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Institutional Evaluation Programme

*Performance in Research, Performance in Teaching – Quality, Diversity, and
Innovation in Romanian Universities Project*

MILITARY TECHNICAL ACADEMY

EVALUATION REPORT

May 2013

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1. Introduction

This report is the result of the evaluation of Military Technical Academy in Bucharest. The evaluation took place in 2012-2013 in the framework of the project “Performance in Research, Performance in Teaching – Quality, Diversity, and Innovation in Romanian Universities”, which aims at strengthening core elements of Romanian universities, such as their autonomy and administrative competences, by improving their quality assurance and management proficiency.

The evaluations are taking place within the context of major reforms in the Romanian higher education system, and specifically in accordance with the provisions of the 2011 Law on Education and the various related normative acts.

While the institutional evaluations are taking place in the context of an overall reform, each university is assessed by an independent IEP team, using the IEP methodology described below.

1.1. The Institutional Evaluation Programme

The Institutional Evaluation Programme (IEP) is an independent membership service of the European University Association (EUA) that offers evaluations to support the participating institutions in the continuing development of their strategic management and internal quality culture. The IEP is a full member of the European Association for Quality Assurance in Higher Education (ENQA) and is listed in the European Quality Assurance Register for Higher Education (EQAR).

The distinctive features of the Institutional Evaluation Programme are:

- A strong emphasis on the self-evaluation phase
- A European perspective
- A peer-review approach
- A support to improvement

The focus of the IEP is the institution as a whole and not the individual study programmes or units. It focuses upon:

- Decision-making processes and institutional structures and effectiveness of strategic management
- Relevance of internal quality processes and the degree to which their outcomes are used in decision making and strategic management as well as perceived gaps in these internal mechanisms.

The evaluation is guided by four key questions, which are based on a ‘fitness for (and of) purpose’ approach:



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- What is the institution trying to do?
- How is the institution trying to do it?
- How does it know it works?
- How does the institution change in order to improve?

1.2. Military Technical Academy's profile

The Military Technical Academy (MTA) is a military higher education institution that is primarily subordinated to the Ministry of National Defence (MOND), but it also follows the regulations of the Ministry of Education, Research, Youth and Sport (MERYS) especially in the area of academic structure, teaching and promotion of academic staff and of the Executive Agency for Higher Education and Research, Development and Innovation Funding (UEFISCDI).

Under the provisions of the new national education law, higher education institutions (HEIs) in Romania have been classified into three groups: advanced research universities; teaching and research universities; and teaching universities. In 2011 MTA was classified in the category of the teaching and research universities. In 2010 MTA was also granted a "High confidence rating" for quality education and scientific research by the national accreditation body, the Romanian Agency for Quality Assurance in Higher Education (ARACIS). In addition to the classification and diversification reforms, the university was also subjected to a new system for ranking study programmes and academic disciplines.

MTA was founded in 1949 and since then has undergone many organisational changes. MTA's primary mission is to provide training and professional development for logistics officers of the technical engineering services, for specialist officers and for civilian personnel selected for the specific needs of the defence, public order and national security structures or of other beneficiaries in the country or from abroad. MTA has trained throughout its existence more than 7 100 engineer officers who have developed careers in defence system structures, public order and national security, governmental structures, private industry, well known international companies and in politics.

MTA was also accredited in 2008 as a component of the research and development system of national interest for conducting academic scientific research activities, technological development, design, test and evaluation, consultancy, expertise, elaboration and evaluation of standards in accordance with the requirements of the defence, public order and national security system, which makes it the only institution of MOND at this level and area.

MTA adopted in 2005 the Bologna reforms and is offering Bachelor, Master's and Doctoral programmes aligned with the European Qualification Framework, for both military and civilian students.



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MTA claims that MOND recognises its accomplishments as a high quality institution, since its graduates and teaching staff have demonstrated over six decades the highest level of preparation and adaptability to the needs and requirements of Romanian society. Further, thanks to the uniqueness of the expertise and following its accreditation, MTA is also a preparation centre (GEOINT Centre) in the technical and technological field for certain categories of armed forces from the European area.

