 2018).

[4] The EMA was charged with the development of this area in May 2017. Currently, terminology work is carried out by a permanent working group, comprising relevant experts from all service branches of the EDF, and contributes to the research project "Development of National Defence Terminology".

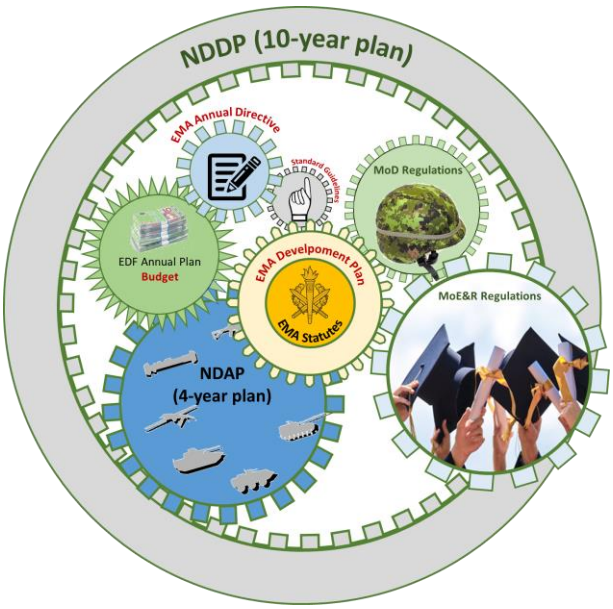

Figure 1. The EMA's role in the Estonian national defence system

The EMA is not an autonomous legal entity, instead it functions as an integral part within a larger mechanism (see Figure 1), under the direct command of the Commander of the EDF. The Academy's operations are governed by the Statutes of the EMA (approved by the Minister of Defence), and its activities take guidance from a comprehensive development plan (approved by the EMA Governing Council). Supervisory control over the EMA is conducted in accordance with the regulations of the MoD and the EDF with a view to the 10-year National Defence Development Plan (NDDP) which is, in turn, implemented through National Defence Action Plans (NDAP) and related investment plans (see Chapter 3.2 Resources). The EMA budget constitutes a part of the EDF's overall budget, adopted in the framework of the EDF's Annual Plans. The EMA is responsible for contributing to national military defence through the development unit "Leadership"[5], i.e. military leadership education and training.

The EMA staff comprises both civilian and military personnel in core and supporting functions. The EMA's distinctive role comes across in the double duties assigned staff members who are also in active service, i.e. in addition to their peace-time duties, they also have a war-time structural designation, and the performance of operational readiness duties constitutes part of their core functions.[6] In addition, they are also subject to the EDF's personnel rotation plans (i.e. reassigned every 3 to 5 years), enabling the EMA to bring the best of state-of-the-art practices into its degree studies.

The EMA's mission is to prepare active service members for leadership positions in the EDF and to develop military science with a view to ensuring the sustainability of the EDF. To that end, the EMA focuses on the following core functions:

- higher education and vocational training;
- in-service training;
- national defence related research and development activities (R&D) activities.[7]

The EMA's degree studies constitute an integral part of the EDF's education and career system for officers and non-commissioned officers, and upon graduation, all EMA students are offered positions in the EDF or the EDL in accordance with the EDF's military service model.

The EDF's education and career system is divided into formal education (degree studies) and military training (see Figure 2). The four-level military training system is based on levels of military command, and different levels are acquired cumulatively via in-service training courses. The EMA curricula for vocational and professional higher education cover 1st level military training (platoon and company level), whereas Master's studies cover the 2nd level (battalion and brigade level). The EMA does not offer 3rd and 4th level military training (i.e. joint operations, and strategy studies), and the EDF's education and career system does not prescribe formal education (i.e. degree studies) at those levels.

[5] NDAP 2019-2022 Military Defence Programme, Leadership development group (in addition to the EMA, also includes the EDF HQ Department of Strategic Communications, and the Estonian Contingent of the NATO Cooperative Cyber Defence Centre of Excellence).
[6] The EMA students (mainly master's level students) are also assigned war-time positions, but in their case, operational readiness duties are integrated into the curriculum.
[7] The EMA's mission and main areas of activity are stipulated in the Statutes of the EMA.

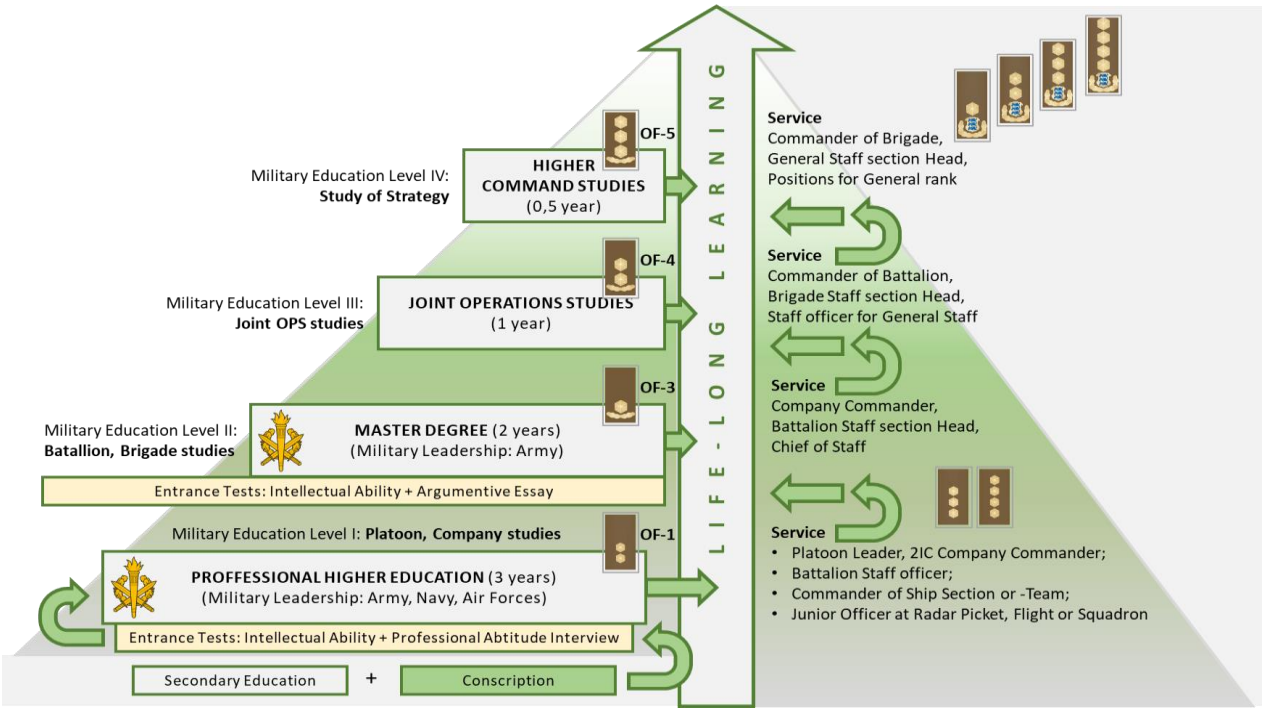

Figure 2. The EDF's officers' education and career system integrating EMA's degree programmes, military training levels and the EDF's military service model

However, since the EMA offers integrated degree studies (i.e. academic studies are combined with in-service training), those active service members who have completed their degree studies at the EMA, are in compliance with both the formal education and military training requirements of the EDF education and career system.

At the level of higher education, Estonian citizenship is one of the main prerequisites for admission, whereas at the level of professional higher education, admission requirements include completion of conscript service, and concluding an active service contract with the EDF. All EMA students receive a salary and academic studies constitute their main service duty. As a result, EMA degree students are both active service members and students.

1.2. Historical Overview and Main Developments

The EMA was originally established as the Estonian National Defence College (ENDC) on 29 August 1923 by government resolution. Originally based in the capital city of Tallinn, the ENDC operated from 1 October 1923, nowadays celebrated as anniversary of the EMA, until it was shut down by the occupying Soviet authorities in 1940. After Estonia regained its independence in 1991, the government re-established the ENDC on 17 March 1998 as a higher education institution for the preparation of officers for the EDF. Initially, the ENDC opened its doors in Tallinn[8] but was relocated to its current location in Tartu in the autumn of 1999.

Over the years, the organisational structure of the EMA has undergone several changes with a view to better meeting the EDF's needs and educational quality standards. In recent years, the most significant developments include the incorporation of the EDF NCO School (training centre for non-commissioned officers (NCO)) and reserve platoon commanders, as well as the expansion of two specialised subdivisions: the Department of Applied Research responsible for the EDF's R&D activities, and the EMA's War and Disaster Medicine Centre (WDMC) responsible for organizing military and disaster medicine training. On 1 May 2019, the changes related to the EMA's most recent structural reform entered into effect[9], resulting in the optimisation of the EMA's organisational structure, functional coverage, and areas of responsibility with a view to strengthening and

[8] Now the location of the Estonian Academy of Security Sciences (*Sisekaitseakadeemia*).

[9] Directive No 5 of 02 April 2019 issued by the Minister of Defence.

enhancing the achievement of strategic objectives laid down in the Academy's development plan. Additionally, in conjunction with the structural reform, the institution officially commenced operations under a new name – Estonian Military Academy.

During the past 10 years, R&D activities have gained increased significance as one of the focal points of the EMA's activities. The EMA's degree programmes have also undergone significant changes. Initially, the EMA offered degree studies only at the first level of higher education (i.e. professional higher education); the Master's degree programme was added in 2005, and vocational education in 2010. At the level of professional higher education, the original military leadership curriculum was initially offered only for the land forces specialty, with air force and navy curricula added in 2008 and 2010, respectively. At the level of vocational education, students have the option to undergo professional specialisation training for specific service branches. In addition, the target groups for training courses offered by the EMA's WDMC have also expanded and diversified considerably (e.g. since 2012, health care colleges, now also medical students from the University of Tartu (UT), as well as NATO-licenced international training courses). Furthermore, the general developments at the EDF have led to the introduction of various in-service training courses, coming to represent a significant part of the EMA's core activities, i.e. military training, language courses, syllabus development, war/military medicine, etc. (for more, see Chapter 3.12).

As of the beginning of 2020, the EMA oversees all degree studies and in-service training for EDF officers and non-commissioned officers, as well as the coordination and, in part, also the implementation of R&D activities in the area of government under the purview of the MoD.

1.3. The EMA's Vision and Objectives

According to the EMA's vision statement as outlined in the EMA Development Plan for 2015-2022, the Academy shall be a professional higher education institution focused on national defence education, as well as a research institution that plays a central role in the development of military science and military leadership, and the promotion of military culture[10] within the EDF, as well as in relations with its allies. The EMA Development Plan outlines three strategic areas – leadership, education and training, and R&D activities – together with objectives and accompanying operational principles for each area.

LEADERSHIP shall create conditions for the achievement of the objectives set for educational and training activities, as well as R&D activities.

- **The EMA** constitutes an **integral part of** the centralised command and resource management system of the **EDF**, and as such, the objectives of its educational and R&D activities take guidance from the needs of the EDF.
- Leadership shall be **mission-command and human-centred**[11], and the Academy's organisational culture shall take guidance from the underlying values of the EDF and the EMA.
- The **active service members** employed at the EMA shall be **systematically engaged in the activities of war-time units** in all sectors, thus contributing to the EMA's educational and R&D activities.
- The EMA's personnel policy shall shape the **Academy's reputation** as a place of study and employment.

EDUCATION and TRAINING shall prepare future military leaders for the EDF and the EDL based on a common military culture in accordance with national defence requirements.

- The EMA's **degree studies and in-service training programmes** constitute a comprehensive system. The curricular programmes at different levels of degree studies and continuing education are prepared and developed as a **comprehensive and integrated system**.
- Academic studies at the EMA are **student-focused**, fostering independent knowledge creation, and the development of transferable competences and personal character.

[10] Military culture comprises professional terminology, attitudes, values, and traditions (EMA Development Plan).

[11] *Mission-command* is a term used in the EDF, referring to a philosophy of command that emphasises clear intent and decentralised execution coupled with initiative on the part of subordinates in the fulfilment of the commander's intent. The EDF's approach to human-centered leadership proceeds from the approach developed by the Swiss military scientist Rudolf Steiger.

- Academic studies are interlinked with **character development**, shaping students' attitudes and operating principles in accordance with the values of the EDF and the EMA.
- The EMA's **subject courses are integrated and related to service functions** both at the level of curricula and across different levels of education.
- Cooperation with the **military educational institutions of allied countries** is at the heart of the EMA's **internationalisation policy** for the purposes of developing interoperability within international forces.

R&D ACTIVITIES shall support the development of military capabilities, and the shaping of military scientific thinking in the EDF through the coordination and implementation of defence-related R&D activities.

- **Military science is at the heart of the EMA's research activities**. Active service members of the EDF shall be engaged in R&D activities for the purposes of fostering scientific thinking, and enhancing the EDF's competence in the area of military science.
- The EMA's **R&D activities contribute to the achievement of the objectives laid down in the NDDP**, with priority given to research focused on capability development.
- The EMA's R&D activities **focus on the tactical level** and **contribute to studies**. Whenever possible, student research is incorporated into the EMA's R&D projects.
- The EMA shall be responsible for coordinating the **doctoral studies of active service members** in order to foster the accumulation of experts with scientific degrees within the EDF, and for the purposes of developing military science within the EDF.
- The EMA shall **collaborate with allies and research institutions** both in Estonia and abroad in order to add value to its R&D activities and improve its overall quality.

1.4 The Organisational Structure of the EMA

The EMA is headed by the **Commandant** who, under the Higher Education Act, acts in the competence of a rector. The EMA Commandant oversees the operations of six structural subdivisions operating in accordance with the Statutes of the EMA (see Figure 3). The EMA's highest collegial decision-making body is the **Governing Council**, which acts on the basis of its rules of procedure, and comprises 21 members (i.e. in addition to the Commandant, also the heads of the EMA subdivisions, as well as elected representatives of the academic staff and students). The EMA Governing Council oversees the work of **three permanent committees** (academic, study, and development) that are tasked with giving feedback and recommendations on the Governing Council's draft documents falling under their respective purviews.

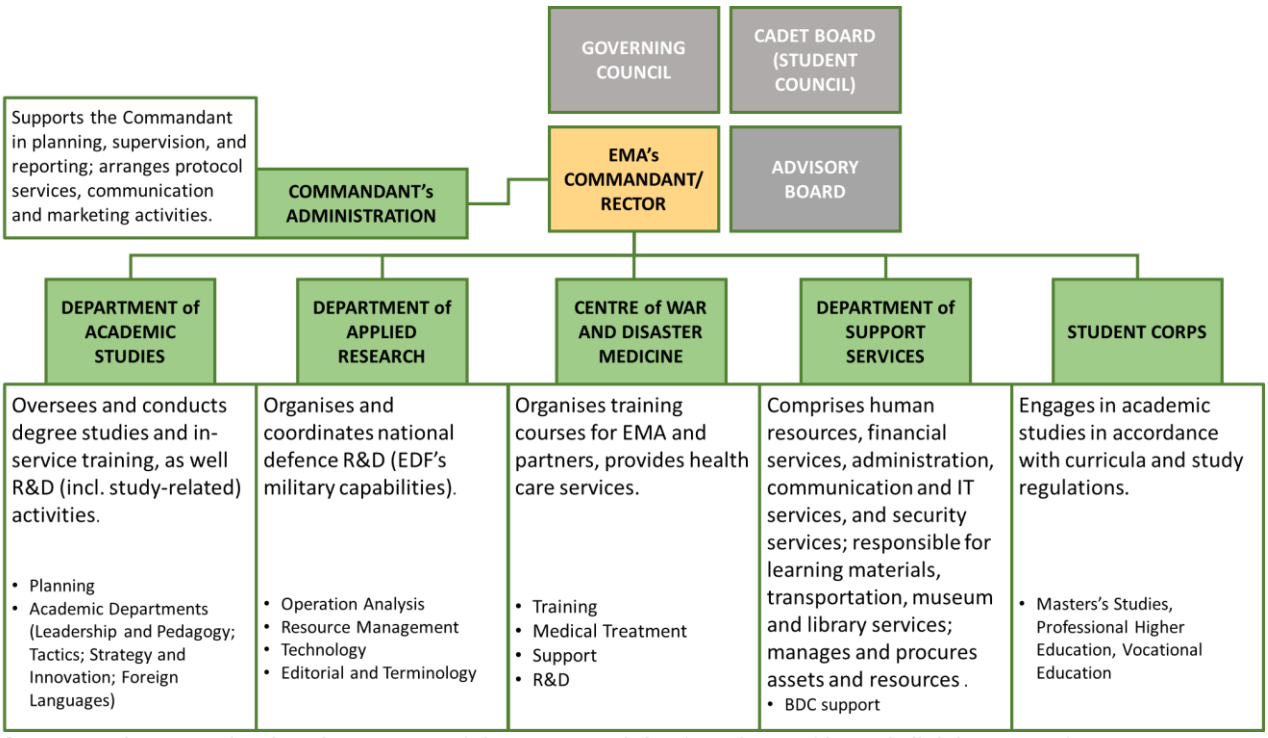

Figure 3. The organisational structure of the EMA and the functions of its subdivisions as of 1 May 2019

The Commandant (Rector) and the heads of the EMA subdivisions comprise the Rectorate, an advisory body to the Commandant, which may also include, subject to the Commandant's decision,other experts from the EMA. The EMA **Advisory Board**, whose members are appointed by the Minister of Defence is an advisory body connecting the Academy with the larger society. The activities of the EMA **Advisory Board** are governed by its rules of procedure, and it convened by the Commandant at least once per year. The current EMA Advisory Board, appointed in 2019, comprises eight members representing the following organisations: MER, MoD, EDF (2), EDL, Estonian University of Life Sciences, Estonian Academy of Security Sciences (EASS), and the National Centre for Defence Investment.

1.5. Key Indicators – comparative overview, aggregate data on staff and students

1.5.1. Key Performance Indicators

The Estonian MER regularly publishes the main performance indicators of all Estonian higher education institutions in the Estonian Education Information System (EHIS). Table 2 provides an overview of the EMA's key performance indicators as of November 2019, and offers comparative indicators for the average of all Estonian higher education institutions, as well as two selected institutions of professional higher education. The EASS and Tartu Health Care College (THCC) have been chosen due to their similar status as state-owned professional higher education institutions that operate on the basis of state-commissioned study and research orders.

Table 2. Comparative overview of the EMA's key performance indicators as at November 2019. Source: Haridussilm[12]

MAIN INDICATORS	Estonian average	EMA	EASS	THCC
The proportion of students discontinuing their studies in higher education (in the first year of studies), %	21.6	8.5	8.4	12.2
The proportion of students discontinuing their studies in higher education (annual average), %	13.6	8.1	9.2	5.3
The proportion of foreign students among all students, %	11	0	0.2	0
The average salary of graduates of higher education, euros per month	1 595	2 035	1 480	1 520
The ratio of the number of students and teaching staff	13.1	2.8	8.9	17.4
The proportion of teaching staff with PhD among all teaching staff, %	54.9	7.2	8	10.9
The proportion of students discontinuing their studies in vocational education, %	21.7	7	9.2	9.1
The average salary of graduates of vocational education, euros per month	1 055	1 790	1 403	971

The data show that the EMA's share of students who discontinue their degree studies is lower than the Estonian average. The absence of foreign students is due to the fact that EMA students are active service members of the EDF who must hold Estonian citizenship, as well as fulfil Estonian language proficiency requirements, and the studies are to a large extent based on Estonian-language curricula. However, this does not preclude international cooperation (please refer to Chapter 3.5 for more detailed information). The average salary of EMA graduates, which is considerably higher than the Estonian average, is determined by the general salary policy of the public sector (i.e. in the areas of internal security and national defence).

The relatively small ratio of students and teaching staff is mainly due to extremely specialised study programmes and teaching methodology, e.g. unit command and staff work is practiced in groups which, in turn, entails requisite safety procedures, as well as individual feedback on personal contributions to the team effort. The practical nature of both degree and in-service training courses

[12] Online database of Estonian education statistics (MER / EHIS) https://www.haridussilm.ee

requires a significantly higher number of instructors per student. Although the share of academic staff holding a doctoral degree is considerably lower than the Estonian average, it is comparable to that of reference schools (i.e. EASS, THCC). The difference is mainly due to the differences between the qualification requirements for teaching staff and the research focus at universities as compared to professional higher education institutions. Two-thirds of the EMA's academic staff are active service members, with a minimal share of people with doctoral degrees. For a more detailed overview of the EDF's and the EMA's efforts to address this issue, please refer to Chapter 3.11.

1.5.2. The EMA's Students

The annual average number of students enrolled at the EMA's five degree programmes stands at approximately 250 students (see Table 3). At the level of professional higher education, the total number of students in the navy and air force programmes has decreased over the last five years due to a reduction in the number of state-commissioned study places ordered by the EDF. In fact, in the

Table 3. Overview of EMA students from 2015/16 to 2019/20. Source: Haridussilm

		2015/16	2016/17	2017/18	2018/19	2019/20
Master's degree studies (MA), level 7	admitted	10	14	14	13	24
	total number	21	24	32	33	40
	men/women	21/0	24/0	32/0	33/0	39/1
	discontinued	0	0	4	1	0
	completed	12	6	8	13	13
Professional higher education (PHE) (air force), level 6	admitted	48	45	43	35	44
	total number	121	120	121	114	103
	men/women	118/3	117/3	116/5	108/6	98/5
	discontinued	28	13	9	12	8
	completed	35	31	35	31	33
Professional higher education (PHE) (land force), level 6	admitted	8	9	-	7	6
	total number	26	24	17	18	15
	men/women	23/3	22/2	16/1	18/0	14/1
	discontinued	2	3	0	1	2
	completed	9	6	7	9	-
Professional higher education (PHE) (navy), level 6	admitted	6	5	-	7	5
	total number	25	24	12	12	11
	men/women	24/1	23/1	12/0	11/1	10/1
	discontinued	7	1	0	1	0
	completed	9	7	7	2	2
Total number of students in professional higher education	**total number**	**172**	**168**	**150**	**144**	**129**
	men/women	165/7	162/6	144/6	137/7	122/7
	completed	**53**	**44**	**49**	**42**	**35**
Total number of students in higher education (MA+PHE)	**total number**	**193**	**192**	**182**	**177**	**169**
	men/women	186/7	186/6	176/6	170/7	161/8
	completed	**65**	**50**	**57**	**55**	**48**
Vocational education, level 5	admitted	60	54	65	65	70
	total number	66	57	71	69	71
	men/women	65/1	55/2	69/2	66/3	71/0
	discontinued	1	0	5	5	0
	completed	62	51	61	53	70

2017/18 academic year, no students were admitted to the air force and navy programmes; whereas the admission rates for the land force programme have remained relatively stable. Furthermore, the number of students discontinuing their studies at the level of professional higher education has been steadily decreasing over the last couple of years. At the level of higher education, the number of students admitted to master's degree studies has almost doubled compared to the 2015/16 academic year, mainly due to the increased needs of the EDF. The small share of women among EMA students is largely due to the admission requirement that mandates the completion of compulsory conscript service prior to enrolment at the EMA. Conscription is mandatory for males; females can participate on voluntary bases.

In addition, approximately 1,000-1,500 students are annually enrolled in the EMA's in-service training courses (for more information on continuing education at the EMA, please refer to Chapter 3.12).

1.5.3. The EMA's Academic Staff

The EMA's staff comprises active service members working on the basis of service contracts with the EDF, as well as civilian staff under regular employment contracts. The number and types of staff positions at the EMA are based on the EMA staff composition table as approved by the Commander of the EDF. Although there has been an increase in the overall number of staff positions at the EMA, it has not resulted in an accompanying increase in the total number of employees (see Table 4). This is due to high staff turnover rates at the EDF, resulting in a shortage of active service members. At the same time, the EMA has a higher percentage of supporting staff compared to other higher education institutions (e.g. EASS or Estonian Aviation Academy (EAVA)). This is mainly due to the logistical challenges related to the organisation of practical military studies (e.g. multi-day military exercises, etc.), as well as efforts related to the preparation for war-time tasks.

Table 4. EMA staff profile and statistics from 2015 to 2020. Source: EMA Personnel Group

	2015 (31.12)	**2016 (31.12)**	**2017 (31.12)**	**2018 (31.12)**	**2019 (31.12)**	**2020 (31.03)**
Total number of staff positions indicated in the EMA staff composition table	213	213	214	217	239	231
Total number of EMA staff	**210**	**203**	**202**	**197**	**204**	**205**
% of EMA staff composition table	78 %	95 %	94 %	91 %	85 %	89 %
share of men	65 %	66 %	66 %	64 %	61 %	62 %
share of women	35 %	34 %	34 %	36 %	39 %	38 %
Total number of academic staff	**78**	**78**	**78**	**70**	**73**	**75**
active service members	42	44	45	48	46	49
employment contract staff	36	34	33	22	27	26
staff with doctoral degrees	9	8	8	5	10	10
men	56	60	57	52	54	53
women	22	18	21	18	20	22
Total number of administrative and support staff	**132**	**125**	**124**	**127**	**131**	**130**

1.6. The Drafting Process of the EMA Self-evaluation Report for Institutional Accreditation

The work on the EMA's institutional accreditation, and the quality assessment of its vocational education programme, was began in November 2019 with a briefing at a seminar organised for the EMA Rectorate. The participants were given an overview of the EMA's previous experiences with institutional accreditation and external evaluations, and briefed on updates to accreditation requirements as well as insights on best practices. On 17 December 2019, the Estonian Quality Agency for Higher and Vocational Education (EKKA) conducted a training session for the EMA's key staff engaged in the upcoming institutional accreditation process.

For the purposes of drafting the EMA's self-evaluation report for institutional accreditation, the Commandant of the EMA established a special working group by directive No 13 of 07 February 2020. The working group is chaired by the EMA's Deputy Commandant and it comprises the heads of all EMA subdivisions, as well as other key staff members. The members of the working group are authorised to collect relevant information and data (including statistics) from the EMA staff and to engage others in the process of preparing the Academy's self-evaluation report. The EMA Commandant's directive was additionally forwarded to the Academy's entire staff via the EMA's electronic document management system. Questions related to the self-evaluation report have been frequently discussed at the Commandant's weekly meetings, and periodic updates regarding the upcoming institutional accreditation of the EMA are regularly published in the EDF intranet.

The working group managed to hold two extended meetings before the declaration of a national emergency situation due to COVID-19 on 12 March 2020[13]. The meetings focused on establishing a common understanding for the drafting of the self-evaluation report, and setting up working arrangements, as well as appointing persons responsible for writing individual chapters of the report. Additionally, the working group specified the content for each chapter, the list of supplementary documents to be translated, and the statistical data to be collected. The draft self-evaluation report itself was prepared under the conditions of the national emergency situation. The persons responsible for individual chapters collected the necessary information from the EMA's subdivisions, and wrote the draft chapters on the basis of that information. The writing of the draft report was coordinated by the chair of the working group primarily via the Internet.

The draft report was handed over to appointed content editors in May 2020. The content editors reported regularly on their progress to the Commandant of the EMA. The EMA's strengths and weaknesses in the framework of relevant education standards were discussed with the Rectorate. The final version of the EMA's self-evaluation report was completed in July 2020. Due to the summer holidays, the EMA Commandant arranged for the review of the report and the collection of feedback from representatives of essential stakeholders (e.g. Cadet Corps, EDF, members of the Advisory Board) to be conducted in electronic form. The translated English version of the EMA's self-evaluation report was submitted to EKKA in August 2020. The EMA shall present the self-evaluation report submitted to the EKKA to the Academy's staff (including students) in September-October 2020.

[13] As a result of the emergency situation declared by the Government of the Republic due to the COVID-19 crisis, contact learning was suspended in all educational institutions across Estonia. Consequently, the EMA continued academic studies in the form of distance learning, and the staff were directed to telework wherever possible.

2. THE MAIN DEVELOPMENTS BASED ON PREVIOUS ACCREDIATION RECOMMENDATIONS

2.1. Improvements Resulting from the 2013 Institutional Accreditation

The EMA, at that time under the name ENDC, underwent its first institutional accreditation by the EKKA in 2013. In its decision of 5 February 2014, the EKKA Quality Assessment Council for Higher Education highlighted altogether **nine areas for improvement** with regard to the ENDC's governance, academic studies and R&D activities. Table 5 provides an overview of the main changes introduced at the ENDC/EMA on the basis of those recommendations.

Table 5. Overview of the main developments at the EMA following the 2013 institutional accreditation (continued)

AREA of IMPROVEMENT	MAIN DEVELOPMENTS
1) Improve the EMA's self-reflection and development capacity by inviting **representatives from outside the EMA** to serve on the Academy's boards and committees.	✓The EMA **Advisory Board** now includes representatives from the Academy's primary interest groups, i.e. top executives from organisations representing prospective employers of EMA graduates, e.g. MoD, MER, National Centre for Defence Investment, EDF, EDL, as well as the Rector of the Estonian University of Life Sciences, and a representatives from the EASS. ✓Since 2018, representatives from the MoD, as well as the EASS, and the EAVA have been invited to serve on the EMA's **thesis defence committees**. ✓The EMA **Appeals Committee's** rules of procedure were updated in 2018, adding new members representing prospective employers and another professional education institution. ✓In accordance with the EMA's good practices, representatives of prospective employers of EMA graduates have also been invited to serve on the EMA **Admissions Board**. ✓The EMA Procedure for Evaluating Teaching and Research Staff (2015) stipulates that at least one member of the **attestation committee** must be from outside the EMA. NB! The composition of the **EMA Governing Council** is stipulated in the EMA Statutes and is open only to the members of the EMA.
2) Foster short-term **international mobility**, both outgoing and incoming, among the EMA teaching staff.	✓ The EMA teaching staff can take advantage of **mobility resources** offered both by the EMA, as well as the government via the EU supported **Dora Plus programme** focusing on internationalisation and mobility. In addition, there is also the EU **Erasmus+ programme** support (from 2014 to 2016, and again as of 2019). ✓ In 2018, the EMA established the **staff position of External Relations Specialist** in the Department of Academic Studies for the purposes of coordinating and supporting systematic learning mobility among EMA students and teaching staff. ✓ The **mobility indicators** of EMA teaching staff have increased compared to 2013, including those for teaching mobility and visiting lecturers (for more, see Chapter 3.5).
3) Develop **performance indicators** to better assess the effectiveness of the EMA's functional operations and the use of financial resources.	✓In the process of drafting the Academy's development plan for 2015-2022, the EMA defined its primary outputs and activities and developed detailed **performance indicators and metrics** for all strategic areas covered by the development plan. The EMA development plan was coordinated with the MoD and MER, and approved by the EMA Governing Council in 2015. ✓The performance indicators detailed in the EMA development plan are **annually collected and analysed by the EMA Quality Assurance Specialist**. The results are subsequently presented to the EMA Commandant and the Governing Council in the framework of the **EMA's annual report**. The performance indicators were most recently updated in 2018. For more about progress made on the objectives laid down in the EMA development plan, see Chapter 3.1.

AREA of IMPROVEMENT	MAIN DEVELOPMENTS
4) Develop, in collaboration with the EDF, a more pro-active strategy for **promoting military professions among women** in order to increase the **proportion of female students** at the EMA.	✓National legislation allowing women to voluntarily enter conscript service was introduced in 2013. ✓Since 2017, the EDF has been striving to gradually increase the total number of conscripts to 4,000 (this number also foresees an increase in the number of women), and the EDF has significantly improved its readiness to welcome female conscripts (30 in 2015 vs 108 in 2018).[14] ✓In 2017, the International Centre for Defence and Security (ICDS), with support from the MoD, conducted a study on **women in the Estonian Defence Forces**[15] for the purposes of providing evidence-based input for the planning of strategic communication and recruitment. ✓The EMA's female cadets take part in the EDF's **recruitment campaign** "**Women in Uniform!**", launched in 2017, promoting conscript service among women via **social and outdoor media, as well as school visits**.[16] The EMA joined the campaign in 2019 by instituting a tradition of organising information days for introducing the EMA's study programmes for military professionals. ✓Additionally, the EMA collaborates with the EDF Recruitment Centre and the Strategic Communication Department of the EDF HQ by having its female cadets appear in posters and recruitment videos. ✓The EMA takes active part in various **education and career fairs**, as well as smaller information days, and EMA organises its own **open door days** to promote its various study programmes for military professionals. ✓Each year, the EMA students, as part of their curricular assignments, organise a **national defence camp for schools** in the Tartu region, enabling gymnasium students to learn about the EDF.[17] In recent years, approximately 300 to 400 participants have attended this event. ✓The EMA organises **regular visits to the EDF structural units** to meet with conscripts and talk to them about the EMA, its study programmes and military professions.
5) Prepare an action plan to include **English-language subjects** in the EMA curricula in order to better prepare EMA graduates for work in international military organisations.	✓In 2015, the EMA adopted an **Internationalisation Policy**, outlining the EMA's objective to improve the international interoperability skills of EMA students before they enter active military service. ✓The EMA has already **identified subjects across all curricula** that shall be taught in an **international environment**, in a partner institution abroad, or **partly in English at the EMA** (see Chapter 3.5). ✓In 2019, the EMA introduced its **first international study module (conducted in English),** with foreign cadets attendance (see Chapter 3.5).
6) Offer EMA students information about **future service positions** well in advance in order to benefit their career planning.	✓As of 2016, in collaboration with the EDF HQ, the EMA informs its students in professional higher education about the upcoming professional specialisation opportunities and available service positions **at least one year before they start specialisation courses** (previously, the notice period was three months).
7) Devise measures to increase the opportunities for increasing the exposure of its staff and students to the **international environment**, and to offer talented students **opportunities for studying abroad**.	✓The EMA adopted its **Internationalisation Policy** in 2015. ✓The active service members of the EDF take part in **allied military exercises**, assigned to their war-time positions, both in Estonia and abroad. ✓ EMA teaching staff serve as **visiting lecturers** at Latvian and Lithuanian military academies. ✓ EMA researchers are under obligation to **present the results of their research projects** on the international arena. ✓The EMA training plan foresees **student participation at international conferences** organised at the EMA. ✓Most successful students are offered opportunities to take part in international weeks or studies at military academies abroad (see Chapter 3.5).

[14] In July 2020, the EDF admitted 39 women to compulsory conscript service.
[15] In Estonian: *Naised Eesti Kaitseväes: Motivatsioon, suhtumine, kogemused ja väljakutsed* https://icds.ee/wp-content/uploads/2018/05/ICDS_Raport_Naised_Eesti_Kaitsevaes_Andres_Siplane_Detsember_2017.pdf
[16] Visit the "Women in Uniform!" campaign website https://www.kra.ee/naisedvormi/ (in Estonian).
[17] The 2020 event was cancelled due to the government-declared emergency situation to prevent the spread of COVID-19.

AREA of IMPROVEMENT	MAIN DEVELOPMENTS
8) Prepare a detailed **implementation plan for the EMA R&D strategy**, which identifies in more detail the **key research areas**, as well as setting out the related personnel policy, milestones, and the allocation of requisite funds.	✓The **EDF's R&D regulations** (2018) outline the objectives, principles, roles, processes, funding, and management of R&D activities within the EDF. ✓The **EMA's R&D regulations** (introduced in 2015, updated in 2019) stipulate, among other things, the R&D related duties of EMA subdivisions, R&D funding, publication requirements for R&D results, assessment procedure for the EMA's R&D activities, as well as remuneration and recognition. ✓As of 2017, on the initiative of the EMA, the EDF Commander's **Annual Plans** are supplemented with a **special annex outlining the EDF's R&D priorities, coordinated by the EMA,** for the upcoming year. ✓In 2019, the EMA Governing Council adopted the "**Quality Assurance Plan for the EMA's R&D activities**". The document, to be updated annually, outlines the performance requirements for the EDF's research projects overseen by the EMA.
9) The EMA must (1) encourage staff members with primarily military backgrounds to acquire **basic research skills**, and (2) to **strengthen cooperation** with universities and other research institutions.	✓Compared to 2013, the EMA has **considerably expanded** its cooperation with **partners in Estonia and abroad** both in the area of **academic studies as well as R&D activities**, e.g. collaboration with higher education institutions, participation in the technical panels of the **NATO Science and Technology Organization (STO)**, joint research projects with various universities, collaboration between the Commandants of **military academies of the three Baltic States** (3B), participation in the work of the Rectors' Conference of Universities of Applied Sciences of Estonia (RKRN), etc. (see Chapter 3.11). ✓In 2014, the **EDF launched a doctoral studies programme** supporting the academic pursuits of its active service members enrolled in doctoral studies at select universities. ✓As of 2018, the **EMA organises writing workshops for researchers** (also welcoming those interested in doctoral studies). ✓In 2020, the EMA's Department of Applied Research began curating the **R&D portal in the EDF's intranet**, providing information on the EDF's R&D activities, doctoral dissertations authored by EDF staff, requirements of the EDF's doctoral studies programme, etc.

2.2. Improvements Resulting from the 2015 Quality Assessment of the EMA's Vocational Education Programme

The quality assessment of the EMA's vocational education programme (i.e. the national defence programme group) was conducted by EKKA in 2015. In its decision of 11 June 2015, the EKKA Quality Assessment Council for Vocational Education highlighted altogether **five areas for improvement**, and Table 6 provides an overview of the main changes introduced at the EMA on the basis of those recommendations.

Table 6. Recommendations of the EKKA Vocational Education Assessment Council and an overview of the main developments at the EMA following the 2015 quality assessment process (continued)

AREA of IMPROVEMENT	MAIN DEVELOPMENTS
1) Prepare a strategy paper detailing the **competency profile for Senior NCO** to inform future curricula development at the level of vocational education.	✓At the end of 2015, the Commander of the EDF approved the general **requirements for the education and military training of NCOs**. ✓In 2017, the EMA organised a seminar focusing on updating that document, and the resulting feedback was sent to the EDF HQ. ✓In December 2017 and January 2017, in the framework of the Military Leadership Development Programme, launched on the EMA's initiative, the EDF **expert group prepared a competency profile for NCOs** for the purposes of developing a personnel selection tool. This R&D project has been subsequently renewed for the period 2018-2022. ✓In 2020, the **EDF HQ developed an updated concept** on the **general requirements for the education and military training of NCOs**. The new concept was presented in June, at the EDF Commander's information days, and it will enter into force in 2021.

AREA of IMPROVEMENT	MAIN DEVELOPMENTS
2) Greater attention should be paid to methodological and development activities in order to **ensure high quality training** at vocational education institutions as well as during practical placement in military service.	✓The EMA staff responsible for vocational studies is engaged in the EMA's **didactical development activities**, and regularly undergoes training for the development of their didactical competencies. ✓In 2019, the EMA adopted **Guidelines for Practical Placement in Vocational Studies**, constituting the basis for the organisation of practical placements (including supervision and assessment). ✓The EMA conducts annual evaluations in its specialised schools and in units of practical placement. ✓The EMA organises in-service training for the staff of its specialised schools on the topic of drafting syllabi.
3) Ensure **more systematic documentation of the curricula development process**, and reduce the share of informal transfer of knowledge in this area.	✓All changes to curricula are recorded in the minutes of the EMA Governing Council. ✓All minutes of meetings dealing with curricula development are preserved in the EMA document management system *Postipoiss* (incl. 2017 seminar invitation, 2016 curriculum development seminar), and relevant presentations are available in the units' SharePoint page. ✓All regulations and documents related to curricula development have been approved by the EMA Commandant.
4) Engage internal and external **interest groups/stakeholders** in the EMA's development activities, and introduce elements of the **learning organisation approach**, alongside the prevailing military leadership culture.	✓The **development of vocational and continuing education curricula** for NCOs is organised in collaboration with the **representatives of prospective employers** of EMA graduates. ✓In addition, the EMA **regularly collects feedback** from graduates and employers. ✓After the 2019 structural reform, the **EMA Department of Academic Studies oversees the planning and conduct of the academic studies** of both NCOs (vocational studies), and officers (higher education studies) in order to ensure the application of common principles (including the organisation of studies), content, and terminology.
5) In the case of in-service training courses, the EMA needs to **engage additional staff or reduce the size of study groups** in order to ensure the quality of the study process and the achievement of learning outcomes.	✓The 2019 **EMA structural reform reorganised the studies of NCOs**, and the responsibilities related to teaching activities were redistributed based on the objectives and learning outcomes of the curriculum, as well as the restructuring of the EMA Department of Academic Studies. For example, in-service training courses for Senior NCOs were reassigned from the ENDC NCO School (now the EMA Department of Tactics) to the purview of two different academic departments under the EMA Department of Academic Studies: (1) the Department of Leadership and Pedagogy, and to (2) the Department of Tactics. As a result of the restructuring process the number of teaching staff engaged in the conduct of in-service training courses has increased significantly. ✓The size of the study groups has not been increased for in-service training courses. ✓As of summer 2020, the staff position of the Head of Continuing Education Curricula, established in the EMA Department of Academic Studies already in 2019, has finally been filled.

3. THE EMA'S SELF-EVALUATION ON COMPLIANCE WITH RELEVANT STANDARDS

3.1. Strategic Management

Standard: Development planning at the higher education institution is purposeful and systematic, involving various stakeholders. The higher education institution regularly evaluates the achievement of its stated objectives and the impact of its activities.

3.1.1. The EMA Development Plan 2015-2022

The EMA's operations are guided by the Academy's development plan, and are governed by the Statutes of the EMA. The Statutes, approved by the Minister of Defence, stipulate the EMA's core functions and areas of activity, as well as the Academy's governance, structure, competencies, membership, etc. The draft Statutes were prepared by the Commandant of the EMA, the Head of Academic Studies, and the EMA's Legal Advisor, based on input from the heads of the EMA subdivisions, and taking guidance from relevant regulations in the areas of education, research, and national defence, as well as those of the EDF. Additionally, the core working group also consulted with legal, education, and health care experts from the EDF HQ and the MoD. Finally, the draft Statutes were coordinated with and approved by the MER and the Ministry of Finance.

The EMA's most recent development plan covers the period from 2015-2022. The plan was developed by a specially designated working group under the leadership of the EMA Commandant and comprising EMA experts responsible for the areas of education and research, curricula development, and quality assurance. The rest of the EMA staff were updated on the drafting progress at general meetings, and the EMA Commandant briefed the Governing Council as prescribed in the rules of procedure. In addition, the EMA Commandant presented the EMA's development plan at the MoD, and it was also forwarded for review to the MER. Following coordination with the relevant ministries, the EMA' Development Plan was accepted by the Governing Council.

This version differs from previous development plans in that it covers a longer timeframe – eight years instead of five – in order to better align the EMA's operations with the NDDP for 2013-2022. Also, the EMA's 2015-2022 development plan takes guidance from the EDF's policy paper on national military education, which was originally drafted as input for the NDDP by a working group led by the ENDC's then Commandant. The policy paper outlines the current state of national military education, its strengths and weaknesses, and recommendations for development, and offers a vision for the future.

The EMA development plan defines the Academy's vision, and outlines the national educational, research, and defence policy guidelines as its main reference points, indicating priorities and opportunities for development, and sets strategic sectoral objectives for the medium timeframe (see Chapter 1.3). The plan also outlines the EMA's operating principles broken down by sector with accompanying development guidelines in the format of *outcomes-activities-enablers-indicators* based on the *ends-ways-means* framework used by NATO. Altogether, the development plan for 2015-2022 comprises 14 outputs, and 59 activities with 143 indicators.