Currently MTA has two faculties: the faculty of mechatronics and armament integrated systems and the faculty of military electronics and information systems with a total of 847 students in the academic year 2012/2013. The two faculties have six accredited fields with nine different undergraduate study programmes, whose contents are closely related to the military specialities in these fields. These are: constructions and fortifications, aircraft and aircraft engines, armoured vehicles, auto vehicles and tractors, equipment and command systems and control for vehicles, armament, artillery equipment and fire control systems, munitions, rockets, explosives and powders, military electronic systems and equipment, communications, computer science and information systems for defence and national security.

MTA offers a total of ten Bachelor programmes. Both military and civilian students are admitted to the Bachelor programmes of study. The cost of military students' tuition is covered by MOND, whereas civilian students pay fees. It would be possible for civilian students to get basic military training; if they choose so, upon graduation they could become reserve officers. This is a legislative action initiated by the academy.

MTA presently offers five different study programmes at Master's level, namely aeronautical systems engineering, equipment and technologies for auto vehicles engineering, engineering for special defence and security mechanical systems, communications and electronic security systems engineering, information technology security.

There are seven study programmes at doctoral level.

1.3. The evaluation process

The self-evaluation process was undertaken by the self-evaluation board appointed by the Rector and chaired by Vice-Rector Col. Prof. Eng. Ioan Nicolescu, PhD. Members were selected from amongst faculties, administrative units and student representatives. The group discussed the evaluation process and the report at weekly sessions and in plenary sessions in the auditorium of MTA. The self-evaluation followed the IEP guidelines and included analysis of institutional context, norms and values, organisation and activities, internal quality assurance, strategic management, capacity to adapt and change and conclusions with SWOT analysis and an action plan. The Self-Evaluation report (SER) was accompanied by 112 annexes, of which 11 were



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uploaded on the electronic platform and translated into English together with the university's Strategic Plan (2012-2016). The SER was also published on the university's web site, after it was discussed in the Senate and faculty meetings.

The self-evaluation report of MTA, together with the appendices, was sent to the evaluation team in November 2012. The two visits of the evaluation team to MTA took place in December 2012 and in March 2013, respectively. In between the visits MTA provided the evaluation team with some additional documentation.

The evaluation team (hereinafter named the team) consisted of:

- Sokratis Katsikas, former Rector, University of Piraeus, Greece, team chair
- Marián Dzimko, former Vice-Rector of the University of Žilina, Slovakia
- Jacob Müller, student, University of Potsdam, Germany
- Hermina Pika Radmilovič, Head of quality development, University of Maribor, Slovenia, team coordinator.

The SER contained a great deal of background information and also some critical self-analysis; the SER and the accompanying documentation were of great assistance for the deliberation of the team.

The team would like to express its sincere thanks to MTA Rector, PhD Col. Prof. Eng. Cristian Barbu, for the gracious hospitality provided during the two visits. Vice-Rectors Col. Prof. Eng. Ioan Nicolaescu, PhD and Prof. Eng. Victor-Valeriu Patriciu, PhD are thanked for their support and willingness to discuss and clarify certain issues and administrative director Col. Eng. Dan Cosma for providing the team with excellent conditions to work.

Special thanks to Cdor. Eng. Daniel Petre for his kind support to the team in logistics and administrative matters and to Col. Assoc. Prof. Amelia Mole, who was kind enough to spend most of her time helping the team with translations and additional clarifications. Thanks are also extended to the students, to the MTA staff members and the external partners whom the team met and for their willingness to discuss selected matters in an open and constructive way.



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2. Governance and institutional decision making

Norms and values

MTA norms and some values are presented in its missions and objectives, as well as in the strategic plan for 2012 – 2016.

MTA's uniqueness is in providing education for the military and civil students in all three cycles of study: Bachelor, Master's and doctorate. Armaments, rockets, and munitions engineering programmes offered at MTA are unique in Romania. MTA strives to become a recognised brand in Romanian educational, research and military systems supporting the reform and restructuring processes of the Romanian Military. MTA's goal is to become a national training, conception, consultancy and technical expertise centre in close collaboration with the other structures of the national defence, public order and security system. The team finds the mission of MTA clearly stated and widely shared by academics as well as by students; this mission should be part of driving the strategic development plan and clearly defined goals also in the future.

The two important pillars for MTA are education and research but, as a military institution, military training is a defining feature of the institution. As a military academic entity, MTA simultaneously and integrally applies the regulations specific to higher education and academic research elaborated by MERYS and MOND. The institution possesses the organisational elements necessary for fully carrying out the specific processes in the area of higher education and for its dual role.