The implementation, monitoring, drafting and updating of the EMA's development plan is overseen by the EMA Commandant's Administration. The internal evaluation conducted at the EMA in 2018 revealed the need to update existing performance indicators because several had become obsolete, or were found to be needlessly repetitive, no longer measurable or no longer served their original purpose. For example, indicators were removed that had already been achieved (e.g. the EMA Statute of Curriculum was amended in 2016), or were related to routine activities (e.g. providing input for the EDF's rotation plan, active service members in war-time positions, etc.). As a result, the list of indicators was significantly streamlined (10 outputs and 33 activities with 77 indicators), and the test period was set for 2019 to review which indicators to incorporate into the next development plan.

The EMA's development plan is implemented in accordance with the **EMA Commandant's Annual Directive**, which sets forth the objectives for priority areas and activities. In addition the EMA **budget project**[18] is delivered. The EMA Commandant's Annual Directive is prepared on the basis of the previous year's reports and the assessment of the EMA's current strengths and weaknesses.[19] The drafting of the Annual Directive is overseen by the Commandant's Administration, approved by the Commandant, and communicated to the EMA staff via the EMA's documentation management system. The implementation of the directive is reported in the framework of **half-year reviews** that serve as the basis for a **summary review** to be presented to the EMA Governing Council that will, in turn, provide insights for the next annual directive.

The EMA also takes guidance from the **EDF's Annual Plan**, which specifies the number of state-commissioned study places across EMA degree programmes, R&D priorities, and other assigned duties (e.g. responsibilities in EDF exercises, participation in the EDF parades, etc.) with respective budget allocations. The process of preparing the EDF's Annual Plan is based on the principle of reciprocity, i.e. the EMA gives feedback and negotiates resources for the performance of assigned duties. The reporting related to the EDF's Annual Plan is conducted on a quarterly basis and is overseen by the EDF HQ.

The EMA's organisation of studies, R&D activities, and daily operations are governed by various **internal rules and regulations** that have all been approved by the Commandant's directives. Each regulatory document is assigned responsible owner, who are tasked with monitoring its effectiveness and introducing any necessary changes.

The EMA Commandant's primary advisory body – the **EMA Rectorate** – convenes **weekly** for **meetings** with the Commandant to discuss the current state of affairs, and amend the Commandant's Annual Directive as necessary. In addition, up to two times per year, the Rectorate convenes for special **working seminars** for the purposes of planning and brainstorming long-term and EMA-wide development efforts.[20] In addition, the EMA Commandant attends **weekly meetings of the heads of the EDF's subdivisions**. Administrative issues are discussed at the **weekly coordination meetings with the EDF HQ**. The main communication channels for reaching the entire EMA staff are the EDF's intranet and the SharePoint platform. Additionally, general meetings are also held in need, no more than once per month.

The preparations for the EMA's **next development plan** are already well under way with preliminary orders regarding its drafting issued in the EMA Commandant's Annual Directive for 2020. The timeframe of the plan shall be further extended – to a ten-year period – to ensure alignment with the new NDDP (2021-2030). In the process of drafting the new NDDP, the EMA provided its input in three areas: military education (policy paper submitted to the EDF and the MoD), R&D activities (preliminary analysis submitted to the MoD), and infrastructure (EMA input to the EDF HQ).

3.1.2. The EMA's Core Values and Character Development

In April 2013, the EMA Governing Council adopted a resolution outlining the Academy's **core values – eruditeness, creativity and efficiency**. These values are imparted to the Academy's new members through various welcoming events and orientation courses organised for incoming staff and students. Initiating or engaging in activities that promote the Academy's core values is one of the key factors in determining performance bonuses for the staff.

The EMA's **motto – *mente et ense pro patria*** – in English, *the mind and weapons in service of the homeland,* also expresses the Academy's foundational value system. As the custodian of violence, the Commander of the EDF must have an understanding of the deterrence capacity of deadly

[18] The EMA budget, subject to approval by the EDF Commander's Annual Plan, is prepared in accordance with the EDF's budgetary guidelines and the limits prescribed by the EDF HQ.
[19] The Annual Directive issued by the EMA Commandant includes the "Commandant's Situation Assessment" outlining the EMA's most pressing strengths and weaknesses.
[20] The last one was held in November 2019 and focused on the following issues: R&D activities, institutional accreditation (incl. quality assessment of vocational education programme), and overview of recruitment in 2019.

weapons and the soldiers in the battlefield, while at the same time recognising the potential damage wrought by negligence, and therefore, our mind should be deemed the primary weapon.

In 2017, in order to make the Academy's development plan, and the principles and values it entails, more tangible to its staff and students, the EMA introduced **the EMA sword**, inspired by the military profession, the history of Estonia, the Academy's motto and insignia. The EMA sword illustrates the Academy's three strategic domains – leadership, education, and research – to be delivered at the highest level of quality (see Figure 4).

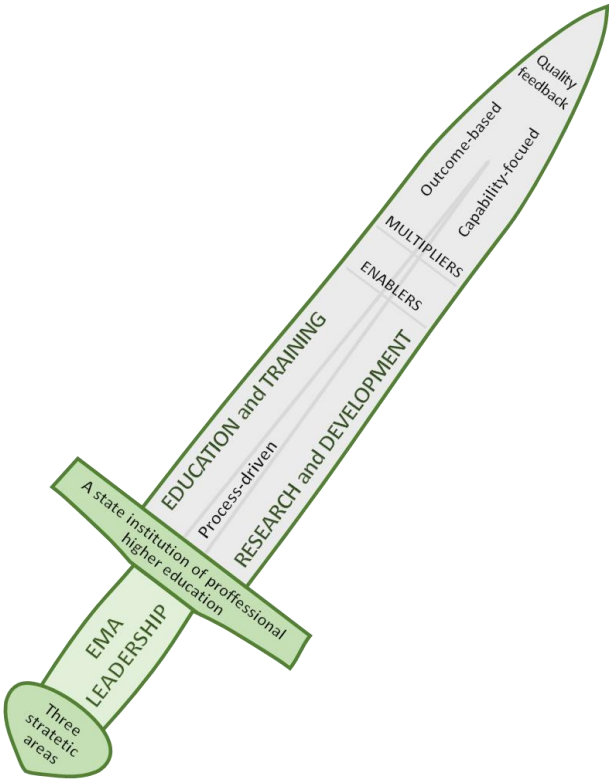

Figure 4. The EMA Sword

When it comes to the Academy's strategic domains, the **EMA leadership** must be **process-driven**, utilising relevant **enablers** (i.e. EMA's support systems) and **multipliers**[21] (e.g. values, simulations, media and marketing) in order to support the two edges of the blade: (1) **academic studies and character education**, as well as (2) **R&D activities**, while also ensuring that this is delivered in accordance with the different quality surveys. All EMA's degree study programmes are **outcome-based** and our R&D activities are driven by the EDF's **capability development** needs.

The attitudes of EMA students are shaped through academic studies and traditions that impart the EMA core values. The Commandant's directive for curricula development 2021/2022 emphasizes continuing efforts in developing values-based professional attitudes.[22] The promotion of physical fitness among students is also among the Academy's priorities; the future leaders of the EDF must serve as inspiring examples for young men and women undergoing conscription service.[23] The scientific conferences (e.g. on leadership, strategy, tactics, etc.), organised by the EMA for the entire staff of the EDF and broadcast via the EDF communication networks available on demand, constitute another important element in the process of cultivating a common military culture.

3.1.3. The EMA's Development Efforts and Structural Reform

In addition to its academic and research activities, the EMA has undertaken several strategic development projects. These internal development efforts have been mandated by the EMA Commandant's Annual Directive for the purposes of improving the quality and reputation of the Academy's teaching and research activities (see Table 7).

In May 2019, the EMA underwent a comprehensive **structural reform**[24] with the aim of optimising

[21] The ***multipliers*** refer to the EMA's functional principles and services that are not directly responsible for core functions nor constitute critical support but do, however, enhance the impact of one or the other.
[22] Taking guidance from the EDF's core values: *honor, courage, professionalism, loyalty, cooperation, openness* [The EDF's Code of Ethics, adopted in 2018].
[23] The EMA Concept for Promoting of Physical Fitness (2020).
[24] The preliminary analysis into the need for structural reform was launched by the EMA Commandants Annual Directive of 2017, and the reform was approved by the EMA Governing Council in 2018. The core concept for the reform was outlined at a seminar for the heads of the EMA subdivisions. In addition, extensive consultations were also held with the EMA's Advisory Board (April 2018), former commanders of the EMA and the EDF, and experts from relevant ministries. The EMA staff were given an overview of the Academy's structural problems and possible solutions at several general meetings held in 2018.

Table 7. The EMA's main development activities from 2016 to 2021

DEVELOPMENT ACTIVITIES	2016	2017	2018	2019	2020	2021
Implementation of the new training plan (e.g. EMA-wide training exercises, mechanised infantry specialty, etc.)	X	X				
Integrating war-time tasks with peace-time positions	X	X				
Updating and testing the outcomes, activities, enablers and indicators of the EMA development plan (2015-2022)			X	X		
Broadening the scope of military and disaster medicine training (e.g. NATO-certified courses, training offered to hospital staff, training of conscripts, etc.)		X	X	X	X	X
EMA's structural reform: functions audit, optimisation of staff positions, etc.		X	X	X		
Development of EMA identity markers (i.e. symbols, traditions, celebrating 100 years of military education, etc.)			X	X	X	
External assessment of the EMA's R&D activities, and measures to broaden the impact of its research			X	X	X	X
Improvement of the EDF's recruitment efficiency (e.g. development of narrative, targeting of conscripts, etc.)			X	X	X	X
Institutional accreditation and quality assessment of vocational education curriculum				X	X	
Development of international cooperation (incl. foreign students)				X	X	X
Expansion of higher education curricula / study programmes (incl. Master's studies for Air Force and Navy)					X	X
Aligning continuing education curricula with the EDF's new military service model						X
Efforts related to the EMA's next development plan (i.e. 2022-2030).					X	X

the Academy's management functions, and ensuring more efficient achievement of its strategic objectives. The reform entailed extensive reorganisation of the Academy's overall **organisational structure** in order to streamline and optimise the scope of management (e.g. the number of subdivisions and immediate subordinates). In addition, several staff positions responsible for **essential functions** were redesigned (e.g. curricula managers, external relations specialist; new researchers and lecturers, academic resources manager, etc.). Finally, the reform also sought to further optimise the **integration of studies** (in particular the programmes for officers and NCOs). The accompanying renaming of the EMA academic departments was in part motivated by the aim of highlighting the key competencies valued at the EMA: leadership, pedagogy, tactics, and innovation.

3.1.4. The EMA's Stakeholders and Key Partners

The EMA engages a wide range of stakeholders, both from Estonia and abroad, for the purposes of delivering the EMA's core functions and achieving the objectives outlined in the Academy's development plan, incl. quality of candidates (awareness of military professions), overall academic development, inclusive governance, quality of curricula (alignment with educational standards and the expectations of prospective employers), R&D activities and their impact, etc. Table 8 below provides an overview of the EMA's main stakeholders.

As the EMA is located in the city of Tartu, one of its **strategic regional partners** is the **Mayor of Tartu**, who coordinates and approves the use of the urban space for tactical exercises. In addition, during the Academy's anniversary parades, the Mayor welcomes the processions at the Town Hall Square together with the EMA Commandant. In the context of operational readiness, the Academy's major partner is the EDF's 2nd Infantry Brigade, based in Tartu County. The EMA Commandant maintains direct contact with the **Commander of the 2nd Infantry Brigade**, including weekly meetings to maintain situational awareness and to coordinate operational plans with regard to personnel. In addition, close cooperation is also maintained with the **Tartu District Chief of the**

Table 8. EMA stakeholders (continued)

STAKEHOLDERS	TOPIC / AREA	INPUT	OUTPUT
Upper secondary school students	recruitment	national defence camp, study fairs, open-door days, school visits, etc.	main admissions tests –quality of prospective students
Conscripts	recruitment	direct contacts with EMA – Commandants personal visits to meet with conscripts	preliminary admissions tests (Spring-time)
Estonian Defence Resources Agency	recruitment	market research, narrative input from the EMA	targeted recruitment campaigns
EMA degree students and in-service training participants	EMA academic and curricula development	feedback on subjects, satisfaction surveys, representatives in EMA decision-making bodies, Commandant's personal meetings with the student board and study-courses	quality of curricula and inclusive governance
EMA staff	work environment, work organisation, job satisfaction	satisfaction surveys, representatives in EMA decision-making bodies, general meetings	working environment, professional development, inclusive governance, management quality
MER	standards for higher and vocational education	RKRN joint positions, EMA Advisory Board	regulations regarding the EMA's distinctive role, vision for professional higher education
MoD	standards for higher and vocational education, R&D activities	exchange of information with the MoD's research expert, EMA Advisory Board	regulations regarding the EMA's distinctive role, research funding
Prospective employer(s) (EDF structural units)	practical placements, curricula development	EMA curricula statutes, employer survey, participation in curricula and syllabi working groups	quality of curricula
EDF top management	general development of the EMA, EDF's human resources strategy	weekly briefings, EMA Advisory Board, participation in EDF HQ working groups	EDF's education and career model, EDF's human resources strategy and staff rotation plans, NDAP investment plan
National Centre for Defence Investment (representative)	EMA infrastructure	EMA Advisory Board meetings	investment plan of the NDAP
EMA alumni	work performance, alignment of studies and work requirements	alumni survey	quality of curricula
EDF weapons schools	professional training	syllabi development	quality of curricula
Estonian professional education institutions	completion of curricula (service branch + comprehensive national defence)	syllabi development, management meetings	quality of curricula, research projects
Estonian universities	R&D activities, research groups	research questions / problems	research projects, doctoral studies

Foreign military academies	internationalisation	EMILYO programme[25], seminars for Commandants of European military academies, seminars for Commandants of Baltic military academies, cultural awareness exchange programmes (e.g. USA)	quality of curricula development
Foreign university partners	internationalisation	research collaboration	quality and impact of R&D activities
NATO and EU defence research institutions	internationalisation	NATO STO working groups, European Defence Industrial Development Programme (EDIDP)	quality and impact of R&D activities

EDL, especially in routine security matters because of shared infrastructure. The EMA has also established permanent contact with the representative of the **Southern Department of the Estonian Internal Security Service** for the purposes of exchanging operational information in their area of responsibility.

Several other **institutions of national importance** also contribute to conveying strategic messages about the EMA as an attractive and highly regarded institution of higher education. For example, the opening lecture of the 2019/2020 academic year was delivered by the Commander of the EDF, the MoD's Secretary General delivered a speech on the occasion of the EMA's anniversary, the Minister of Defence gave a presentation at the EMA's strategy conference, and the President of the Republic attended the graduation ceremony at the level of higher education.

Furthermore, the Commandant of the EMA places great importance on collaboration with his counterparts in the framework of the **RKRN**, which provides a forum for formulating joint positions on national education strategy and policy, exchanging best practices, as well as planning and popularising the status of professional higher education.

Finally, **international cooperation** is pursued through annual meetings with the Commandants of European military academies, which serve as platforms for exchanging best practices and determining the future of officer education; and also by engaging in closer cooperation with the Commandants of Baltic military academies.

STRENGTHS

- ✓ The Academy has acquired a central role (i.e. widespread recognition and support among the top management of the MoD and EDF) for the achievement of its vision.
- ✓ The Academy maintains a strong connection with its stakeholders, and has established working collaboration (e.g admission process, curricula development, and teaching activities) with representatives from regional and national institutions which have helped to increase the number of students applying for EMA, improve the quality of curricula and teaching etc.

DEVELOPMENT PRIORITIES

- ✓ In terms of legal procedure, the EMA's development plan does not allow much flexibility, due to coordination and approval procedures that involve several ministries. As a result, it is quite difficult to make necessary modifications (e.g. to adjust indicators as needed).
- ✓ The EMA needs to agree the process scheme for drafting the EMA development plan, incl. the reporting and evaluation system of the EMA development plan with a uniform format.

NEXT STEPS

- ✓ The EMA is in the early stages of drafting its next development plan (the task is stipulated in the Commandant's Annual Directive). As a starting point, the EMA shall design a comprehensive and inclusive process scheme (incl. procedure and format for performance reporting to ensure consistent and comparable inputs). The EMA must decide whether it needs to remove existing enablers and indicators in order to improve the flexibility of the development plan, leaving the

[25] Exchange of Military Young Officers, inspired by Erasmus http://www.emilyo.eu

selection and approval of indicators under the exclusive purview of the EMA Governing Council, i.e. dropping the requirement for coordination at ministerial level.

✓ The EMA quality indicators (incl. core and support processes) must be revised and systematically updated each year (incl. based on the EKKA institutional accreditation regulations), and the results must be presented or distributed to staff and students in order to keep them informed on requirements and regulations regarding the quality of education.

3.2 Resources

Standard: The higher education institution develops its staff and manages its physical and financial resources in a purposeful, systematic and sustainable manner. Internal and external communications of the higher education institution (including marketing and image-building) are targeted and managed.

3.2.1 Human Resource Management

Human resource management at the EMA is guided by the regulations established in the policy area under the purview of the MoD, as well as those of the EDF. The EDF receives input from the EMA (e.g. the EMA is represented in the EDF working group on human resources strategy for 2020-2026). The qualification requirements with job descriptions and duties of the EMA teaching staff are approved by the Commandant on the grounds of the Council's decision. Moreover, integral regulations have been established for the EMA academic staff on the basis of relevant national legislation (see Chapter 3.6). Over the years, employees' satisfaction with the management has increased (see Figure 5).

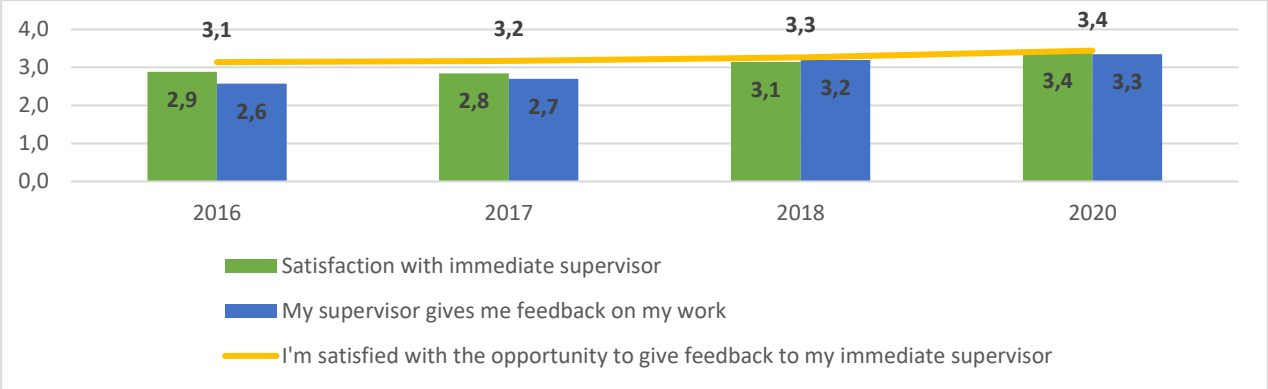

Figure 5. EMA employees' satisfaction with their management on a 4 point scale. Source: EMA satisfaction surveys

Under national legislation, the EMA staff falls under the following categories: officials[26] (under the Civil Service Act), active service members (under the Military Service Act), and regular employees, incl. teaching staff (under the Employment Contracts Act). Human resource management is governed by the EDF's recruitment and selection procedure for active servicemen and officials, which also extends to regular employees. Active service members starting with the rank of major are subject to the EDF's annual staff rotation plans based on the EMA's inputs with regard to teaching staff. Lower-ranked active service members must undergo an EDF-wide internal selection procedure. From 2015 to 2019, the balance of persons entering and leaving the EMA staff has remained positive (see Table 9). In 2017 and 2018, the number of staff departing was higher due to changes in the composition of non-academic staff that did not have any bearing on the core functions of the EMA.

Between 2015 and 2019, the EMA had an average of 12 academic staff and 8 administrative and support staff job openings per year (see Figure 6). As a general rule, there are more applicants for administrative and support staff positions (on average 16 per job opening) than for academic staff positions (on average 4 per job opening). Compared to previous years, more openings were

[26] There is only one official in the EMA – the Head of the Department of Academic Studies.

Table 9. EMA staff turnover between 2015 and 2019. Source: EMA Personnel Group

		2015	2016	2017	2018	2019
New contract staff	total	8	11	6	12	17
	incl. academic staff	3	4	4	5	4
Departed contract staff	total	5	7	12	19	12
	incl. academic staff	2	2	2	10	1
New active service members	total	15	20	20	18	24
	incl. academic staff	7	10	10	7	13
Departed active service members	total	10	13	24	20	26
	incl. academic staff	4	1	7	6	16
BALANCE		**+8**	**+11**	**-10**	**-9**	**+3**

announced in 2019 to fill the missing functions identified in the course of the structural reform (e.g.curriculum managers for continuing education and land forces specialty, researchers under the EMA Department of Academic Studies, analysts under the EMA Department of Applied Research, and an additional personnel specialist at the Department of Support Services).

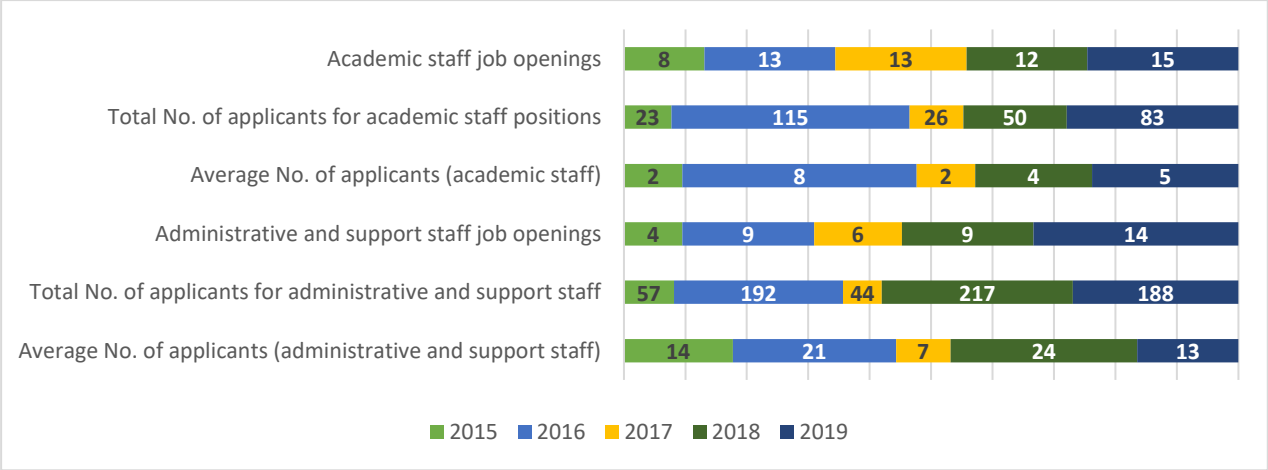

Figure 6. Job openings at the EMA from 2015 to 2019. Source: EMA Personnel Group

The **development of the EMA staff** is based on the EDF's in-service training regulations, which aim to ensure that the staff are in compliance with the requirements for knowledge, skills and values foreseen for respective staff positions, and with the needs of the EDF. Individual training needs are determined by the staff member and their immediate supervisor in the course of performing their duties and are recorded in the annual **professional development or evaluation interviews** (in accordance with EDF procedure). These staff interviews are a means for regularly monitoring the development and performance of individual staff members, assessing compliance with the requirements of their staff position, and receiving feedback on management and work organisation. In addition, the EMA conducts **regular evaluations of its academic staff** once every three years of service (see Chapter 3.6). Based on the professional development or evaluation interviews, immediate supervisors specify the tasks for the upcoming period and in the case of active service members, make recommendations for career advancement.

The 2020 employee satisfaction survey indicates that on a 4-point scale the average satisfaction with development opportunities is 3.2. Over the years (see Figure 7), satisfaction with professional

Figure 7. Overall employee satisfaction at the EMA. Source: EMA staff satisfaction surveys

development interviews has increased, whereas overall motivation and satisfaction with the EMA has decreased. According to theories of organisational change[27] and taking into account the Academy's restructuring in 2019, the EMA has managed to mitigate risks. The fact that in 2020 participation in the satisfaction survey reached a new height (65%) indicates that EMA staff care about their place of work and they want to contribute to the Academy's development.

On the basis of the results from professional development interviews, the EMA personnel department prepare training plans for structural units, taking into account available budgetary allocations. Between 2017 and 2019, training expenses accounted, on average, for 0.9% of the EMA's operating budget, with an average of 88% of all staff attending at least one training event (incl. conferences and seminars) per year. EMA employee satisfaction surveys indicate that staff are in general satisfied with the self-development opportunities offered by the EMA (on a 4-point scale ranging from 3.0 to 3.24 in 2016, with an average of 3.2 in 2020).

The **motivation** of EMA staff (both active service members and civilians) is governed by EDF regulations and procedure for motivation. In addition, staff members can be nominated for recognition by the MoD. Recent satisfaction surveys indicate that despite official incentive channels, the EMA staff consider collegial support to be the main motivation factor (see Figure 8). The 2020 survey shows that flexible working hours have emerged as a new motivation factor, and opportunities for self-realisation continues to be important as well.

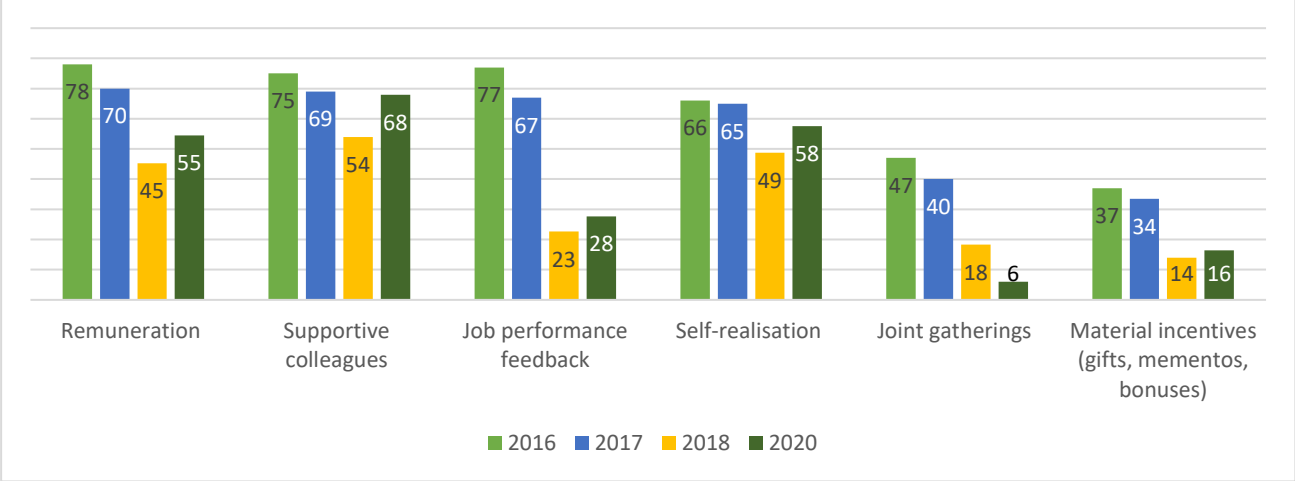

Figure 8. Core motivation factors for EMA staff between 2016 and 2020 (% of respondents). Source: EMA staff satisfaction surveys

Each year a best lecturer and best student (including for research) are officially recognised and at the end of each year there is an informal procedure for choosing the best colleague. The highest honour is to be awarded the Academy badge for significant contribution to the EMA.

The **remuneration of the EMA's** civilian employees as public sector staff is determined by the MoD's salary guidelines, outlining specific salary groups and basic salary intervals based on the position, duties, required qualifications, scope of responsibility, and allocated budget (incl. restrictions on the payment of bonuses). Salary groups and basic salary ranges are based on the classification of public sector staff positions, which aims to ensure the comparability of salary data across the public sector, within institutions and with the private sector.

The **remuneration of active service members** (incl. students) is regulated by the EDF's salary guidelines, ranking staff positions on the basis of basic salary and the structural location of the posting (incl. taking into account the scope of responsibility) and respective requirements with regard to education, completed in-service training and military training, as well as competitiveness of the salary and budgetary resources. The EMA total salary budget covers the following: 35% support

[27] In the case of large organisations, accepting and adapting to major changes is a long-term process and reforms are usually followed by a regrouping period before showing an increase in performance and satisfaction.

staff, 19% academic staff and 46% students. During the past five years, the average gross salary of EMA's regular teaching staff has increased by 9.34%, with the biggest salary increase introduced in 2019 when salaries increased by 13.86%. The salaries of EMA teaching staff who are active service members has increased by 6.52%, with the highest increase also in in 2019 (11.38 %). The remuneration of medical staff is higher than the average, as this depends on the average salaries for medical professionals in the public sector.

Figure 9 provides an overview of the average salary of EMA staff. The average salary indicator for non-academic employees is high due to the inclusion of active service members, whose salaries are on average 30% higher than that of regular staff under employment contracts.

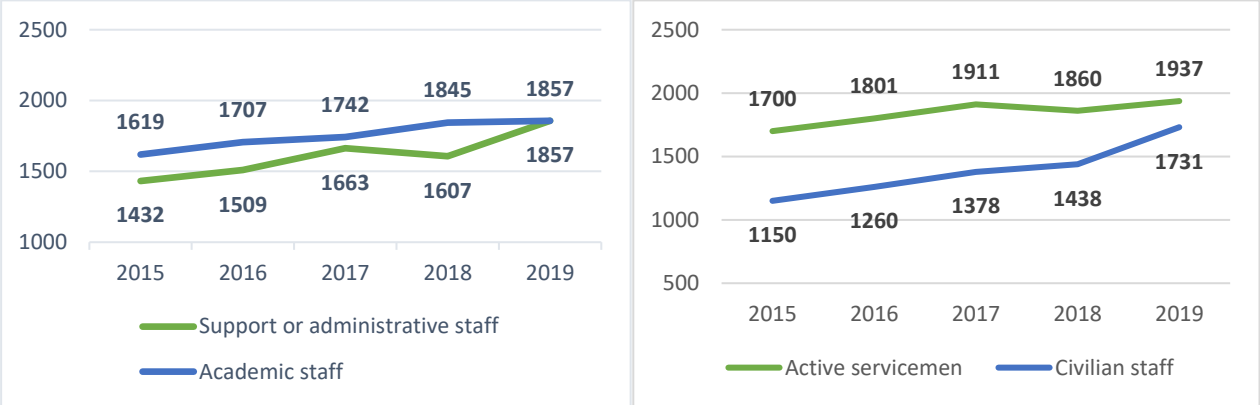

Figure 9. Average gross salaries (euro) of EMA staff from 2015 to 2019. Source: EMA Personnel Group

3.2.2 Financial Resources and Budgeting

The central instrument for planning resources and activities under the purview of the MoD is the National Defence Action Plan (NDAP), which outlines priority objectives for the next four-year period, and respective budgetary resources. All government agencies operating under the purview of the MoD participate in the preparation of the NDAP, which eventually forms the basis of the EDF's budget. The NDAP for the period 2021-2024 covers the following elements related to the EMA's activities:

- ✓ the EMA shall continue to operate as the central institution responsible for the degree studies and continuing education programmes provided for EDF leadership;
- ✓ the total budget earmarked for R&D activities must be increased and shall eventually make up 0,75% of the national defence budget;
- ✓ additional infrastructure will be built for the EMA in Tartu (see Chapter 3.2.3);
- ✓ the salaries of active service members shall be at least 30% higher than the average salary in Estonia;
- ✓ the salaries of staff under regular employment contracts shall increase in correlation with the national average salary.

The EMA's budget constitutes a part of the national defence budget, specifically the EDF's budget. External funding is available to some extent, primarily for R&D activities. Until 2020, the EDF's budget was partially centralised, and as of 2020, it is completely under the EDF's centralised oversight. However, the EDF's centralised budget can be divided into two parts, distinguishing between **centralised and decentralised operating costs**. The budget for central expenditure groups, overseen by the EDF, comprises the EMA's running costs related to infrastructure and personnel (e.g. maintenance, salary, uniforms, weapons, etc.). Given the fact that this part of the budget is managed centrally by the EDF, the EMA's opportunities for influencing the spending policies related to central costs are rather limited. However, decentralised operating costs (e.g. training; R&D activities, incl. conferences, academic publishing, etc.; administrative expenses, incl. representation expenses, office supplies and marketing materials) are determined by the EMA's subdivisions under the coordination of the EMA Commandant's administration and forwarded for approval to the EDF HQ. The operating budget approved by the EDF forms the basis for the Academy's activities for the upcoming year. The EMA monitors budgetary operations on a quarterly basis.

From 2017 to 2019, the EMA's total annual budget stood on average at 11 million euros, which is equivalent to that of the EASS, which is under the purview of the Ministry of the Interior and whose average annual budget is around 12-13 million. The EMA budget has gradually increased since 2017, and the NDAP for 2021-2024 guarantees that this trend will continue. Figure 10 provides an overview of the preliminary, final and utilised volume of the EMA's decentralised operating budget for the period from 2016 to 2019.

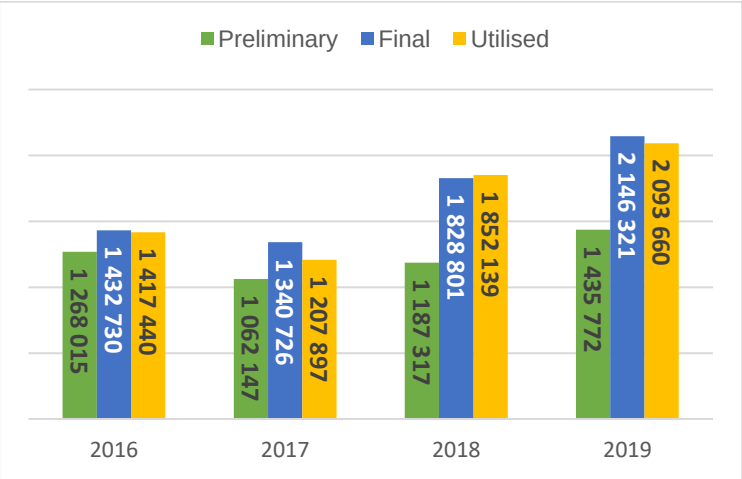

Figure 10. The EMA's budget for decentralised operating expenses 2016-2019. Source: EMA Department of Support Services

If necessary, the EMA is entitled to request the EDF HQ to reallocate available budgetary resources across expenditure groups. It is also not unusual that the preliminary budget is modified in the course of the year. The EMA's budget has increased mainly due to an increase in training expenses, and the volume of R&D activities and the fact that the EMA students began receiving remuneration for taking part in military exercises on an equal footing with other active service members. Table 10 provides an overview of the utilisation of the decentralised operating budget by expenditure groups.

The increase in training costs in 2018 were due to the placement of an EMA employee to study at Cranfield University, UK. The increase in IT costs in the same year was due to the purchase of

Table 10. The EMA's decentralised expenditures (in thousands of euros) between 2017 and 2019. Source: EMA Department of Support Services

EXPENDITURE GROUPS	2016	2017	2018	2019
wages (i.e. bonuses, overtime, service contracts, etc.)	197 276	163 860	381 397	525 567
fringe benefits	17 316	22 715	25 978	32 453
R&D grants	234 997	241 144	391 750	438 367
administrative costs*	240 513	194 494	196 934	178 097
*incl. educational materials (print)	24 301	12 358	16 624	17 438
R&D activities	19 777	3 000	27 807	12 818
travel expenses	77 261	104 654	83 935	141 752
training costs	76 672	78 116	124 450	68 094
maintenance costs (land vehicles)	22 086	29 698	41 402	55 341
ICT costs	21 355	14 500	33 085	11 739
inventory management costs	115 097	81 249	139 302	97 219
machinery and equipment management costs	4 535	3 716	143 852	186 217
medical expenses	24 046	17 535	27 453	22 837
costs related to study equipment and training services (from EAVA, UT, TalTech EMarA)	327 828	218 471	198 521	264 575
sports expenses	21 930	21 604	21 695	29 871
other miscellaneous expenses	16 751	13 141	14 578	28 713
TOTAL	**1 417 440**	**1 207 897**	**1 852 139**	**2 093 660**

laptops, and the unscheduled maintenance of the online terminology database Militerm. The inventory management costs increased in 2018 due to a larger order of office furniture, incl. office chairs.

The EMA Educational Resources Group is responsible for providing EMA students with **study materials**. The EMA Educational Resources Group is responsible for producing print materials (incl. textbooks, brochures, posters, etc.) and administering the online platform for digital learning resources (EDF SharePoint). The EDF's study materials are usually prepared by the relevant EDF structural units for designated target groups, whereas the EMA has prepared and updated teaching materials for tactical subunits (up to Company), and also on staff work organisation, EDF Land Force Combat Fundamentals etc. In addition, as of 2017, the EMA has been running workshops on the coordination of teaching materials for the purposes of harmonising the content of teaching materials across the EDF. The EMA Educational Resources Group services the entire EDF (incl. support for the EDL) by collecting orders from EDF structural units and preparing a production plan. In case of budgetary constraints, the EMA shall determine priorities in cooperation with EDF HQ. In 2019, the total cost of educational print publications amounted to around 17,500 euros (see Table 11 for major publications).

Table 11. Study materials produced by the EMA Educational Resources Group in 2019

EMA study materials	Volume (pcs)
Soldier's tactical Manual	3,844
Section and Platoon Standard Operating Procedures	1,744
Soldier's Handbook	971
Infantry Platoon in Combat	610
brochure "Gas-burner Manual"	500
Engineer Section Commander's Manual	303
EDF Land Force Combat Fundamentals	245
Tactical opponent "red" handbook for land forces	180
Tactical level intelligence manual	113
Tactical opponent "red" typical structures	94
Tactical opponent "red" manual for the Navy	80
other educational publications	1,349

3.2.3 Infrastructure

The EMA's buildings (with a total area of 34,567 m²) are located in the towns of Tartu and Võru, incl. classroom buildings, dormitories, simulation centre, indoor shooting range, car park and storage rooms (see Table 12). In addition, the EMA oversees 214,305 m² of outdoor territory, incl. courtyards, car parks and Paluküla field shooting range. A small part of the EMA Department of Academic Studies is located in Tallinn on the EDF's territory.

Thus far, the EMA has had sufficient space to provide both degree studies and in-service training courses, as well as accommodation for students. Active service members who do not have a permanent residence in the area are offered accommodation at the Riia 12 and Vaksali 31 dormitories. Due to the increase in the volume of in-service training courses (e.g. medical refresher courses for conscripts), as of the second half of 2020, the EMA plans to utilise a temporary container campus erected on the territory of the EMA Simulation Centre. In the future, as outlined in the new NDAP, two EMA study buildings (total area of approx. 10,000 m²) will be built on the same territory (Raadi district of Tartu). One of the planned buildings will house all activities related to the EMA's vocational training (the current building in Võru will be transferred to the Kuperjanov Infantry Battalion), and the other will house the EMA WDMC, the EDF's Medical Training Centre, and the EDF Health Centre. The construction deadline for the buildings is 2023, and the EMA's representatives are involved in the development process, which is currently in the design phase. After the completion of the new buildings, most of the EMA will be concentrated in Tartu and it will be sufficiently equipped to perform its core functions.

Table 12. The EMA's infrastructure in 2020

Type of Infrastructure	Address	Description
EMA main building (9,923 m²)	Tartu, Riia 12	3 large classrooms (30-65 students), 11 medium-sized classrooms (12-25 students), auditorium, museum, library, offices, canteen, cafeteria.
EMA dormitory (8,266 m²)	Tartu, Võru 1	dorm rooms accommodating up to 215 people, 3 large classrooms (30-65 students), 3 medium-sized classrooms (15-25 students), 2 computer classes (18 work stations), indoor firing range (6 firing lanes), outpatient reception, dental care, physiotherapist, gym, cadet casino, offices.
EMA Department of Support Services and dormitory (3,946 m²)	Tartu, Rebase 9	offices, dorm rooms accommodating up to 68 people
Simulation Centre (2009 m²)	Tartu, Raatuse 110	1 auditorium, 1 classroom, JCATS (Joint Conflict and Tactical Simulation programmes) stations, dorm rooms accommodating up to 72 people
Dormitory (4855 m²)	Tartu, Vaksali 31	dorm rooms accommodating up to 120 people
Võru Study Building (in use by the EMA until 2023)	Võru, Kose tee 3a	4 medium-sized classrooms (20-30 students), 1 large classroom (120 students), 1 computer class (30 work stations), dorm rooms accommodating up to 235 people, equipment warehouses
Car park and storage facilities (rental area 2,980 m²)	Tartu, Ringtee 19	
Outdoor firing range	Paluküla, Tartu County	12 firing lanes

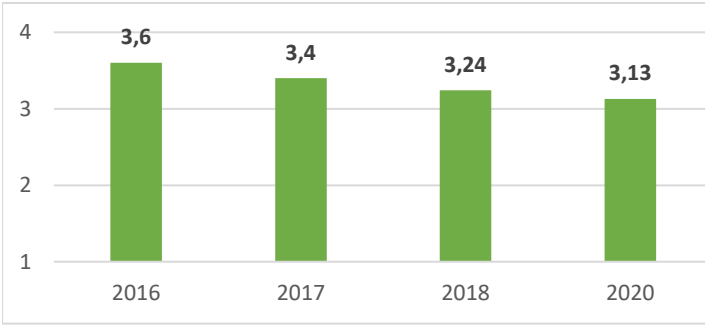

Figure 11. Employee satisfaction with working conditions (2017-2020)

Although employee satisfaction with working conditions has remained "good" (3 points on a 4-point scale), there has nevertheless been a decline over the years (see Figure 11). Employees have stated the need to update and modernise infrastructure as the main reason.

The maintenance and repair of the EMA's infrastructure is centralised, as is the case with all EDF units. Applications for minor maintenance repairs are submitted via the online maintenance platform Elkis. In addition, large-scale repairs (usually done over the summer months) are arranged by infrastructure managers at the Centre for Defence Investment. Table 13 provides an overview of the cost of repairs in recent years.

Table 13. EMA infrastructure repairs 2015-2020 (Riia 12 and Võru 1)

	2015	2016	2017	2018	2019	2020
Cost (in thousands of euros)	77 784	135 749	257 846	119 163	141 710	129 764

The EMA main building at Riia 12 in Tartu was declared an architectural monument by regulation of the Minister of Culture in 1997. This has prevented any renovations needed for a modern learning environment. Considering that the EMA's infrastructure is spread out all over Tartu (incl. rental spaces), time-costs must be factored in when moving employees and students and installing equipment. Therefore, the EMA has applied for a new main building for the Academy under the NDDP process. In addition, there have also been discussions regarding independent infrastructure in order to pool all sub-units and functions (e.g. training area, car park, etc.).

The use of the infrastructure of third parties or institutions is set out in the 'Conditions and Procedures for the Provision of Fee-charging Services'. As a structural unit of the EDF, the EMA cannot generate income by renting out its infrastructure or through the provision of services. Requests to use the conference rooms or the main auditorium in the EMA's main building for event organisation, or to the use of the EMA's firing ranges mainly come from agencies under the purview of the MoD or the Ministry of the Interior (e.g. EDL and the Police and Border Guard Board), as well as educational institutions (in 2019, the main auditorium and conference room were used ten times, whereas the indoor and indoor firing range were used 414 and 131 times, respectively).