Strategic planning

The team was able to explore the university's planning and organisational agenda in some detail through the SER and the Development Strategy document (2012-2016). From the discussions with the different staff members and students during the first visit, the team was provided only with brief insights into this. Before the second visit, the MTA's Senate adopted new strategic documents including the amended Development Strategy (2012-2016). MTA's managers and other staff groups, as well as students were very well informed about these documents and the team was able to get a more complete picture of the institutions plans and objectives.

The commitment from the university and its leadership, but most importantly, the development of the strategic documents should be in line with the mission and vision of the institution and the available and anticipated resources.

In January 2013, MTA adopted an education and research strategy as the basic documents to guide its future development. MTA's educational policies are clear-cut, realistic, coherent, and their objectives are known by the entire academic community.



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However, these strategic documents have remained at a high-level, describing mostly objectives; their usefulness would be maximised if they would include milestones, clear goals and priorities for the institution as a whole.

Institutional autonomy

Increasing institutional autonomy is a key element to enable universities to best respond to the new demands placed on universities. There are four key dimensions of autonomy: organisational, financial, staffing and academic autonomy. These dimensions are further broken down into “institutional autonomy indicators”. Some indicators that define highly autonomous systems that are rare in Europe but they do exist are: (i) the institution to be able to freely decide on the structure of the faculties and departments and create both for-profit and not-for-profit legal entities; (ii) to be able to include external members in governing bodies; (iii) to have almost no restrictions on the appointment, selection criteria, dismissal and term of office of the executive head; (iv) to have a flexible public funding modalities through the use of block grants and to have a freedom of allocation; (v) to set tuition fees for national/EU students; (vi) to be able to keep a surplus and to sell university-owned buildings; (vii) to have almost no restrictions to hire, pay, dismiss and promote staff; (viii) to decide on the overall number of study places and select students; (ix) to introduce and terminate the degree programs; (x) to have freedom in choosing the language of instruction; (xi) to be able to design the content of degree programs and have less formal accreditation requirements; (xii) to have a free choice of quality assurance procedures and providers or the ability to select neither.¹

The team noted a widely shared desire among the management and academic staff to have a more autonomous system along these aspects, which could enable MTA to develop as an academic institution. Nevertheless, MTA’s academics feel that the strong dependence on MOND makes it difficult for MTA to achieve a level of institutional autonomy similar to that of civilian institutions. The team shares this feeling, but also firmly believes that MTA would significantly benefit from achieving such a level, within the limits naturally imposed by its military character.

Dual identity

During the meetings with the academic staff, the issue of dual identity of the institution was often discussed. Most of the academics see MTA primarily as an engineering school with a military component, but the reality is that the military aspect still prevails. However, the academic character grows stronger with time; it is MTA’s goal to reach a balance between the academic and military aspects. There is consensus within MTA that this is a complex situation and that being a military institution has many advantages but it also hinders the development of some areas, as MOND’s approval is necessary for almost all activities (for example publishing in scientific journals, international activities, enrolment policy, staff employment, etc.).

¹ http://www.eua.be/Libraries/Newsletter/List_of_autonomy_indicators.sflb.ashx



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MTA aims at maintaining one of the top positions among universities in the domain of defence, public order and national security and high competitiveness at European and global levels for all the academic undergraduate, graduate and postgraduate programmes it runs. Even though this vision seems to be prevalent within the institution, it was not found to be explicitly stated in any of the documents provided. It is likely that this is due to the fact that the above institutional identity is not equally shared by everyone. Setting a clearly articulated vision shared by all and articulating it further to the others outside MTA, will enable the institution to grow, expand and improve with a clear idea of what direction it should take and what are the priorities that can be a constant and visible element of the institution's promotion/advertisement.

Therefore, MTA should initiate discussion within the academic community on the institution's identity they all are willing to accept and further develop it in the vision statement. To facilitate the process of developing a vision statement that would be an aspirational image of the future, the university leaders need to understand where they see the institution five years from now, to know what they have to achieve within that period and what the goals of the institution are.

Governance and decision making

It is clear to the team that MTA has clearly articulated and transparent procedures for decision making at all levels, which are followed by everyone. The governance structure of MTA is well defined and appropriate for the institution. Due to the many changes that MTA underwent in the past and despite the fact that it has rather complicated administrative procedures, the institution demonstrated a notable ability to react quickly to changes, especially to legislative ones.

MTA is ruled by the commandant who fulfils at the same time the responsibilities of a rector. When the rector is elected, he is also appointed commandant. The current rector was elected by the academic community through a secret vote and started his term as commandant and rector in February 2012. There are two vice-rectors, one for education and one for doctoral study. At MTA the management positions are filled with persons elected from within and by the academic community, according to the provisions of MERYS. The students are represented in all management structures, both civilian and military, and elect their representatives.

Throughout the meetings during both visits, the team was able to see that communication among leadership, staff and students is frequent, efficient and open; this is a highly important attribute for decision-making processes as well. The rector and his management team are very committed to their duties and dedicated in improving the position of MTA in every aspect. The team feels that MTA has the management that it deserves and that it needs.



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The Senate and the Administrative Council

Following the law of 2011, the academic Senate has a president who is not the rector. The Senate consists of 75% of tenured professors and researchers and 25% of student representatives, totalling all together 23 Senate members. No deans or vice-deans can be Senate members. The team learned that there is a great motivation among the academics to become members of the Senate despite their work overload; they feel that it is important to be able to influence the development of MTA. The Senate has the same term as that of the rector and there are always more candidates for the positions than there are places in the Senate. The students stressed that not only is it an honour to be a Senate member but it is also a very good reference for participating in the Erasmus mobility programme.

The team noted that the Senate operates with the assistance of eight commissions; each consists of three or four members, one of whom is a student. Their responsibilities include matters such as strategy, study affairs, research, quality, budgetary and financial matters, human resources, student affairs and ethics. Aside from academic decisions, the Senate also approves the strategy of how to manage the resources and there is a management contract signed between the rector and the Senate. The rector is invited to the meetings of the Senate to discuss the important issues and is legally responsible for all matters at MTA.

The Administrative Council is chaired by the rector. The body includes the vice-rectors, the deans, the administrative director and a representative of the students and is responsible for everyday management of the institution.

Finances and financial management

MTA is a public institution financed from the state budget provided by MOND (95%) and from its own income consisting of students' fees and research contracts (5%). The budget is drafted by a team nominated by the rector; it is then submitted to the Administrative Council and to the Senate, and then MOND defines in detail how to manage it and produces a line-item budget. MOND approves both the education budget and the military activities on the basis of MTA's proposal. Current budgeting practice does not allow for funds specifically assigned to research activities; this should be amended.

The team learned that MTA faces the financial challenges and constraints that reflect the situation across Romanian higher education, and also the conditions prevailing in the broader society. The funding level is low, and just sufficient for maintaining the current situation with no possibility of investing in further development. Despite this, the team gladly notes that in MTA's development strategy there are concrete plans to invest in lecture rooms, multidisciplinary laboratories, student hostels, renovation of sport facilities and swimming pools, by engaging external sources. However, the team feels that under the present circumstances of limited funding these plans will not come to fruition unless MTA increases its income. To this end, MTA



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should consider ways for diversifying the sources of its income, within the constraints imposed by its character and by the overall financial situation in the country. Examples of income-making activities that MTA could possibly engage in are the organisation of lifelong-learning programmes for industry; consulting activities; exploitation of research results. On the other hand, MTA has insufficient flexibility to manage whatever funds become available; MTA would certainly benefit from aligning its autonomy in managing its funds on what civilian institutions can do in this regard.

MTA has its own property, which is administered in accordance with the legislation of MOND. MTA can itself decide on the students' fees, personnel, logistics, capital expenses, but not on student enrolment numbers, which are defined by MOND. There are several limitations and restrictions due to the legal framework and MOND regulations and therefore MTA has some difficulties with staff employment; applying for EU projects and research funds; cooperating with private businesses. Even though the team did not delve into the details of MTA's financial management and consequently does not have full insight into its finances, it appears that MTA's financial management is effective and efficient.

Faculty governance

The faculty of mechatronics and integrated armament systems has four departments and the faculty of military electronics and information systems has three, one of them being the department of foreign languages and intercultural communication. Each faculty has a dean and a vice-dean; collegial management is provided by the faculty council, which includes the department heads and student members.

Human resources

The academic teaching staff is mixed, civilian and military. Average teaching load is between eight and 16 hours per week – four of which is dedicated to lecturing and tutoring. 91 tenured teachers have their basic teaching and research load in the Academy and provide more than 85% of the teaching activities for students attending the various study programmes at all levels. Approximately 15% of the total teaching load is provided by associate teachers outside the Academy, paid per hour.