3.2.4. Internal and External Communication

The EMA's communication activities take guidance from the MoD's communication strategy for national defence and the EDF's concept for information management. The primary objective of the EMA's internal and external communication is to recruit students and staff for the purposes of fulfilling the Academy's core functions. Employees who are aware of the Academy's objectives and main developments have trust in the EMA's leadership, and will embody and promote the Academy's positive image in the EDF and beyond. EMA alumni and students can also be deemed to be the Academy's calling card.

In terms of **internal communication,** the EMA uses a wide range of computer-based **digital solutions**, and information screens and bulletin boards are located in the school's corridors. EMA staff and students are given the use of computers and personal EDF e-mail addresses. Personal contact information with photos of staff and students can be found in the EDF intranet. Administrative tasks and document management are conducted via the document management system *Postipoiss*, where all registered documents are preserved. The main regulations governing the EMA's activities are located on the public network drives; and public documents and various guidelines can also be found on the EMA website. News bulletins and the EMA public calendar are shared in the EMA intranet, and the SharePoint platform is used for collaboration.

Weekly meetings are the main format for sharing information among and within the EMA subdivisions. The Academy's general meetings are held once a month, and they provide an overview of recent regulatory changes, upcoming tasks/duties and other current topics. The EMA Commandant shares information with the staff also in via e-mail. EMA satisfaction surveys and professional development interviews have revealed that there seem to be too many communication channels and that information management needs to be improved in order to reduce the repetition of information and communicate in a more systematic manner. As of 2019, the EMA employs an information manager whose main task is to oversee the EMA's internal information environment.

The EMA's **external communication** is overseen by the EMA Communication and Marketing Group, which collaborates with other national defence agencies (e.g. Defence Resources Agency, Recruitment Centre and the Strategic Communication Department of EDF HQ). The primary objective of the EMA's external communication is to inform target groups about the EMA's activities in order to create a positive image and cultivate interest in the Academy. The EMA has a mobile-friendly website and several social media channels (e.g. Facebook, YouTube, Instagram) for sharing information of interest to target audiences. The EMA's recruitment campaigns are developed in collaboration with advertising agencies and activities are recorded on video by the EDF Media Group. The EMA's activities and events are widely covered in national and local media. Currently the EMA is developing a magazine – to be titled *Academia Militaris* – that would introduce the Academy's achievements, students and employees to the general public, and function as a historical record as well.

STRENGTHS

- ✓ The EMA has enacted regulations on resource use and management and they are observed.
- ✓ The EMA's operations are financed from the EDF's budget.
- ✓ The EMA has sufficient infrastructure capacity for fulfilling its core functions.
- ✓ The EMA offers its staff competitive salaries.

DEVELOPMENT PRIORITIES

- ✓ Data collection on resource use for improved planning and cost-effectiveness analysis.
- ✓ The EMA's infrastructure development requires a long-term view and a strategic agreement for the development of a modern and integrated learning environment.
- ✓ Reorganisation of internal communication channels by way of prioritisation of information categories and target groups to make them more user-friendly and avoid redundancy.
- ✓ Expanding the EMA's communication activities, especially the coverage of day-to-day life at the Academy, as well as its R&D activities.

NEXT STEPS

- ✓ Updating the EMA's development plan (2020) and linking different development plan's quality assessment indicators with annual data collection.
- ✓ In the framework of the National Defence Development Plan, the EMA is focusing on the need to develop a comprehensive infrastructure complex in order to ensure a modern and sustainable learning environment.
- ✓ Improvement and implementation of the EMA's information management concept.
- ✓ Development and launching of the EMA's magazine *Academia Militaris*.

3.3. Quality Culture

Standard: The higher education institution has defined the quality of its core and support processes, and the principles of quality assurance. In the higher education institution, internal evaluation supports strategic management and is conducted regularly at different levels (institution, unit, study programme), the findings of internal and external evaluations are analysed and quality improvement activities implemented.

3.3.1. The EMA's Core and Support Processes

The EMA's core and support processes (see Figure 12) were updated in the course of drafting the current development plan (including ESF programme "Primus" seminar in April 2014).[28] As the main change, the service to society core process was replaced by the Academy leadership process, as it ensures the conditions for performing the Academy's core functions as outlined in the statutes of the EMA. The service to society function is held in high regard at the EMA, however, within the larger EMA architecture it is foremost an associated activity that amplifies the value of our core functions (see Chapter 3.12).

In order to ensure effective coordination between its subdivisions, the EMA has designated responsible owners for both core and support processes. Additionally, the EMA also utilizes the following concepts: **supported-supporting**, and **enablers-multipliers**. The owners of core processes, who are supported, may also serve supporting functions as well. For example, the Student Corps and the Department of Applied Research support academic studies, while the Department of Academic Studies contributes to R&D activities. Multipliers are underlying principles and functional services (e.g. values, traditions, mentors and tutors, evidence-based approach, stakeholder engagement, simulation systems, information management, media, accommodation, student salary, museum, transparency, Advisory board, and services to society), that are not directly responsible for core processes and do not constitute critical support, but nevertheless enhance their impact.

The quality indicators for core processes are outlined in the EMA's current development plan and they are measured once a year. EMA's development plan also contains some quality indicators for support processes. In 2019, the EMA used 77 performance indicators to measure its various operations. See also Chapter 3.1 (incl. NEXT STEPS).

[28] The EMA's core and support processes were originally approved by the EMA Governing Council in 2013.

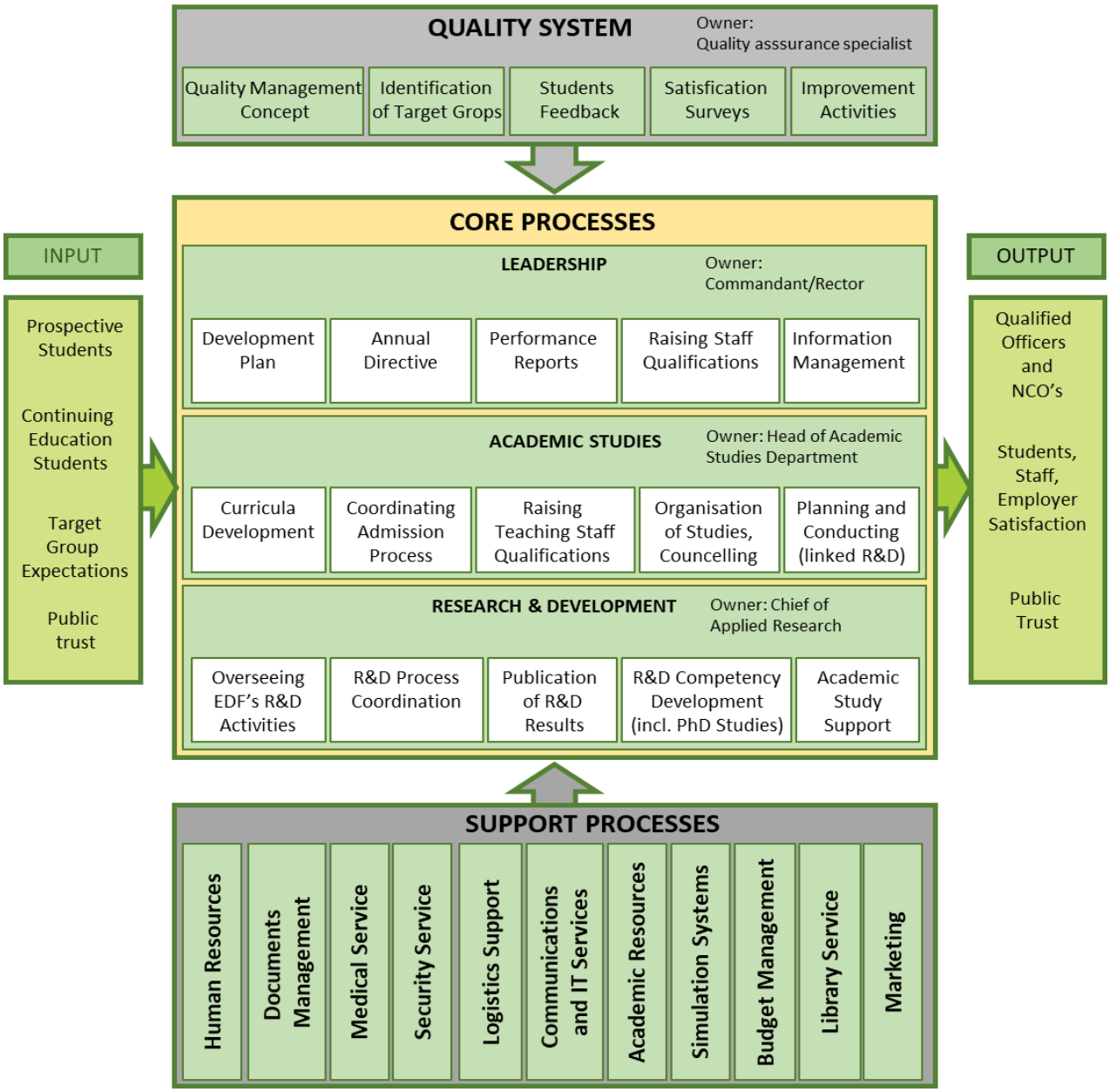

Figure 12. The EMA's core and supporting processes

3.3.2 Feedback Plan and Surveys

In 2016, the EMA developed a feedback plan to help measure its quality indicators, and this plan constitutes the basis for the EMA's annual plan for internal surveys, overseen by the EMA quality assurance specialist. The EMA's major surveys include: 1) annual satisfaction surveys conducted among staff and students (except in 2019); 2) satisfaction surveys conducted among alumni and employers (in 2016 and 2020). Considering the annual survey results, we were pleased with both the share of respondents, as well as the overall satisfaction across target groups (see Figures 13 and 14).

Between 2015 and 2019, the EMA's planned survey schedule was exceeded as a result of additional surveys (see Table 14). In 2018, the EMA conducted fewer surveys than originally planned, mainly due to the fact that the regular employee satisfaction survey was supplemented with three other satisfaction surveys.

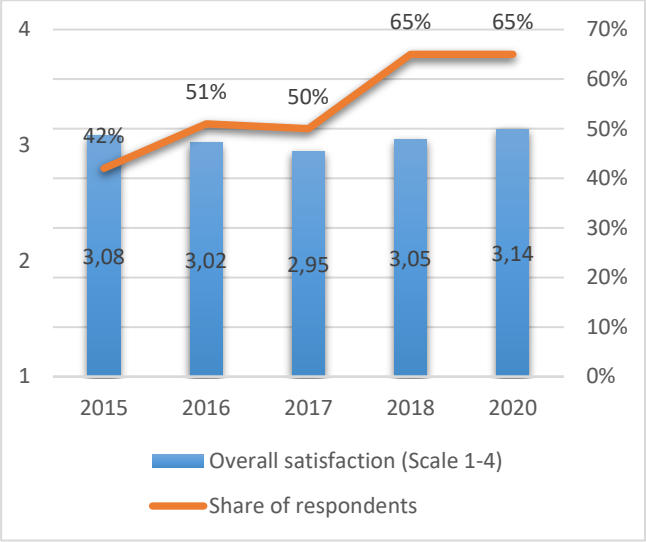

Figure 13. EMA employee satisfaction survey (share of respondents and overall satisfaction)

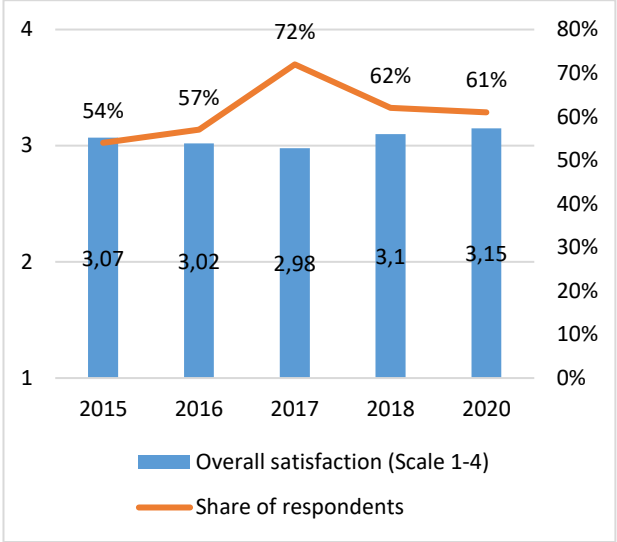

Figure 14. EMA student satisfaction survey (share of respondents and overall satisfaction)

Table 14. Overview of surveys conducted at the EMA 2015-2019 (scheduled vs conducted surveys)

	2015	**2016**	**2017**	**2018**	**2019**
Students accepted to the EMA who later declined to attend (motives behind applying and later declining)	1/1	1/1	1/2	2/1	2/2
Feedback from students (semester overview, research process, pre-defence process)	4/4	4/5	4/5	4/4	3/4
Feedback from conferences organized by the EMA	0/0	0/3	0/1	3/4	4/5
Satisfaction surveys (staff, students, alumni, employer; performance pay, EMA structural reform)	4/5	4/6	6/5	7/6	4/4
Total scheduled/**conducted**	9/**10**	9/**15**	11/**13**	16/**15**	13/**14**

In addition, the EMA has also conducted various smaller topical surveys for the purposes of monitoring certain processes (e.g. summer academy and admissions tests). Additionally, the EMA has taken part in policy studies conducted under the purview of the MoD and MER, as well as in the EDF-wide satisfaction survey. The results of various surveys are usually presented to the EMA staff at general meetings (as of 2018, students are also welcome to attend). During this period, the EKKA conducted quality assessments of the EMA's two study programme groups: vocational education in 2015, and higher education (both professional higher education and Master's studies) in 2017. In 2019, the EMA applied for external evaluation as a research and development institution. In addition, various internal audits have been conducted by the MoD, and the EDF (e.g. in 2020, audits of the conducting of misdemeanour procedures, and of implementation of satisfaction survey results). In addition, the EMA takes active part in the work of the RKRN working group for quality assurance, which offers excellent insights into the quality indicators used by other higher education institutions, as well as good practices in quality assurance.

With regard to the quality of teaching, the EMA Department of Academic Studies collects regular feedback from students on **subjects taught at the level of vocational and higher education** (i.e. organisation, lecturers/instructors, content, assessment, etc.). At the EMA, students enrolled in higher education programmes can provide feedback via the Study Information System (SIS), while students in vocational and continuing education provide feedback via the EDF's e-learning environment ILIAS. The share of professional higher education (PHE) students who give feedback stands at 55-70% during the first two years, whereas with third year students, as well as Air Force and Navy cadets the number is considerably lower, dropping to 35-50%. For Master's students the percentage is 55%, and at the level of vocational education 95% of students provide feedback on subjects taught. As a result, the EMA has committed to put more effort with regard to the less active target groups. The feedback given on individual subject courses is reviewed by the responsible lecturers/instructors for the purposes of making improvements for the future; whereas the Academy's

quality assurance specialist prepares summary overviews from both autumn and spring semesters. In the context of analysing student feedback, an important step forward is that as of autumn 2018, the Chairs of the EMA's academic departments meet each semester to discuss feedback on subjects, highlighting major trends, providing overviews of planned changes, and explaining (including to students) why some suggestions shall not be implemented. Student feedback also serves as the primary input in the process of improving the EMA curricula, which has been carried out annually as of 2013. The results of alumni and employer satisfaction surveys are also taken into account in the process of updating existing curricula. For example, in addition to ongoing improvements to EMA curricula, the results of the 2016 satisfaction survey were incorporated in the 2020 process of updating of the EMA's higher education programmes (e.g. to increase the share of social and digital competencies in the curricula).

3.3.3 The Improvement Process

Survey results have given grounds for initiating quality improvements in three areas: 1) target group services, 2) survey methodology, and 3) the EMA's quality assurance process scheme. The EMA's quality assurance process scheme (see Figure 15) presents the EMA's concept for a comprehensive solution that must be systematically implemented. At the heart of this process stands the EMA's quality assurance specialist who coordinates and develops surveys, with the support of survey owners, on the basis of the EMA's annual survey plan, and prepares annual reports in this area. Survey owners, who are also service providers, play a key role in the quality improvement process, and they are also responsible for preparing an implementation plan for improvements based on survey results. They must address the elements in need of improvement but also ascertain what is worth maintaining. The EMA's interaction with respondents constitutes another important part of the quality assurance process, i.e. first, surveys should be conducted in a manner that would enable maximum participation on the part of respondents, and second, they are entitled to feedback on the results of the survey, and lessons learned.

Table 15 provides an overview of major improvements at the EMA resulting from survey results.

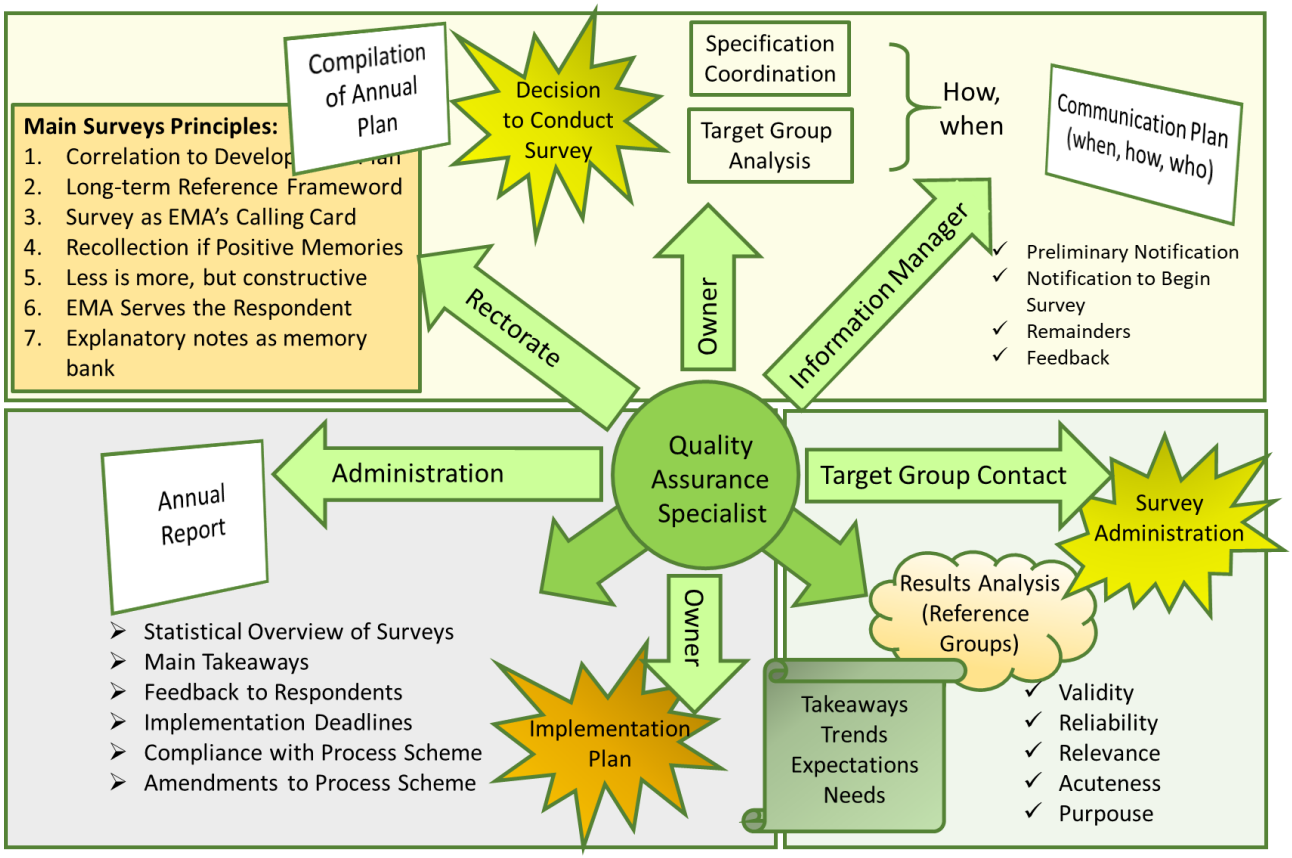

Figure 15. The EMA's quality assurance process scheme

Table 15. Overview of major improvements introduced at the EMA from 2015 to 2020

2015	• amendments to **performance pay** guidelines (clear criteria, values integration) • Commandant's guidance on how to schedule **independent studies** (student satisfaction survey)
2016	• changes to the content and concept of **science subjects** in PHE curricula (2015 survey on problems related to the use of technical equipment and technology in the EDF) • changes to **guidelines on writing research papers** (incl. the process itself); incl. since 2016, designated responsible instructor for the final thesis writing subject (2015 & 2016 surveys)
2017	• cadets were notified earlier than in previous years of upcoming **professional specialisation opportunities** (in collaboration with the EDF HQ) • **tactical exercises** were organised **in English** across various subject courses • identification of issues to improve **collaboration and cohesion between EMA subdivisions** (initial input for structural reform); regular coordination meetings between the Commandant and the Head of Academic Studies; • overview of **R&D activities** at EMA general meetings • development of orientation course (introduction to professional specialisations), focus on leadership development support and self-reflection
2018	• confirmation that some managers have **too many direct subordinates**, hindering effective management (assessment interview satisfaction survey => input for structural reform) • overhaul of **EMA study regulations** (e.g. assessment system, recording of results, student appeals, academic misconduct proceedings, long-term syllabus plan, etc.) • amendments to **performance pay** guidelines (input from EMA Cadet Corps) • suspension of assessment interviews with EMA staff pursuing degree studies • EMA Commandant's **annual meetings** with each study-course (input from EMA Cadet Corps) • Head of Academic Studies **instructions on limiting contact training** (as a rule until 15.20)
2019	• **additional pay** allocated to EMA students taking part in field exercises (not paid previously) • updates to survey inquiring about the **motivations of newly enrolled EMA students** • updates made to the Junior NCO Basic Course and pilot programme drafted (feedback from seminar with employer)
2020	• EMA's **higher education curricula review** process launched • updates to the employer satisfaction survey of vocational and higher education programmes (user-friendliness, focus on practical feedback, linkages with learning outcomes, etc.) • updates to the EMA alumni satisfaction survey (related to updates to the employers' survey) • development of comprehensive quality assurance process scheme

STRENGTHS

- ✓ The EMA has formulated its core and support processes and has identified relevant quality indicators that are regularly measured according to schedule.
- ✓ The EMA is consistently working on the development of its quality assurance culture. Satisfaction surveys addressing a wide range of issues are organised regularly, and the EMA takes part in external surveys as well (i.e. EDF, MoD, MER, etc.). Survey results are used as input for internal improvement and future development.
- ✓ Both degree and continuing education students are entitled to and provided the opportunity to give feedback on studies. Student feedback is analysed at several levels in order to systematically improve academic studies at the EMA. Furthermore, planned changes are also presented at different levels (i.e. students and Academic Council).

DEVELOPMENT PRIORITIES

- ✓ Update the feedback plan and introduce measures for systematic documentation of improvements.
- ✓ The EMA must motivate its PHE students to engage more actively in giving feedback on their studies.

NEXT STEPS

- ✓ Development of comprehensive quality assurance concept (EMA Commandant's Annual Directive 2020), in conjunction with updating the EMA feedback plan, as well as training and advising EMA staff on systematic and purpose-driven observance of the Academy's quality assurance process.
- ✓ To put more effort with regard to the less active target groups to raise the share of students giving feedback.

- ✓ Improve communication targeting primary stakeholders on the topic of improvements introduced at the EMA.

3.4 Academic Ethics

Standard: The higher education institution has defined its principles for academic ethics, has a system for disseminating them among its members, and has a code of conduct including guidelines for any cases of non-compliance with these principles. The higher education institution has a functioning system for handling complaints.

The EMA is a structural unit of the EDF's, and therefore, active service members make up the majority of its academic staff, and its students are prepared for future top leadership positions in the EDF. Owing to that, the day-to-day operations are guided by the value-based standards of conduct as outlined in the EDF's Code of Ethics. One of EDF's core values is *honour.* The annual professional development interviews conducted with active service members also address the topic of proper conduct, i.e. how it aligns with the EDF's core values. Another one of the EMA's core values is *professionalism*, which emphasises professional competency and ethical conduct. The topic of ethics is addressed in depth and from various aspects both in the academic domain (i.e. cheating, lying, plagiarism, copyrights, etc.), as well as in the military domain either in the context of just war theory or tactical decision-making exercises that integrate moral dilemmas and collateral damage. The EDF's governing leadership philosophy – mission-command – emphasises the importance of establishing mutual trust between the commanders and their subordinates, which is, in turn, based on *professional expertise* (another one of the EDF's core values), and human-centred leadership. The latter, in turn, is related to integrity, both with regard to others as well as oneself. Thus, military studies at the EMA focus on the development of self-reflection skills and utilise the portfolio methodology as well as group discussions to address any shortcomings the students may have. The courage to express one's opinion and accept differences of opinion serves as the starting point for academic freedom of thought, fostering the development of mutual trust and is reflected in the EDF's and EMA's joint core values of *courage* and *openness*.

The Academy has established a wide variety of platforms for staff and students for the purposes of introducing and imparting our core values, giving a wider arena for discussing to ethical questions and harmonising the understanding of proper conduct in different situations. The EMA's academic staff has regular seminars, both in a more formal and informal format, which have addressed various ethical issues in the areas of teaching and learning and also leadership; topics have included avoiding plagiarism (essay writing workshops); the intricacies of giving honest feedback to students; pedagogical ethics and ethical teaching; how to assess leadership characteristics; and features of organisational culture. In January 2020, the EMA hosted its conference on teaching methodology focusing on the topic of value-based learning. In conjunction with this event, the EMA published a collection of essays authored by EMA staff and students addressing such issues as the value of education, as well as integrity, and individualism vs. collectivism in the EDF[29].

At the regulatory level, violations of good academic practices and the respective procedures for handling such cases is governed by the EMA Study Regulations, as well as the EMA Conditions and Procedures for Admission to and Exclusion from Degree Studies. In addition, the EMA R&D Regulations lay down the requirements related to good research practices, as well as provision on intellectual property and personal data protection. According to Estonian copyright law, authors who produce something in the course of performing their professional duties, either under regular employment contract or in public service, shall be entitled to moral copyright (i.e. personal authorship rights), but their economic rights (i.e. proprietary rights) related to that work (i.e. the right to use the work for the purpose and within the scope of professional activities) shall be transferred to the employer based on designated authorship contract. Thus, pursuant to Estonian law, the economic rights related to works created in public service are conferred to the state.

[29] The essay collection was published in the series "The Estonian Military Academy Occasional Papers" (Vol 9, 2020) https://www.kvak.ee/files/2020/01/Occasional_Papers_9_2020.pdf

On the other hand, R&D projects developed in collaboration with the private sector are governed by regulations outlined in the Public Procurement Act (incl. avoidance of corrupt practices), and also take guidance from the EU Commission notice on guidance on cooperative procurement in the fields of defence and security.[30] The EMA's remuneration policy with regard to R&D activities is based on personal contribution in the framework of specific R&D projects (e.g. externally funded R&D projects).

In general, violations of academic practices are not very common in the EMA. Between 2015 and 2020, there have been altogether three incidents (in 2017, 2018, and 2020) where students used unauthorised materials in the course of assessment. All of these cases were reviewed by the EMA Academic Council. While the 2017 and 2020 incidents concluded with a warning (due to being the first infringement), the 2018 incident culminated with the student's expulsion due to additional aggravating circumstances. In the case of students' academic papers, the main problems arise from poor referencing. However, this occurs rarely, and analysis suggests that in most cases there is no deliberate intent to steal someone else's work; instead these have primarily been due to negligence or simply poor referencing skills. In order to avoid plagiarism in students' written work the topic is rigorously addressed in the EMA higher education curricula (e.g. special courses on conducting research, and writing final theses – JP18.01 „Fundamentals of Scientific Research and Self-expression in Estonian", JP19.10 „Methods of Scientific Data Collection and Research", VT17.01 „Final Paper" ja VT17.02 „Master's Thesis"). In addition, in 2020 the EMA Guidelines on Written Work was updated to include specifications regarding proper referencing practices and EMA Guidelines and Procedures for Final Theses was updated to lay down the procedure for suspected plagiarism in cases of final theses. The EMA uses the URKUND plagiarism checking software for the purposes of detecting plagiarism before the thesis defence, rather than during the defence session.

In order to ensure equal treatment, the EMA strives for diverse representation in its decision-making bodies. The EMA takes guidance from the salary policy in the MoD's area of government and has set up relevant procedures for handling complaints. For example, all EMA employees and students are entitled to seek the settlement of disputes with higher management on issues that remain unresolved with their immediate supervisor. In addition, in cases of unequal treatment or workplace harassment or any other issues, people can turn to the EDF's Head Inspector. Between 2015 and 2019, eleven appeals were made to the EDF's Head Inspector by EMA staff, and unequal treatment was found to have occurred in five cases with relevant measures taken to redress the situation. Thus far, there have been no complaints related to gender discrimination. At the same time, the EMA deems awareness-raising on this topic as one of its priorities and shall organise an international seminar on gender mainstreaming in the spring of 2021. The most recent student complaint about unequal treatment occurred at the EMA in 2015. Based on student feedback surveys, the EMA students seem to be generally satisfied with the behaviour of the EMA teaching staff (incl. academically), and their communication is reported to be supportive and respectful (see Figure 16).

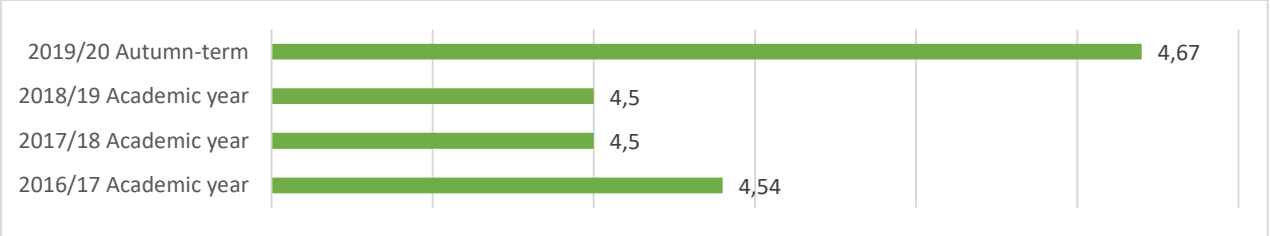

Figure 16. Student satisfaction with the quality of communication with EMA teaching staff across four academic years (5 point scale). Source: summary reports of student feedback on subjects

The appeals procedure for complaints related to the organisation of studies is laid down in the EMA Study Regulations. Students can inquire about the appeals procedure both from their direct commander, as well as the EMA academic affairs specialists-advisers. As of 2010, the Academy's

[30] EU Commission notice on guidance on cooperative procurement in the fields of defence and security (Defence and Security Procurement Directive 2009/81/EC) / 2019/C 157/01
https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1596183520041&uri=CELEX:52019XC0508(01)

highest appeals body is the EMA Appeals Committee that comprises representatives from the following EMA stakeholder groups: students, academic staff, employer (the EDF), and another higher education institution. The EMA Appeals Committee operates on the basis of its rules of procedure and is responsible for examining complaints concerning the organisation of studies (including study results) that have not been settled at lower levels or which must be submitted, as per the EMA Study Regulations, directly to the Commandant of the EMA. The resolutions of the Appeals Committee are subject to approval by the Commandant of the EMA. Between 2015 and 2020, the EMA Appeals Committee examined altogether seven complaints (see Table 16).

Table 16. Complaints submitted to the EMA Appeals Committee

Year	Number of Complaints	Subject of the Complaint	Resolution of the EMA Appeals Committee
2015	1	final subject grade, and the instructors impartiality	the complaint was satisfied
2017	4	final subject grade (1); final thesis grade (3)	the complaints were not satisfied
2019	2	final thesis grade	In one case, the complaint was not satisfied; whereas in the other, the Committee's resolution to satisfy the complaint was not approved by the Commandant.

STRENGTHS

- ✓ The requirements of academic ethics are addressed in various EMA regulations. The core values of the EMA and EDF are based on universal ethical principles, and the EMA's academic and research activities address questions of ethics in a comprehensive manner, engaging both staff and students while putting a special emphasis on integrity and the principle of equal treatment.
- ✓ The EMA has instituted an official appeals procedure for handling complaints, and it is introduced to students. The composition of the Appeals Committee is representative of different stakeholders, including external institutions.
- ✓ Intellectual property rights are safeguarded under authorship agreements, and participation in R&D projects is remunerated based on individual contribution.

DEVELOPMENT PRIORITIES

- ✓ Awareness about plagiarism needs to be increased, both among teaching staff as well as students.
- ✓ The EMA must prepare and implement definitive regulations on academic practices.

NEXT STEPS

- ✓ Organise regular training on the topic of plagiarism (at least once per academic year, especially with regard to the rotation of active service members, including external instructors).The EMA is currently preparing a general procedure for the investigation of suspicions of plagiarism that includes both individual subject courses as well as theses that have already been defended.
- ✓ The EMA needs to develop a procedure for suspected plagiarism that would address both individual subject courses as well as cases of already defended research.
- ✓ Prepare regulations on good academic practices, which would define the Academy's expectations and its staff's obligations with regard to appropriate conduct as members of the academic family.

3.5 Internationalisation

Standard: The higher education institution has set objectives for internationalisation and assesses the attainment of these objectives regularly. The higher education institution has created an environment that encourages international mobility of students and teaching staff, supporting the development of learning, teaching and RDC activities, as well as the cultural openness of its members and Estonian society in general.

The EMA's activities in this area are governed by the EMA Internationalisation Policy approved by the EMA Governing Council. The Academy's primary goals in this area are to increase the international cooperation and competitiveness of EMA students and teaching staff and help them

acquire new skills in military studies and related areas, thereby contributing to the enhancement of the EMA's overall academic level both in teaching/academic studies and research. In 2018, a special staff position – external relations specialist – was created in the EMA Department of Academic Studies. The EMA external relations specialist is tasked with coordinating and supporting the mobility of EMA students and teaching staff, including advising students on these matters. The costs of the internationalisation of the EMA's academic studies and research are included in the EMA operating budget, and are additionally covered by funding from the EU mobility programmes DoRa and Erasmus+. For an overview of the international dimension of the EMA's R&D activities, see Chapter 3.11.

As of 2008, the EMA has been a member of the EMILYO (so-called Military Erasmus) training programme for young military officers and takes an active part in its working group (e.g. development of legal framework, joint modules, standards and competency models for different levels of officer education). Over the years, EMA students have taken part in EMILYO's EU Common Security and Defence Policy Olympiad (e.g. in 2016 an EMA student placed third individually and first as a member of the winning international team). In 2020, the EMA joined the NORDEFCO (Nordic Defence Cooperation) network to expand its internationalisation activities to Scandinavian countries as well. Overall, the statistical indicators on the **EMA's internationalisation activities** have improved (see Figure 17).

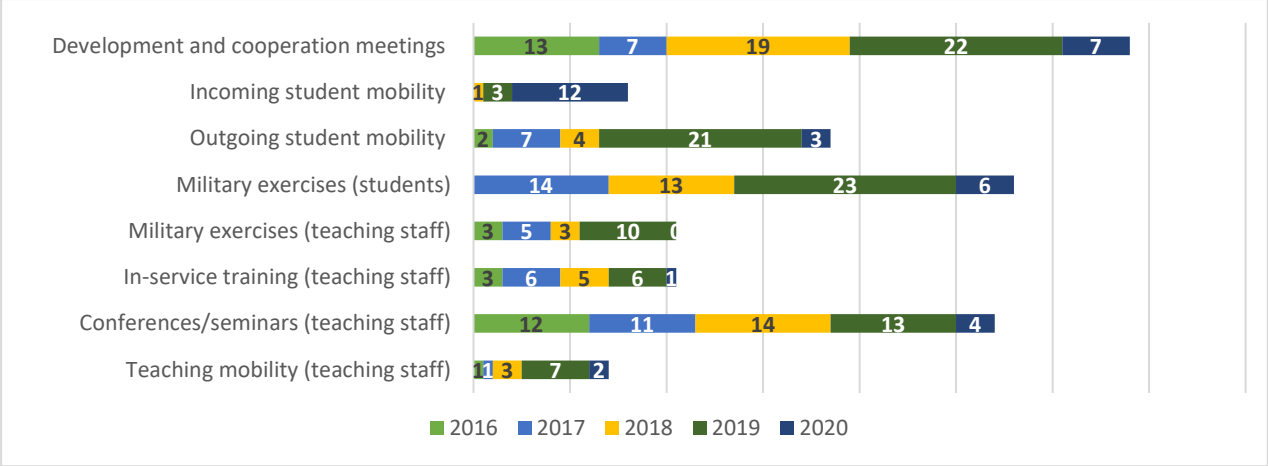

Figure 17. Figures for the EMA's internationalisation activities (incl. number of participants) from 2016 to 2020. Source: EMA Department of Academic Studies

In recent years, the **mobility of EMA teaching staff** has increased significantly, especially compared to the period from 2013 to 2017, when only one person taught abroad for a few hours per year. In 2019, the teaching staff from the EMA Department of Military Leadership and Psychology conducted an entire training course "Supporting Leadership through Communication and Coaching" at the Military Academy of Lithuania. In 2019 and 2020, the Manager of the Navy Curriculum taught in Latvia in the framework of the Naval Intermediate Command and Staff Officers Course. The teaching staff from the EMA Department of Strategy and Innovation have taught at the Military Academy of Lithuania and also in the Taras Shevchenko National University of Kyiv, Ukraine (in 2018 and 2019, on the topic of military history) and also in the Baltic Defence College (in 2019 on the topic of security policy and defence strategy). All teaching mobility activities scheduled for the first half of 2020, e.g. to Latvia (theme: leadership) and Switzerland (theme: development of reservists) were cancelled due to the COVID-19 pandemic.

The target rate for the mobility of civilian teaching staff to allied countries in the EMA development plan is set at a minimum of 35%. As of 2019, 10 members of the civilian teaching staff have attended conferences or training courses or conducted training abroad themselves, meaning that 52% of EMA's civilian teaching staff took part in international cooperation. In order to boost the teaching mobility of Academy staff, the EMA intends to send the European Security and Defence College (ESDC) a list of EMA teaching staff (with a summary overview of their competencies) to be submitted

to the pan-European database of military academy teaching staff. Over 20 EMA teaching staff have reported their readiness to teach in English.

In the context of **internationalisation of studies,** the EMA has six contractual partners, and active collaboration is pursued with three of them: University of North Georgia, National Defence Academy of Latvia and War-studies University in Warsaw, Poland. The EMA has supported the teaching of entire courses abroad (including military exercises) and organised studies with the participation of foreign lecturers (see Table 17).

Table 17. Curricular studies organised abroad or by foreign lecturers[31] (FL) from 2016 to 2019

Year	Subject/Course	Level of Education	Country
2016	Theory of Air Power and Air Operations (FL)	professional higher education (Air Force)	Estonia/Poland
2017	Navigation practice	professional higher education (Navy)	Latvia
2017	*Counter-insurgency (*FL*)*	Master's studies & continuing education	Estonia/UK
2017	Theory of Air Power and Air Operations (FL)	professional higher education (Air Force)	Estonia/Poland
2018	Battalion and Brigade HQ practice	Master's studies	Sweden
2018	*Counter-insurgency (*FL*)*	Master's studies & continuing education	Estonia/UK
2018	Theory of Air Power and Air Operations (FL)	professional higher education (Air Force)	Estonia/Poland
2019	Battalion and Brigade HQ practice	Master's studies	Sweden
2019	*Warfighting course* (FL)	Master's studies & continuing education	Estonia/UK
2019	Damage Control	professional higher education (Navy)	Latvia
2019	Theory of Air Power and Air Operations (FL)	professional higher education (Air Force)	Estonia/Poland

The EMA focuses primarily on short-term (approx. 2 weeks) study mobility, because the specificity of the EMA (i.e. EDF's commission and students must have Estonian citizenship and an active service agreement) and the integrated structure of the curricula do not allow for students to be absent for the whole semester. The EMA curricula, combining higher and vocational education with military training, are quite unique and the EMA has become a success story in this regard, receiving positive feedback from our allies. Moreover, most European countries do not have compulsory conscript service, and therefore their study programmes are structured differently. As a result, the content of the military studies offered abroad are not in alignment with EMA curricula, which also complicates the transfer of credits earned abroad. Studying abroad would extend the duration of our students' studies at the EMA by the time they spent abroad. Fortunately, short-term learning mobility is supported by several European military academies, e.g. Belgium, the Netherlands and Latvia.[32]

In 2020, the number of foreign students taking part in studies at the EMA reached a new level: the EMA hosted an international course – Winter Warfare – with ten cadets from five countries (Italy, Belgium, Poland, the Czech Republic and Latvia) taking part in joint training with EMA cadets. This subject was taught under EMILYO as a so-called *non-common module* (2 ECTS), and the feedback from participants was extremely positive (4.6 on a 5 point scale). Due to the specific nature of the EMA, i.e. citizenship requirement and the training of commanders for the national defence force, the Academy has not pursued the development of English-language curricula/modules or the conducting of the majority of the studies in English. The EMA development plan provides that the Academy shall have a leading role in the development of national military culture and terminology.

As part of its internationalisation activities, the EMA supports **increasing cultural awareness**. To that end, the EMA regularly sends its professional higher education students to various partner schools and international cadet weeks organised abroad. Over the years, EMA students have visited the USA, China, Scandinavian countries, Latvia, Lithuania, Slovakia, Austria, and others. The EMA also hosts foreign cadets when it celebrates the establishment of Estonian of officer education.

[31] Not EMA's permanent academic staff members.

[32] This issue was addressed at the 2018 seminar of the Commandants of European military academies. In 2017, the same event was hosted by the EMA in Estonia.

In addition, various **international conferences and seminars** organised by the EMA also contribute to the effort of internationalisation (see Table 18).

Table 18. International events organised by the EMA in 2019

Year	Event	Frequency at the EMA
since 2007	Conference on War and Disaster Medicine	annual
since 2011	Leadership Conference	annual
2019	NATO Bureau for International language Co-ordination Conference	once
2019	International Military Testing Association Conference	once
since 2019	Conference on Military History (in cooperation with Baltic Defence College and Estonian War Museum)	annual
since 2019	Strategy Conference	annual

In order to implement the EMA's internationalisation programme systematically, set priorities for development and act in a strategic manner, the EMA is planning to prepare an action plan listing higher education institutions to be targeted for strategic cooperation and partnership, as well as setting out the specifics and format of cooperation.

In January 2020, the EMA Commandant ordered a curricula renewal for all EMA's higher education programmes. The updated curricula must enable internationalisation for the purposes of improving the quality of academic studies. On the basis of the experience so far, the EMA will continue with short-term mobility and will plan opportunities for practical placements abroad (negotiations have already been launched with Latvia and Lithuania). In addition, the EMA must increase the share of foreign lecturers at the EMA, and increase the mobility of its teaching staff (including NCOs in vocational training).

STRENGTHS

- ✓ The volume of internationalisation has increased, and EMA's partnership network has expanded.
- ✓ EMA teaching staff are guaranteed opportunities for mobility (including resources).
- ✓ EMA Master's students participate in international military exercises.
- ✓ The EMA hosts international conferences and seminars on a regular basis.

DEVELOPMENT PRIORITIES

- ✓ The EMA must increase the volume of student mobility.
- ✓ The EMA must establish an official procedure (incl. selection criteria) for student mobility.
- ✓ The EMA must increase the number of courses taught in English (to enable and foster incoming student mobility), and extend internationalisation to vocational education as well.
- ✓ The EMA must increase the rate of teaching mobility of the EMA teaching staff, and the number of incoming foreign lecturers.

NEXT STEPS

- ✓ The EMA must prepare an action plan for internationalisation (including setting priorities) and broaden the range of partners.
- ✓ In the course of curricula renewal, identify so-called mobility windows and subjects supporting internationalisation.

3.6 Teaching Staff

Standard: Teaching is conducted by a sufficient number of professionally competent members of the teaching staff who support the development of learners and value their own continuous self-development.

Prior to the Academy's 2019 structural reform, the EMA's teaching staff was dispersed among various subdivisions in the ENDC – Department of Academic Studies, Centre for Continuing Education (e.g. foreign language studies), NCO School, and WDMC. Today, all EMA teaching staff are concentrated under the EMA Department of Academic Studies (except the WDMC who are tasked with conducting medical training outside the EMA). Consolidating the Academy's entire

teaching staff under the EMA Department of Academic Studies serves three purposes: (1) ensures the integrity of the planning and organisation of academic studies; (2) harmonizes the substantive and methodological quality of subjects at all levels of study (including continuing education); and (3) creates better conditions for the integration of studies. The structural reform has strengthened the EMA's activities in the areas of academic studies, as well as R&D, and enhanced productivity in those areas, incl. creation of new staff positions at the Department of Academic Studies (e.g. Lecturer of Military Technology, Assistant Professor of Pedagogy, etc).

The recruitment and employment of EMA academic staff are governed by various internal regulations on, for example, qualification requirements, job description, evaluation procedures, guidelines for sabbatical leave, professor emeritus procedures, and visiting academic staff appointment procedures. Additionally, in compliance with the most recent amendments to the Higher Education Act, which entered into force in 2019, the Academy has drafted a new umbrella regulation – the EMA Academic Staff Regulations – which will be submitted to the EMA Governing Council for approval in August 2020.

3.6.1 Statistical Overview and Profiles of EMA Academic Staff

Approximately 35% of the EMA teaching staff are civilians working under regular employment contracts, and 65% of the teaching staff are active service members who are assigned to teaching positions, usually for 3 to 5 years, based on the EDF's rotation plan. At the end of 2016, the EMA had 46 full-time teaching staff teaching various subjects at the level of higher education curricula; in March 2020 the corresponding figure had risen to 53 (including instructors at the level of vocational education). In addition to its own permanent staff (full-time teaching staff), the EMA also engages experts from the EDF and other government agencies, as well as other higher education institutions (e.g. Estonian University of Life Sciences, EASS, UT, etc.). The EMA also collaborates with the EAVA and the TalTech EMarA on the Air Force and Navy curricula. Over time, the role of visiting lecturers[33] has also increased. For example, in 2015, a total of 67 visiting lecturers contributed to the EMA's academic programme (on average 2 to 10 hours), whereas in 2019, their number exceeded 150 (altogether more than 1,500 hours). Military subjects are taught by active service members from the EDF, ensuring a high degree of alignment with the actual practical needs of the primary future employer of EMA graduates.

The composition of the EMA teaching staff changes by an average of 25% each year. Between 2015 and 2019, all teaching positions (under employment contracts) were, as a general rule, subject to open competition (see Table 19). Over the years, the average number of applicants per one teaching position has stood at 5.

Table 19. Overview of main statistics related to the hiring process for full-time teaching staff (under employment contracts) for EMA degree studies programmes from 2015 to 2019. Source: EMA Personnel Group

Year	Number of competitions held	Number of applicants	Average number of applicants
2015	5	20	4
2016	8	62	8
2017	3	12	4
2018	10	40	4
2019	13	63	5

Staff position	Number of competitions held	Number of applicants	Average number of applicants
assistant professor	4	13	3
lecturer	22	151	7
researcher	1	1	1
teacher	9	32	4
instructor	3	0	0

Due to the EMA's special status as a national defence institution, the recruitment of teaching staff from among active service members falls under the purview of the EDF, and is subject to its personnel rotation policy (see Chapter 3.2.1). As a result of the EDF's general staffing shortage,[34]

[33] None of the mentioned experts or visiting lecturers is permanent academic staff member.
[34] The exact information about the EDF's staff composition is classified.

the EMA has not been able to fill all available vacancies (see Table 4 in Chapter 1.5.3). Thus far, the EMA has compensated for this by inviting visiting lecturers.

The average teacher/student ratio at the EMA stands at five degree students per staff member, which is better than in many other higher education institutions. This is primarily due to the distinctive nature of military education and high share of practical subjects that entail closer personal instruction and thus require assistant trainers (usually instructors with no R&D obligations). This is especially true for military subjects, e.g. group work sessions, equipment safety checks, individual feedback and evaluation, and field exercises, e.g. unit command tactical exercises.

The qualifications of EMA teaching staff range from secondary (vocational) and vocational education (in the case of practical instructors) to doctoral degrees. The share of women among the EMA teaching staff stands at 30%, and the share of people with PhD degrees is 15%. The average age of the EMA teaching staff is 41 years, with over 90% under the age of 50. Table 20 presents a more detailed breakdown of the EMA teaching staff profile.

Table 20. EMA teaching staff profile at the level of degree studies (as of 31 March 2020). Source: EMA Personnel Group

Staff position	Total		Women		Men		Average age		PhD		MA		BA / professional higher education		Secondary (vocational) or vocational education
	M	C	M	C	M	C	M	C	M	C	M	C	M	C	M
Assistant professor		1				1		46		1					
Lecturer	15	12	2	8	13	4	42	41	1	5	14	7			
Teacher	8	5	1	5	7		37	44			2	5	6		
Instructor	12				12		38								12
TOTAL	**35**	**18**	**3**	**13**	**32**	**5**			**1**	**6**	**16**	**12**	**6**		**12**

* M = military, C = civilian

While the number of active service members among EMA teaching staff has remained stable in the past couple of years, the number of teaching staff under regular employment contracts has almost doubled, and has also resulted in the increase in the share of women (see Figure 18). These changes were mainly brought about by the structural reform carried out in 2019 (in some cases even earlier – e.g. Navy and Air Force programme managers in 2018).

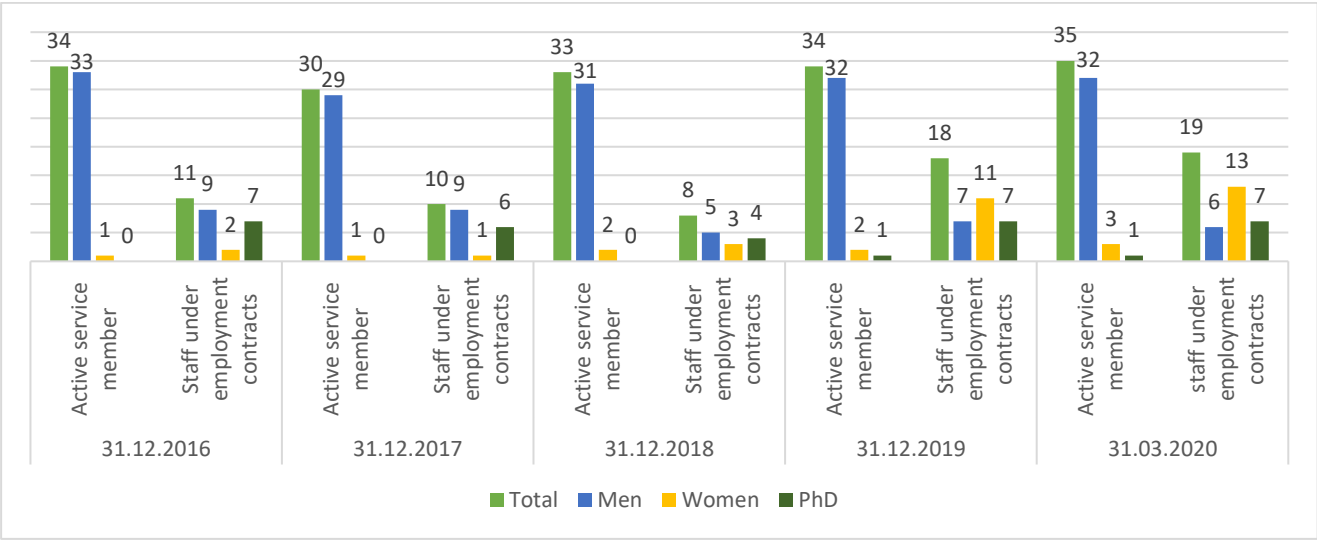

Figure 18. EMA teaching staff at the level of degree studies from 2016 to 2020. Source: EMA Personnel Group

3.6.2 Development of Teaching Staff

Over the past decade, the EMA has made important strides in supporting its teaching staff both during their initial start at the Academy as well as in their subsequent work by enhancing their didactic skills. Under the leadership of the EMA's Head of Didactics Development, the Academy has developed an **eight-pillar concept** for the development of its teaching staff, inspired by the facade of the EMA's main building (see Figure 19).

Figure 19. The eight pillars of EMA teaching staff development

New additions to the EMA teaching staff, usually arriving in August, undergo a short welcoming **orientation course** (Summer Academy), and they are also assigned mentors in accordance with the EMA's **mentoring system**. Subsequently, staff members take part in didactic **in-service training** (e.g. 'Learning and Teaching at the Level of Higher Education') and conferences, as well as supporting each other and developing themselves further through **in-class peer observations**. In 2010, the EMA teaching staff launched a series of **peer-to-peer learning seminars** for discussing novel and inspiring practices (in Estonian *H.U.V.I. seminars*). In addition, each staff member is provided with personal office space, and by popular demand, the EMA set up a special staff recreation room for hosting more informal **professional discussion group sessions** (in Estonian *KäRu (Käramise Ruum) seminars*).

Recently, the EMA launched another new initiative – **alumni shadowing** – where the teaching staff shadow EMA's alumni in their EDF work. The purposes of the shadowing are to collect direct feedback from alumni, to gain invaluable personal insights into the impact of their teaching, as well as clarify the need for potential improvement in teaching process or its content.

Developing a comprehensive teaching staff support system is all the more important considering the high turnover among the EMA's teaching staff due to the rotation of active service members. Although active service members undergo pedagogy training and engage in practical instruction when training conscripts, in general, they have no experience in teaching at the level of higher education. Due to the EDF's personnel rotation policy, the EMA must pay special attention to educating active service members on requirements related to academic studies and R&D activities. However, the rotation policy also ensures that the Academy is continually gaining lecturers and instructors who are fresh from the field and familiar with the latest practices in the EDF, and they also take part in the EDF's annual military exercises. A more detailed statistical breakdown of the professional development opportunities offered to EMA teaching staff is provided in Table 21.

Table 21. Statistical overview of professional development opportunities offered to EMA teaching staff from 2016 to 2020. Source: EMA's Head of Didactics Development

	2016	2017	2018	2019	2020
Activity	**Number of Activities per year (average No of attendees per event)**				
Peer-to-peer seminars	6 (20)	9 (20)	9 (20)	6 (20)	5 (20)
Informal discussion groups	12 (10)	37 (13)	27 (10)	18 (11)	15 (15)
Training	5 (13)	6 (15)	10 (13)	4 (12)	4 (13)
Didactics Conference	1(130)	-	1 (228)	1 (169)	1 (213)
Mentoring	10 mentors 16 mentees	12 mentors 22 mentees	15 mentors 24 mentees	6 mentors 17 mentees	5 mentors 14 mentees

According to the 2020 employee survey, the EMA staff hold the offered professional development opportunities in high regard. Additionally, their satisfaction with self-development opportunities meets the objective laid down in the EMA development plan, i.e. scoring at least 3 points on a 4 point scale (see Table 22).

Table 22. EMA employees' satisfaction with opportunities for development. Source: EMA satisfaction surveys

Question posed to employees in the satisfaction survey	2016	2017	2018	2020
Professional development opportunities (training, seminars, etc.) are available to me	3.15	3.22	3.14	3.33
My work assignments allow me to engage in self-development	3.00	2.92	3.14	3.22

According to the 2020 student feedback survey, student satisfaction with the competence and teaching skills of EMA teaching staff is generally good on the same scale (see Table 23).

Table 23. Students' satisfaction with EMA teaching staff. Source: EMA 2020 satisfaction survey

Question posed to students in the satisfaction survey	PHE Land Force	PHE Air Force	PHE Navy	Master's Studies
The professional competence of EMA teaching staff is good	3.58	3.60	3.92	3.39
The teaching skills of EMA teaching staff are good	3.29	3.51	3.67	3.11
The professional competence of visiting lecturers (including EAVA, TalTech EMarA) is good	3.47	3.39	3.58	3.10
The teaching skills of visiting lecturers (including EAVA, TalTech EMarA) are good	3.38	3.11	3.08	2.78

In addition to teaching duties, the EMA teaching staff is also expected to contribute to the Academy's R&D activities. Pursuant to the Statutes of the EMA, the responsibility for overseeing the Academy's R&D activities lies with the Department of Applied Research. During the past couple of years, the Academy's R&D activities (i.e. the number of projects, scope, and budget) have increased significantly. Also, several research projects are related to EMA students' research topics (see Chapter 3.11). Among the EMA's academic departments, the Department of Tactics is the main contributor to the R&D projects overseen by the Department of Applied Research (e.g. research related to operations analysis, situational awareness, and unmanned vehicles), primarily through professional expertise and field experiments; however, the Department of Tactics needs to increase its departmental research productivity with research projects of its own. Considering that active service members must prepare, in addition to their peace-time duties, also for their war-time functions (incl. ensuring the operational readiness of their units), they face considerable time constraints both in terms of teaching flexibility as well as time available to focus on conducting research. This is one of the main challenges for the EMA, although the Department of Academic Studies as a whole has increased its contribution to research (see Table 24).

Table 24. Involvement of EMA teaching staff in R&D projects in 2020

Department	Research project	Role
Leadership & Pedagogy	The EDF's Leadership Development Programme 2018-2022	main executor
Strategy & Innovation, Leadership & Pedagogy	Development of Comprehensive Situational Awareness Capability for the Coordination of National Defence	co-executor
Leadership & Pedagogy	EDF Human Resource Survey	co-executor
Strategy & Innovation	Determination of the mechanical properties of soils in relation to military vehicle trafficability, and development of the mapping tool to visualize the tactical properties of forests	main executor
Strategy & Innovation	The Competitiveness of Defence Industries of Small States	main executor
Tactics	Development of National Defence Terminology	co-executor
Planning Section	Fire Support Software TOORU	co-executor

In addition, the EMA Department of Academic Studies engages in active collaboration with a wide variety of other universities and research institutions, including the Estonian War Museum, Estonian National Archives, Baltic Defence College, Institute of the Estonian Language, TalTech, EASS, Estonian University of Life Sciences, UT, Michigan Technological University, and the U.S. Cold Regions Research and Engineering Laboratory (CRREL) (see also Chapter 4).

3.6.3 Procedure for Evaluating Teaching Staff

The EMA academic staff (i.e. teachers/instructors and researchers) are evaluated every third year in accordance with established procedures. The evaluation proceedings are conducted by a specially designated committee appointed by the EMA Commandant. The EMA Academic Staff Evaluation Committee composition requirements stipulate that its appointees must hold a scientific degree, and at least one member must come from outside the EMA. For the purposes of conducting its evaluations the Academic Staff Evaluation Committee must be provided with the following information: summaries of the annual professional development and evaluation interviews, workload statistics, and student feedback. The Committee's evaluation focuses on the person's performance with regard to their teaching activities, teaching methodology, R&D and professional development; the Committee also hears a report from the person's direct supervisor. The EMA teaching staff underwent the first round of evaluations in 2012. From 2016 to 2020, the EMA has conducted 67 evaluations, an average of 17 staff members per year (see Table 25).

Table 25. Evaluation of EMA teaching staff from 2016 to 2020. Source: EMA Evaluation Reports

Year	2016	2017	2018	2020
Total No of teaching staff up for evaluation	25	21	6	20
Passed	22	21	4	20
Required re-evaluation	2	0	1	0
Failed	1	0	1	0

STRENGTHS

- ✓ The EMA boasts professionally qualified teaching staff with relevant professional skills. The EMA's academic composition (incl. profile) is sufficient to ensure the EMA's continuity.
- ✓ The EMA offers its teaching staff a wide range of opportunities for self-development (incl. professional development).
- ✓ The activities of the teaching staff are evaluated in a systematic manner (including student feedback on teaching, as well as performance in the areas of teaching, teaching methodology, and R&D activities).

DEVELOPMENT PRIORITIES

- ✓ Improve awareness among EDF's active service members with regard to the duties of the Academy's teaching staff, as well as outlining the main differences between working for the EMA as compared to military service in the EDF.
- ✓ The EMA needs to increase the contribution to R&D activities among the Academy's active service member teaching staff.

NEXT STEPS

- ✓ Deliver presentations about the EMA at the EDF Commander's information days.
- ✓ Create a position of researcher into the Department of Tactics, fill vacancies and better plan the workload.
- ✓ Continue with the professional development activities geared towards EMA teaching staff (i.e. the eight pillars of EMA).

3.7 Study Programme

Standard: Study programmes are designed and developed while taking into account the expectations of stakeholders, higher education and professional standards, and trends in the relevant fields. The objectives of study programmes, modules and courses and their planned learning outcomes are specific and coherent. The study programmes support creativity, entrepreneurship and development of other general competencies.

The curricula for the EMA degree studies programmes have been prepared in accordance with relevant national education regulations (i.e. Higher Education Act, Vocational Education Institutions Act, and the Standards for Vocational, and for Higher Education) and relevant strategy documents, guided by the needs of the EDF. The EMA's continuing education curricula are prepared in accordance with the Adult Education Act and the national standard for continuing education. The sectoral national defence professional standards were in force between 2012 and 2013, but the EDF decided against their subsequent renewal.

In general, the EMA curricula take guidance from the following regulations issued by the Commander of the EDF: "Officer Training Requirements and Service Model" (last updated on 14 December 2015), and "General Requirements for NCO Education and Military Training" (last updated on 18 December 2015). The draft versions of the EMA's outcome-based curricula were developed on the basis of 'list of competencies', which were prepared in collaboration with the EDF on the basis of the professional standards in force at the time. The curricula for professional higher education are in compliance with the competency description for the EU's Junior Officers prepared from 2011 to 2014 in the framework of the EMILYO programme. In the course of updating its higher education programmes between 2018 and 2019, the EMA prepared functional descriptions for professional higher education curricula either by itself or in collaboration with the relevant service branch of the EDF. Functional descriptions need to be prepared for the master's programme curriculum as well. The results of satisfaction surveys and research (e.g. conscript survey) are also incorporated into the process of curricula development. Pursuant to EMA regulations, all higher education curricula, and any amendments thereto, are approved by the EMA Governing Council, whereas the vocational education curricula is subject to approval by the Commandant of the EMA on the proposal of the Academy's Governing Council.

The curricula development process at the EMA (see Figure 20) takes guidance from national educational legislation regulating vocational, higher and continuing education; the needs of the EDF; collected feedback; as well as strategic guidelines and developments in the areas of national defence and education (e.g. digital competencies, artificial intelligence, innovation and transferable competencies). Within the EMA, all issues related to curricula are governed by the Statute of Curriculum , which sets out the requirements for the structure, content and quality of curricula, as

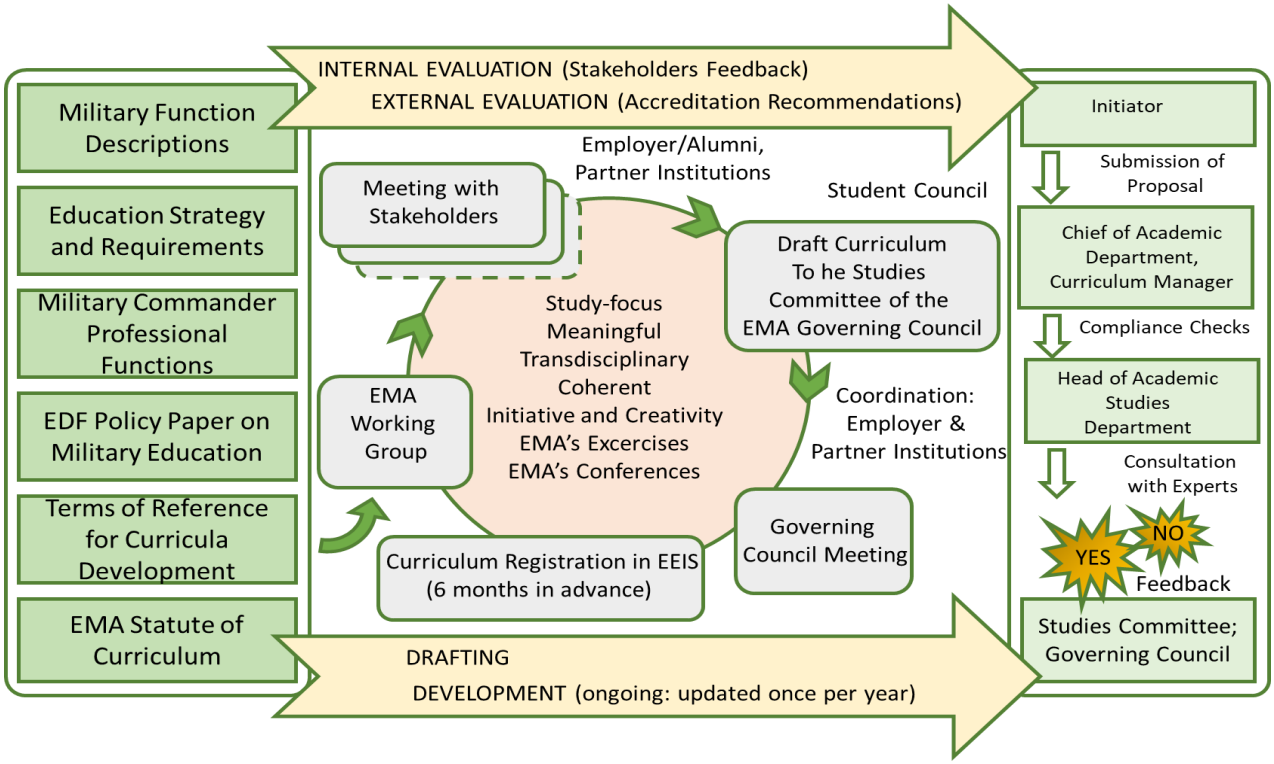

Figure 20. Curriculum development at the EMA

well as the procedures for the preparation, opening, quality assessment, development and closure of curricula. Both internal and external evaluations serve as input for curricula development, as well as future estimates based on development trends and the derived vision for the development of the area (i.e. EDF policy paper on military education). The drafting of completely new curricula is guided by the terms of reference outlining the relevant requirements for content and format, followed by meetings with relevant stakeholders.

The EMA curricula are designed to combine theory and practice (integrated approach), and therefore the Academy's curricula do not include subjects such as Mathematics and Physics, instead these topics are included in the course on military technology that covers the calculations related to the operational efficiency of weapons, equipment and machines, as well as digital map applications, etc.

The integration of EMA curricula is centred around the core areas of military leadership, tactics, and pedagogy. This is supported, in turn, by EMA-wide military exercises and thematic research conferences. Academic studies at the EMA focus on creativity and initiative as the primary competencies of military leadership. Mission-command leadership emphasises the importance of personal initiative and thinking out of the box in order to keep the enemy guessing. Creativity is a key word in the objective of the higher education programme and in several learning outcomes (i.e. creativity in the application of military knowledge and research; methodology of creativity and creativity in problem-solving). At the same time, the EMA must continue to put even more emphasis on creativity and resourcefulness as learning outcomes in its curricula (see Chapter 4.1.1.1).

The EMA regulations allow for updates to existing curricula only once per academic year (during the spring semester). Curricular amendments may be proposed by both students and academic staff, as well as representatives of the employer and partner institutions (e.g. EAVA). The Chairs of the EMA's academic departments review the submitted proposals, and designated curriculum managers shall prepare proposed amendments for an extended discussion. Amendment proposals that meet the requirements set out in the EMA Statute of Curriculum are then submitted for review to EMA Academic Studies Department experts (for approval or denial), and are then forwarded to the Studies Committee of the EMA Governing Council. Depending on the scope of the changes to be made and the duration of proceedings, the EMA Governing Council must approve the amendments in June at the latest. As a general rule, amendment proposals are submitted by teaching staff who are responsible for the subject in question (e.g. in order to eliminate shortcomings identified in the course of teaching or on the basis of feedback from students), or by the EDF's specialist schools (e.g. based on the most recent developments in the relevant area of specialisation). In the majority of cases, amendments are introduced to individual subject courses (e.g. the wording is specified), and, as a result, the workload and content of the overarching curricula do not undergo significant changes, which is an indication of the stability and quality of the existing curricula (see Chapter 4.1.1.1 for an overview of major changes to the curricula). The curricula amendment process at the level of continuing education is much less complicated, but all amendments must be approved at least by the beginning of studies. Currently, the EMA must develop a comprehensive system at the level of continuing education for collecting feedback for the purposes of improving the quality of teaching.

Prior to the EMA's 2019 structural reform, the Department of Academic Studies oversaw the development of curricula for higher education, and the ENDC NCO School was responsible for the vocational education curriculum. In addition, continuing education curricula were under the purview of the ENCD Centre of Continuing Education and WDMC. From 2007 to 2016, the ENDC employed an advisor on curriculum development who was tasked with advising the Academy's subdivisions in those issues. Following the structural reform, the EMA Department of Academic Studies has been tasked with overseeing all degree studies and continuing education curricula, except for medical training that falls under the purview of the EMA WDMC. In order to ensure the sustainability and continuity of existing curricula, and to manage them in a comprehensive manner, the EMA established new staff positions for the Navy and Air Force curricula (2018), and also staff positions responsible for degree studies and continuing education for land forces (created in 2019, to be filled in summer 2020).

The EMA's higher education programmes are divided into modules based on the professional functions of an officer – leader, educator, administrator, technical expert, diplomat, and researcher. The curriculum for vocational education follows the same logic (coordinated with the education competence centre Foundation Innove in 2015) to ensure the comparability of the curricula of officers and non-commissioned officers, and their uniform understanding within the EDF. All curricula are broken down to the level of individual subjects with detailed descriptions. On the one hand, this ensures a consistent comprehensive overview of any changes made to the curricula and their overall dynamics; on the other hand, it entails excessive bureaucracy, as even the slightest wording specifications made in the course of curricula development must be approved by the EMA Governing Council. The formulation of learning outcomes is based on the levels and competency rates stipulated either in the vocational or higher education standard.

Due to the distinctive nature of the service that EMA graduates enter into upon completing their studies, the nature of their degree studies is to a large extent also very practical in order to ensure that graduates are prepared to operate in both peace and war-time conditions. National level education regulations stipulate that at the level of professional higher education the share of **practical placement** must account for at least 15% of the curriculum. At the level of professional higher education curricula the share of practical placement varies between 19% and 38% depending on the type of service branch or weapon type. At the level of Master's studies, practical placement accounts for 10% of the curriculum; whereas at the vocational level, practical work and placements represent more than 70% of the workload.

Additionally, the EMA Statute of Curriculum stipulate the ratios for contact learning and independent work at the level of subjects, depending on the nature of the studies and learning outcomes. The EMA is of the opinion that the relationship between theoretical and practical studies is sufficient to meet the requirements for professional training and at the same time also in compliance with the national standards and levels for degree studies. The coherence of the learning outcomes of individual curricular subjects is ensured by the streamlined sequencing of subjects used in module-based studies (for more, see Chapter 4.1.2.2).

The workloads and learning outcomes of individual subjects are based on the principle that one academic credit point is equivalent to 26 academic hours of studies (including contact learning and independent work). The feedback collected from students at the end of each term provides an opportunity for them to share their opinions on whether the actual study load was in accordance with this principle. In general, student feedback has shown no complaints with regard to the workload of subjects (see Table 26). However, there have been individual subjects for which students have indicated that they must work more or less than outlined in the syllabus. In such cases, the issue is addressed by the respective academic department on a case-by-case basis. In addition, there have been complaints that independent work due for various subjects accumulates over a certain period. As a result, the EMA is planning to analyse the total workload related to individual work in order to mitigate the overload and disperse independent work assignments throughout the semester in a more even distribution.

Table 26. Student assessment of the interlinkages between subjects and the EDF, and the correspondence between study workload and credit points (5-point scale). Source: Summary reports on student feedback

Student Feedback Surveys	2016/17	2017/18	2018/19	Autumn term 2019/20
During the course of this subject, links were established with other subjects and with the EDF	4.26	4.26	4.32	4.44
The number of credits foreseen for the subject were in correspondence with the required workload (1 ECTS = 26 academic hours)	4.38	4.44	4.44	4.60

One of the main weaknesses in terms of the EMA's higher education curricula (drafted mostly in 2009-2011) is that the stated learning outcomes do not reflect transferable competencies nor leadership characteristics that are important in military professions. Of course, this does not mean that these competencies are not developed in the course of studies, but they are not commonly

agreed upon or defined for the curricular format. The EMA plans to address this issue in the course of updating its existing curricula. To that end, the topic of the 2019 EMA didactics conference was "Systematic Development of Transferable Competencies – the Key to Success!" to emphasise the importance of transferable competencies and to create more traction on that subject.

STRENGTHS

- ✓ The curricula of EMA study programmes are based on the needs of the EDF.
- ✓ Curricula development is systematic, regular and engages relevant stakeholders. New staff positions have been created for curricula managers.
- ✓ The EMA curricula are both horizontally and vertically coherent, and subjects are integrated.

DEVELOPMENT PRIORITIES

- ✓ The development of general competences and leadership attributes should be reflected in the learning outcomes, and they should also be assessed in the context of subjects.
- ✓ The EMA must institute regular feedback collection for in-service training courses.

NEXT STEPS

- ✓ Update existing higher education programmes, incl. adding descriptions of leadership attributes and transferable competences to learning outcomes by December 2020.
- ✓ Update the Statute of Curriculum, based on the changes introduced by the EMA's structural reform, incl. drawing up process diagrams in order to visualise different activities (also in EDF specialist schools).

3.8 Learning and Teaching

Standard: Admissions requirements and procedures ensure fair access to higher education and the formation of a motivated student body. The higher education institution systemically implements a student-centred approach that guides students to take responsibility for their studies and career planning, and supports creativity and innovation. Graduates of the higher education institution, with their professional knowledge and social skills, are competitive both nationally and internationally.

The number of state-commissioned study places at the EMA is determined for each academic year by the Annual Plan of the Commander of the EDF, based on the EDF's staff composition and rotation plans, which, in turn, determine the recruitment needs with regard to officers and NCOs. At the level of service branches and professional specialties, the number of state-commissioned study places is also dependent on the size of the branch and their recruitment needs (e.g. in 2017, no study places were commissioned for Air Force and Navy specialties at the level of professional higher education).

One of the pre-requisites for enrolment in one of the EMA's degree studies programmes is contractual active service in the EDF, which means that the prospective students must be in compliance with the requirements outlined in the Military Service Act (incl. Estonian citizenship, Estonian language proficiency, physical fitness and health requirements). Therefore, full-time studies at the EMA are not open to people who do not hold Estonian citizenship (therefore there is no demand for English-language curricula), or people with special needs (e.g physical, mental, some educational special needs). The requirement of completed conscript service affects, in turn, the number of applicants at the level of PHE. The EMA does not hold admission tests at the level of vocational education (i.e. NCO training); instead, the EDF HQ Personnel Department assigns NCOs to the EMA on the proposal of the EDF's structural units. The referral system works in a similar manner at the level of Master's studies, although at that level, prospective students still have to pass the admission tests (see Chapter 4).

The conditions for applying to and enrolment at the EMA are specified in the respective curricula. The EMA's internal regulations governing this are included both in the EMA Degree Studies Admissions & Exclusion Conditions and Procedure, approved by the EMA Commandant, and the EMA Admission Criteria, approved by the EMA Governing Council. On the basis of these two regulations, the EMA prepares the annual rules for admission for each study programme (Professional Higher Education Admission Rules and Master Level Admission Rules) and

establishes admission boards (except at the level of vocational education), which also include the employer's representative from the EDF HQ Personnel Department. To meet the admission requirements, prospective students can also use the Accreditation of Prior and Experiential Learning (APEL) scheme, e.g. substitute compulsory conscript service with equivalent courses completed at a voluntary organisation such as the EDL.

The EMA's admission statistics (see Table 27) indicate that in 2018 the number of students admitted to the EMA dropped to a historically low level. The number of applicants for the Air Force and Navy programmes was negatively affected by the interim year 2017 (no admission for Air and Navy cadets). In order to reverse the downward trend, the EMA redesigned its recruitment campaign by launching a direct communications campaign targeting conscripts and organising additional admissions tests in the spring of 2019. The overhaul of the EDF's personnel policy has increased the number of students interested in pursuing Master's studies. The admission rates for 2020 are excellent – a record number of students shall commence studies at the level of PHE as well as Master's studies programmes for military leadership in the land forces.

Table 27. EMA admission statistics 2016-2020. Source: EMA Department of Academic Studies

Year	PHE: Land Force			PHE: Air Force			PHE: Navy			Master's Studies		
*	A	B	C	A	B	C	A	B	C	A	B	C
2015	55	160	48	10	37	8	10	35	6	15	14	10
2016	55	140	45	10	52	9	10	38	5	15	15	14
2017	70	100	43	0	0	0	0	0	0	18	16	14
2018	55	70	35	8	17	7	8	16	7	25	17	13
2019	55	125	44	10	13	5	10	13	6	25	30	24
2020	55	124	76	10	20	12	10	14	8	25	35	30

* A. No of state-commissioned study places
B. No of applicants
C. No of students admitted

All matters related to studies at the Academy are governed by the EMA Study Regulations, and numerous other regulatory guidelines (e.g. practical placement guidelines, guidelines for written work, research guidelines, APEL procedures, etc.). Academic studies at the EMA are conducted on the basis of curricula and organised around courses and modules. The EMA degree students make up the student body (EMA Cadet Corps), which operates on the basis of its Statute. Additionally, student representatives serve in various EMA decision-making bodies, i.e. the EMA Governing Council, and the Academic Council under the Department of Academic Studies, as well as various committees (e.g. sub-committees of the EMA Governing Council, and the Appeals Committee), and are invited to partake in the Academy's general meetings. Students serving in the Academy's decision-making bodies and elsewhere are under obligation to notify the rest of the EMA student body about the topics discussed and the decisions taken.

Taking its cue from larger changes in society and the educational landscape, the EMA has been focusing, similarly to other higher education institutions, on the introduction and promotion of the concept of the self-guided student and the student-centred learning approach. As a result of continuous training and self-development of the EMA teaching staff (see Chapters 3.6.2) there has been a significant increase in the use of supportive and student-focused study methods (e.g. flipped classroom, problem-based learning, debates, discussion cards, tactical decision-making, etc.). For example, in instructor training, practical exercises are always followed by a post-exercise discussion to support self-reflection; decision-making exercises are used in infantry unit subjects to develop the students' resourcefulness and ability to come up with different solutions; and leadership courses focus on discussions and debate for the purposes of developing students' critical thinking skills.

Since 2014, the EMA has been regularly hosting didactics conferences, focusing on topics related to modern approaches to learning (see Table 28). At these conferences, the EMA staff and students deliver presentations and organise workshops. These conferences have hosted representatives from other institutions of higher education (e.g. UT, EASS, EAVA, etc.) and also external experts,

such as Prof Raul Eamets (UT), Dr Siret Rutiku (Estonian Research Council), and Major General Martin Herem (Commander of the EDF). As of 2019, the EMA's annual didactics conference is integrated into curricular studies at the level of both PHE and Master's studies. See also Chapter 4.1.2.2.

Table 28. Didactics conferences organised by the EMA from 2014 to 2020

Year	Theme
2014	Efficient and Engaging Higher Education Studies
2016	Self-Guided Learning
2018	How to Support the Development of Learners
2019	Systematic Development of Transferable Competencies – the Key to Success!
2020	Value-based Education

In 2018, the EMA overhauled its study and schedule planning approach in order to better support the development of self-guided learning practices among its students. For example, whereas previously studies were planned for the entire day (incl. contact sessions in the evenings), as of 2018, contact learning is now scheduled to take place during the first half of the day (except for field exercises conducted outdoors), and the student is free to organise the second half of the day and conduct independent work.

As a result of the 2019 structural reform, the EMA removed the support staff positions of course commanders. One of the main reasons for this change was to increase the students' own responsibility for their actions and in the performance of duties. At the same time, first-year students are now supported by mentors (from among active service members on the teaching staff) who are tasked with, among other things, monitoring the students' progress, and supporting their development as military leaders. Cultivation of students' independence is also supported by the mandatory practical placements integrated into the curricula, which are completed in actual working environments in accordance with relevant guidelines. During the EDF's Spring Storm 2020 exercise, the EMA Master's students were tasked with the duties of the Brigade HQ (not simply work shadowing as in previous years) and were responsible for preparing operation orders for war-time battalion commanders. In addition, one of the basic officer training course classes was tasked with ensuring the arbitration service of the exercise. Both of these roles require active contribution to control the tactical situation and have a major impact on the success of the entire exercise (see Chapter 4).

The EMA utilises a wide variety of digital tools and solutions, e.g. Padlet, ArcGIS, KOLT (the EDF's situational awareness programme), Kahoot, Slido and JCATS. In addition, all study materials are electronic or digitised. For example, practical training covers various control, communication and weapon systems (e.g. BMS, ESTTACS, and Javelin), while computer simulations are used to explain ballistic trajectory and dispersion. Furthermore, the share of subjects with e-learning components is constantly growing, as well as the share of e-courses that are conducted via the EDF's e-learning environment ILIAS. For example, in April 2020, there were approx. 50 e-learning supported degree studies and in-service training courses in ILIAS. At the same time, the 2020 student satisfaction survey revealed that some of our instructors have low digital competences, which needs to be addressed through awareness-raising and training in this area.

The student satisfaction surveys carried out between 2015 and 2020 (on average 61% of students responded) indicate that, in general, our students are satisfied with their studies at the EMA, as their satisfaction levels remained on average above three points on a 4 point scale (Figure 21). This is in alignment with the objective set out in the EMA development plan, i.e. maintaining student satisfaction with teaching above the three point level on a 4 point scale.

According to the results of this year's satisfaction survey, the majority of EMA students (84% of respondents) indicated that their studies are challenging and meet their expectations (see Figure 22). In the course of studies, more attention should be paid on how to encourage students to take on more responsibility and initiative by introducing the opportunities available. Master's students are tasked with preparing the summer study tour for the EDF's top leadership where they must skilfully

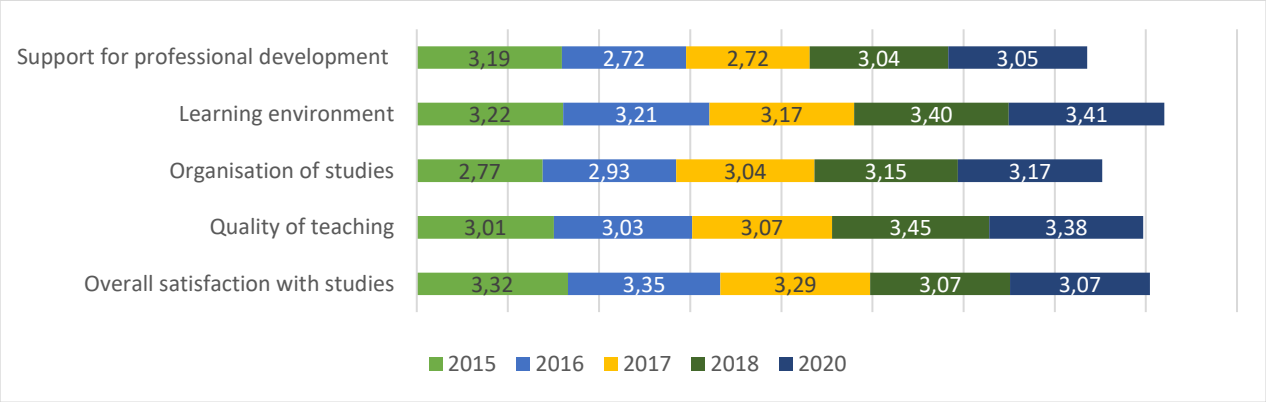

Figure 21. EMA student satisfaction between 2015 and 2020. Source: EMA student satisfaction surveys

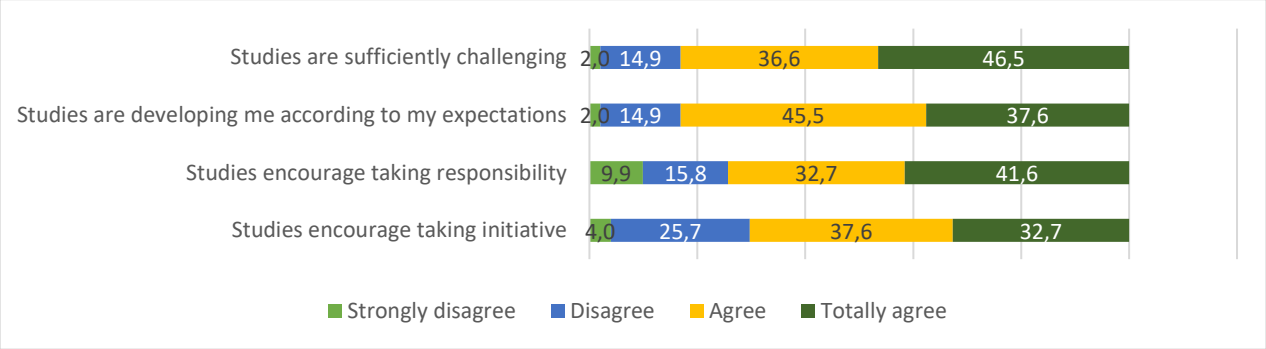

Figure 22. Satisfaction (%) with various aspects of studies in 2020. Source: EMA student satisfaction survey 2020

engage high-ranking commanders in working groups and discussions on military science to make a memorable impression. This is also a good opportunity for Master's students to cooperate in close connection with the EDF's top leadership. Another avenue for showing initiative and taking responsibility are the EMA-wide military exercises (twice per academic year) organised in autumn term by final-year Master's students for younger students. Master's students are to set learning objectives and exercise method while integrating cadets in other preparation activities. They also have to prepare higher command battle-orders, organise umpire-service and assessment. Afterwards, they must be ready to accept feedback on the organisation of the exercise and the achievement of learning outcomes.

In addition, the EMA is focusing on increasing the share of subjects that support creativity and resourcefulness, and to integrate them more closely (see Chapter 4 for more details on learning, teaching and development). In addition, these competencies are also shaped by extra-curricular activities, e.g. firing range training, organisation of events (e.g. various official ceremonies, Cadet Corps events, etc.).

There has also been an increase in the satisfaction with the planning of studies and the opportunity to provide feedback on the organisation of studies (see Figure 23).

With regard to alumni satisfaction, according to the 2016 and 2020 surveys, the EMA alumni assessment of post-graduate service performance has remained stable. Compared to 2016, there has been an improvement in the employer's evaluation that the studies undertaken by their subordinates at the EMA have proven to be useful in the performance of their duties (see Figure 24). The level achieved (≥4 on a 5 point scale) is in alignment with the goal set in the EMA development plan for employer and alumni satisfaction.[35]

[35] i.e. above 3 points on a 4 point scale (75%).