The difficulty of hiring new staff and the early retirement of military teaching staff contribute to the overload of the academic staff; unfortunately, resolving these issues is beyond the control of the institution.

During the meetings with the team, the academic staff demonstrated a great deal of motivation to teach at MTA and expressed satisfaction with the collegial relationships. Since the classes are small and the relation with students is close, feedback is immediate although not all teachers encourage it.



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The teachers also expressed some concern regarding the administrative red tape and MOND restrictions that hinder greater involvement in EU-funded projects.

Information technology is available for teachers to be used for their work but they admitted that not everyone is using it to full advantage.

In addition, academics often stressed the salary differentials between military and civilian teaching staff. This creates a risk of possible tension. In the development strategy document, MTA has set the objectives to actively participate in legal initiatives to balance the salaries of military and civilian personnel and to raise the age limit for the retirement of military academics that have remarkable training, knowledge and experiences and are valuable for the institution. Although it is not within MTA's control, the team feels that this differential should be discussed both in the university and with MOND and MERYS.

Teaching staff's professional development should not solely be based on research achievements but also on teaching qualities. The team is aware that there is probably very little room to manoeuvre within the legislation; however, MTA should take into account the goals of the Bologna Process to shift to student-centred learning and try to find ways to implement active learning (cf. chapter 3). Clearly defined procedures for professional development of teaching staff (participating in staff training activities, using different teaching methods, implementing multimedia technology, e-learning), which are consistently followed throughout the institution, are to be considered in the future staff development policy. This would help introduce new pedagogies.

To counter the existing financial and legal difficulties, the team noted that the rector has developed a policy of rewarding exceptional staff teaching and research by handing out awards and bonuses for outstanding accomplishments; the team encourages the continuation of this policy.

Also planning social gatherings for the employees outside of work is one of the best ways to encourage a healthy work environment where teamwork thrives. The team was left with the impression that at MTA teamwork and positive climate among the employees were perceived during both visits and also expressed verbally in discussions. So MTA shall occasionally find it beneficial to organise social events for their employees and their families, since these events can provide a way for employees to get to know one another outside of the work environment in a different way. That is a plus for the institution because the better the employees know one another, the more productive and motivated they will be in the workplace. In addition, social events convey a sense of family, a connectedness that can cement the bond the employees have with the leadership and the institution. A few successful social events can make a big difference in the ability to retain quality employees for years to come.



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3. Teaching and Learning

MTA introduced the Bologna reforms in the academic year 2005/2006. Today, the Bologna Process is fully implemented in MTA; however, some evidence exists that student-centred learning approaches have not been adopted by all teaching staff members.

MTA study programmes are guided by the needs of the future employee or of the first military position; therefore, MTA defines the competences that military and civilian graduates must acquire. MTA considers the education of Bachelor officers in the fundamental engineering sciences of special importance to meet the needs of the following organisations: MOND, the Ministry of Administration and interior, the Special Telecommunications Services, the Romanian Intelligence Services, the External Intelligence Service and the Guard and Protection Service. These are referred to as “beneficiaries” and MTA is very much focused on making sure that these organisations’ requirements are met. Therefore MTA has a clear objective in the Educational Strategy 2012-2016 to adapt its undergraduate and Master’s programmes according to the evolution of equipment and doctrine in the areas of army, defence, public order and national security system, including cyber-defence. Due to NATO interoperability needs, MTA offers NATO official languages, English and French, in an extended intensive programme.

Bachelor programmes

The length of the undergraduate study programmes at MTA is four years with 240 ECTS points and for the military training subjects and electives there are 60 supplementary ECTS credits for the military students. Bachelor programmes are concluded with a Diploma project in a defined speciality in the fundamental domain of “engineering sciences”. The Diploma project themes are defined by the beneficiaries and academic staff, and proposed to the students who can choose from the list of projects. The final diploma project is approved by the rector, because all diplomas are either experiments or development of a certain product and, therefore, imply some form of expenditure, e.g. in terms of consumables. The graduates earn the Bachelor degree whereas the military students also become commissioned officers. MTA graduates’ qualifications prepare them for jobs that require technical-scientific, management, and military competencies. The drop-out rate is very low, less than 10%, and students explained that they can get a great deal of support from the teachers to prepare for the exams and that most of the necessary documents are online. This is despite (or perhaps because) of the fact that students have to successfully complete their study programme for each year or otherwise be expelled.