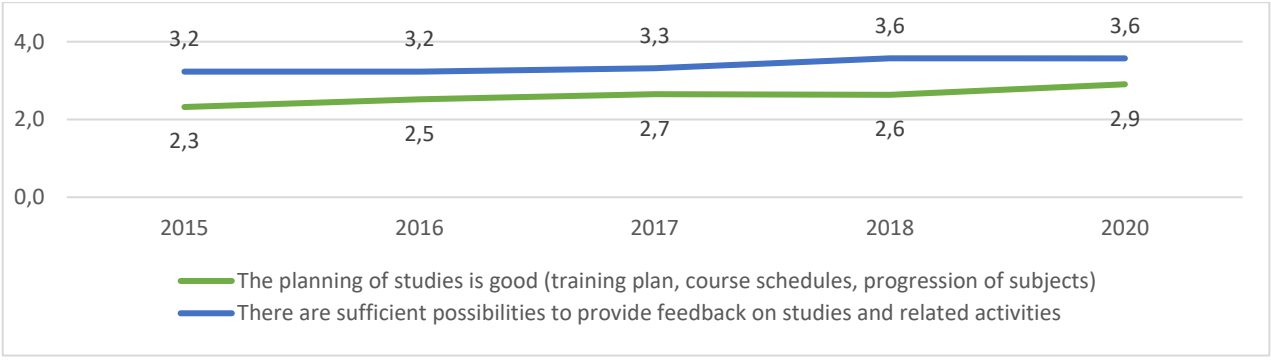

Figure 23. Student satisfaction with the planning of studies and feedback opportunities between 2015 and 2020. Source: EMA student satisfaction surveys

Figure 24. Employer and alumni satisfaction with post-graduation performance in military service (5 point scale).Source: EMA satisfaction surveys

In the eyes of the alumni, the EMA's reputation has remained at 3.5 on the 5 point scale both in 2016 and 2020, whereas the employer's opinion of the EMA has increased from 3.5 to 3.9, demonstrating national confidence in our alumni. EMA students and alumni are increasingly taking part in NATO's peace-time exercises with allied units (e.g. the EDF's annual exercise Spring Storm), in their service duties in Estonia (e.g. Enhanced Forward Presence and Force Integration Units), in the framework of multinational operations, and at NATO and EU HQ. Our allies have repeatedly recognised the high level of professionalism of Estonian soldiers, NCOs and officers. Since 2019, the EDF leadership selects officers with the potential to become future battalion commanders. They receive a letter of motivation, stressing that they must take control of their career path, including their studies. The Commander of the EDF HQ visited personally with the students to explain to them the reasons behind this principle. This project will continue in 2020, with a representative of the EMA also taking part in the selection process.

STRENGTHS

- ✓ The EMA provides state-commissioned education, the admissions process is transparent and in accordance with regulations.
- ✓ Academic studies are based on modern teaching methods, including digital competencies.
- ✓ Students are satisfied with their studies, its quality and organisation.
- ✓ Alumni and employers are satisfied with the contents of the EMA's study programmes and their practical applicability in subsequent professional service.

DEVELOPMENT PRIORITIES

- ✓ The number of applicants must be increased (particularly for Air Force and Navy specialisation programmes).
- ✓ The share of e-learning support and e-courses must be increased.

NEXT STEPS

- ✓ The EMA must continue to promote e-learning courses and develop the digital competences among teaching staff through in-service training.
- ✓ Continue conducting admission tests for its professional higher education programmes two times a year.
- ✓ Involve Navy and Air Force representatives for planning next steps to increase the number of navy and air force student candidates.

3.9 Student Assessment

Standard: Assessments of students, including recognition of their prior learning and work experiences, support the process of learning and are consistent with expected learning outcomes. The objectivity and reliability of student assessments are ensured.

Student assessment is governed by the EMA Study Regulations and takes guidance from relevant government regulations on the common assessment systems at the levels of vocational and higher education. Furthermore, additional assessment guidelines, incl. selection of appropriate assessment methods and description of assessment criteria can also be found in the EMA Statute of Curriculum.

For students, the most important document describing the subject is the course syllabus, which outlines, among other things, the thematic plan, compulsory and recommended literature, procedures for completing coursework and passing the course, etc. The syllabi are prepared by the teaching staff responsible for the subject in question, and approved by the Chair of the relevant academic department, in accordance with the EMA Study Regulations and using the syllabus template annexed to the EMA Statute of Curriculum. The syllabus must outline the calculation of the final grade for the subject (including the assessment methods used), the assessment criteria (either based on assessment methods or learning outcomes), and if necessary, the grading scale and assessment requirements. All EMA syllabi are made available to the students via the SIS, and the teaching staff are under obligation to provide an overview of the course syllabus in the first introductory lecture of the subject. Syllabi are the means through which the EMA ensures that all students are uniformly informed about the requirements established for the completion of individual subjects, while also guaranteeing the equal treatment of students (incl. assessment).

The EMA focuses on the delivery of uniform assessment quality (i.e. through curricula development, formulation of assessment criteria, and selecting appropriate assessment methods that align with learning outcomes) through the development of teaching staff competencies (see Table 29). The EMA Head of Didactics Development is responsible for the leadership and organisation of this process. As a result of training and discussions, the EMA teaching staff has begun using formative and also peer assessment (i.e. through feedback). However, the EMA should start paying more attention (including advising) to the content of the syllabi prepared by EDF specialty schools. To that end, representatives of EDF specialty schools have also been included in relevant in-service trainings on these topics.

Table 29. Efforts to develop the assessment skills of EMA teaching staff

Activities	Content	Target group
UT training "Studying and Teaching in Higher Education"	Design of subject courses, selecting appropriate teaching and assessment methods, description of assessment criteria	For incoming teaching staff annually
EMA in-house training "Efficient Syllabus Drafting"	Design of subject courses, devising a coherent and high quality syllabus	For EMA teaching staff (as of 2016) voluntary participation by EDF speciality schools, practical placement supervisors and EDL
EMA in-house training "Planning of Assessment to Support Learning"	Relationship between assessment and learning outcomes (incl. levels), and assessment of general competence	For EMA teaching staff (as of 2019)
Informal discussions (KäRu)*	Assessment of subjects, including continuous feedback	For EMA teaching staff (optional)
EMA Department of Academic Studies workshops	Choosing between differentiated and non-differentiated assessment (2017)	For EMA teaching staff

* During the 2020 national emergency situation, discussions were conducted in the virtual environment Big Blue Button.

Each subject course is assigned a responsible teacher who shall decide how to conduct assessment, although often other supporting teaching staff, especially in military subjects, provide their input as well. At the EMA, students are entitled to take final examinations/evaluations up to three times per each subject course (for statistics from 2015 to 2019 see Table 30). The second re-take of the final examination shall be overseen by a specially formed committee comprising at least three members. As per Study Regulation amendments that entered into effect in 2017, the responsible teacher cannot serve as the Chair of this committee, to ensure that the assessment is as objective and comprehensive as possible, and to mitigate any risks that might arise from subjectivity.

Table 30. Number of students taking the second re-take examination between 2015 and 2019. Source: EMA Department of Academic Studies

Year	2015	2016	2017	2018	2019
No. of Students	40	49	39	51	19

If the student disagrees with the results of the assessment, they are entitled to challenge the results by first appealing to the Chair of the relevant academic department, then to the Head of the Department of Academic Studies, and as a final step, to the EMA Appeals Committee, which comprises representatives from the EMA, students, the employer (EDF), and from another higher education institution. The information about the EMA student appeals procedure is covered in the orientation course for first-year students, and relevant information can also be found in the student guide "EMA ABCs". Between 2015 and 2019, the EMA Appeals Committee has heard altogether seven cases (see Table 16, Chapter 3.4). These numbers suggest that EMA students are well aware of their rights and the appeals procedure.

In addition to the final assessment of subjects, it is also important to provide students with continuous feedback (i.e. throughout the entire learning process). Student surveys indicate that EMA students are very appreciative of continuous feedback received in the course of studies (Table 31).

Table 31. Students' opinions about continuous feedback received in the course of studies (on a 5 point scale). Source: Summary reports on EMA student feedback

	2016/17	2017/18	2018/19	Autumn term 2019/20
I received sufficient feedback on my performance and academic progress throughout the subject course	4.16	4.07	4.04	4.28

The assessment of the final and master's thesis is regulated by the EMA Procedure on Student Research, which sets out the rules for the reviewer's assessment and stipulates the requirements regulating the operations of the five-member thesis defence committee, which is under obligation to review all theses in advance.

In addition to completing individual subjects at the EMA, students are also entitled to seek recognition of their prior studies and work experience in the framework of the APEL procedure. Requisite APEL applications are reviewed by a five-member APEL committee (established by the Head of the Department of Academic Studies) and two student advisers. Once a year, the Chair of the APEL Committee presents a report to the EMA Governing Council, providing a statistical overview, and an assessment of the committee's work and the APEL procedure.

The EMA's APEL statistics (Table 32) show that this is a functioning process that is used by both full-time and external students. The new version of the SIS to be introduced in 2020 will allow students to submit APEL applications in electronic form. This will enable the APEL committee to process the applications online as well, which should make the process even more streamlined and efficient. The EMA is currently in the process of drafting relevant instructive materials for students.

Table 32. APEL applications submitted by EMA students between 2015 and 2019. Source: EMA Department of Academic Studies

HIGHER EDUCATION	**2015**	**2016**	**2017**	**2018**	**2019**
Number of applications	**17**	**17**	**11**	**14**	**22**
Total ECTS credit points	**154**	**151**	**49**	**63**	**106**
incl. subjects completed at EMA (ECTS)	100	86	0	14	0
incl. subjects completed abroad (ECTS)	4	0	0	0	0
incl. subjects completed in in-service training (ECTS)	17	53	39	15	63
incl. on the basis of work experience (ECTS)	0	0	0	0	4
incl. combined recognition (ECTS)	3	10	4	24	11
incl. completed at another higher education institution (ECTS)	30	2	6	10	28
Recognised /not recognised (ECTS)	133/21	116/35	43/6	59/4	96/10
EXTERNAL STUDENTS	**2015**	**2016**	**2017**	**2018**	**2019**
Number of applications	12	6	20	3	17
Total ECTS credit points	499	33	483	133	199
incl. subjects completed at EMA (ECTS)	339	0	0	118	0
incl. subjects completed abroad (ECTS)	61	0	0	0	0
incl. subjects completed in in-service training (ECTS)	21	18	30	6	0
incl. on the basis of work experience (ECTS)	31	9	77	9	53
incl. combined recognition (ECTS)	42	6	376	0	146
incl. completed at another higher education institution (ECTS)	5	0	0	0	0
Recognised / not recognised APEL (ECTS)	490/9	25/8	474/9	127/6	193/6
VOCATIONAL EDUCATION	**2015**	**2016**	**2017**	**2018**	**2019**
Number of applications	12	13	6	12	10
Total ECTS credit points	343.25	420	160	387	243
incl. subjects completed at EMA (ECVET)	60	60			64
incl. subjects completed abroad (ECVET)					13
incl. subjects completed in in-service training (ECVET)	113.25	265	64	255	109
incl. on the basis of work experience (ECVET)	80	95	96	132	57
incl. combined recognition (ECVET)	90				
Recognised / not recognised (ECVET)	343.25/0	420/0	160/0	387/0	243/0

STRENGTHS

- ✓ The EMA trains its teaching staff regularly in order to harmonise the assessment of students.
- ✓ The course syllabi, available to all students via the SIS, describe the assessment methods and criteria, as well as the calculation of the final grade. In addition, students are given continuous feedback throughout the course of studies.
- ✓ The EMA's APEL procedure is efficient and popular among students. The APEL proceedings are constantly monitored and amended as necessary.
- ✓ The contestation of assessment results is regulated and students are informed about the procedure.

DEVELOPMENT PRIORITIES

- ✓ Improve the knowledge of instructors at EDF specialty schools about drafting course syllabi, including assessment.
- ✓ The APEL application forms need updating.

NEXT STEPS

- ✓ Continue training EMA staff on syllabus design and student assessment in order to create a common understanding and ensure uniform application.

- ✓ Engage instructors from EDF speciality schools in the didactics activities organised at the EMA (incl. using digital solutions).
- ✓ Upon launching the new version of SIS, prepare a student guide on the APEL procedure.

3.10 Support Systems

Standard: The higher education institution ensures that all students have access to academic, career and psychological counselling. Students' individual development and academic progress are monitored and supported.

All incoming students receive the EMA student guide "EMA ABCs", updated at the start of each academic year, containing useful information about the organisation of studies at the EMA and relevant contact information. In addition, first-year students in PHE and Master's study programmes are offered a special orientation course to help them adapt to the new environment; the course offers guidance with regard to various procedures and studies in general, and provides an overview of different student services and advisors whom they can turn to in these matters. In addition, before starting their studies, first-year students of PHE undergo a mandatory orientation course that serves as an introduction to their respective specialty (i.e. land force, air force, navy), covering the most important guidelines, activities, people, etc.

In addition, the EMA offers its students various academic advice services, i.e. in relation to the organisation of studies and service-related questions (see Table 33).

Table 33. The EMA's academic counselling services for students

EMA subdivision/staff member	Content
EMA Department of Academic Studies advisers-academic affairs specialists, planning NCO	course schedules, SIS, APEL, guidelines, certificates, results, general study information, research writing guidelines, etc.
EMA Department of Academic Studies teaching staff, chairs of academic departments	participation in studies, completion of subjects (including practical placements), consultations
Student Corps staff	day-to-day service duties, study organisation logistics, career choices, military service
EMA Department of Academic Studies mentors from the teaching staff	academic progress, shaping future military leaders, EDF and EMA core values, professionalism, career choices, subsequent military service
Student Corps sports instructor	general physical fitness
social worker	social and psychological issues
EDF chaplain	faith-based and religious issues

Among other things, the EMA is developing a comprehensive mentoring system for students, where experienced peers share their recommendations with regard to studies and the military, offer guidance to less successful students, and pay special attention to students who have failed subjects (EMA Mentoring System). Although the mentoring initiative has received a positive welcome, its implementation in the 2019/20 academic year has been rather modest. It is partly due to the structural reform, which reorganised areas of responsibility and overall process flow, ultimately requiring more time to settle into. Since the 2018/19 academic year, the EMA has been promoting its volunteer-based tutor system, i.e. older students supporting younger ones.

The EMA receives support from the EDF for dealing with psychological, social and religious issues. For example, once a week the EMA is visited by a social worker, and psychologist and chaplain services are available via the EDF. In addition, the EDF operates a 24-hour helpline and provides psychological counselling. Relevant contact information is available on bulletin boards at EMA student dormitories. With regard to issues related to military service, in accordance with the EDF subordination procedures, students should first turn to their immediate commander (Student Corps

Commander), then to the EMA Commandant, and finally to the EDF. In addition, they may also turn directly to the EDF's legal mediator.

All EMA students are guaranteed a practical placement position in the framework of their curricula, and also a military service posting after the completion of studies. Therefore, there are no specially designated advisors for these issues. Instead, at the beginning of the 2nd year of studies in professional higher education, the EMA organises special information days where representatives of relevant EDF structural units make presentations about their respective service branches and weapons types to guide students in their choice of specialty. In addition, at the request of students, the EMA has also organised informal meetings with the EDF HQ Personnel Department and the Commander of the EDF to discuss the EDF's career model and service opportunities in a less formal setting. Since 2015, EMA students have been increasingly satisfied with academic advice services related to the organisation of studies. According to the 2015 student survey, the respondents' assessment of counselling was 2.93 on a 4 point scale, whereas in 2020 it has risen to 3.55. The EMA's foreign visiting students are advised by the external relations specialist, teaching staff responsible for the relevant subjects, and fellow EMA cadets.

Additionally, EMA students are also guaranteed various support services (see Table 34) and a salary corresponding to their position, rank and academic year. The same IT-systems that are available to EMA employees are also available to our students both for academic studies (e.g. SIS, SharePoint and ILIAS), and document management (document management system Postipoiss, Outlook, government employee self-service portal RTIP).

Table 34. Support services for EMA students

Service/Area	Description
Accommodation	dormitory either in Tartu (max 2 km from main building) or Võru (depending on study programme)
Personal and special equipment	from uniform to combat equipment (e.g. flak jacket, helmet, etc.) as per regulations
IT support	as of 2020, all students in higher education are issued a laptop to facilitate quick information exchange, ensure access to relevant EDF documents and classified information, and offer a convenient means for conducting student research
Transport	return trip to study place (including internships), visit to the EDF medical evaluation board, etc.
Teaching aids	office supplies, photocopying and printing
Catering	canteens not only in the main study places (EMA in Tartu or Kuperjanov Infantry Battalion in Võru) but in all EDF's catering places where students can order food in advance (students must pay for their food themselves), or filed rations free of charge during military exercises
Health care	outpatient care (including vaccinations, first aid, medicines and dental care), partial reimbursement of medical devices (e.g. glasses and lenses), psychiatric services
Library	books, e-databases, e-journals, printer and scanner; interlibrary loans
Sports	gym at the EMA dormitory; partially reimbursed partner services (e.g. Aura Waterpark and MyFitness sports clubs)

The EMA library is responsible for furnishing the EMA students with requisite academic and scientific literature (incl. on the proposals of teaching staff); books that are not available can be borrowed through the inter-library lending system. Additionally, the EMA library also provides students with access to various daily newspapers, learning databases (e.g. EBSCO, CARL (Combined Arms Research Library) Digital Library, Questia and Military Periscope) and professional e-journals.[36] In addition, books can be borrowed via e-readers as well. Library resources can be accessed either on location in person or via password-protected EDF computers. The EMA is also responsible for the study materials in the EDF's intranet, where students can also access NATO standardisation

[36] For example, Armed Forces & Society, Defense & Security Analysis, European Security, Journal of Leadership & Organisational Studies, The Journal of Slavic Military Studies, Juridica Abstract and Military Psychology.

documents. The military terminology database, developed by the EMA, is publicly accessible on the Internet.[37]

Thus, EMA students are offered ample support services, both professional (e.g. advisers and mentors) and technical (e.g. equipment, etc.) to enable them to devote themselves to their studies. Over the years, student satisfaction with the learning environment has increased to 3.41 on a 4 point scale (see Figure 21, Chapter 3.8).

Between 2016 and 2019, the average dropout rates among Estonian professional higher education institutions stood at 14.4%. In the EMA, the corresponding average for the same period was 9.3% in professional higher education, whereas at the level of vocational education it was below the Estonian average (see Table 3, Chapter 1.5.2 for statistics across all curricula). It is important to note that at the level of higher education, the dropout rates for both first-year students as well as overall have been on the decline since 2016 (see Figure 25). Due to the low share of dropouts, the average duration of studies at Master's level has been 2-2.4 years, at the level of professional higher education (depending on the specialty) 3-3.4 years, and 11 months at the level of vocational education. The lower than average dropout rate and average duration of studies can probably be explained by the fact that EMA students have specific goals and a post-graduation career path.

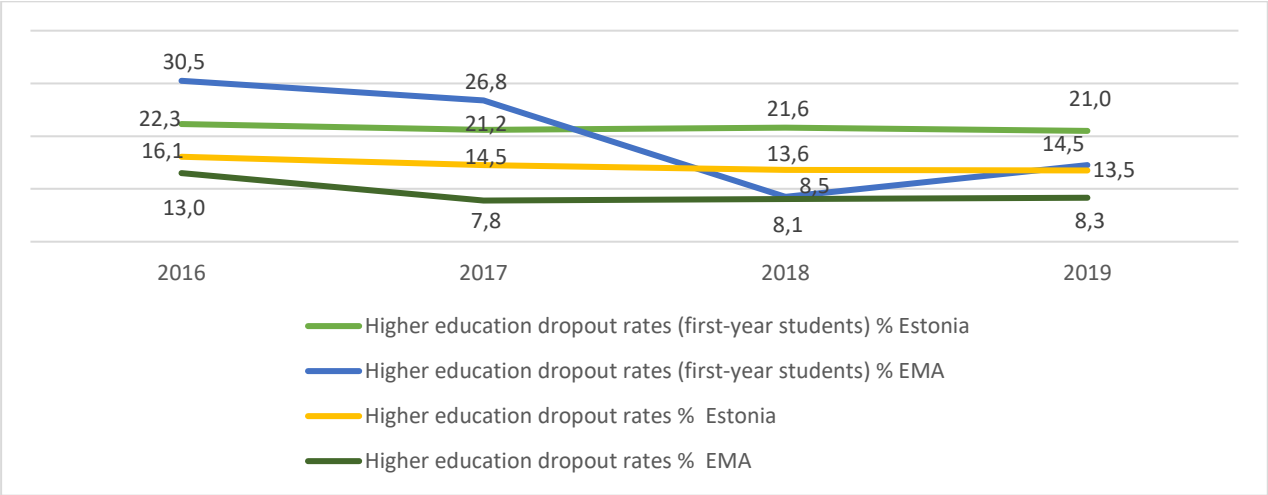

Figure 25. Dropout rates (%) at the level of higher education between 2016 and 2019. Source: Haridussilm

The reasons for discontinuing studies can be divided into three broad categories: (1) personal reasons; (2) non-compliance with the requirements for active military service (mainly inadequate physical fitness level); and (3) poor academic progress (see Figure 26). Since 2015/16, the number of students who discontinue their studies due to **personal reasons** has decreased significantly, which can be explained by the substantive changes made to the preparatory course that offers an introduction to the chosen professional specialty. The newly adopted approach puts more emphasis on constructive self-reflection and supportive group dynamics (see Figure 28 in Chapter 4.1.2.1). Between 2016 and 2019, the number of students ex-matriculated due to **poor academic progress** was very high mainly due to the fact that several students failed to defend their final theses (5-9 students, depending on the year). To address that problem, the EMA increased the support offered to students in the process of writing final theses (e.g. launch of writing workshops, training for supervisors, etc.). For the purposes of improving **physical fitness**, the EMA has introduced changes to the students' daily schedules to allow time to engage in sports (incl. under supervision), and the EMA Concept for Promoting Physical Fitness is aimed at cultivating fitness habits among EMA students.

[37] Online Estonian-English Military Terminology Database https://termin.eki.ee/militerm/

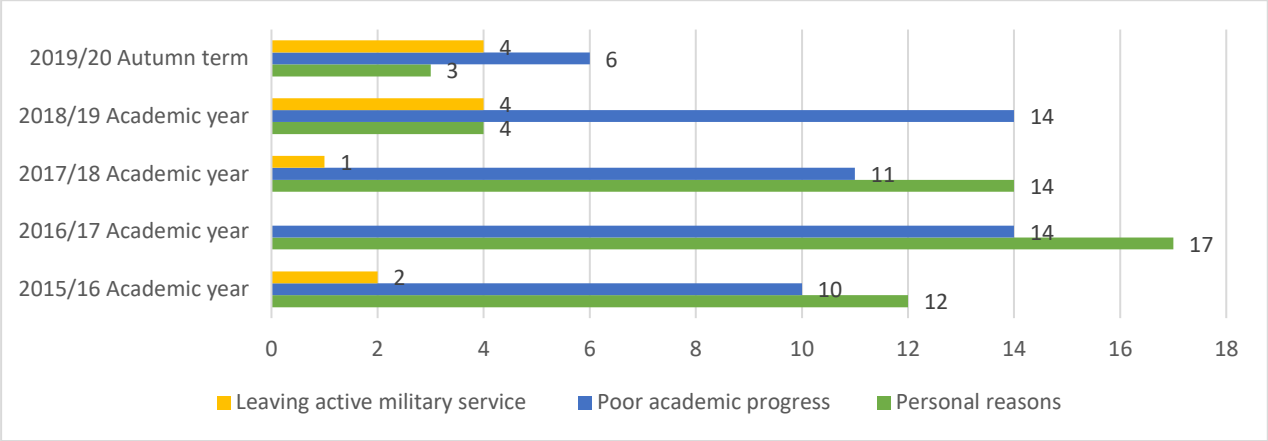

Figure 26. Reasons for discontinuing higher education studies at the EMA from 2015 to 2020 (as of June 2020). Source: EMA Department of Academic Studies

Students' academic progress is monitored by the Planning Section of the EMA Department of Academic Studies, and they are supported in this task by the Commander of the Student Corps, and as of the 2019/20 academic year, also by active service teaching staff (the new mentor-system is still in the process of implementation). Academic failure is addressed on a case-by-case basis. Once per semester, the Academic Council under the EMA Department of Academic Studies hears an overview of students' academic progress (incl. incomplete coursework). At the beginning of each autumn semester, the Academic Council also decides whether to pass each individual student to the next academic year as per EMA study regulations.

Given the fact that the EDF guarantees all EMA graduates a staff position[38], the post-graduation employment rates among EMA alumni are high – 95-100% according to the post-graduate employment survey conducted in 2017 by the MER[39]. Even if EMA students should fail to duly submit or defend their final thesis, the EDF allows for continued military service, albeit usually at a lower-ranking position, until the successful completion of their studies.

Finally, EMA students have a wide range of opportunities for extra-curricular activities offered by the Academy, and the student body as well as those that can be pursued voluntarily on one's own initiative. For example, the EMA offers first-year students special courses on etiquette and swimming. Students in the land force specialty can obtain driving licences (B and C category), whereas air force cadets can undergo sailplane training, and navy cadets can obtain a recreational boating licence. Firing range exercises using various weapons are organised, often by students themselves, in order to develop shooting skills. In addition, EMA students take part in various sports competitions (from kettlebell lifting to orienteering), and make presentations on learning opportunities at the EMA and career opportunities in the EDF. In the context of traditional EMA events, students are often tasked with the responsibility for preparing those events (e.g. various commemorative events, Christmas dinner, and officer's ball, etc.). The student body provides an avenue for cooperation with other higher education institutions and their student bodies (e.g. Tartu Student Days, etc.). In addition, the EMA Cadet Corps arranges tactics sessions inviting prominent people from the EDF and elsewhere to make presentations on interesting topics, as well as themed quizzes that are also open to people from other higher education institutions. Depending on the nature of the event, the EMA allows for the use of its infrastructure, or offers other types of support by means of funding (e.g. trainings), transport, equipment or other means (including EMA publications).

STRENGTHS

✓ All EMA students are guaranteed academic advice services on issues related to the organisation of studies as well as day-to-day life.

[38] For an overview of the competitiveness of EMA graduates' salaries see Table 2 in Chapter 1.5.1.

[39] In Estonian: *Kutse- ja kõrghariduse 2005.-2014. aastal lõpetanute edukus tööturul aastal 2015* https://www.hm.ee/sites/default/files/edukus_tooturul.pdf

- ✓ In addition, EMA students are also offered a wide range of other support services (incl. accommodation, equipment, catering, and health care services).
- ✓ Students' academic progress is closely monitored and analysed, and students are proactively supported in redressing academic failures.
- ✓ All students enrolled at the EMA are ensured a practical placement position during their studies and a staff position with the EDF upon graduation.

DEVELOPMENT PRIORITIES

- ✓ The recently introduced student mentoring system needs to be implemented and further developed.

NEXT STEPS

- ✓ Offer support to teaching staff who also serve as mentors to students in the preparation and improvement of their activities (incl. training).
- ✓ Implement the EMA Concept for Promoting Physical Fitness (including the new daily schedule introduced in the 2020/21 academic year) to reduce discontinuation of studies due to non-compliance with active service requirements.

3.11. Research, Development and/or other Creative Activity (R&D)

Standard: The higher education institution has defined its objectives and focus in the fields of RDC based on its mission, as well as on the expectations and future needs of society, and assesses their implementation and the societal impact of its RDC activities. RDC supports the process of teaching and learning at the higher education institution. Support services for RDC are purposeful and support implementation of the objectives of the core process.

As a structural unit of the EDF, operating under the purview of the MoD, the EMA's R&D activities take guidance from the following regulatory documents: (1) MoD's Research and Development Policy 2014-2022; (2) EDF Research and Development Regulation; (3) EMA Research and Development Regulation; (4) EMA R&D Quality Assurance Plan 2020.

As of 2015, the MoD has significantly increased the EMA's responsibility for overseeing national defence-related R&D activities. According to the MoD's R&D policy, the EMA serves as the **national centre for military science**, and is, as such, responsible for the development of military science through the central organisation of R&D activities, as well as coordinating partnerships with other R&D institutions and organisations, both public and private.

In the area of government under the purview of the MoD, the defence-related R&D activities are overseen by the ministry's Department of Defence Investment, whereas the resources are coordinated by the EDF HQ Department of Analysis and Planning, and the organisation of R&D activities is carried out by the EMA Department of Applied Research.

At the national level, defence-related R&D activities are governed by the document outlining the **MoD's R&D policy** for the period 2014-2022, which states as its primary objective the development of the **EDF's military capabilities**[40] through science-based research and innovative solutions. To that end, the focus is on the development of general and specific competencies on the basis of identified capability gaps in the essential areas of national defence. In this context, the EMA is tasked with overseeing the development of four general competences: **leadership, operations analysis, resource management,** and **military technology**.

The organisation and coordination of the EDF's R&D activities are laid down in the **EDF Research and Development Regulation**, which governs the planning, implementation and management of defence-related R&D activities, including the role of the EMA. The document outlines the two primary objectives for the EDF's R&D activities: (1) the **EDF's capability development through science-based research**; and (2) development of **competence in military science** through cooperation with

[40] The EDF's military capability comprises sets of specific capabilities with each assigned their own responsible developer.

universities and other partners, as well as through the integration of degree studies and R&D activities.

The **EMA Research and Development Regulation**, in turn, lays down the regulations governing R&D activities at the EMA, the responsibilities of its subdivisions, as well as the overall planning, budgeting, implementation and evaluation of R&D activities. Pursuant to the **Statutes of the EMA**, the responsibility for overseeing the Academy's R&D activities lies with the **Department of Applied Research**; however, R&D activities in the field of war and disaster medicine fall under the purview of the EMA's WDMC, an internationally recognised NATO training centre.

Between 2015 and 2020, the EMA's R&D activities have undergone rigorous objective-setting and reorganisation for the purposes of establishing the basis for its improved organisation. Today, clear responsibilities have been established for the management of defence-related R&D activities at the national level. In this framework, the EMA is responsible for initiating R&D projects and coordinating their implementation by engaging other structural units of the EDF, national defence agencies and other partners. The planning of R&D projects begins with the identification of capability and knowledge gaps either by the EDF or other national defence agencies, who then prepare the preliminary terms of reference for research. Priority research areas are approved by the Chief of Staff of the EDF HQ. Afterwards, project descriptions are drafted and the budget, timetable, implementers and partners are approved. Subsequent phases entail project implementation, monitoring and reporting, with the owners of the respective capability gaps validating, publishing and utilising research results. Ultimately, R&D activities are aimed at linking individual R&D projects with specific capability development needs, and ensuring the synchronicity, fitness for purpose, and the best use of research results (i.e. direct utilisation by problem-solvers).

Funding for priority research areas in the area of defence, as well as related personnel costs, comes primarily from the national defence budget. In addition, the EMA's activities to secure external funding are primarily related to opportunities offered to Estonian universities and research institutions in the framework of the European Union. For example, the EMA has joined the European Defence Industrial Development Programme (EDIDP), which encompasses, in addition to technology research, also social sciences. In addition, the EMA is a member of the consortium for the development of Unmanned Land Systems under the EDIDP (2020-2022). As of 2020, the EMA has secured funding for three externally funded projects with a total of 371,000 euros.

As a result, the **EMA's R&D activities**[41] (i.e. the number of projects, scope, and budget) have increased significantly during the past couple of years. In general, the EMA's R&D activities are conducted in the framework of multidisciplinary and synergistic **research groups** that the EMA has established in collaboration with universities and other research institutions, for example, in the areas of human resources, information operations, deception systems, and cost models.

In addition, the EMA has expanded its cooperation with **international organisations**, chief among these being the **NATO STO** – the world's largest collaborative research forum in the field of defence and security whose annual programme of work includes over 300 projects, which cover a wide range of fields from autonomous systems to the impact of social media on military operations.[42] The EMA is represented in all its panels and many working groups, as well as joint projects, publications and presentations. The EMA has also hosted several meetings of NATO STO panels in Estonia, e.g. System Analysis and Studies Panel (SAS), Applied Vehicle Technology Panel (AVT), and Information Systems Technology Panel (IST). Estonia's research potential and contribution has also been recognised by NATO.[43] In addition to NATO STO, the EMA also participates in the work of the following international organisations: European Defence Fund (EDF); EDIDP; International Military Testing Association (IMTA); European Research Group on Military and Society (ERGOMAS); NATO

[41] The EMA's R&D activities registered in the Estonian Research Information System (ETIS) https://www.etis.ee/Portal/Institutions/Display/6f0b4cd3-eba3-4c3c-b77b-322a39ad6b7a?tabId=tab_Projects&lang=ENG
[42] NATO Science and Technology Organization https://www.nato.int/cps/en/natohq/topics_88745.htm
[43] British Embassy Tallinn (2019) NATO Chief Scientist Dr Bryan Wells (UK) on Estonian contribution to NATO Science and Technology Organisation (STO) https://www.youtube.com/watch?v=Ucw6ptO3Cc8 (15.05.2020).

Centre of Excellence for Military Medicine (NATO MilMed CoE), Nordic Defence Cooperation (NORDEFCO), etc.

Another important avenue is cooperation with the **defence industry** in the form of publishing their research results, as well as testing of defence equipment during the EDF's military exercises. In addition, the EMA has established a joint research group with Estonian robotic vehicle manufacturer Milrem Robotics[44], in collaboration with the UT and Threod Systems[45], a developer and producer of Unmanned Aircraft Systems (UAS), for the operational testing of prototypes (e.g. in the framework of the international military operation in Mali, Africa; and arctic experiments in cooperation with the Finnish Defence Forces). The EMA is also looking into developing a project on unmanned systems in the battlefield, in collaboration with the Finnish Defence Forces, and is currently looking for additional partners as part of an open public procurement tender. The EMA is also looking to set up a joint research group in collaboration with the defence industry.

Furthermore, the EMA contributes to the EDF's capability development also through **professional expertise and analysis**. Approximately 10% of EMA staff are engaged in areas of capability development that are protected by state secrets, and therefore, are not public nor allow for the publication of research results. Such research projects are primarily related to procurement and R&D in the areas of defence equipment and military technology, and engage researchers from universities as well as private companies. Due to publication restrictions established for such research, the EMA takes guidance from the framework developed by the NATO STO (e.g. Science Connect portal).

In 2015, the EDF launched a **doctoral studies programme for active service members** to support their academic pursuits at civilian universities (e.g. UT, TalTech, Estonian University of Life Sciences, etc.) with a long-term view to enhancing the EDF's capability development through science-based research. Under this programme, the active service members enrolled in doctoral studies are employed as researchers at the EMA Department of Applied Research, where they work on topics assigned by the EDF and related to the EDF's capability development in the areas of general competencies. After obtaining their doctorates, they will be assigned to military postings that require the application of a science-based approach either in the EDF or in the wider area of government under the MoD. Support for the EDF's doctoral studies programme and involving doctoral students in the EMA's academic studies fosters competence in the field of military science, offering the EMA and excellent opportunity for pooling R&D competencies and creating research synergies, while also serving as a breeding ground for new talent. The active service members in the doctoral studies programme are chosen by a rigorous selection process; currently there are eight active service members in the EDF's doctoral programme, with the first dissertation defence scheduled for 2020.

In addition to overseeing defence-related R&D activities, the EMA also engages in the active dissemination of research results through **academic publishing** in the field of military science. The EMA's main academic publication is the biannual peer-reviewed journal – the **Estonian Journal of Military Studies**[46] (*Sõjateadlane* in Estonian), which was first published in 2003, and as of 2007 meets the requirements of Estonian Research Information System (ETIS) classification 1.2.[47] In 2009, the journal added a subseries – **Cultural, Peace and Conflict Studies Series (CPCSS)**, focusing on military-political and cultural conflicts and security policy trends. Additionally, in 2014, the EMA, then named the ENDC, began publishing the ENDC Occasional Papers (now **EMA Occasional Papers**),[48] which focuses on writings (incl. short scholarly monographs, research project reports, studies, etc.) that meet the requirements of ETIS classifications 1.2, 2.1 or 2.5. The EMA's academic journals have international editorial boards and are open to international contributors with

[44] Milrem Robotics https://milremrobotics.com
[45] Threod Systems https://threod.com
[46] Estonian Journal of Military Studies / Sõjateadlane https://www.kvak.ee/sojateadlane
[47] ETIS publication classification system: 1.2 Peer-reviewed articles in other international research journals with an ISSN code and international editorial board, which are circulated internationally and open to international contributions https://www.etis.ee/Portal/Classifiers/Details/81e52bde-a1a1-490a-a9c4-2df9f3fc3a70
[48] EMA Occasional Papers https://www.kvak.ee/occasional-papers/

approximately one third of the articles published in English. About a third of the authors are associated with the EMA, while approx. one fifth are foreign authors, e.g. between 2013 and 2019, the EMA has published contributions from 54 foreign authors from 30 foreign higher education institutions and research institutes.

Between 2008 and 2013, the ETIS reported an average of 25 EMA academic staff per year, whereas from 2013 to 2018 the average was 60. Although the total number of EMA academic staff has increased, the ratio of international publications per person was the same in both cases – 2.88, amounting to 0.48 publications per person annually, which is quite significant considering that, for example, for the UT the same figure is 0.71. What is more, during this period, the total number of scientific publications per person in the field of social sciences has increased from 1.15 to 1.39 (total of 1.17). All scientific publications by EMA academic staff can be found in the ETIS[49]. See also EMA's academic staff publications 2015–2020 in Table 35.

Table 35. Number of high-level research publications by EMA academic staff (2015-2020)

ETIS classification	2015	2016	2017	2018	2019	2020*
1.1	8	10	4	3	9	7
1.2	18	18	26	20	17	13
1.3	3	2	1	4	1	1
2.1/2.3	1	2	1	3	2	3
3.1	5	1	0	1	5	4
Total No	**35**	**33**	**32**	**31**	**34**	**28**

*as of 12 March 2020

In addition, the EMA promotes the **active engagement of its students** in defence-related R&D projects. For example, between 2016 and 2019, approx. 36 students have contributed to the EDF's human resources survey and 21 students to research related to the development of military leadership within the EDF (2018-2022). In addition, EMA student research has been regularly recognised in the framework of national research competitions, for example, by the Research Council, Estonian Academy of Sciences, MoD, etc.
In 2019, the EMA was involved in altogether 74 R&D projects focusing on the EDF's capability development, as well as product development in collaboration with the defence industry, all with a view to increasing the impact of the EMA's R&D activities. The EDF's doctoral students and EMA researchers, engaged in the work of several research groups, serve as the bridge between the Academy, the defence industry, and those responsible for the EDF's capability development.

STRENGTHS

- ✓ The EMA's R&D activities are managed and developed in a strategic manner. The EMA role and responsibilities with regard to the coordination of national defence-related R&D activities have increased. As a result, the number of academic staff and R&D projects has also increased. Compared to the situation during the previous round of institutional accreditation, the EMA's R&D budget has increased more than threefold, as has the share of external funding coming from outside the national defence budget.
- ✓ The EMA publishes high-level peer-reviewed scientific journals, and organises international scientific conferences and seminars for the purposes of presenting and integrating research results with academic studies. The R&D projects undertaken by the EMA have international impact.
- ✓ The EMA engages in productive and effective institutional cooperation both in Estonia (i.e. higher education institutions, research institutions, and defence industry), and internationally. EMA takes active part in NATO STO panels and our collaboration and R&D potential has been recognised by NATO[50].

[49] Research publications by EMA academic staff https://www.etis.ee/Portal/Institutions/Display/6f0b4cd3-eba3-4c3c-b77b-322a39ad6b7a/?tabId=tab_Publications&lang=ENG
[50] See British Embassy Tallinn 2019. NATO Chief Scientist Dr Wells on Estonian contribution to NATO Science and Tech. – YouTube, November 20. https://www.youtube.com/watch?=Usw6ptO3Cc8&feature=youtu.be.

DEVELOPMENT PRIORITIES

- ✓ Enhancing the EMA's scientific impact by increasing the number of high-level scientific publications, first and foremost, by publishing research by EMA academic staff in academic journals of high international standing.

NEXT STEPS

- ✓ In order to increase the scientific impact of the EMA's R&D activities, the EMA Governing Council shall adopt the R&D quality assurance plan. In addition, the EMA shall engage internationally recognised visiting researchers. The funding for the EMA's R&D activities comes from the government's additional allocation for R&D activities.
- ✓ The NDAP for 2021-2024 foresees that the funding for R&D activities shall be increased from 0.6% to 0.75%, and the draft version of the NDDP (2030) allocates 1% of overall national defence expenditure to R&D activities.

3.12 Service to Society

Standard: The higher education institution initiates and implements development activities, which enhance prosperity in the community and disseminate recent know-how in the areas of the institution's competence. The higher education institution, as a learning-oriented organisation, promotes lifelong learning in society and creates high-quality opportunities for that.

As an essential part of the EDF, the EMA sees its role in the service of the Estonian society, first and foremost, as that of raising awareness among target groups about the importance of national defence. Secondly, it is important to increase public trust in the competence of military leadership, as well as ensuring the EDF's openness to the public and private sector. Due to the specific nature of the EMA's services, the Academy's main target community is the active service members of the EDF and the EDL who practice lifelong learning, as well as the Estonian and international medical community, to whom the Academy offers training in war and disaster medicine. Thirdly, the EMA serves the society through service-based public sharing of the Academy's resources (e.g. library, museum, simulation systems, weapons and equipment), professional expertise (national authorities and crisis committees), scientific conferences, and exhibition space (e.g. Embassy of Poland, Estonian Reserve Officers' Association (EROA), EDF's Chaplain Service, Estonian Internal Security Service, etc.).

Career opportunities in the EDF and study opportunities at the EMA are introduced at EDF units, schools, fairs and other events, e.g. national defence camps and student days. Over the years, the EMA has hosted visits by kindergartens and schools, national defence education groups and patriotic youth organisations (e.g. Young Eagles/*Noored Kotkad* for boys). In addition, the EMA hosts regular open door days and information days, and offers work shadowing opportunities for pupils. Each year, the EMA cadets represent our school at two major national education fairs (Intellektika and Study in Tartu!), as well as local work and career fairs across Estonia. Career fairs, school visits and other education events are primarily intended for target groups with long-term perspective, i.e. upper secondary school students; whereas open days at military units and career days are geared towards the target group with the highest return on investment, i.e. conscripts, who can enrol at the EMA immediately after completing military service. The EMA's open door days were initially meant for upper secondary school students; however, as of 2019, we also welcome conscripts. Additionally, the EMA also participates in the EDF's promotional events, e.g. Republic of Estonia anniversary parade, 1st September march around Tartu (in formation and in uniform), as well as commemorative ceremonies or campaigns (e.g. "Let Us Salute!" and "Women in Uniform!").

The EMA's WDMC began the providing war and disaster medicine training for medical students in 2012 in order to prepare future health care personnel with national defence readiness. The WDMC organises training primarily for medical students at the UT, as well as nurse and midwifery students and emergency medicine technicians at the health care colleges both in Tallinn and Tartu. National training requirements have been established for registered doctors and nurses working in this area who are exempted from compulsory military service and undergo required basic courses at the EMA.

Health care professionals who complete war and disaster medicine training, and the requisite military training, can be assigned peace-time tasks in the EDF and can be posted in reserve staff positions. From 2015 to 2020, the EMA WDMC has organised 133 training courses for medical students (682 from UT, 1319 from Tallinn HCC and 696 from Tartu HCC).

In addition to medical training, the EMA's WDMC has been organising **annual international conferences on war and disaster medicine** since 2006. From 2015 to 2019, these conferences welcomed 2,080 participants. These conferences address critical topics such as war and disaster medicine, crisis psychology, major incident medical management and support (MIMMS), management of acute and chronic pain, and trauma patients. These conferences have hosted numerous international speakers from Europe, North America and Africa. The WDMC supports training courses for civilians, international courses and military exercises by providing instructors, classrooms and equipment, e.g. in-service training course Advanced Trauma Life Support (ATLS); as of 2017 (with foreign lecturers) HMIMMS (Hospital Major Incident Medical Management and Support), MIMMS, ASSET (Advanced Surgical Skills for Exposure in Trauma), DSTC (Definitive Surgical Trauma Care), and DATC (Definitive Aesthetic Trauma Care), as well as the crisis management exercise TerveX organised in collaboration with the Government Office, Ministry of Social Affairs, Estonian Health Board, and the EDF. In addition, the EMA WDMC holds an international licence to offer the following training courses in English: Tactical Combat Casualty Care Course (TCCCC) and ASMOC/NAMSOC (Advanced Staff Medical Officer Course / NATO Advanced Medical Staff Officers Course).

During the national emergency situation declared due to the COVID-19 pandemic, the EDF set up a field hospital to support the Kuressaare hospital in Saaremaa, the epicenter of Estonia's coronavirus outbreak. EMA medical staff were posted there from March to May 2020 to test and treat SARS-CoV-2 patients. In addition, the EMA WDMC staff is regularly engaged as experts in the work of various crisis committees, e.g. the Government Office expert group on Health Care Management (2016-2017), the Tartu Crisis Committee (2019-2020), and Estonian Health Board Crisis Staff and Emergency Medicine (2020).

Foreign language training (e.g. English intensive and refresher courses, Academic English grammar and conversation courses, online courses, STANAG 6001 exam refresher courses, French and Russian courses) plays a critical role in the continuing education of military professionals. After graduation, the service duties of EMA alumni often bring them into contact with foreign partners, e.g. allied forces stationed in Estonia, international military operations led by NATO, the EU and the UN or in allied coalitions. The EDF officers taking part in international military operations have usually undergone degree studies or in-service training at the EMA. The careers of military officers can also take them into foreign service at NATO and European Union headquarters or diplomatic representations; officers are usually assigned to these posts after completing the Advanced Officer Training Course (approx. 40-50 EDF officers are in this type of service on a regular basis). Excellent foreign language skills constitute the basis for training and service with allied forces, also in understanding planning and tactical procedures. From 2015 to 2020, foreign language courses have been provided for 739 course participants from the field of national defence and 42 active service members from the Armed Forces of Ukraine (2018-2020). In addition, the EMA Department of Foreign Languages Testing Group develops and administers NATO's military English exams (STANAG 6001)[51]: from 2015 to 2019, the exam was administered to 520 active service members and 77 Estonian officials.

The EMA Library, located in the EMA main building in Tartu, is a specialised research library within the unified system of EDF libraries, providing military knowledge and information to the Academy's students and employees as well as to members of the EDF and EDL. In terms of R&D activities, an important indicator is provision of access to different databases, and also IP-based access to databases and e-books (currently in development). The EMA library is open to the general public,

[51] STANAG 6001 Edition 5, Language Proficiency Levels, is the NATO agreed standard for language curriculum, test development, and for recording and reporting Standardized Language Profiles (SLPs).
https://www.natobilc.org/en/products/stanag-60011142_stanag-6001

and its services are regularly used by students from other higher education institutions, as well as academic staff and military enthusiasts. As of 2020, the library holds 26,337 books and 56 journals. The EMA library has approx. 400 active users, with an average of over 1,600 books borrowed annually.

One of the EMA's most extensive tasks is the provision of **in-service training** for EDF and EDL personnel. The EMA's in-service training programme takes guidance from the current and future needs in the area of national defence, in compliance with the EDF's specifications to ensure its personnel are fit for purpose. Duplication within the EDF is avoided by the division of specific competencies between the EMA and the EDF's specialist schools. The EMA's in-service training is evidence-based and, where possible, integrated into vocational and higher education curricula. The in-service training teaching staff have sufficient academic qualifications and professional competence. Table 36 provides an overview of the in-service training courses offered by the EMA and the number of participants.

Table 36. In-service training courses offered to active service members of the EDF and the number of participants who completed the courses

In-service Training Course	2016	2017	2018	2019	2020*
Advanced Officer Training Course for Senior NCOs	30	30	30	30	
Military Basic Course for Staff Officers	71	55	62	62	
Reserve Platoon Commander's Course	101	82	81	86	88
Senior non-commissioned staffofficers advanced course	9		8		15
Naval Officer-Specialist Course				15	
Battalion Staff Officer Course		49	75	61	27
Battalion Staff Officer-Specialist Course					30
Brigade Staff Officer Course		10	9	8	20
Professional refresher courses for military leaders, e.g.: • basic course in communication • implementation course in communication • instructor training • Security Officer Basic Course • Junior Officer Course • tactical decision-making instructor course	76	104	168	159	31
Didactics refresher courses for teaching staff, e.g.: • Effective syllabi in the context of outcome-based curricula • Methods for Effective Lectures • Curricula Development • Student-centered learning methods • Self-development as a supervisor • Planning of learning-supportive assessment • Support for Final Thesis Writing • Mentoring in higher education	31	61	60	20	42

* As at August 2020.

The EMA Museum, located in the EMA main building in Tartu, introduces the history of Estonian military education from the perspective of the EDF's core values and Estonian military history. The museum engages in close cooperation with other museums, collectors and organisations that study Estonian military history. Chief among them is the **Estonian War Museum – General Laidoner Museum** and non-profit organization Legacy of Estonian Military History, the umbrella organisation of Estonian military history museums, with whose support cooperation with several Scandinavian and European war museums has been established. The EMA museum's main role is to popularise Estonian military culture in the larger society. The EMA museum hosts guided tours for schools, EDF conscripts, and military history enthusiasts from Estonia and abroad, incl. the teaching staff and students of the Baltic Defence College, which is located in the same wing of the EMA main building. The academic studies of EMA cadets is supported by guided tours on military history and access to relevant research materials. Between 2016 and 2019, the EMA museum hosted 17 thematic exhibitions and welcomed 11,197 visitors.

In addition, the EMA contributes to the service of society also by sharing its **computer-based simulation systems** within the EDF and others. For example, the JCATS and VBS (Virtual Battlespace) simulation systems are used to support the training of units and sub-units of different sizes, both at the EMA and on-site. The EMA Simulation Centre has 130 computer stations and state-of-the-art hardware to conduct an average of 5 JCATS and 15 VBS exercises annually. Over the years, these exercises have supported NATO's international exercises, national defence classes for school groups, the development of crisis management procedures, and the police.

The EMA furnishes the entire EDF with relevant and up-to-date **educational resources,** as well as promotional materials, some of which reach the wider public (e.g. manuals and textbooks). The **EMA Educational Resources Group** is equipped and staffed to design and publish study materials (incl. audio-visual formats – 36 instructional videos were produced from 2015 to 2019 and digital learning assets). There are also recording and broadcasting capabilities: from 2015 to 2019, the EMA has broadcast 19 EMA science conferences and seminars, and recorded 17 videos. For years, the EMA's video services have supported the MoD's higher national defence courses. The EMA is also in charge of managing the EDF's e-learning portal ILIAS, which is used extensively by various national defence agencies (7,500 users in 2015; 11,200 users in 2020). In recent years, the EMA Educational Resources Group has generated approx. 9,500 publications per year, incl. the publishing of historical books on issues relevant to national defence (e.g. "The History of the Baltic Defence College" by James S. Corum (2014); "Tondi Military School Memorial" by Jaak Haud (2014); "Evidence 1939-1941: Human losses and material damage caused by the Soviet occupation to the Estonian military forces" by Jaak Haud (2019), etc.

Finally, the EMA has consistently supported major public events by loaning combat equipment, weapons, etc. (e.g. Father's Day events, EDL parades on Victory Day, Valga military festival, national defence classes in upper secondary schools, etc.). The public has been offered opportunities to share ideas with the EMA through tactical decision-making games (magazine Sõdur, 2014) and essay contests, e.g. "The Future of Naval Warfare" (2019), as well as on the anniversary of Estonian military education (emblem "100 Years of Officer Education", 2018; "100 Years NCO Education", 2020). The EMA's scientific conferences are generally open to the general public. In May 2020, the EMA Commandant contributed an e-lecture to the "*Tagasi kooli!* / Back to School!" programme, with exciting assignments to try at home, on the topic of the role of officers in the EDF and the Estonian society at large.[52]

STRENGTHS

- ✓ The EMA plays a central role in the provision of military education and lifelong learning, as well as in promoting military culture and raising public awareness on these issues.
- ✓ The EMA plays a key role in sharing and developing knowledge in the area of war and disaster medicine in Estonia through training of national medical personnel, and as the main organiser of an international conference in the field of war and disaster medicine.
- ✓ Support services provided by EMA subdivisions (e.g. library, museum, simulation group, educational resources group) are available to all national authorities in Estonia. Such commonly shared resources also serves the wider public.
- ✓ The knowledge and skills acquired through degree studies and in-service training at the EMA are essential in future military service in the framework of NATO and the EU, as well as international military operations.

DEVELOPMENT PRIORITIES

- ✓ Expanding the provision of in-service training within the EDF and to government agencies (i.e. decision-making models, comprehensive national defence).

NEXT STEPS

- ✓ Presentations by EMA experts at national public sector conferences.
- ✓ Taking the lead in the organisation of alumni gatherings.

[52] The EMA Commandant's e-lecture for the "Tagasi kooli!" programme (in Estonian): *Kaitseväe Akadeemia ülema, kolonel Enno Mõtsa e-külalistund teemal "Milline on ohvitseri roll kaitseväes ja Eesti ühiskonnas?"* https://youtu.be/0uwmtmrnmFE

4. EMA HIGHER EDUCATION and VOCATIONAL EDUCATION CURRICULA: SELF-EVALUATION

Table 37. EMA curricula and responsible managers

Curricula	**Military Leadership for the Land Force**, EHIS Reg. No. 80204, level 7 **Military Leadership for the Land Force**, EHIS Reg. No. 80045, level 6 **Military Leadership for the Air Force**, EHIS Reg. No. 120243, level 6 **Military Leadership for the Navy**, EHIS Reg. No. 109247, level 6 **Military Leadership for Senior Non-commissioned Officers**, EHIS Reg. No. 140843, level 5
Responsible subdivision of the EMA	Until 30 April 2019, ENDC Department of Academic Studies (higher education levels 6 and 7) and ENDC NCO School (vocational education level 5); as of 01 May 2019 **EMA Department of Academic Studies**
Responsible author of EMA curricula self-evaluation	**Nele Rand**, Head of EMA Department of Academic Studies Ph. +372 717 6301 nele.rand@mil.ee
EMA degree study programme curriculum managers	**Lieutenant Colonel Riho Tammistu,** Head of Degree Studies Curricula for Land Forces (as of August 2020), Ph. +372 717 6316; e-mail: riho.tammistu@mil.ee **Lieutenant Commander Taavi Urb,** Head of PHE Curriculum for the Navy Ph. +372 717 6318; e-mail: taavi.urb@mil.ee **Major Reet Stamm,** Head of PHE Curriculum for the Air Force (as of August 2020), Ph. +372 717 6317; e-mail: reet.stamm@mil.ee

This self-evaluation of the EMA degree studies curricula was prepared in conjunction with the EMA's institutional accreditation report. According to EKKA guidelines, the analysis is based on input collected by the Planning Section under the EMA Department of Academic Studies, drawing on relevant regulations, reports, studies (including satisfaction surveys), as well as from the EMA's academic departments (including vocational education).

The EMA offers altogether **four higher education curricula**, all falling under **one study programme group (national defence)**, and one **vocational education curriculum** under the **military studies curriculum group**. The fourth chapter of the EMA's self-evaluation report is divided into two parts due to the fact that the organisation and implementation of all activities (regardless of the curriculum) is conducted in a uniform manner. The first subchapter covers all higher education curricula, outlining specificities, additional information, and examples by curriculum. The second subchapter focuses solely on the specifics of the EMA's vocational education curriculum, and thus, shall not cover issues addressed in the previous subchapters. The EMA's higher education curricula, falling under the national defence study programme group, underwent quality assessment by the EKKA in 2017. The 12 June 2017 decision of the EKKA's Quality Assessment Council outlined the following areas for improvement, which are addressed below in the self-evaluation report.[53]

4.1 EMA HIGHER EDUCATION CURRICULA

4.1.1 Planning and Management of Studies

4.1.1.1 Curricula Design and Development

The regulations and principles for the drafting and development of curricula at the EMA are described in Chapter 3.7. The EMA's primary goal is to ensure that the EDF's recruitment pool has a sufficient number of academically well-educated officers who are well-prepared for future military service (incl. practical skills).

The EMA is of the opinion that excellent conditions have been created for the Academy in terms of both drafting and development of curricula, as all EMA's study programmes are based on the

[53] EKKA Quality Assessment of Study Programme Groups: Decisions and Reports
https://ekka.archimedes.ee/en/universities/quality-assessment-study-programme-group/assessment-decisions-reports

commissions of a specific employer, i.e. the EDF. Over the years, the employer's representatives, of both service branch and weapon types, have been actively involved in the drafting and development of the EMA's curricula. The fact that the EMA has direct access to both employers and alumni has facilitated the administration of various surveys, and makes it easy to collaborate with relevant experts when necessary. A critical feature in the functioning of the Academy, including the overall development of its academic studies, is the so-called cycle of military service, i.e. EMA graduates move on to the EDF units to become employers and some of them return to the Academy, enriched by their service experience, to take up positions on either the EMA's academic or support staff, bringing with them the most up-to-date information about the activities and operating principles of EDF units.

In addition to experts from the EDF, the EMA also collaborates with other higher education institutions and agencies in the process of curricula development and implementation. This collaboration is, to a large extent, necessitated by the lack of relevant expertise at the EMA and/or needs dictated by the EDF's core functions (incl. quality improvement). There are three main areas – (1) maritime, (2) aviation, and (3) internal security and comprehensive national defence – where the EMA engages in close collaboration with the TalTech EMarA, the EAVA, and the EASS. The EMA has concluded procurement contracts with TalTech EMarA (for curriculum "Military leadership for the navy") and EAVA (for curriculum "Military leadership for the air force") for the purposes of conducting individual subject courses or managing entire study modules (incl. syllabi and study resources), as well as taking part in curricula development. In addition, the EMA has concluded an agreement on academic and R&D collaboration with the EASS, whereby the EASS supports the EMA in the teaching of subject courses related to civil-military cooperation and internal security (for land force PHE and MA curricula), and the EMA, in turn, supports the EASS on the subject of the military decision-making process. In addition, the two institutions are also jointly implementing the research project "Development of Comprehensive Situational Awareness Capability for the Coordination of National Defence" funded by the Estonian Research Council. In compliance with EKKA's 2017 accreditation recommendations, EAVA and EASS teaching staff are represented on the EMA's thesis defence committees and vice versa, supporting the openness of the EMA's academic defence process while also enhancing the professional competence of thesis defence committees and enabling EMA teaching staff to gain insights into research conducted at partner institutions. See also Chapter 4.1.2.2.

Although there are no alternatives to any of the above-mentioned partners in Estonia, the EMA collaborates with other agencies in various fields. For example, the Academy cooperates with private companies (via the Navy) in the framework of naval training, e.g. emergency response with Reval Marine & Offshore Training (Reval Safety Training); sailing training with STA Estonia. Foreign partnerships include the Latvian Naval Training Centre, e.g. damage control, and tactical navigation exercises in the bridge simulator. In the framework of the Land Force curricula, the EMA has partnered with the Police and Border Guard Board (civil-military cooperation), and the Baltic Defence College (war history and strategy); and Air Force curriculum practical placements are with the Ridali Gliding Club and the Polish War Studies University Warsaw (air operations).

Formal feedback on EMA curricula and subject courses is collected from students, alumni and employers (see also Chapter 3.3). In the case of students, the focus is primarily on the quality of studies, the suitability of teaching methods, as well as other matters related to studies. In the case of alumni, the focus is on the applicability of acquired knowledge and skills in subsequent military service; whereas in the case of employers, the focus is on the performance of service duties by EMA graduates. Due to the close nature of the EMA's cooperation with the employer, i.e. the EDF, non-formal feedback is also exchanged on a regular basis. For example, at the start of 2020, the EMA Department of Tactics asked the EDF battalion leaders to provide input for amendments to the EMA's Master's studies programme.

The development of higher education curricula is coordinated by the Planning Section under the EMA Department of Academic Studies. Curricular amendments are primarily proposed by the EMA's academic departments and teaching staff, as well as the EDF's specialty schools. However, proposals have also been put forward by partners such as the EAVA and TalTech EMarA. Thus far,

students have not submitted any amendments to EMA curricula; however, EMA teaching staff have annually made several minor amendments on the basis of student feedback received on individual subject courses. Submitted proposals for curricular amendments are reviewed by the curriculum managers, responsible teaching staff, heads of academic departments and subunits, as well as the EMA Planning Section staff. Major changes to curricula are usually necessitated by changes in national legislation, summary reports on student feedback (presented to the EMA Academic Council by the chairs of the Academy's academic departments), satisfaction surveys, and monitoring the work of the EMA academic departments (e.g. writing of research papers) (for more, see Table 38). We are satisfied with the fact that the curricula are regularly updated, i.e. as of 2014, usually once a year (as stipulated in the EMA development plan) and before the start of the new academic year. Such regularity facilitates systematic curricula development, while ensuring, at the same time, sufficient flexibility for efficient updating of curricula. An important innovation in terms of centrally managed curricula development is the appointing of a curriculum manager for the Land Force degree studies curricula as of summer 2020, in addition to the existing positions of curriculum managers (i.e. PHE curricula for Navy and Air Force). On the basis of EKKA's 2017 quality assessment recommendations, the EMA plans to establish a separate curriculum council (one for all curricula), once all curriculum manager positions have been filled.

Table 38. Major changes to EMA curricula 2016-2020. Source: EMA Department of Academic Studies (continued)

Year	Curriculum	Amendment	Input/Basis
2016	All higher education (HE) curricula	changes to the progression of subjects in the training plan in order to integrate studies at the level of higher education, and to eliminate the so-called civilian and military semesters	EMA development plan, student feedback
	All PHE curricula	natural science subjects were reorganised into the single course "War Technologies" in order to link scientific principles, etc. to the solution of the EDF's technical and technological problems	EDF survey
	Land Force PHE curriculum	mechanised infantry speciality added to the curriculum (later renamed to armoured infantry specialty)	EDF: new force capability
2017	Master's studies curriculum	workload of subject "Leadership in Modern Organisations and Society" was increased by 1 ECTS in order to allow for a more in-depth approach	feedback from alumni and employer; results of the military leadership development programme
	All PHE curricula	the orientation course for PHE programmes, i.e. "Synchronization Course" was replaced by the course "Introduction to a Speciality"	analysis of admission tests (EMA Department of Academic Studies)
	All PHE curricula	English (level C1) added to provide cadets with better language skills an opportunity to further develop themselves	student feedback from SIS
	Air and Land Force PHE curricula	addition of Russian language elective course	feedback from alumni and employer
	Air Force PHE curriculum	workload of "Airpower Theory and Air Operations" increased	feedback from employer
2018	Master's studies curriculum	change in the name of awarded degree, i.e. Master's degree in Social Sciences replaced by Master's degree in Military Science and Technology	Organisation of Research and Development Act, Higher Education Standard
	Master's studies curriculum	subject "Infantry Battalion Stability Activities" replaced with "Military Applications of National Defence Strategies"	Curriculum analysis
	All PHE curricula	"Written and Oral Self-expression" and "Fundamentals of Scientific Research" were merged	analysis following thesis defence

		into one subject course “Fundamentals of Scientific Research and Self-expression”	
	Land Force PHE curriculum	modified specialisation module of the logistics specialty	feedback from employer
	Navy PHE curriculum	“Maritime English” added to technology specialty curriculum	on the proposal of the responsible teacher
2019	All PHE curricula	subjects “Fundamentals of Leadership” and “Individual and Society” were merged into one subject course “Fundamentals of Leadership” in order to better integrate the teaching of military leadership and the functioning of a military organisation	departmental analysis (EMA Department of Leadership and Pedagogy
	All PHE curricula	all graduates of the PHE curricula are awarded a Bachelor’s degree	Higher Education Act
	All HE curricula	depending on the level (HE/PHE), graduates are awarded either a Bachelor’s or Master’s degree in Military Science	Higher Education Standard
	Air and Land Force PHE curricula	elective ‘Qualitative Data Analysis’ added	analysis following thesis defence
	Master’s studies curriculum	the semesters of several subjects were changed to better integrate subjects and integrate students into military exercises in order to ensure better quality of teaching content	feedback from teaching staff and EDF units
2020	All HE curricula	component parts of subjects “Master’s Thesis” and “Final Paper” terminated	monitoring the process of writing research papers
	Land Force PHE curriculum	reorganisation of infantry platoon and company-level subjects on combat operations	departmental analysis (EMA Department of Tactics)
2021	All HE curricula	overhaul of all EMA higher education curricula	EDF Human Resource Survey; military leadership development programme; alumni and employer satisfaction surveys

Curricula development at the EMA is also greatly influenced by the research carried out under the purview of the MoD and the EDF (incl. in the EMA, as well as joint R&D projects, see Table 39). Currently, the most substantial research project carried out by the EMA teaching staff is “The EDF Leadership Development Programme 2018-2022”. The project has produced a military leadership competencies model that was used for the development of leadership subjects under the EMA’s Master’s degree programme to support the development of six competencies (i.e. conceptual and professional competencies, as well as competences related to leadership, organisation, communication and self-reflection). In addition, under this project, EMA teaching staff have supervised final or Master theses to collect data on leadership methods applied within the EDF, their efficiency and effectiveness, as well as on motivation, commander-subordinate communication, and requisite leadership competencies.

Integrating the topics of student research with the EMA’s R&D activities is one of the EMA’s top priorities, with the target of ≥40% stipulated in the Academy’s development plan. According to the 2019 report on the implementation of the Academy’s development plan, this target has been met both by the Department of Leadership and Pedagogy (52%), as well as by the Department of Strategy and Innovation (45%). The corresponding figure for the Department of Tactics is low because the department does not oversee any research projects that could be integrated with student research. At the same time, research papers on military topics are produced in the framework of R&D projects under the Department of Applied Research. For examples of integrating student research into R&D projects overseen by EMA teaching staff, see Table 40.

Table 39. R&D projects related to EMA curriculum development (since 2016). Source: ETIS

Period	Research project Study / Survey	Connection to curricula development	EMA subdivision (academic departments)
2016-2022	EDF Leadership Development Programme	leadership and management studies, leadership competencies and development	Dept. of Leadership & Pedagogy
2018-2019	Unmanned systems for improving combat capability of tactical units (classified)	technological solutions to enhance combat capability	Dept. of Applied Research; Dept. of Strategy & Innovation
2018-2021	Development of Comprehensive Situational Awareness Capability for the Coordination of National Defence	comprehensive national defence, cooperation with internal security authorities in times of crisis and war	Dept. of Leadership & Pedagogy; Dept. of Strategy & Innovation; Dept. of Applied Research
2018-2022	EDF human resource survey	development of leadership, incl. mental capacity, will to defend, motivation	Dept. of Leadership & Pedagogy; Dept. of Applied Research
2019-2023	Determination of the mechanical properties of soils in relation to military vehicle trafficability, and development of the mapping tool to visualize the tactical properties of forests	terrain analysis	Dept. of Strategy & Innovation

Table 40. Links between students' final or Master theses and the EMA's R&D projects (2019-2020). Source: EMA Department of Academic Studies

Project	Defended final theses
EDF **Leadership Development** Programme	✓Janari Bertel (2019) "Methods for the Development of Leadership Skills of Reserve Platoon Leaders" Supervisor: Aarne Ermus ✓Erlend Stic (2019) "Changes to Personality, Service Interests and Situational Perceptions in the course of Military Service" Supervisor: Antek Kasemaa
Determination of the mechanical properties of soils in relation to military **vehicle trafficability**, and development of the mapping tool to visualize the tactical properties of forests	✓Martin Abram (MA, 2020) "Validating the NATO Reference Model version II on Estonian peat soils based on CV9035EE" Supervisor: Kersti Vennik ✓Mark Vinogradov (2020) "Assessing BTR-80 Terrain Trafficability on Soils with High Organic Matter Content" Supervisor: Kersti Vennik
Fire Support Software TOORU	✓Andre Adamson (MA, 2020) "An Algorithm to Determine the Aiming Points for Indirect Fire Using the Open Sheaf Method" Supervisors: Veiko Dieves, Feliks Roodvee
Unmanned systems for improving combat capability of tactical units (classified)	✓Margus Pullat (2019) "Use of Unmanned Multi-rotor Aerial Vehicles for Reconnaissance in the Defence of Infantry Company"

The EMA's key priorities for the development of degree study programmes during the period from 2020 to 2022:

- ✓ updating of the EMA's higher education curricula
- ✓ drafting and implementation of Master's degree curricula for the Navy and Air Force

The 2016 satisfaction survey of employers and alumni gave us the first signal of the need to completely overhaul the EMA's curricula, which were drafted nearly ten years ago. In 2017, a discussion on the results of that survey highlighted the need to improve the students' social competencies, their ability to express themselves both verbally and in writing, their IT competencies, as well as their ability to transfer acquired knowledge into real life. The importance of Russian language proficiency was also raised, as was the need for better integration of subjects. On the basis of these proposals, the EMA amended its training plan, created a staff position for lecturer of self-expression, and updated the content of leadership subjects (for more, see Table 38).

The EMA Department of Academic Studies began preparations for the renewal of the higher education curricula in earnest in 2018 when assigned this task by the EMA Commandant's Annual Directive. Taking into consideration that the EDF has not developed relevant professional standards, that the competency descriptions from 2009 are outdated, and that the EDF's educational requirements are too general, the EMA decided to draft functional descriptions for officers that would serve as the basis for subsequent curricula development. The description of functional competencies of junior land force officers was completed in 2018, and revised versions of the same for Air Force and Navy officers were completed in 2019. Further updating of the EMA curricula was temporarily delayed mainly due to the Academy's structural reform, as well as amendments to the Higher Education Act (including the requirement to update more important internal rules and regulations, etc.). However, the process has gained renewed momentum as a result of the EMA Commandant's orders, and is expected to be completed by the end of 2020. The Commandant's directive set forth the main keywords for curricula development, for example, *leadership, resourcefulness, digital competencies, cultural awareness, leadership skills, transferable competencies, Russian language proficiency,* and *fitness habits.*

4.1.1.2 The Relevancy and Coherence of Degree Programmes

According to the EDF's Personnel Strategy 2020-2026, the EDF is still in need of officers from both levels of higher education. As a result, the EMA's efforts in this are highly relevant, and an increase is expected in the number of state-commissioned study places both in degree studies and continuing education. The EMA has already prepared a new version of the 2013 output-based PHE curriculum for the Air Force. Considering that current degree studies in the Land Force Master's programme, as well as the Navy PHE programme are both based on the original output-based curricula, we can safely assume that the quality of and the foresight contained in those curricula (prepared in 2009 and 2011, respectively) is sufficient, especially with minor amendments introduced on a regular basis. Over the years, the main objectives and learning outcomes outlined in those curricula have remained current, despite changes introduced to modules and individual subjects.

The professional specialisation options are dictated by the needs of the EDF's service branches. Following the original adoption of the EMA curricula, changes have been made only to the specialties under the Air Force PHE curriculum (in 2013, addition of air operations speciality, and the specialty of radar and communication officers was changed to air surveillance), and also the Land Force PHE curriculum (in 2016, addition of armoured infantry specialty, previously *mechanised infantry*). Although the distinctive focus of EMA curricula precludes comparison at the national level in terms of content, there are plenty of similar institutions abroad, necessitating the establishment of international partnerships. In this regard, participation in the EU's EMILYO programme has been invaluable, e.g. providing a comprehensive overview of different national military education systems, facilitating teaching mobility, etc.

The fact that the EMA curricula are detailed down to the level of individual subjects ensures consistency and coherence between the objectives and learning outcomes at different levels. The issue of coherence is separately addressed also in the course of the annual renewal of EMA curricula. The syllabi serve as the main instruments for ensuring the coherence of the objective, outcomes, teaching and assessment methods, and assessment criteria of a given subject; each syllabus must be individually approved (incl. ensuring its coherence and overall quality) by the chairs of responsible academic departments. The relationships between the subjects of a particular curriculum are carefully considered in the process of curricula development, and each curriculum also determines the progression of subjects, i.e. the sequence of subjects by academic year and semester. On the basis of student feedback, the EMA's progression of subjects underwent an extensive overhaul in the 2016/17 academic year. As a result, semesters are no longer distinctly divided between academic and military semesters, and a specific time period was designated for carrying out final or Master thesis.

The progression of subjects takes into account the requisite basic knowledge/skills, and the integration of subjects and their supporting disciplines (as stipulated in the EMA Statutes of Curriculum), as well as the overarching teaching principle of gradual progression from easier to more

difficult. The progression of subjects is specified in the EMA training plan, which is prepared annually. For example, under the Land Force PHE curriculum, the subject "Topography and Geoinformatics" is divided into two components: the first part – military topography – covers symbols that are needed in the subject on the planning of infantry platoon combat operations, whereas the second part – geoinformatics (GIS) – is a company-level instrument, and therefore, that component can take place later (even in the separate semester), although definitely before the subject on the planning of infantry company combat operations.

For example, in 2020, the content, learning outcomes and the progression of military technology subjects were modified to ensure that the students would acquire the necessary competencies for mainly tactical subjects to follow. In the case of the Air Force and Navy curricula, the progression of subjects has been determined in close collaboration with the EDF Navy and Air Force, as well as the EAVA and TalTech EMarA. In these fields, the achievement of the requisite level of knowledge and skills is imperative before moving on to subsequent subjects. For example, the Navy curriculum covers navigation theory and practical sessions before practical placement in navigation; and the Air Force curriculum covers the fundamentals of flight safety before flight search and rescue. Table 26 presents an overview of EMA students' satisfaction with coherence between subjects, and their connection with the EDF as a whole.

4.1.1.3 Implementation of Curricula: Material and Financial Resources

On the whole, the EMA is sufficiently equipped with material and financial resources to implement the Academy's curricula. As the EMA is a provider of state-commissioned education, the government provides additional resources through the EDF as needed, even if national defence considerations necessitate the training of just one specialist. The equipment and land resources needed for the Land Force curricula are guaranteed in partnership with the units of the Land Force (incl. the latest technology and systems in use). For EMA students in the Land Force programmes, the largest practice field is the Estonian landscape, first and foremost, the EDF's own outdoor training areas. Naval training takes place, to a large extent, at the EDF's Navy Base (including on warships); whereas Air Force students train at the Ämari Air Base, and the Air Surveillance Wing (including radar stations) of the Estonian Air Force. For a more detailed overview of the budget and infrastructure see Chapter 3.2.

The main problems related to the resources needed for the implementation of the EMA curricula are related to training under the Navy and Air Force programmes. Both the EAVA and TalTech EMarA have been invaluable partners for the EMA, allowing for considerable saving of government resources, i.e. the EMA has not had to establish separate maritime and aviation competence within the Academy, including material resources. At the same time, there has been a marked increase in the general awareness within the Air Force and the Navy with regard to the requisite competencies of the service branch (also due to EMA graduates). Different stakeholders are increasingly pointing to the need to better integrate studies at the EAVA and TalTech EMarA with the professional competencies of the respective service branch, and the need to put maximum focus on the needs of the service branch throughout the course of training (including reducing the share of subjects addressing civilian shipping and aviation). These issues were also addressed by EKKA in 2017 when it recommended expanding the EMA's teaching staff with naval and air force specialists in order to reduce the share of EAVA and TalTech EMarA subjects in the respective curricula (considering low satisfaction with subjects among EMA students). Due to the limited possibilities for the EMA to improve the academic quality of its partners, and considering the cost of naval and aviation training, the following steps have been taken.

- ✓ In 2018, separate teaching staff positions of curriculum managers for the Navy and Air Force PHE programmes were created at the EMA. As of 2018, one of their duties is to give feedback on the syllabi of subjects taught by the EAVA and TalTech EMarA prior to their approval.
- ✓ The terms of reference for renewing the EMA's higher education programmes mandate the introduction of changes to the aviation and naval subjects that would directly support the competences of junior officers in the Air Force or Navy, and avoid duplicating subjects taught at the EAVA and TalTech EMarA.

- ✓ The Navy has received a proposal to optimise the costs of professional training by restricting the opening of certain specialties (e.g. alternately every other year).
- ✓ The Navy has requested the construction of ships (by Baltic Workboats AS in Saare County) to be used, among other things, as practical placement sites for EMA students.

For the purposes of saving resources, the EMA has also made arrangements with other higher education institutions (e.g. UT, Estonian University of Life Sciences, and TalTech) for the use of their laboratories (e.g. for R&D activities). Regarding material resources for the Land Force programmes, the only concern is competition with other EDF and allied units for use of the EDF's training areas. In those instances, the EMA has reorganised its schedules or devised solutions that integrate students' practical training with the military exercises of EDF units.

All training activities under the EDF must be planned and organised in accordance with relevant EDF procedures, regulations and guidelines, as well as the requirements of relevant national legislation, which persons involved in training activities are required to know. Relevant safety requirements are outlined in respective safety regulations and guidelines (e.g. EDF and EDL safety regulations for training activities, safety regulations for conducting firing exercises, rules of use for EDF training areas, etc.), which also cover environmental and fire safety requirements. Environmental considerations related to specific activities are described in sectoral regulations and guidelines (e.g. EDF regulation on waste management, EDF guidelines on hygiene in the field, etc.). These documents serve as 'codes of conduct', outlining the rules on environmentally sound practices for specific areas. As a general rule, such regulations and guidelines also identify the persons responsible and those who are required to comply. All persons taking part in field training must comply with safety and environmental protection requirements, while also ensuring that they are observed by others as well. Prior to the commencement of studies, EMA students are introduced to the guidelines relevant to the subject or activity in question. Depending on the matter at hand, students may also be required to confirm having reviewed the guidelines by personal signature.

In addition, EMA students are guaranteed a range of measures to enable them to devote themselves to their studies (see Chapter 3.10). Based on feedback, students are mostly satisfied with the overall learning environment despite the fact that the infrastructure is quite old (see Figure 27). According to the 2020 satisfaction survey, the students in the Land Force and Air Force programmes are most satisfied (average grade 3.56 and 3.68, respectively), while students in the Navy (3.46) and Master's studies (2.98) programmes are the least satisfied. The living conditions of naval students based in Tallinn need to be improved. The 2020 student satisfaction survey also shows that students are generally satisfied with interpersonal relations and sense of belonging, with results ranging from 3.24 to 3.58 on a 4 point scale, while Master's students seem to be the least satisfied on this point (2.7). The main criticism is that there are less and less of the old traditions that used to cultivate a sense of belonging.

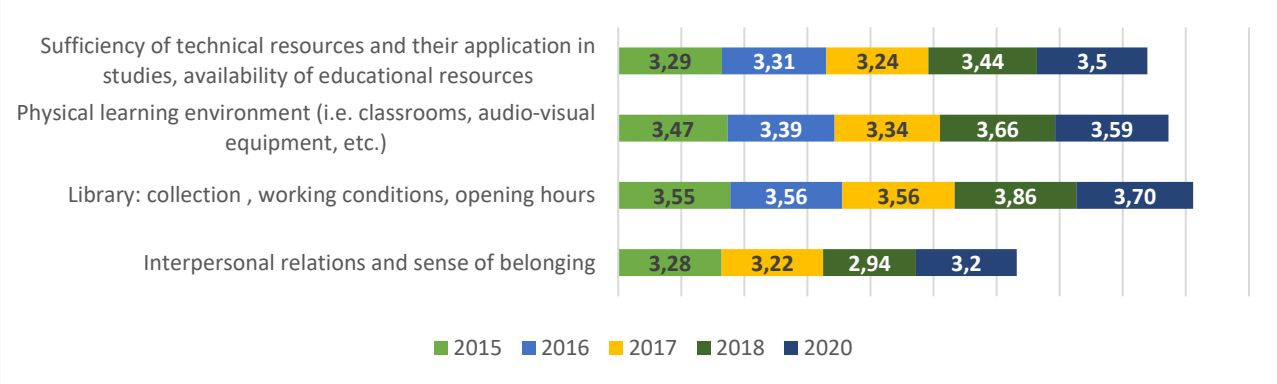

Figure 27. EMA students' satisfaction with the learning environment 2015-2020 (4 point scale). Source: EMA student satisfaction surveys

STRENGTHS

- ✓ All EMA curricula are vertically and horizontally coherent, curricula are continuously developed to ensure coherence and integration.
- ✓ The creation of curriculum manager staff positions as a result of reorganisation contributes to the maintenance of the quality of curricula and to their systematic development.

DEVELOPMENT PRIORITIES

- ✓ Development of maritime and aviation education subjects that are more targeted according the needs of the Navy and Air Force, including the reduction of dependence on TalTech EMarA and EAVA.

NEXT STEPS

- ✓ Renewal of higher education curricula and commencement of studies based on newly approved curricula in the academic year 2021/22.
- ✓ Set up the curriculum council to further improve curricula development.

4.1.2 Learning, Teaching and Assessment

4.1.2.1 Admissions Process

The admissions process is governed by regulations listed in Chapter 3.8. The EMA Master's degree programme is open to all EDF officers who have completed one of the EMA's PHE programmes or completed the required education and military training in another manner. EDF officers are assigned to Master's studies by the EDF HQ Personnel Department on the basis of proposals from EDF units. The EMA's PHE programmes are open to people who have completed upper secondary education and compulsory conscript service, and entered into active military service with the EDF. The EMA allows prospective students to undertake admissions tests before entering conscript service. Applicants who have acquired the requisite education and/or military training abroad are subject to evaluation by the ENIC/NARIC Centre (education), and by the EMA APEL committee (military training). Although the EMA does not admit foreign nationals, about 10% of the students are non-Estonians (by ethnic origin).

The EMA conducts admission tests for its higher education programmes at both levels and altogether three times a year: once for Master's studies and twice for PHE programmes. The admission tests for Master's studies are held in February, whereas the admissions tests for PHE programmes are held in April (for prospective applicants in conscript service), and also in July. The applicants for PHE programmes undergo a uniform admissions testing process, i.e. no distinction is made on the basis of service branches. The specifications regarding the organisation of admission tests (incl. subunit tasks, reporting of results, etc.) is recorded in written for each individual round of admissions tests. The admissions process is overseen by the Admission Boards appointed by the EMA Commandant. The Planning Section under the EMA Department of Academic Studies is responsible for organising the admissions process, incl. preparing the necessary documents and testing sites, coordinating planned activities with all parties involved, organising the exchange of information (incl. with EDF units, Defence Resources Agency), as well as overall administration and reporting of results. In this process, the Planning Section is supported by other subdivisions of the EMA.

For both levels of higher education, all applicants must take a mental aptitude test that will serve as the basis for the ranking of candidates. In addition, PHE programme applicants must also undergo a professional suitability interview, which evaluates their motivation and suitability for studies. In order to ensure maximum objectivity in evaluating interviewees, the EMA has developed a special worksheet and assessment criteria. There are usually several interview committees and, in general, the committees interviewing applicants for the Air Force and Navy PHE programmes include an expert from those respective service branches. In order to reduce subjectivity at the level of Master's studies, the professional suitability interview was replaced by an argumentative essay, which is assessed by academic members of the admissions board (i.e. members of the admission board, except the chair) to ensure confidentiality and impartiality.

In recent years, the EMA has introduced the following changes in the areas related to admission:
2016 / The admission tests for the Master's degree programmes are scheduled to take place in February in order to allow the admitted officers enough time to hand over their professional duties and make personal arrangements.

2016 / By resolution of the EMA Governing Council, the EMA introduced changes to the admissions tests for the PHE programmes, e.g. physical fitness tests were replaced by the mental aptitude test developed by the EMA teaching staff in the framework of the military leadership development programme. Additionally, the admissions process was reorganised to better distinguish between admission tests and requirements for admission to active military service (e.g. EDF's physical fitness tests). Furthermore, materials necessary for conducting background checks were added to the list of required admission documents.
2017 / By resolution of the EMA Governing Council, the EMA introduced changes to the admissions tests for the Master's programme, e.g. the professional suitability interview was replaced by a mental aptitude test and an argumentative essay was added. These changes were introduced (a) to gain insight into the applicants' academic capabilities, their worldview and how well-informed they are, as well as their readiness to take up Master's studies, and (b) to harmonise the admissions process with PHE programmes (incl. more comprehensive ranking of candidates).
2017 / By resolution of the EMA Governing Council, the EMA established a threshold for admissions tests in order to better regulate the Academy's right not to accept low-performing applicants who, based on the EMA's experience, tend to discontinue their studies.
2017 / The pre-requisite course for admission to the EMA's PHE programmes, "Synchronisation course", was reorganised and renamed as "Introduction to the Speciality".
2018 / In order to harmonise the work of the committees conducting professional suitability interviews with applicants to the Academy's PHE programmes, the EMA prepared and adopted assessment criteria for professional suitability interviews as part of the admission rules.
2019 / The EMA began to conduct admissions tests also in spring-time (April), targeting people undergoing conscript service to increase the overall number of students admitted to PHE programmes.
2019 / The EMA updated the conditions and procedures for admission to and exclusion from degree studies (incl. in connection with amendments to the Higher Education Act).

For the purposes of attracting motivated students to its higher education programmes, the EMA has reorganised its activities (incl. more tests), and has begun to target EDF units more actively, i.e. visits to promote learning opportunities offered by the EMA (see Chapters 3.8 and 3.12). However, there is still room for improvement in terms of the number of applicants to the Academy's PHE programmes (especially Air Force and Navy curricula) in order to ensure a bigger selection pool for choosing the future officer corps of the EDF. However, the EMA is of the opinion that this does not fall solely on the shoulders of the Academy because the larger question pertains, first and foremost, to the popularity of the military profession. Recruitment is also hindered by several restrictive selection criteria, e.g. completion of conscript service, citizenship, etc. Additionally, prospective applicants are also influenced by certain inconveniences related to the profession (incl. rotation), and the wide variety of opportunities offered by the so-called open world.

In order to retain motivated and capable students, the EMA requires prospective applicants to undergo an orientation course called "Introduction to the Speciality" as a precondition for admission to its PHE programmes. The details of this course (i.e. duration, objective, and content) were thoroughly overhauled before the 2017/18 admissions process. In addition to harmonising the knowledge and skills acquired in conscript service, this course is primarily intended to enable students to make an informed decision after gaining a thorough overview of studies at the EMA and their future profession. Thus far, EMA students who have discontinued their studies, have identified the following as the main reasons: unsuitability of the profession, insufficient preparation and motivation to continue studies, as well as fear of reimbursing training expenses. The statistics on the discontinuation of studies indicate that the introduction of this orientation course has contributed to a decrease in the number of dropouts, especially in the first year of studies (see Figure 25 in Chapter 3.10). In addition, this orientation course has also reduced the share of people leaving the EMA of their own volition (see Figure 28). In order to promote better study skills, the EMA has introduced a mini course "Studying in Higher Education" which has been offered to both PHE and Master's degree students as of 2012 and 2018, respectively.