Master programmes

After the graduation of the first Bachelor class in 2009, the Master’s programmes began. Master’s studies take three semesters (90 ECTS) and are organised primarily to develop research and professional competences in the fundamental domain of engineering sciences and to obtain



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highly-specialised qualifications. The structure of the Master's studies provides students with more individual flexibility, which allows national and international mobility, within a framework regulated by MOND. The Master's studies provide the possibility of a closer interaction between academic studies and professional life, through the students' involvement in research and project activities.

For the academic year 2012/2013, MTA provides five Master's programmes with 139 places, among which 36 places are budget-funded and 103 fee-based. The Master's programmes at MTA adapt constantly to the requirements and demands of the educational and labour markets; this was also confirmed by the beneficiaries and academics whom the team met. These programmes seem to be increasingly attracting graduates from other universities. The appointment of graduate military students to the Master's programme depends on their academic results and the needs of MOND or other beneficiaries. In the future, MTA intends to reorganise the Master's curricula by extending the study programme to a period of two years.

Doctoral programme

Since its foundation in 1949 to the present, MTA granted diplomas and certificates under the specific legislation for the fundamental domain "Engineering Sciences". Since 1950 MTA has been accredited to organise doctoral programmes. In accordance with regulations, MTA is recognised as an Institution Organising Doctoral Studies (IODS) in the fundamental field of engineering sciences, in eight PhD specialties, with three research centres and five research laboratories.

PhD studies last four years and have presently 175 PhD students, supervised by 36 doctoral advisers certified by MERYS. All doctoral students are gathered in a single, faculty-independent doctoral school.

For the academic year 2012/2013, MTA provided 44 PhD student places, among which 42 fee-based and two are budget-funded; the latter are employed by MTA as research assistants, with short-term contracts. The yearly admission to doctoral studies depends on the proposals from scientific advisers in collaboration with MOND. The doctoral school proposes a list of research themes for each doctoral domain. MTA's doctoral school is financed by MOND from the state budget to cover the administrative costs of the doctoral school (the office for the coordination of the studies) and MERYS allocates to MOND a number of multiannual doctoral grants by the plan of schooling in military education institutions. The private funds are obtained from study fees that are set annually by the Senate to cover the tuition costs, research costs and dissemination of the research outcomes.

Plans are already in place to restructure the doctoral studies in MTA in order to become more efficient and able to further develop internationally; up to now, 10 PhD theses have been



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completed in a joint programme with institutions abroad. The team welcomes and encourages these plans.

Curriculum approval

The syllabus for each subject is discussed in the specialized didactic commission and approved by the Department Council. Curricula are discussed and drawn at department level, endorsed by the Faculty Council and approved by the MTA's Senate.

The faculties' new educational programme proposals are endorsed by the Faculty Council. First the study programmes' contents are drafted by the departments and then they are further discussed at the Departmental Council and approved by the Faculty Council. The Senate validates it and sends it for approval to MOND. Further, ARACIS evaluates and accredits it and then MERYS develops guidelines with the field and study programme classification. The course description is defined by ARACIS but the content is freely determined by MTA. During the accreditation process of their special military programs, MTA explains that ARACIS trusts the institution since they have no experts in these fields and the diplomas are recognised in the civil environment. Postgraduate courses are planned according to the demand and MOND approves them, but mostly for military personnel; only few courses are organised for civilians. MTA regularly consults also with its beneficiaries on syllabus, course content and diploma projects; the team finds this practice very commendable and encourages MTA to continue it. Further, the team feels that MTA should use the expertise it has and try to offer it to the broader society in a form of specialised courses, consulting, and engaging in developing lifelong learning programmes.

Students', alumni's and beneficiaries' views on teaching

MTA states in its documents that it wishes to foster student-centred learning. Indeed, students do feel engaged in discussion and problem solving groups and seem to be happy with their learning environment, although they would prefer to have more practical training and lecturers with private sector experience. Most of them enrolled in MTA because they graduated from a military high school and wanted to continue in this profession, others because of the respect that society pays to MTA's graduates and still others because of family tradition. According to them, entrance to MTA was challenging, especially the physical test, and they had to prepare for it for several months. Competitive selection of students is signalling attractiveness of the study programmes and the team learned that the teaching and learning process is effective, as manifested by the outcomes. The teacher-student communication appears to be very effective. A buddy system support is developed for assisting the learning processes. It is greatly appreciated that the students form study groups that foster mutual learning processes.