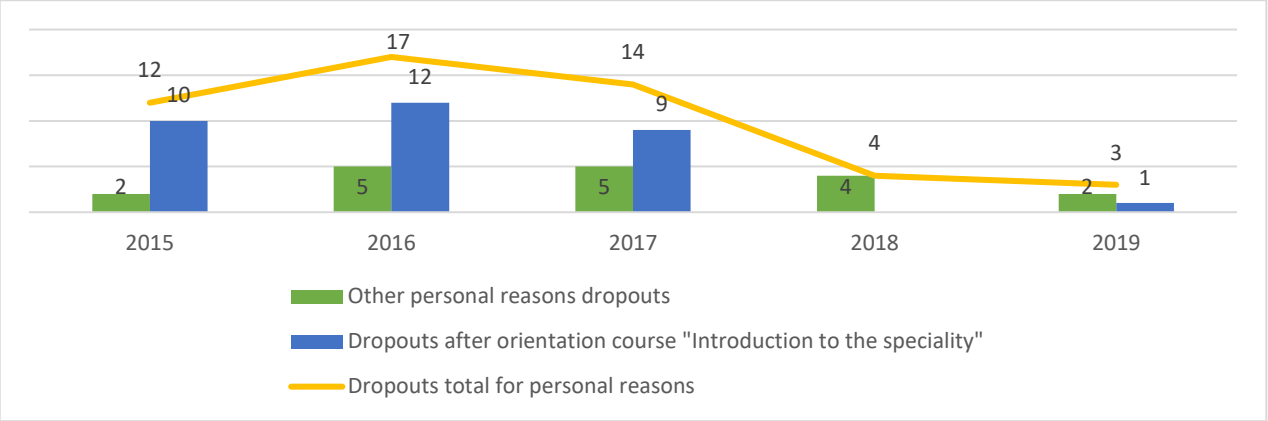

Figure 28. EMA statistics on discontinuation of studies from 2015 to 2019. Source: EMA Department of Academic Studies

4.1.2.2 Teaching and Assessment

Due to the fact that **studies at the EMA are module-based** (including the progression of subjects), the students are not really at liberty to put together a study programme based on their own preferences, as is the case in many other higher education institutions. The modular structure of the EMA's degree programmes is due to the fact that our students are active service members (they receive a salary since studies constitute a part of their service duties), and it also depends on the cost of studies as well as ensuring their provision by the EDF given the means available. For example, it is not possible to provide students with exercises, training fields, warships, etc. at any time during the academic year to support the achievement of mainly practical learning outcomes. Furthermore, the EMA does not have enough teaching staff to ensure such flexibility. Therefore, students are under obligation to follow the given study plan (i.e. official working hours) and they enjoy less academic freedom. Students are afforded some flexibility by the opportunity to take academic leave and use the APEL procedure.

The Land Force and Air Force curricula contain **elective courses** (in the range of 3-9 ECTS) that are meant to offer opportunities to gain in-depth knowledge and skills in related areas; however, no electives are provided in the Navy curriculum. This shortcoming will be dealt with in the course of the upcoming curricula renewal, and the total volume of elective courses at the first and second level of higher education will be increased to 6 ECTS and 12 ECTS, respectively. Students' options are also somewhat expanded by the **professional specialisation module**. While Master's students continue their professional specialisation training (in justified cases it is also possible to change specialities), the PHE students choose their specialties based on the curriculum, and the order for state-commissioned study places submitted to the EMA by the service branches via the EDF HQ Personnel Department.

Joint subjects taught by the EMA teaching staff comprise nearly a third of the **subjects** in the PHE curricula. The EMA teaching staff also teach subjects of the Land Force curricula, both at PHE and Master's levels (except for all professional specialisation studies (except infantry studies), which take place in EDF units/speciality schools). Since the appointment of Air Force and Navy curriculum managers, the EMA teaching staff have also begun to take a more active part in the curricular studies of these service branches. For example, the Air Force curriculum manager-lecturer teaches on average 20 ECTS per year, while also centrally coordinating the practical placements in the Air Force. The Navy curriculum manager-lecturer teaches or curates curricular subjects in the amount of 33 ECTS per year. Nearly half of the teaching staff for the Navy PHE programme come from the Naval School and TalTech EMarA; whereas in the Air Force PHE programme a little less than a half of the curriculum is provided under the supervision of visiting teaching staff from the EAVA and Air Force units (see also Table 44 Chapter 4.1.3). The detailed organisation of individual subjects (including teaching and assessment methods, calculation of the final grade, and assessment criteria) are described in the respective **course syllabi**, which are prepared in accordance with EMA Study Regulations using the template prescribed in the EMA Statutes of Curriculum. All syllabi of subject courses taught at the EMA are available online in the SIS, and according to study regulations, all

students are required to familiarise themselves with the syllabus. In addition, the teaching staff are obligated to provide an overview of the course syllabus at the start of the subject course.

The EMA teaching staff use a wide range of **teaching methods**, i.e. traditional seminars, lectures and practical exercises both indoors and also outdoors. The EMA Head of Didactics Development is responsible for advising the teaching staff on teaching practices, as well as organising training/seminars on teaching and assessment. The heads of the EMA's department chairs are responsible for overseeing the suitability of **teaching and assessment methods** for the achievement of the stated learning outcomes in the course of approving the syllabi of subjects taught under the purview of their academic department. An overview of different types of learning and assessment methods is provided in Table 41.

Table 41. Examples of teaching and assessment methods used by EMA teaching staff. Source: EMA Department of Academic Studies (continued)

Method of Study	Subject (service branch & level of education)	Learning outcomes(s) of the subject course	Method(s) of assessment
Exercises	JP19.08. **Management of Peace Time Unit II** (Land Force, MA)	- planning and conducting of disciplinary proceedings in accordance with the law; - planning of activities, budget and training at battalion and brigade level	case study, portfolio
Live fire exercises	JP16.04. **Infantry Squad Live Fire Exercises (LFX) and Blasting** (Land Force, PHE)	- observance of relevant EDF safety regulations when planning and preparing firing exercises	written evaluation (planning of firings and ensuring safety; practical firing (organisation)
E-learning	JP17.02. **Applications of Psychology in the Defence Forces** (Navy, PHE)	- as a military leader, takes into account the basics of human motivation and regulation of human behaviour; - understands the consequences of excessive distress and combat stress, and is able to detect relevant signs both in themselves or their subordinates	formative assessment; assignments in e-learning and seminars, incl. open and multiple-choice tests and case studies, self-reflection, written summaries and concept maps
Lecture/ Seminar	ÕV17.02. **Air Power Theory and Air Operations** (Air Force, PHE)	- can describe the basic principles of air power theory, and knows the main theorists; distinguishes between and describes different types of air operations and understands their applications; - can list the instruments used in air warfare, describes their capabilities, usability and tasks, and can explain the impact of technology on air operations	academic interview and written test (in English). The interview comprises a round of Q&A, and a discussion. The written test includes both open and multiple-choice questions.
EMA-wide exercises: **"Emajõe kilp" (MAPEX)**	TK20.08. **Infantry Platoon in Different Types of Combat** (Land Force, PHE) TK20.09. **Planning of Infantry Platoon Combat Operations** (Land Force, PHE) TK16.03. **Planning and Command of Infantry**	- interoperability training integrating different levels of command; - reinforcement of knowhow and skills for defensive operations in combat planning and command	formative feedback from OCTs (Observer Controller Trainer), and feedback from evaluators in the form of after-action reviews (AAR)

"Kõue turm" (MAPEX, TEWT)	**Company Combat Operations** (Land Force, PHE) TK19.18. **Planning and Command of Infantry Battalion and Brigade Combat Operations** (MA) JP16.32. **Conducting Military Exercises** (MA)		
	TK20.15. **Fundamentals of Infantry Platoon Combat Operations** (Navy, PHE) TK20.16. **Infantry Platoon Combat Operations** (Air Force, PHE) TK16.03. **Planning and Command of Infantry Company Combat Operations** (Land Force, PHE) TK17.12. **Practical Placement – Staff Procedures of a Battalion and Brigade** (MA)	- interoperability training integrating different levels of command; - reinforcement of knowhow and skills for offensive operations in combat planning and command	formative feedback from OCTs (Observer Controller Trainer), and feedback from evaluators in the form of after-action reviews (AAR)

The EMA collects regular student feedback on teaching methods. In general, students have been largely satisfied with the interactive nature of teaching methods and activities chosen by the teaching staff in recent years (see Figure 29). In recent years, there has been an increase in the use of active learning methods, as indicated in Chapter 3.8.

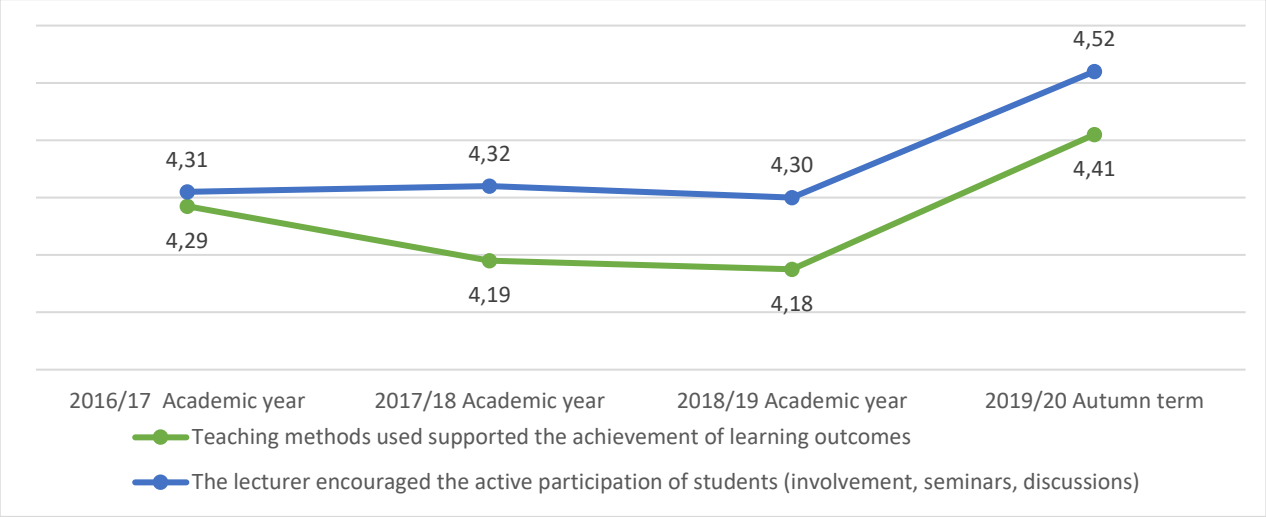

Figure 29. EMA student satisfaction with teaching methods and the interactivity of teaching from 2016 to 2020 autumn semester. Source: Summary reports on student feedback

In military subjects under the Land Force degree programmes, students' abilities (e.g. in practical performance are taken into account when assigning them to different positions (e.g. infantry platoon and company combat operations, battalion and brigade training). In naval subjects, it is observed that students who manage on the bridge, would also acquire relevant competence also in the machinery section and vice versa. The teaching staff is under obligation to offer consultations to support students who are making poor academic progress.

Digital (including electronic) tools and systems constitute an integral part of the EMA's teaching process. For example, Land Force PHE students learn to use different communication and weapons systems; Air Force students learn high-tech solutions for air surveillance; Navy students learn to use

navigating systems on warships; while Master's students learn to use the EDF's situational awareness system KOLT in the framework of battalion and brigade-level combat operations. Valuable training support is provided by computer imitations and simulation systems (e.g. JCATS in Land Force programmes; leakage, emergency response, firefighting, marine rescue simulators and bridge simulators in the Navy; and Integrated Simulation Packedge in the Air Force.

In recent years, the EMA has focused significant attention on enhancing its teaching process through the **vertical and horizontal integration of studies**. In the 2016/2017 academic year, the EMA launched two **EMA-wide military exercises** with a view to developing requisite service competencies (i.e. exercise *Emajõe kilp* focusing on defensive operations, and *Kõue turm* for offensive operations), as well as offering several other benefits. First, the exercises help highlight the focus of EMA programmes, i.e. tactics and pedagogy. Second, joint exercises enable the integration of training of different types of service branches and tactical units, as well as different levels of education; and are planned and implemented by the students themselves who take on responsibilities as commanders and subordinates within their respective units in various tactical learning scenarios. Third, non-military subjects (e.g. law, technology, history, etc.) are also integrated into the exercises through various learning situations; and finally, the exercises harmonise the concepts, procedures and terminology of interoperability among EMA staff and students.

Depending on the exercise, practically all the EMA student corps is involved via their respective curricular subjects, i.e. (1) all first-year PHE students (platoon level), (2) second- and third-year PHE students (platoon and company level), (3) first- and second-year Master's students (battalion and brigade level), as well as (4) in-service training course participants (see also Table 41). Afterwards, feedback is collected from participants based on their role in order to improve the efficiency of future exercises.

There are also **various other formats for the integration of studies**, incl. on a smaller scale in other subjects. For example, English teachers give feedback on the English-language orders given in the framework of military subjects; company-level combat operations planning exercises engage both Land Force PHE students as well as vocational students in different roles; security policy analyses integrate both legal and historical perspectives, etc.

The **conferences and seminars** organised by EMA academic departments (see Table 42) are also related to the subjects taught. On the one hand, they support departmental R&D activities; on the other hand, they facilitate a more in-depth approach to subjects. Using Didactics conference as an example it means that the second-year master's students write a scientific essay within the subject "Methods of Scientific Data Collection and Research" and give a presentation at the conference, demonstrating the ability of processing of research articles, text compilation and communicating their vision as a future leader in writing and orally. The cadets of the professional higher education of the second academic year compile a short article within the subject "Fundamentals of Scientific Research and Self-expression in Estonian" and present it with a short presentation. Through this they practice the preparation and citation of a scientific text and the experience of public speaking. The cadets of the professional higher education of the first academic year conduct workshops within the subject "Instructor Course", where they demonstrate different teaching methodologies, practice observation and feedback.

According to the EMA curricula, the main purpose of **practical placements** is to provide students with an opportunity to acquire their first experience in the performance of service duties under the guidance of a supervisor. Practical placement postings are guaranteed by the respective EDF service branches, and are usually conducted within units/platforms of the respective service branches of the EDF, e.g. "Practical Placement – Junior Officer Peacetime Post" either in the 1st or 2nd Infantry Brigade; "Practical Placement − Warship Command" with the Navy; and "Practical Placement – Airfield Specialty" at the Ämari Air Base.

Practical placements enable students to use the systems and platforms that they will be using in the performance of their future service duties. For example, in the Air Force PHE programme, Air Operations specialty students use the MASE (Multi Aegis Site Emulator) and NECCCIS (North

Table 42. Connections between conferences/seminars and academic studies at the EMA. Source: EMA Department of Academic Studies

Conference / Seminar	Connection to curricular subjects	Organised by
Didactics conference	JP16.10. Instructor C (PHE) JP18.01. Fundamentals of Scientific Research and Self-expression in Estonian (PHE) JP19.10. Methods of Scientific Data Collection and Research (MA)	Head of Didactics Development; Dept. of Leadership & Pedagogy
Leadership conference	JP17.02. Applications of Psychology in the Defence Forces (PHE) JP17.05. Leadership in Modern Organisations and Society (MA)	Dept. of Leadership & Pedagogy
Tactics seminar	TK16.01. Fundamentals of Combat Operations (PHE) TK19.03. Planning of Infantry Battalion Combat Operations (PHE) TK16.23. Combat Activity of Joint Forces and Combined Arms (MA)	Dept. of Tactics
Conference on military technology	LT20.01. Military Technology I (PHE) LT20.02. Military Technology II (PHE) LT16.06. Military technology V (PHE) LT19.07. Battlefield Systems (MA)	Dept. of Strategy & Innovation
Conference on military history	ST09.02. Estonian Military History (PHE) ST16.07. History of the Art of War (MA)	Dept. of Strategy & Innovation
Strategy conference	ST16.08. Security Policy and Defence Strategy (MA)	Dept. of Strategy & Innovation

Europe Command, Command and Control Information System) systems, while Air Surveillance specialty students perform tasks using RRC (Radar Remote Console) and MIPS (Mission Planning System). The students in the Navy PHE programme learn to use, depending on their specialty, navigation, communications and weapons systems on warships (naval tactics specialty); or power, electrical and auxiliary equipment (naval technology specialty).

All practical placement subjects are assigned responsible teaching staff who are tasked with preparing the syllabi, which outline, among other things, assessment criteria and conditions for the completion of the practical placement course. In addition to the syllabus, the responsible teaching staff is tasked with coordinating the placement between the EMA and relevant EDF units in accordance with the guidelines documents prepared for each curriculum (i.e. Land Force PHE, Navy PHE, Air Force PHE and Master's studies), which outline the responsibilities of all parties involved. The responsible teaching staff give preliminary guidance to the students and their respective supervisors in the EDF units, and monitors the overall process to obtain an overview of the students' performance and any problems encountered (the process includes discussions with students and supervisors).

Students' practical placement performance is evaluated, in the Air Force and Land Force curricula, on the basis of practical placement portfolios that contain the student's self-analysis; in the Navy, the same is done with a sea training task book. Supervisors, in turn, write a report on each student who undergoes practical placement under their supervision. Due to the fact that for the duration of the practical placement, EMA students are transferred to another EDF unit, the assignments to practical placement are done by the directive of the Commander of the EDF. This is also related to one of the main problems with practical placements, i.e. if the directive is delayed, it will inevitably also delay the preparation of supervisors, which will, in turn, affect their understanding of their role as supervisors and the overall quality of the practical placement. As a result, there have been incidents where supervisors do not engage students in a strategic manner in tasks related to learning outcomes. This has led the EMA to conduct site visits to remind supervisors of their responsibilities, and generally this has worked quite well.

The EMA has not conducted any student surveys focusing specifically on satisfaction with the organisation of practical placements since 2017. The main source of feedback on the quality of practical placements is derived from the reports submitted by students and supervisors, as well as the results of site visits and student feedback on individual practical placement subjects. Feedback given to practical placement subjects indicates that PHE students are mostly satisfied, with an

average score of 4 or higher on the 5 point scale; whereas dissatisfaction on the part of Master's students is mainly due to shortcomings related to supervision and general organisation. In order to make improvements in this area, the EMA Department of Tactics prepared the practical placement guidelines (incl. outlining the responsibilities for all parties involved), resulting in an increase in the overall satisfaction with practical placement (see Figure 30). However, in order to gain better insight into this area, the EMA has decided to launch a survey focusing specifically on satisfaction with practical placements.

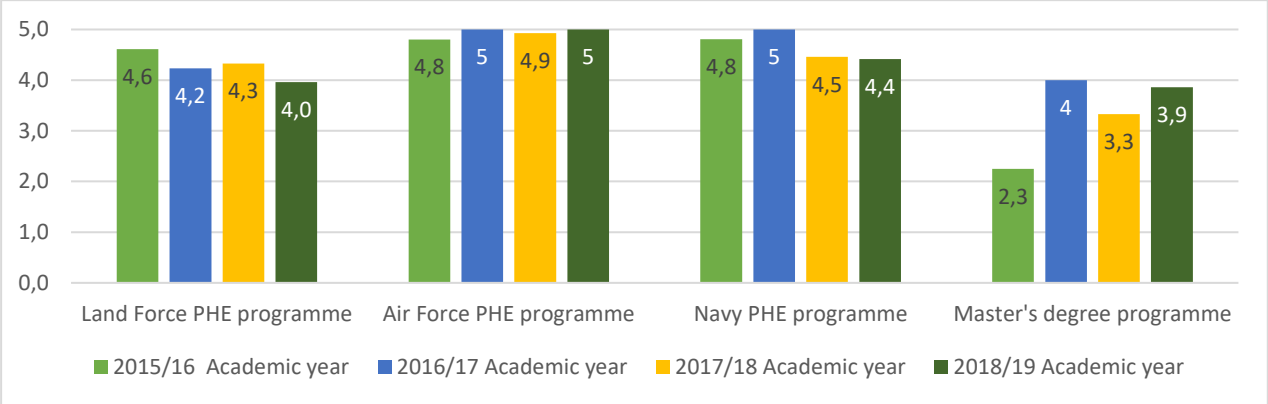

Figure 30. EMA higher education student satisfaction with practical placements 2015-2019 (5 point scale). Source: Summary reports on student feedback

At the level of higher education, **student feedback on the subjects taught** has generally been positive throughout the years (see Figure 31). EMA students are also satisfied with the quality of the teaching activities (see Figure 32). However, satisfaction surveys also indicate the need for improvement. In terms of subjects and teaching, the main challenge lies with the development of the teaching skills of staff from other educational institutions, as well as issues related to the content and quality of the teaching. The results of the most recent student satisfaction survey reveal that Air Force and Navy cadets point out the quality at the TalTech EMarA and EAVA, mainly with regard to poor alignment with the EDF and the respective service branch. Until the EMA has overhauled its curricula, the Academy shall provide training for teaching staff at other educational institutions. The Navy and Air Force programme studies conducted outside the EMA are guided, as much as possible, by the respective curriculum managers. In addition, the EMA plans to prepare a special guidelines document on planning (incl. budgeting) and implementation (i.e. requirements for syllabi, as well as the structure, content and quality of studies) for Land Force specialty schools.

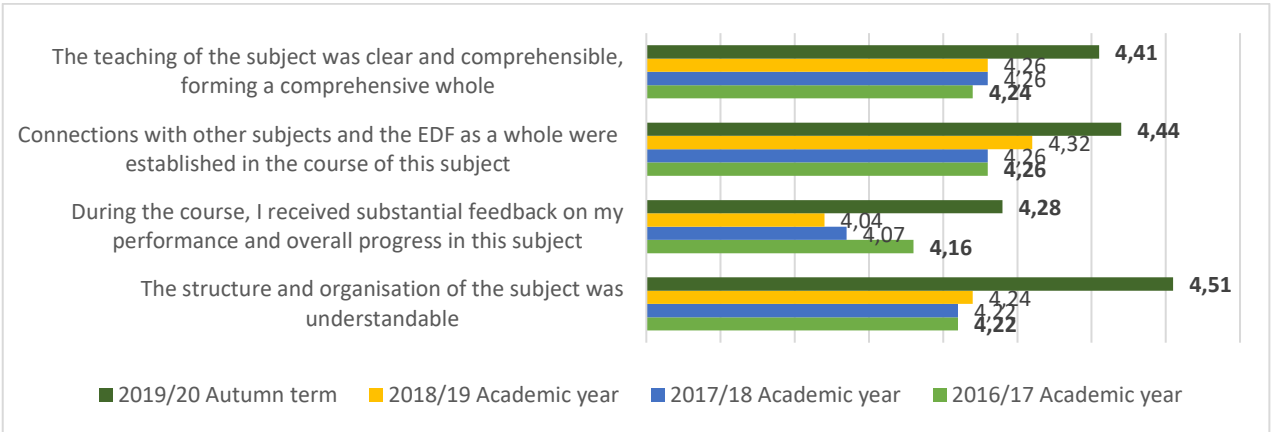

Figure 31. EMA student satisfaction with curriculum subjects from 2016 to 2020 autumn semester (5 point scale). Source: Summary reports on student feedback

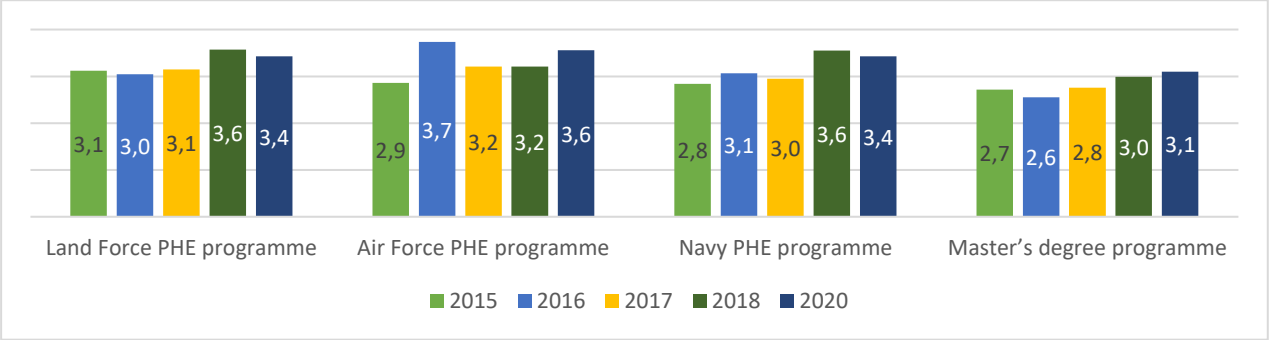

Figure 32. EMA student satisfaction with the quality of teaching 2015-2020 (4 point scale).Source: Summary reports on student feedback

The SIS student feedback form includes a question on the congruity between the amount of **credit points and the actual workload** of individual subjects, which is regularly monitored. In general, students seem to think that the credit points awarded for individual subjects are in alignment with the required workload (see Table 26 Chapter 3.7). However, there have been some exceptions, and in those cases the responsible teaching staff is consulted, the workload or assignments are analysed, and depending on the findings, the amount of independent work is either reduced or increased.

As for student satisfaction with the teaching skills and professional competence of the EMA teaching staff, the average is in alignment with the target of ≥ 3.0 (on a 4 point scale) prescribed in the EMA development plan (see Figure 33).

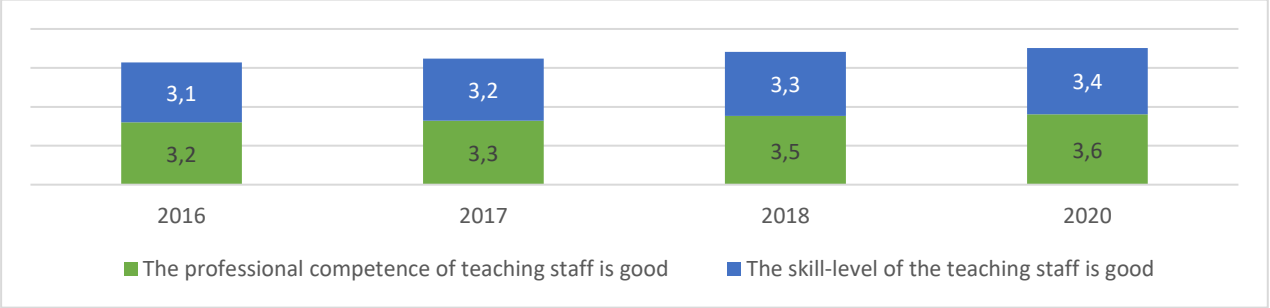

Figure 33. EMA student satisfaction with the skill-level and professional competence of the EMA teaching staff. Source: EMA student satisfaction surveys 2016-2020

To complete the higher education programme in full, the student must write and defend either a **final thesis** (PHE) or a **Master's thesis**. There are no final examination options foreseen for the completion of higher education programmes. Since failure to defend a final/Master's thesis is one of the main reasons for exclusion from the EMA due to poor academic progress, the Academy has been actively focusing on improving this area in recent years. The writing of final/Master's theses is regulated by the EMA Guidelines and Procedures for Final Theses, while the more specific requirements regarding structure and formatting are set out in the EMA Guidelines on Written Work, with a new version approved in 2016 and updated in 2020. The most recent update of these guidelines was meant to reduce the complexity of the procedure and to make the process more flexible overall.

The list of potential **research topics** is compiled by the Planning Section under the EMA Department of Academic Studies by surveying EMA teaching staff, researchers, and the Navy, Air Force, and Land Force specialist schools. After the list has been reviewed by the EMA Department of Academic Studies, students are provided with the list of topics, which includes a summary description of the research problem, suggested research methodology, introductory literature, and the thesis supervisor. However, students retain the right to choose their topic of research based on personal interests related to the EDF and military science. Air Force and Navy students are not obliged to choose a topic that is related to their respective service branches, i.e. since these are all Military Leadership degree programmes they are free to choose any topics related to the military. This also mitigates, to some extent, the problem with finding qualified thesis supervisors from the Navy and

the Air Force, which is often due to the fact that potential supervisor candidates are too busy with their service duties.

To facilitate a more systematic approach to the selection of research topics, the EMA Department of Academic Studies has organised, each autumn as of 2017, an **academic evening** that brings together supervisors and students for the purposes of proposing and discussing potential topics for research. The Academy supports the writing of final/Master's theses by way of offering altogether three **seminars,** chaired by EMA teaching staff, over the course of a 1.5-year period. As of 2016, the EMA training plan includes a designated time period for writing final/Master's thesis, which corresponds to the curricular workload of the subject. What is more, following the creation of the position of lecturer of self-expression in 2019, the EMA has also began organising writing workshops in addition to the seminars. However, despite the fact that the EMA has provided special training for supervisors, there is still room for improvement both in the EMA as well as across all EDF service branches. Thus far, the research writing process has not been systematically monitored on the basis of surveys, which could inspire further improvements.

The students who successfully defend their thesis papers, are offered an opportunity to publish their research in the Academy's scientific journal "Estonian Journal of Military Studies" (EJMS) (ETIS classification 1.2). In recent years, the EJMS has published several articles authored by EMA graduates:

- ✓ **Ivo Silbaum,** Kersti Kõiv: "Predictive Factors of Job Performance Success on the Example of the 14th Basic Officer Training Course" (Master's thesis 2016)
- ✓ **Kaarel Kattai,** Kristjan Kask: "The Effect of Environment in Supporting Conscripts' Adaptation" (Master's thesis 2016)
- ✓ **Madis Amer,** Svetlana Ganina: "Teaching Methods Used in the Training Course for Conscription-Based Non-Commissioned Officers" (PHE final thesis 2016)
- ✓ **Argo Sibul,** Kersti Kõiv, Eero Aija: "The Implementation of Mission Command Principles in the Baltic Battalion" (Master's thesis 2016)
- ✓ **Rainek Kuura,** Reelika Suviste, Svetlana Ganina: "Improving Organizational Learning at the Estonian National Defence College" (Master's thesis 2016)
- ✓ **Allar Eesmaa,** Svetlana Ganina: "Syllabus Development Principles on the Example of Basic Rifle Marksmanship Training" (Master's thesis 2017)
- ✓ **Vjacheslav Senin:** "Functional Training as a Tool for Improving the Physical Training of Conscripts" (Master's thesis 2017)
- ✓ Tõnis Männiste, **Robert Rajaste,** Reelika Suviste, Margus Pedaste: "Situational Judgment Tests for Assessing Platoon Level Military Commanders' Decision-Making Skills in Simulated Battle Situations" (Master's thesis 2018)
- ✓ **Lauri Teppo:** "Wargames – A Viable Research Method?" (Master's thesis 2019)
- ✓ **Robert Kase,** Aivar Pilv, Svetlana Ganina: "Improving Reservist Refresher Training: Feedback from Wartime Company Commanders on Refresher Training Exercise „Okas"" (Master's thesis 2019)
- ✓ **Philipp Ainso**: "The EU's Permanent Structured Cooperation (PESCO) in the Area of Security and Defence Policy – A Threat or Asset to Estonia's Security Policy?" (Master's thesis 2019)
- ✓ **Grigori Gavrilov** "Amphibious Assault as a Potential Threat to Estonia" (PHE final thesis 2019)

Students' academic progress is assessed on the basis of uniform regulations and principles described in Chapter 3.9. In addition, students can apply for the recognition of their prior learning and/or work experience through the EMA's APEL procedure, and seek the counsel of the EMA's APEL advisors (two separate people for vocational and higher education programmes), who are responsible for assisting APEL applicants in preparing the necessary documentation. The number of APEL applications across different curricula varies from year to year and depends, among other things, on the personal backgrounds of students entering the course, their motivation and previous experience.

Overall, APEL is most frequently used by external students in the Navy PHE programme and Land Force Master's programme, mainly due to extensive and varied previous work experience and in-service training both in Estonia and abroad. External students are also, on average, more successful in the APEL process because due to their age they have more extensive learning and work experience. In those cases, for example, learning outcomes of a more theoretical nature can be covered by previous studies, and the level of practical skills can be verified by relevant work

experience, which full-time students often lack. Full-time PHE students in the Navy, Air Force and Land Force programmes are also quite active in using the APEL procedure, with Navy and Land Force students (incl. Master's studies) as the most active, as they have often commenced their higher education studies elsewhere (e.g. TalTech EMarA, UT, etc.) and/or already have previous service experience in the EDF.

However, not all APEL applications are successful (across all levels of education, incl. external students), and the main reasons for rejection are related to the fact that the required learning outcomes have not been properly achieved. For example, subjects that have not been taken into account are "Specialised English for Land Forces", "Medical Studies", "Instructor Studies", and "Conducting Exercises", where it is also important to achieve both theoretical and practical learning outcomes (including those that are specific to the military context), i.e. the applicant may have acquired very good theoretical knowledge and skills, but may lack relevant practical experience or vice versa. Another relatively common reason for rejecting APEL applications is when the content and scope of knowledge and skills does not correspond to the learning outcomes of the subject the applicant would like to replace with the APEL procedure. Such cases are usually related to situations where the previously completed subjects bear equivalent or similar names as those in the current EMA curricula, but the content does not actually cover the required learning outcomes either in the required study workload or the scope of the subject. For example, a psychology course completed at the UT may not cover the learning outcomes of the EMA subject course "Leadership Psychology in a Military Organization" to the required extent.

In 2017, the EKKA Quality Assessment Council put forward the recommendation to invite representatives from outside the EMA, both from other higher education institutions as well as national agencies, to serve on the Academy's boards and committees. To that end, the Academy has invited representatives from the MoD, as well as **teaching staff from outside the EMA** (e.g. EASS, EAVA, etc.) to serve on its thesis defence committees (see Table 43). Annually is formed one committee for MA level and different committees for PHE level depending on theses' topics not curricula. The representatives from outside the EMA are involved in PHE committees based on their expertise.

Table 43. Members of the EMA thesis defence committees from outside the EMA 2015-2020. Source: EMA Department of Academic Studies

Year	PHE Final Thesis Defence Committee	Master's Thesis Defence Committee
2020	Reelika Semjonov, MoD[54] Viktor Trasberg, Associate Professor, EAVA Karl-Eerik Unt, Department of Aeronautical Engineering, EAVA	
2019	Valeri Kravets, lecturer, EAVA	Reelika Semjonov, MoD Tarmo Terep, Chair of Crisis Management and Fire Safety, EASS Rescue College
2018	Valeri Kravets, lecturer, EAVA Priit Pajuste, Department of Aviation Management, EAVA	Reelika Semjonov, MoD
2017	Reelika Semjonov, MoD	Reelika Semjonov, MoD
2016	Reelika Semjonov, MoD Tõnis Sõnum, MoD	Reelika Semjonov, MoD
2015	Reelika Semjonov, MoD	Reelika Semjonov, MoD Mart Noorma, Vice Dean for Science and Technology, UT

In addition, the EMA also invites experts from outside the EMA to serve as reviewers in the thesis defence process (to avoid conflicts of interest). For example, in recent years, final/Master's theses have been reviewed by active service members (from EDF units and EDF HQ), researchers from the Estonian War Museum, and faculty members from various institutions of higher education, incl.

[54] In 2020, the representative from the Ministry of Defence was appointed to the PHE thesis defence committee by mistake, and when the mistake was discovered, it was no longer possible to make changes to the composition of the committee.

UT, Estonian University of Life Sciences, TalTech, EASS, and EAVA.

In the process of evaluating final/Master's theses, it is important to ensure that the respective syllabi stipulate detailed assessment criteria based on the learning outcomes, which serve as the basis for the work of reviewers and the thesis defence committee. Detailed assessment criteria serve to reduce subjectivity in the assessment process, and ensure that both reviewers and the thesis defence committee make their decisions on a uniform basis.

4.1.2.3 Organisation of Studies and Support Services for Students

The duties, rights and obligations of different stakeholders in the study process are governed by the **relevant regulations,** which are generally based on the EMA Study Regulations. All EMA students, as well as staff taking part in the study process, are under obligation to review and observe EMA regulations on the organisation of studies. In addition, students are provided with a wide range of options for seeking advice and assistance, as well as a wide variety of support services to facilitate participation in studies and achievement of learning outcomes (see Tables 33 and 34, Chapter 3.10).

The Planning Section, in collaboration with the EMA academic departments, both under the Department of Academic Studies, is responsible for the overall practical organisation (incl. course schedules) of curricular studies at the EMA. From 2015 to 2020, the EMA used the online SIS "ÕIS" along with other Estonian professional higher institutions for the purposes of organising studies, exchanging information, and managing various aspects of teaching activities (i.e. students, syllabi, study results, certificates, schedules, etc.). As of June 2020, the EMA has adopted a new SIS "TAHVEL", which offers a number of important additional features. For example, the new system is interfaced with various national information systems such as the EHIS, Information System of Estonian Schools (EKIS), and the government employee self-service portal (RTIP), which all facilitate the streamlining of various administrative processes. The Planning Section is also tasked with the drafting and updating of relevant documentation, overseeing major academic processes (i.e. admission tests, thesis defence, etc.), as well as related administrative tasks (including procurement, contracts) and communication. The organisation of studies under the Navy and Air Force PHE programmes is administered in partnership with their colleagues at TalTech EMarA and EAVA. An important role is also played by academic advisers and specialists who help students with various issues related to the organisation of studies. In addition, the EMA has an external relations specialist to help students with issues related to international mobility. Overall, the Planning Section bears the brunt of any problems in the organisation of studies, as it is constantly under pressure from different, often opposing, stakeholders (i.e. students, teaching staff, employer, etc.), which is also reflected in low ratings in student feedback (see Figure 23, Chapter 3.8). However, recently satisfaction with the planning of studies has gradually started to improve, due to the systematic and high-quality work delivered by the Planning Section.

The state-commissioned study places for each academic year, broken down by service branches and specialties, are determined and submitted to the EMA by the Personnel Department of EDF HQ. At the level of PHE programmes, the EMA Student Corps is responsible for overall guidance related to the selection of professional specialties. All PHE students will be assigned to professional specialties by the end of the second academic year at the latest based on the needs of the EDF service branches, academic achievement, specialty completed in conscript service, and also the student's personal preference. After graduation, having secured approval from the EDF, graduates can undergo additional specialty training if they so desire or if it is deemed necessary by the EDF to allow for greater flexibility in an officer's military career.

National and international student mobility is organised either in the framework of the curricula or based on individual offers, and is financed from the Academy's budget. The most important international mobility indicators are broken down by study programmes in Table 17, Chapter 3.5.

Students are regularly asked to give feedback on the subjects taught, and the EMA also conducts regular satisfaction surveys (incl. learning environment, etc.). The students are allocated a designated time in their schedules for filling out feedback questionnaires via SIS. Since students have complained about transparency with regard to follow-up based on the feedback they have

provided, the EMA has introduced the practice that teaching staff must present a summary report on student feedback both at the end of the subject to the students who gave the feedback and to new students in the new academic year, also adding an overview of planned improvements, if necessary. In addition, summary reports on student feedback are also presented to the EMA Academic Council at the start of each semester, and the chairs of the EMA's academic departments provide an overview of planned improvements. The student representatives on the EMA Academic Council are responsible for communicating this information to the rest of the student body.

According to the results of the 2020 student satisfaction survey from all study programmes the EMA must focus on the improvement of communication, the content of studies, the development of pedagogical skills of the teaching staff (incl. in specialist schools), indicating the share of contact learning and independent work in course schedules, discipline and physical fitness, and introducing future career options (Navy and Air Force). However, regardless of the Academy's efforts in this area (i.e. changes made based on student feedback, reporting via the Academic Council, etc.), students still feel that the EMA should do more to follow-up on their feedback.

Neither the EMA nor EDF conduct surveys on the employment of graduates because all EMA graduates are **guaranteed professional postings** in active military service with the EDF, and the majority of EMA graduates move on to postings assigned by the EDF. In addition, the EDF does not operate on the basis of vocational qualifications, and therefore graduates do not need to undergo separate vocational examination or certification. What is more, since studies at the EMA constitute an integral part of the EDF's career system for active service members, most EMA graduates return to the Academy in one way or another, either to continue their own education (e.g. degree studies, in-service training) or to educate the next generations as EMA teaching staff. The EMA has no statistics on EMA alumni who have left active service; that is monitored by the Personnel Department of EDF HQ. However, the EMA does conduct satisfaction surveys among its alumni to inquire about the applicability of their studies in military service (see Chapter 4.1.1.1 for results from 2016). The EMA is currently reviewing the results of the 2020 satisfaction survey and planning improvements.

STRENGTHS

- ✓ The EMA's admission requirements apply uniformly to all applicants and are geared towards finding motivated students.
- ✓ In the case of improvement activities, student feedback is taken into account.
- ✓ The teaching and assessment of students is in alignment with stated learning outcomes and supports the achievement of learning outcomes.
- ✓ The study process is carried out in cooperation with other higher education institutions and government agencies.
- ✓ The studies at the EMA are integrated, and the teaching staff is engaged in comprehensive collaboration. The military exercises and conferences organised by the EMA are integrated with studies.
- ✓ All EMA graduates are guaranteed employment, and the EDF's career system supports the pursuit of higher education.

DEVELOPMENT PRIORITIES

- ✓ Increase the number of students in the Navy and Air Force PHE programmes.
- ✓ Provide better support for e-learning.
- ✓ Launch topical surveys for the purposes of making quality improvements and monitoring satisfaction trends.

NEXT STEPS

- ✓ Develop recruitment activities to promote military service in the Navy and the Air Force.
- ✓ Prepare surveys for monitoring the quality of the final/Master's thesis process and practical placements.

4.1.3 Teaching Staff, Support and Cooperation

The **qualification requirements** for EMA full-time teaching staff are set out in the "Qualification Requirements for EMA Academic Staff", which serve as the basis for the selection of new teaching staff. As for active service members, the requisite levels of military training are detailed in the EMA staff composition table. In the case of the Navy and Air Force PHE curricula, the EAVA and TalTech

EMarA bear the responsibility for ensuring the programme is staffed with appropriately qualified teaching staff as per the concluded procurement contracts. The EMA's qualification requirements also apply to contractual teaching staff or visiting lecturers recruited from EDF units. The hiring of qualified teaching staff is the responsibility of the chairs of the EMA's academic departments, and is subject to oversight by the Planning Section under the EMA Department of Academic Studies, and the Personnel Section under the Department of Support Services by way of drafting contracts and requests for additional remuneration. The EMA is proud of the collaborative arrangements established with the EDF as the prospective employer of the Academy's graduates, as well as with partner institutions, ensuring that the quality of academic studies at the EMA remains at an optimal level and meets all requirements, considering the resources available. In addition, instruction is also provided by experts from the EDF and experts from maritime and aviation fields. The EMA teaching staff in active service also maintain their qualifications by carrying out the duties related to their war-time positions. For a general overview of all EMA curricula, see Table 44.

Table 44. General overview of teaching across all EMA curricula

Curriculum	Teaching staff	Module	Curricular workload
Master's studies curriculum	EMA regular teaching staff	all modules EMA teaching staff invite guest lecturers	115 ECTS
	EDF speciality schools	speciality subjects under the Administration and Technology Module	5 ECTS
Land Force PHE curriculum	EMA regular teaching staff	all modules (excl. specialisation module) EMA teaching staff invite guest lecturers	151 ECTS
	EDF speciality schools and Scouts Battalion	professional specialisation module (excl. infantry speciality where instruction is conducted in cooperation between the EMA teaching staff and EDF units)	35 ECTS
Navy PHE curriculum (depending on specialty)	EMA regular teaching staff	General Leadership Module, Military Leadership Module, Pedagogy and Research Module EMA teaching staff invite guest lecturers	89 ECTS (tactics) 91 ECTS (technical)
	Naval School and Navy	Military Leadership Module, Pedagogy and Research Module, Administration and Technology Module, and Naval Tactics specialisation module	42 ECTS (tactics) 25 ECTS (technical)
	TalTech EMarA	General Leadership Module, professional specialisation module	49 ECTS (tactics) 64 ECTS (technical)
Air Force PHE curriculum	EMA regular teaching staff	all modules EMA teaching staff invite guest lecturers	108 ECTS
	Estonian Air Force	Military Leadership Module, professional specialisation module	31 ECTS
	EAVA	General Leadership Module, Military Leadership Module, Technology Module	41 ECTS

The EMA Guidelines and Procedures for Final Theses sets out specific qualification requirements for thesis supervisors, reviewers and members of thesis defence committees. In addition, EMA practical placement guidelines, as per specialty, lay down qualification requirements for supervisors primarily by way of staff positions/military postings.

The profile of the EMA's regular teaching staff is outlined in Chapter 3.6. The number of teaching staff positions determined by the EMA staff composition table is sufficient for conducting degree studies, taking into account, among other things, the distinctive nature of military studies (e.g. assessment of military subjects in smaller groups in the field). In the case of the Land Force curricula there is a slight problem of understaffing, i.e. all positions foreseen in the composition table are not filled, while the EDF's needs for in-service training have nevertheless increased. Since priority is given to teaching activities, the workloads of some active service members (e.g. lecturers) are quite high, and that usually comes at the expense of development activities (including R&D projects), which is corroborated by the feedback from staff evaluations. The analysis and activities related to the 2020 evaluation process are currently being prepared by the EMA Department of Academic Studies. In the case of teaching staff for Air Force and Navy curricula, there is a need to increase

the number of specialist experts with a Master's degree to expand the opportunities for EMA students to write final/Master's thesis under the supervision of qualified professional experts in their respective fields. To that end, the EDF is looking to commission the EMA to open Master's degree programmes for the Air Force and Navy.

As described in Chapter 3.6, the EMA is putting active effort into improving the quality of teaching by systematically training its teaching staff and offering different formats for collaboration. At the end of 2015, the EMA established the staff position of Head of Didactics Development, who is tasked with the systematic development of teachers' pedagogical competencies as both general coordinator and advisor in those matters. In addition to the development activities geared towards the EMA teaching staff, the Head of Didactics Development is also tasked with monitoring new developments in education, introducing them to EMA staff and identifying staff training needs by way of surveys (including commissioning training for the EMA). Additionally, the EMA offers its teaching staff a wide range of opportunities for maintaining and developing their professional qualifications as well as teaching competencies. The EMA has instituted a tradition that teaching staff who take part in seminars or training present the most important insights to their colleagues either in EMA peer-to-peer seminars (i.e. H.U.V.I seminars) or informal discussion groups (i.e. KäRu seminars). Measures to address academic fraud and related awareness-raising among the EMA teaching staff are described in more detail in Chapter 3.4. Regarding these issues, both teaching staff and students look to the Department of Academic Studies' Academic Council, which is responsible for addressing incidents related to the violation of academic practices.

To support new people joining the teaching staff, the EMA has set up a mentoring system that provides all incoming staff with a personal mentor to support them, for at least the first year, in settling in at the EMA, as well as planning and conducting their teaching activities. Additionally, in-class peer observation was introduced in 2013 as part of the EMA's quality assurance system, enabling EMA teaching staff to learn from their peers and give feedback to the teaching activities of a colleague (see Table 45). Another major goal of in-class peer observation is to raise overall awareness about what is taught in other subjects. In the academic year 2017/18, the EMA launched the alumni shadowing project, enabling EMA teaching staff to visit their former students at their workplaces and observe them in the performance of their duties. Alumni shadowing provides the teaching staff with the most up-to-date insight into what kinds of knowledge and skills they should focus on in the teaching process. Only three members of the EMA teaching staff took part in alumni shadowing in the 2017/18 academic year when this project was originally launched, whereas in 2018/19 the number stood at seven.

Table 45. In-class peer observation statistics at the EMA from 2015/16 to 2019/20. Source: EMA Head of Didactics Development

Academic year	2015/16	2016/17	2017/18	2018/19
in-class peer observations	12	20	26	48

As of 2009, the EMA has annually organised a couple of more informal off-site seminars for EMA teaching staff that serve as a forum to discuss problems related to studies and collaborate on future development activities. In addition, as of 2017, the EMA Department of Academic Studies hosts a welcoming event at the beginning of each academic year to start the new study period off on the same page by providing the teaching staff with an overview of the current situation with regard to competed and upcoming tasks, and giving general guidance for the academic year ahead. During the past three years, this event has also served as a platform to remind the EMA teaching staff of the EMA's fundamental requirements for the teaching process (i.e. student-centred learning process, use of active learning methods, science- and evidence-based approach, etc.) and the underlying principles for the planning of teaching activities. In addition to the seminars organised by the EMA Department of Academic Studies, individual academic departments have also organised seminars for their own staffs, e.g. Department of Tactics and Department of Foreign Languages.

The EMA teaching staff receive feedback on their work from a wide range of stakeholders and levels (see Figure 34). First and foremost is the feedback from their immediate supervisor on their teaching activities (incl. teaching effectiveness, teaching methodology and professional development, R&D

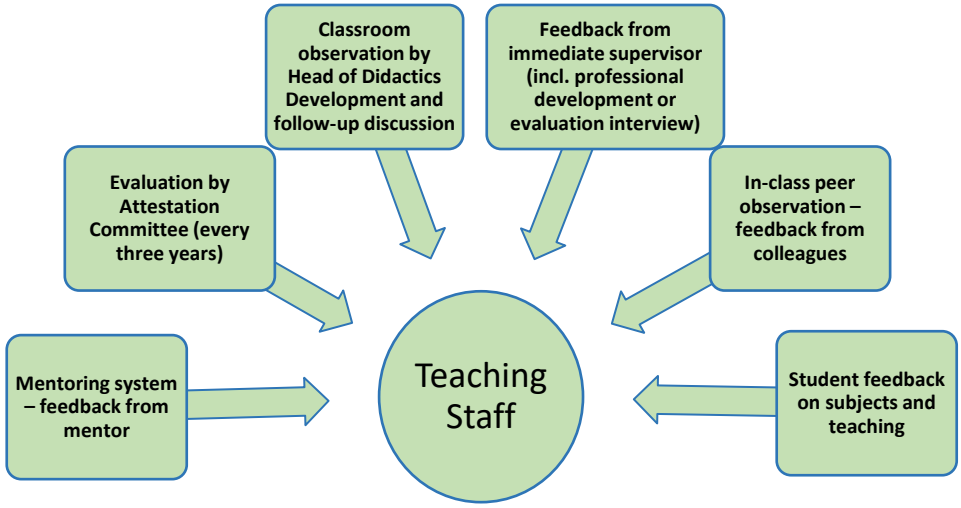

Figure 34. Feedback on the lecturer's activities at the EMA

activities) that is given in the framework of annual professional development or evaluation interviews. In addition, all EMA teaching staff undergo regular professional evaluation once every three years (e.g. 20 people were evaluated at the beginning of 2020). Among other things, these activities provide input for the planning of future training needs, as well as setting development objectives for the next period.

Feedback from EMA students in higher education programmes shows that they are largely satisfied with the quality of teaching at the EMA (see Figure 35). On a 5 point scale, the average grade given by PHE students is above 4. On the other hand, Master's students are somewhat more critical in all areas) compared to PHE students, which might be due to their prior experience with academic studies and military service, as a result, they may have higher expectations and demands on teaching. However, in the 2018/19 academic year, their satisfaction with teaching improved compared to the previous year.

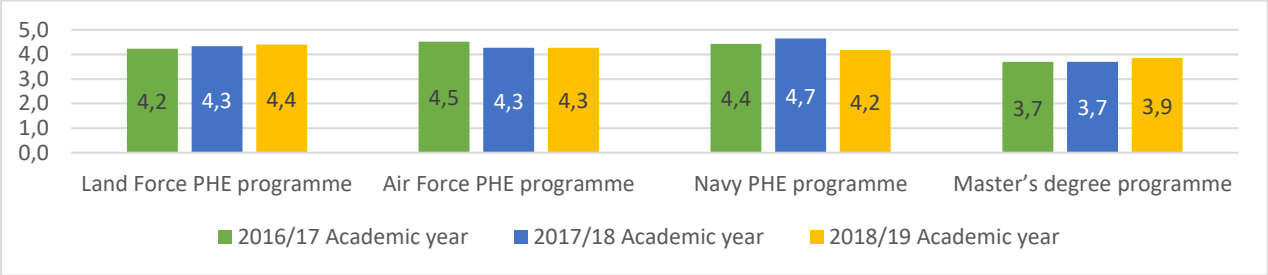

Figure 35. Student satisfaction (by degree programme) with teaching at the EMA from 2016 to 2019. Source: Aggregate data from EMA student feedback

For a more detailed overview of areas for improvement, please refer to Chapters 4.1.2.2 and 4.1.2.3.

STRENGTHS

- ✓ The EMA teaching staff boasts highly qualified professionals who meet the requirements set for their respective posts.
- ✓ EMA students are satisfied with the quality of teaching, and the professional expertise of the teaching staff is held in high regard.
- ✓ The performance of teaching staff is monitored systematically, and they are offered support for development activities.

DEVELOPMENT PRIORITIES

- ✓ Engage more visiting lecturers from abroad to contribute to the EMA's degree programmes.

NEXT STEPS

- ✓ Prepare an action plan to promote international teaching mobility.

4.2 EMA VOCATIONAL EDUCATION CURRCICULUM

4.2.1 Planning and Management of Studies

The training of non-commissioned officers (NCOs) has been organised in Estonia since 1992, and **formal training at the level of vocational education** was instituted in 2004 at the EDF's NCO School. In 2010, the NCO School, originally an independent educational institution was merged with the EMA (at that time ENDC), as a structural subdivision. In the framework of the EMA's 2019 structural reform, the ENDC NCO School ceased to exist as a separate subdivision, and the NCO vocational degree studies were moved under the EMA Department of Academic Studies in partnership with the EDF specialty schools. Similarly to the EMA's other degree programmes, the development and implementation of the vocational education curricula takes guidance from both national educational legislation and defence policy guidelines, but above all, from the needs of the EDF (see Chapter 3.7). The foundational document for determining the level of learning outcomes is the **national standard of vocational education**.

In the context of the EDF, the main starting point for the development of the NCO vocational curriculum is the document **"General Requirements for the Education and Military Training of NCOs"**, which sets the objective of preparing military leaders who share a common worldview and understanding with other EMA graduates at other levels of education. This was also one of the main reasons for bringing vocational education under the purview of the EMA's Department of Academic Studies.

In 2015, the EMA adopted the current vocational education curriculum **"Military Leadership for Senior Non-commissioned Officers",** which that is grounded in output-based learning. Under this curriculum, the duration of studies is one academic year and the workload is 60 Estonian vocational education credit points (hereinafter ECVET[55]). Vocational students may choose between Land Force, Air Force and Navy specialties (elective modules). The Land Force module is broken down into further professional specialties: infantry, armoured infantry, engineering, air defence, artillery, communications, logistics or military police. The vocational studies curriculum prepares NCOs to go on to work with Junior Officers who have completed the EMA's PHE programmes for the Land Force, Air Force, and the Navy.

The **structure of the EMA vocational education curriculum** differs from that of other Estonian vocational education institutions due to the need for the EMA to maintain for the EDF the distinctive status of the NCO programme, while insuring its comparability with degree programmes for officers, i.e. at the level of higher education. The EMA's distinctive curriculum format was approved by the Foundation Innove, the Estonian vocational education competence centre, in June 2015. As with the EMA's higher education programmes, the vocational curriculum has not undergone much modification over time, with the majority of changes resulting from amendments to national legislation, the needs of the EDF as the prospective employer, the EMA's structural reform and feedback from students (see Table 46). According to the EMA's own estimates, the curriculum remains current and in alignment with the needs of the EDF; however, the curriculum needs to be more integrated with the EMA's PHE programmes.

The number of **state-commissioned study places** is determined, as with EMA's higher education programmes, by the Annual Order issued by the Commander of the EDF on the basis of the estimated need for Senior NCOs. Over the years, the number of state-commissioned study places has increased from 60 in 2015 to 70 in 2020 (see Table 3, Chapter 1.5.2). As of the 2016/17 academic year, the EMA no longer requires admissions tests at the level of vocational education because there is no need. NCOs are assigned to study at the EMA by the Personnel Department of the EDF HQ and are selected from among candidates submitted for consideration by EDF units.

[55] Estonian vocational education credit points (in Estonian *Eesti kutsehariduse arvestuspunkt*, EKAP) are calculated on the basis of the European Credit System for Vocational Education and Training, and therefore this report will hereinafter use the pan-European equivalent ECVET as the abbreviation.

Table 46. The most important changes in the vocational education programme 2016-2020. Source: EMA Department of Academic Studies

Year	Major improvements	Original input
2016	the structure of the basic studies module was changed and 0.5 ECVET subjects were eliminated	curriculum analysis
2017	the workload of the subject "Firing and Blasting Training", and the objective and learning outcomes of the subject were brought into alignment with relevant EDF regulations	amendments to the EDF document "EDF and EDL Firing Training Regulations"
	the content and workload of subjects under the air defence and logistics specialisation modules were modified while retaining the original total workloads of the respective modules	survey of EDF specialty schools
	addition of armoured infantry specialty module	EDF military capability development
2019	changes related to EMA structural reform, admissions tests were dropped	EMA structural reform, i.e. the curriculum was brought into alignment with the EMA admissions criteria

The **curriculum development** process takes guidance from the national standard for vocational education (qualification requirements) and the regulations outlined in the EMA Statutes of Curriculum. At the level of vocational education, the EMA's **primary partners** are the EDF specialty schools and service branches that provide elective studies for professional specialisation, similarly to the EMA's higher education programmes. However, neither TalTech EMarA nor the EAVA provide naval or aviation courses at the level of vocational education. In terms of content, the EMA's vocational education curriculum is not comparable to any other vocational education curricula in Estonia. In order to increase the extent of international cooperation under the vocational education curriculum, the EMA's external relations specialist has been tasked with assembling comparative data on the NCO education and training systems in other countries (incl. information on the relevant levels under the European Qualification Framework, if available).

The process of **curricula development and amendment** at the level of vocational education is the same as for the higher education curricula as described in Chapter 3.7. However, in accordance with national legislation and unlike the higher education curricula, the vocational curriculum is subject to coordination by the EMA Governing Council and subsequent approval by the Commandant of the EMA. All changes to the curriculum must be approved before the commencement of studies. Before the 2019 structural reform, the development of the vocational education curriculum was coordinated by the Sergeant Major of the ENDC NCO School, whereas after the restructuring this task falls under the responsibilities of the Chief of the Vocational Education Group under the Department of Tactics. As of the summer of 2020, the EMA employs a separate curriculum manager to oversee all Land Force curricula at the EMA, including the vocational education curriculum, with a view to ensuring the alignment and integration of curricula across all levels of education, as well as their comprehensive development. Bringing the vocational studies programme under the EMA Department of Academic Studies has brought about changes in the management and implementation of the programme, including more uniformity in the teaching and organisation of studies across all levels of education (ongoing process), vocational courses being taught by EMA teaching staff, and enhanced integration with the relevant level of officer education (for more, see Chapter 4.1.2.2).

The EMA's efforts to develop its studies and curricula are largely driven by **feedback from employers and alumni.** The latest satisfaction surveys on the practical applicability of academic studies were conducted in 2017 and 2020. **Student feedback on the subjects taught** is collected via the EDF's e-learning platform ILIAS, and thus far, it has been analysed primarily by the vocational education teaching staff and other responsible parties (see also Chapter 4.2.2.4). In the future, the EMA must harmonise student feedback survey across all levels of education, i.e. to ensure comparability with feedback from HE students (including a common evaluation scale for indicators related to studies in general. In addition to the improvement proposals submitted annually by teaching staff and the specialty schools, the EMA must also make better use of the input from satisfaction surveys in its curricula development.

For more information on the EMA's vocational education curriculum, incl. its design, structure, teaching and assessment methods and the development of key competencies, see Chapter 4.2.2.4.

STRENGTHS

- ✓ The EMA vocational education curriculum is driven by the needs of the EDF.
- ✓ The curriculum development takes guidance from established procedure and involves different stakeholders.

DEVELOPMENT PRIORITIES

- ✓ Systematic engagement of alumni and employers in curricula development (e.g. through curriculum council).

NEXT STEPS

- ✓ Updating and re-launching the student feedback questionnaire on subject courses to monitor development trends.

4.2.2 Learning and Teaching

4.2.2.1 Admissions Process and Selection of Professional Specialties

As mentioned in Chapter 4.2.1, the EMA does not conduct admissions tests at the level of vocational education because **applicants** are selected and put forward by EDF units on the basis of their performance, taking into account personal characteristics and service requirements. Applicants receive information about the EMA's NCO programme from the unit where they serve: in the course of professional evaluation interviews with their immediate commanders, the possibility of further studies at the EMA is addressed and discussed. In addition, the EMA is planning to relaunch EMA staff visits to EDF units for the purposes of introducing the EMA's NCO programme. Those visits were suspended in 2018 but were instrumental in raising awareness about the NCO degree programme and submission of candidates to the Personnel Department of the EDF HQ for final decision on assignment to vocational studies at the EMA. Upon enrolment in vocational studies at the EMA, the active service members are re-assigned from their units to the EMA for the duration of their studies; they also receive a salary because, during this period, studies constitute a part of their service duties. Similarly to the EMA's PHE programmes, the students choose professional specialties (elective module) based on the needs of the EDF, specifically the structural unit that posted them. Owing to that, students are not free to choose their specialty based on personal preference, rather the selection of the most suitable specialty is made in collaboration with the structural unit. As a general rule, the professional specialties offered for a given academic year are determined before the commencement of studies, and students are assigned to professional specialties, and later to practical placements, by the EMA Commandant's directive. The professional specialty elective modules under the EMA's NCO programme are conducted by the EDF's service branches and specialty schools (excl. infantry).

4.2.2.2 Learning Environment and Support Systems

The EMA's vocational education studies are funded from the EDF budget (see also Chapter 3.2.2). The **main building** for the EMA's vocational studies, completed in 2014, is located in the town of Võru in Southern Estonia, ca 65 km from Tartu, on the same territory as the EDF's 2nd Infantry Brigade. In addition to the teaching staff, the building also houses EMA's support staff in order to ensure the streamlined conduct of studies.

The majority of the basic study module conducted outside in the **EDF's training areas.** As in the case of higher education, there are problems with the availability of the EDF's training areas because of competition with other EDF units, allied forces located in Estonia, as well as various degree and in-service training courses organised by the EMA. In some cases, vocational training is integrated with the activities of another unit in order to achieve the learning outcomes stipulated in the curriculum. For professional specialisation, vocational students attend the **EDF specialty schools**, which are located mainly in Tallinn and Tapa.

As previously mentioned, according to the EDF infrastructure development plan the EMA's subdivisions will be concentrated in Tartu by 2023 (see also Chapter 3.2.3). Vocational studies are also scheduled to move to the new location (Raadi, Tartu) to allow better organisation of studies (including better integration).

The Academy ensures that students have the **necessary conditions in order to focus on their studies** (see also Chapter 3.10). In addition to classrooms and facilities, students are provided with accommodation, catering, special equipment, transport to training areas, and medical assistance (including dental care). Whereas students in the HE programmes are equipped with laptops for personal use for the duration of their studies, vocational students have so far had to settle for using either the computers available at the public computer class or a personal laptop. However, since students must also use classified material in their independent work, the EMA must find the means to provide them with laptops as well. In addition to study-related infrastructure, the students can use the recreational rooms located in the building, the Kuperjanov Infantry Battalion gym and training hall, as well as nearby lakes, running tracks, sports and health centres (e.g. Võru, Väimela). The EMA is of the opinion that it is sufficiently equipped with both the necessary resources and infrastructure for the provision of vocational education.

In addition, the military vocational education programme includes a wide range of specific military subjects (i.e. firing training, weapons training, tactics, military technology, etc.) for which specialised **teaching materials and tools** (including weapons, etc.) are available. Training and instruction is based on the relevant EDF regulations and guidelines, as well as manuals and other study materials prepared by experts in the field. In addition to specialist study materials, students can borrow any necessary literature from the **library** of the 2nd Infantry Brigade (in Võru) and, if necessary, from the EMA library, located in the main building in Tartu, which is used quite rarely by vocational students.

Student **satisfaction with the learning environment** and teaching materials was last surveyed in 2016. At that time, the EMA's vocational students were most satisfied with their living conditions and sports opportunities. What is more, 80% of respondents were satisfied with the organisation of practical placement, the availability of study materials and the opportunity to provide feedback on studies and other activities. On a 4 point scale, student satisfaction with educational materials, learning environment, living conditions and sports opportunities received high marks, ranging from 3.3 to 3.8. Considering that all activities and the whole staff involved in vocational education (including support staff) are closely intertwined, any needs for improvement are identified and addressed in a swift manner. In addition, all students are able to communicate any shortcomings in the learning environment to the Chief of the Vocational Education Group, academic advisers or instructors, who convey the information to the responsible (sub)unit. All questions related to supplies and equipment are directed to the Sergeant Major of the Student Corps.

4.2.2.3 Organisation of Studies

The EMA's vocational studies programme comprises two modules: basic studies (30 ECVET) and elective studies (30 ECVET). The elective studies module comprises processional specialty subjects, including practical placement. The central document regulating vocational studies is the EMA Study Regulations, which is supported by various other documents (e.g. APEL procedure, admission and exclusion, etc.). The organisation of practical placements, incl. the responsibilities of parties involved are regulated by the EMA guidelines for practical placement in vocational studies.

Similarly to EMA's higher education programmes, all subjects are described in detail in the **vocational education curriculum**, incl. workload, final assessment method (differentiated vs non-differentiated), objective, learning outcomes, study methods, assessment methods and criteria. Furthermore, **syllabi** provide an even more detailed description of each individual subject course. As per the EMA Statutes of Curriculum, the teaching staff are under obligation to prepare the syllabi, which are approved by the chairs of the responsible academic departments. In addition, the syllabi also serve as instruments for ensuring the coherence of the teaching and assessment methods. The EMA is not under obligation to adapt studies to students with special needs, because the students in vocational studies are also active service members who must meet the requirements of contractual military service (including physical fitness and health). All students must complete the curricular subjects on a uniform basis and at least at the minimum level specified in the curriculum and syllabus. Active participation is mandatory, but students are also entitled to apply for short-term exemption or academic leave (incl. for a longer period) if needed, either due to personal or health reasons or to care for a child until they reach the age of three.

The curricular course schedule is stipulated in the **EMA training plan**, adopted for each academic year and approved by the EMA Commandant. The EMA training plan determines the workload of the teaching staff and outlines the studies scheduled to take place at the EMA. Course syllabi are prepared as per EMA Study Regulations, and subsequently, the **timetables**, which are made available to students via the Study Information System (ÕIS). The teaching staff provide an overview of the course syllabus (including assessment methods and criteria) in the introductory class. Prior to field exercises (e.g. firing training), students are given instructions on safety procedures depending on the nature of the subject in question, and the students must sign the safety regulations logbook.

Vocational **practical placements** take place during the course of or at the end of the elective studies, depending on the unit and chosen specialty. Students are given an overview of the organisation of practical placements by academic advisors shortly before the commencement of elective studies (usually in December), incl. guidelines, organisational details, and how to complete the relevant documentation (i.e. action plan, portfolio, self-analysis, etc.). The majority of students complete their practical placements in the EDF unit where they serve. In exceptional cases, it is possible to complete a practical placement in another unit (e.g. at the request of the home unit), which is arranged by the EMA. Practical placement supervisors are appointed by the head of the structural unit, in accordance with the relevant guidelines for practical placement. Similarly to the arrangements at the level of higher education, EMA also conducts oversight over practical placements in vocational education in order to detect and address any problems, and to provide ongoing advice and resolve administrative issues. All students are personally responsible for the timely completion and submission of the relevant documentation related to their practical placement as per the requirements outlined in the syllabus and practical placement guidelines. Based on the submitted documentation, the EMA shall assess whether the student's performance demonstrates the achievement of learning outcomes and their achievement.

Student satisfaction with practical placements is reflected in the self-analysis assignment that must be completed on the template provided in the practical placement guidelines document. This feedback is provided in free form, and thus provides information on the areas in need of improvement. For example, in 2015, student feedback revealed that the organisation of practical placements varied across EDF units, and to address that issue, the EMA organised a training day for practical placement organisers in the EDF units. In 2016, the EMA launched a systematic practical placement review process, which included site visits by EMA staff to all locations and discussions with supervisors and students. In 2017, the EMA updated its vocational practical placements guidelines, incl. defining more clearly the roles and responsibilities of all parties involved. Since that time, there have been no complaints with regard to practical placement in the feedback from students. The guidelines document was amended in conjunction with the 2019 structural reform, and included several improvements related to issues discovered in the review process (e.g. an additional assessment sheet).

4.2.2.4 Educational Content, Teaching Methodology and Assessment

Course syllabi serve as the basis for the evaluation of the overall coherence of course content and the applied teaching and assessment methods/criteria. For the purposes of ensuring a uniform level of instruction, incl. a harmonised understanding of teaching (incl. methods, assessment, etc.) and support offered to students in achieving learning outcomes, the vocational studies teaching staff (based in Võru) are invited to take part in all seminars and training sessions organised for the **EMA teaching staff** (based in Tartu). Furthermore, incoming vocational teaching staff are provided a mentor, and they take part in peer observations (for more, see Chapter 3.6). Despite the fact, that these professional development opportunities are also offered to instructors of the EDF specialty schools, their participation has thus far remained quite modest. Therefore, the EMA sees a need to raise awareness among instructors of the EDF specialty schools both on the subject of regulations and requirements related to the organisation of studies as well as on the subject of modern teaching and assessment methods for the purposes of harmonising the level and quality of instruction.

The main objective of the EMA's vocational studies programme is to prepare NCOs for autonomous performance of practical duties in EDF units. Therefore the **primary teaching method** used is practical exercises, whereas traditional lectures are used less frequently. The different **exercises**

include field exercises, as well as group assignments and participation in EDF military exercises; these exercises enable students to perform independent tasks in accordance with predetermined criteria under the guidance of instructors. In addition, students also prepare exercises and lessons, under supervision, for both their classmates and conscripts, and will later go on to teach them independently. Practical exercises support students in putting theoretical knowledge into practice, achieving practical outputs, and preparing for future active service in the military. Due to the high proportion of practical instruction in the vocational education curriculum, and considering that there are 60-70 students enrolled in the programme at a time, one subject course usually has several instructors who, in addition to the responsible teaching staff appointed by the chair of the responsible academic department, collectively contribute to the teaching process from preparatory phase to the assessment. In addition, the EMA has also used student peer-assessment to improve the efficiency of the learning process.

The EMA places special emphasis on the **integration of studies** both within the modules as well as between them in order to ensure better understanding of the acquired knowledge, and cultivate the ability to establish connections with other areas and topics. For example, the subject “Firing and Blasting Studies” under the Pedagogy Module is closely related to instructor training, because afterwards, the students go on to instruct others on weapons handling. Therefore, the knowledge acquired in the firing and blasting course is later applied in instructor training. The competencies acquired under General Management Modules (e.g. verbal and written self-expression), are used in the subjects under the Military Management module, where students need to express themselves clearly and unambiguously in the process of the planning and command of combat operations.

Similarly to the Academy’s higher education programmes, the EMA’s vocational studies are grounded in the progression of subjects as prescribed in the curriculum, with the necessary basic knowledge and skills preceding more complex and specific subjects that follow later. What is more, the progression of modules also bears importance. For example, the General Leadership Module aims to give students the skills necessary for proper and effective self-expression and the knowledge on how to mould themselves from an NCO to a military leader. The Military Leadership Module offers knowledge on the principles of combat operations, while also facilitating the development of the skills of a military leader in various peace and wartime tasks. It is in the course of this particular module that the personal conduct and the development of leadership skills is monitored both in the context of studies as well as outside the classroom. As of 2016, when students reach the end of the basic studies module, individual reports are written for each student (including an analysis of their leadership skills and their development over the course of studies).

The transfer of the vocational studies programme to the EMA Department of Academic Studies facilitates the integration of studies across different levels of education. For example, the EMA organises joint military exercises for Land Force PHE and vocational students that enable them to perform the relevant duties in their respective roles, based on their level of studies and related learning outcomes. What is more, the fact that their primary learning environment is located on the same premises as the Kuperjanov Infantry Battalion in Võru is an added benefit, because the students can practice their instruction skills on conscripts serving there.

Vocational students are assessed using continuous and final assessment, as well as formative assessment for practical performance. The assessment system is based on the common assessment system for vocational education, with scores from three to five in case of differentiated assessment. Since leadership skills constitute the **key competence** across all EMA study programmes, at the level of vocational education this aspect is assessed individually for each student through the course of basic studies by monitoring practical performance and exercises. Practical exercises enable students to refine and improve general competencies, such as self-confidence, courage to act, and the ability to express their thoughts and plans. After exercises or presentation of plans, the students **receive feedback from instructors** about their progress, and what they need to improve (e.g. performance, eye contact, polished speech and clarity of thought). The instructors use an electronic table to record students’ performance and the feedback given, and students receive individual aggregated feedback upon completing the basic studies module. Following the completion of the basic studies module (in December), and the completion of the course (in June),

the EMA Vocational Education Group organises a seminar, during which instructors analyse the teaching activities by modules, and highlight the successes and shortcomings that need to be addressed in the upcoming academic year.

In order to complete the EMA vocational education programme in full, the students must complete all curricular subjects in the amount of 60 ECVET with a positive result. Throughout the course of studies, the focus is on the assessment of students' leadership skills due to the distinctive nature of active military service. The final examination comprises practical exercises completed in the course of basic and elective studies as determined by the respective syllabus (including the proportion of exercises and the methodology for calculating the final grade).

The EMA alumni and employers' **satisfaction survey** indicates that the Academy needs to put more effort into improving its vocational education programme. Although employer satisfaction has increased (see Figure 36), the satisfaction level of alumni has remained the same. The EMA alumni mainly point to the need to improve the content of the curriculum; while satisfied with firing and instructor training, there needs to be more attention paid to the development of competencies of company sergeant majors. Although they expressed satisfaction with practical placements (including leadership exercises), there is room for improvement in terms of the related documentation. In addition, more attention should be paid to improving the pedagogical competency of instructors. Employers are also in support of putting more emphasis on the development of peace-time administrative skills, while highlighting their subordinates' excellent tactical, instructor and firing skills. What is more, employers also appreciate the pedagogical competence of graduates as well as their acquired teamwork skills and academic approach.

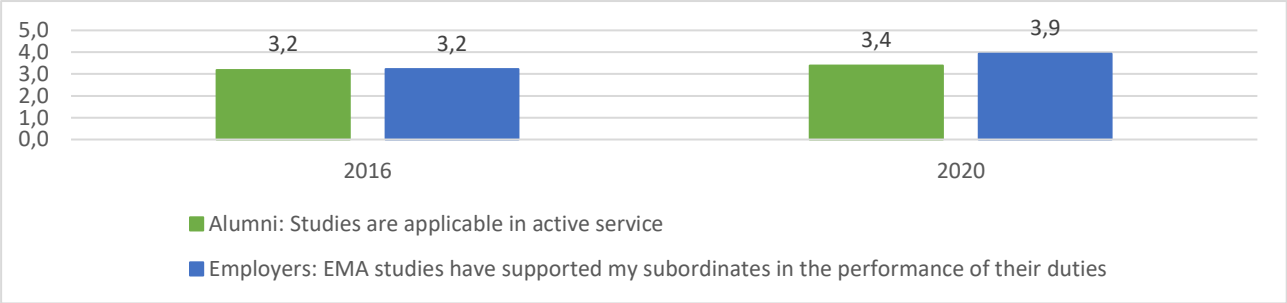

Figure 36. Alumni and employer satisfaction with the applicability of vocational education and related service performance. Source: EMA satisfaction studies 2016 and 2020

4.2.2.5 Learning Support Systems

For a more detailed overview of the academic advice and support services provided to EMA students, see Chapter 3.10. The EMA does not admit people with special educational needs at the level of vocational education. Although there are active service members with physical disabilities in the EDF (e.g. active service members injured during foreign missions), none of them have been assigned to the EMA's vocational study programme. Similarly to higher education, vocational students are assigned mentors from among the EMA teaching staff, who are tasked with monitoring the students' academic progress and supporting their development as a military leader. The mentoring programme was launched in the 2019/20 academic year, and therefore the system is still in its early stages and will need some time to develop.

Students with suitable prior training or work experience can take advantage of the EMA's APEL procedure, applied uniformly across all levels of education, to transfer previous studies and work toward the completion of studies (for more, refer to Chapter 3.9, incl. Table 32). Over the course of the past five years, on average 15% of vocational students have applied for APEL, mainly to account for professional specialty, with average applications in the volume of 29 ECVET. Given the fact that the students assigned to vocational education are already in active military service, and owing to that, they have often had a chance to take part in in-service training courses or have undergone specialty training in their home units, the EMA has accepted all the APEL applications in recent years.

Due to the fact that vocational students are assigned to the EMA to study (considering that vocational education constitutes a part of the EDF's career model), the percentage of discontinuation of studies at the EMA is significantly lower than the Estonian average. The Estonian average at the level of vocational education in 2015-2019 was between 19% and 22%, whereas the equivalent rate for the EMA in the same period was 7-10%, perhaps having to do with the fact that all graduates are subsequently guaranteed a posting with the EDF. The reasons for discontinuing studies in EMA vocational education can broadly be divided into three categories: (1) personal reasons; (2) disciplinary offences, and (3) poor academic progress (see Table 47).

Table 47. The main reasons for discontinuing vocational studies at the EMA from 2015 to 2020. Source: EMA Department of Academic Studies

Reason	2015/16	2016/17	2017/18	2018/19	2019/20
At own request (personal reasons)	2	2	4	3	3
Disciplinary offences, improper conduct (including violation of academic practices)		2		2	1
Poor academic progress, incl. failure to appear	2		1	2	
Release from active service					1
Total	**4**	**4**	**5**	**7**	**5**

Although the EMA's dropout rate has remained low, it has shown a rising trend in the last couple of years, accompanied by a decrease in the share of students who graduate on time (see Figure 37). As of the 2019/20 academic year, the EMA provides students with mentors to reduce the number of dropouts even further. In addition, the Vocational Education Group organises a briefing at the beginning of studies, providing an overview of study regulations, the rights and obligations of students, and the Academy's expectations. The violation of academic practices and related consequences are also addressed.

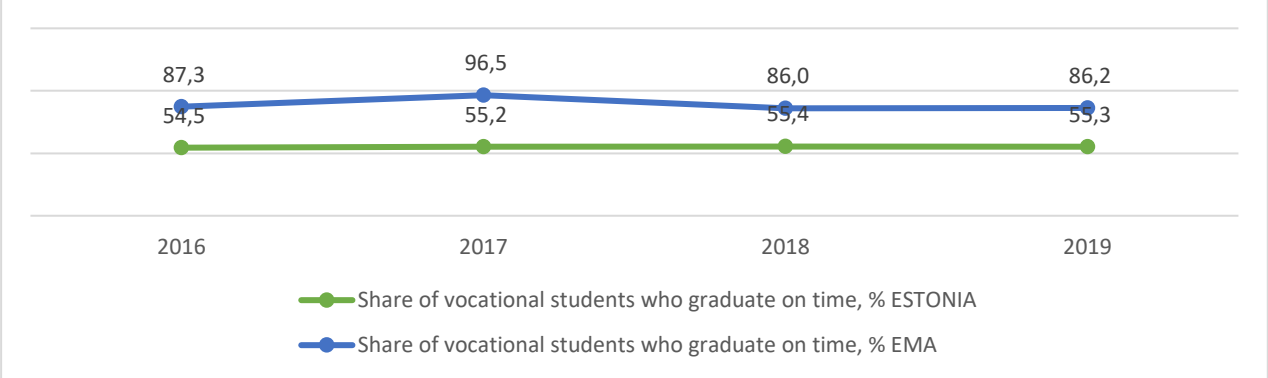

Figure 37. The share of graduates of nominal vocational education between 2016 and 2019. Source: Haridussilm

STRENGTHS

- ✓ Vocational students are assigned to study at the EMA, depending on the employer's needs.
- ✓ The modern learning environment supports the achievement of curricular learning outcomes. The Academy provides students with conditions that are conducive to learning.
- ✓ The organisation of studies (including practical placements), teaching methodology, assessment methods and criteria used are fit for purpose and support the achievement of learning outcomes and the development of leadership skills in an integrated manner.
- ✓ The EMA has instituted a procedure for APEL, and it is used by students.
- ✓ The percentage of graduates is high, and all graduates are guaranteed a staff position in the EDF.

DEVELOPMENT PRIORITIES

- ✓ Raise awareness among teaching staff in EDF specialist schools about the organisation of studies at the EMA, and modern teaching and assessment methods.
- ✓ Relaunch student satisfaction surveys to collect feedback on practical placements, learning environment, etc.

NEXT STEPS

- ✓ Relaunch visits to EDF units to promote the EMA's vocational studies programme.
- ✓ Equip students with laptops for personal use during the period of study.
- ✓ Update various feedback surveys and start collecting systematic feedback. Prepare and implement an action plan for improvements based on feedback from satisfaction surveys.
- ✓ Improve the efficiency of the internal administration of study-course.

4.2.3 Teaching Staff

With the EMA structural reform in 2019, responsibility for organising the vocational studies programme was transferred to the EMA Department of Academic Studies. The teaching and support staff located in Võru were merged with the subdivisions of the Department of Academic Studies in accordance with their duties (including the academic affairs specialist and adviser of the Planning Section). The main objective of the restructuring was to harmonise the teaching and the organisation of studies across all EMA degree programmes and levels of education in terms of both administrative task as well as academic content (see also Chapter 3.6). The EMA estimates that the current teaching staff is sufficient to conduct the vocational education programme. The majority of the basic studies module, as well as the infantry specialty module, is carried out by the teaching staff and instructors located in Võru. The regular teaching staff, three teachers and six instructors, are employed under the EMA Departments of Tactics, and Leadership and Pedagogy. Depending on the type of activity (e.g. activities in smaller groups in the field necessitating more student performance examiners, assessors or feedback providers), the regular staff in Võru is supported by higher education teaching staff from the respective field. In addition, the EMA's higher education teaching staff curate or teach subjects under the General Leadership Module. This cross-usage of the teaching staff ensures the uniformity and quality of academic content for both officers and NCOs across all levels of education. If necessary, the EMA can request instructors from other EDF units.

The EMA is looking forward to the construction of its new main building, which would enable the Academy's vocational studies programme currently operating in Võru to relocate to Tartu as well. Despite the fact that the EMA's vocational programme is fully operational in Võru, the geographical distance from the current main building hinders the smooth organisation of the day-to-day military service of students, as well as the management and oversight of studies as the management and other responsible staff are located in Tartu. It is also difficult for vocational teaching staff to take part in the didactics events organised at the EMA, especially during the autumn semester, when the basic studies module courses are underway, and teaching duties preclude them from traveling to Tartu. In order to alleviate the problems arising from this physical distance, the EMA plans to increase participation in events taking place in Tartu via the internet (e.g. the Academy's general meetings are already conducted in this form). The Academy is also considering transferring the duties related to the organisation of students' military service from the Commander of the Student Corps to the Chief of the Vocational Education Group. In terms of degree studies and continuing education the structural reform of the EMA shall be deemed completed with the scheduled relocation of vocational studies to Tartu in 2023.

There are no differences in the profiles, development and evaluation of EMA teaching staff at the levels of higher and vocational education. Vocational education teaching staff are guaranteed methodological and technological support, as well as fast and efficient IT support to solve any technical problems. Vocational education teachers and instructors are engaged in the EMA's in-class peer observations and other activities developed for EMA teaching staff, including seminars organised by the Department of Tactics (see Chapter 3.6).

Student feedback on the teaching staff has generally been good in recent years and students are mostly satisfied with their studies. In some instances, students have suggested that lectures could be made more interesting and use less PowerPoint presentations. As a result, there has been a shift in hosting more seminars that give students the opportunity to take a more active part and express their opinion. In the past five years, there have been complaints about teaching staff, which have been addressed by the management on a case-by-case basis. There has been only one incident,

where based on student feedback, a member of the teaching staff has been removed due to inconsistencies between the topics taught and personal example.

The EMA's main partners in vocational education are the EDF specialty schools, however, in 2017, the Academy launched an international cooperation with its Baltic counterparts (see Table 48). As with higher education, the EMA's ambition is to establish partnerships and launch systematic activities also at the level of vocational education for the purposes of enhancing the interoperability of NCO officers. The EMA intends to continue and expand partnerships established in 2017 and 2018.

Table 48. EMA's international partnerships in vocational education 2017-2020

Year	School	Content
2017	U.S. 7th Army Non-commissioned Officer Academy	EMA vocational education delegation visit to the U.S. (incl. seminar); no follow-up activities
	Latvian National Armed Forces (LNAF) NCO School at Cēsis	EMA vocational education delegation visit to Latvia, incl. overview of Latvian NCO education system EMA vocational students' study trip to the LNAF NCO School
	Lithuanian Armed Forces School (LAFS)	EMA vocational education delegation visit to Lithuania, incl. overview of Lithuanian NCO education system
2018	Latvian National Armed Forces (LNAF) NCO School at Cēsis	LNAF NCO School delegation study visit to Estonia, incl. overview of Estonian NCO education and career system, opportunities for future collaboration, inception of the idea to launch annual working meetings of the NCO Schools of three Baltic states
	Lithuanian Armed Forces School (LAFS)	LAFS delegation visit to Estonia, incl. invitation to take part (one NCO) in the international instructor training course organised by the LAFS for partner countries.
	U.S. Maryland Army National Guard	Maryland Army National Guard instructors conduct training for EMA teaching staff on small unit command and physical training; observed EMA firing training and provided feedback
2019	Latvian National Armed Forces (LNAF) NCO School at Cēsis	meeting between EMA Head of Academic Studies and Commandant of the LNAF NCO School for the purposes of continuing cooperation after EMA's structural reform. EMA vocational students' study trip to the LNAF NCO School

STRENGTHS

- ✓ The EMA is sufficiently staffed with qualified teachers and instructors who meet the requirements for the organisation of vocational studies.
- ✓ The EMA has created favourable conditions for the professional and pedagogical development of teaching staff, with special support measures for incoming faculty members (i.e. Summer Academy, mentor, etc.).
- ✓ The teaching staff is engaged in comprehensive collaboration.

DEVELOPMENT PRIORITIES

- ✓ Expanding the scope of international cooperation, including the launch of student and teaching mobility.

NEXT STEPS

- ✓ Offer online solutions to facilitate remote attendance of EMA's didactic events by vocational education teaching staff.
- ✓ Negotiating cooperation with Latvian and Lithuanian NCO schools.