Not only the beneficiaries stressed many times during the meetings that they are happy with the quality of students and graduates, but also the students during both visits expressed satisfaction with the quality processes and their involvement in the process. The team perceived highly



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motivated and very satisfied students at MTA, proud to identify themselves with the institution, also as alumni.

Academic integrity

Plagiarism is a global problem; at MTA, students and staff are aware of it and students have to sign a statement to the effect that their project work is their own, before graduation. However, among Bachelor students there were some examples of essays or short papers that bordered on plagiarism but students were not aware of it. Therefore, the team proposes that relevant rules and guidelines about plagiarism are introduced to the students at the very beginning of their learning process.

Tuition fee

In 2007/2008 MTA started to accept also civilian students in the Bachelor study programmes, but a tuition fee had to be paid. The fee for a Bachelor study programme is 2 970 RON (670€); 3 900 RON (879€) for Master's and PhD programs. The academic year 2012/2013 saw the highest number of students enrolling in its history: 793 military students and 115 fee-paying students in Bachelor programmes, 36 military and 103 fee-paying students in Master's programmes and 175 fee-paying students in PhD programmes. Fee-paying places are defined by MTA – but the institution is not allowed to go over the number that is defined by the accreditation agency ARACIS about the maximum number of places per programme. Fee-paying students in the graduate programme come mostly from the security and military sectors and are full-time students only.

The team took the opportunity to visit faculty buildings, laboratories, GEOINT centre, sport facilities, library, hostel and canteen. Despite the attractive location in the centre of the capital, there is much room for improvement in building infrastructure – particularly, the sports facilities, given the academy's military profile – as well as the equipment often used for teaching laboratories and the library. The team understands that this is related to finances and recommends that MTA attempt to finance some initiatives for equipment procurement and simple maintenance through European projects (such as FP7, EU Structural funds projects, ESFRI, GÉANT).



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4. Research

In the discussions with MTA academics and in the documents prepared by MTA it is clearly stated that research is a priority domain and it is MTA's objective to develop and grow research activities even more, especially internationally. They describe MTA to be widely known and have a leading rank regarding technical applied scientific research in the domain of national defence and security. In 2008 MTA was accredited as an institution for research and development of national interest being the only one among other MOND institutions at this level. MTA is also certified with ISO 9001:2000 and AQAP 2110 to carry out scientific research activities, consultancy for technological development and technical expertise in the field of security systems technology.

Some research and development activities carried out in MTA produced pioneering results. Examples are: the analogue computer (1960), the anti-submarine rocket (1963), the hail-dispersal rocket (1963, 1967, 1976, 1981), the welding by friction device (1980), the Romanian tank (1985-1992), the unguided reactive missile with preformed elements and proximity fuse (1988) and others. In the past years, several patents were developed which remain in the property of the inventor and not of the Academy.

The SER stated as a goal that MTA would like to upgrade to "universities of advanced research and education"; however in the new scientific research and PhD training policy and in the Development Strategy document (2012-2016), both adopted in 2013, MTA aims to retain their classification position as "universities for education and scientific research". According to the discussion with MTA management representatives this is more realistic given current circumstances and the team supports that decision. This is further evidence of the need for MTA to decide on its institutional profile.

Research management

The research activities are coordinated, monitored and evaluated at several levels:

- by the Scientific Council through the vice-rector for research at the academy's level
- by the Faculty Councils and the deans at the faculty level
- by the Doctorate and Research Coordination Bureau

The fulfilment of the research and development plan is periodically analysed — quarterly by departments, bi-annually by the faculties' councils, in the Scientific Council and in the University Senate.

Research centres are affiliated to the faculties rather than to the doctoral school, but plans exist to change this (cf. section 3). The reorganisation of the doctoral studies can significantly enhance



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the research potential of the institution. Among other things, it will broaden the spectrum of the research fields that MTA can cover.

For security reasons, publications need to be preapproved by MOND. Nevertheless, the teaching staff should continue to be encouraged to publish the results of their research in ISI journals with a significant impact factor.

Funding of research activities

MOND has its own sectorial research and development plan — primarily for Military Technical Equipment and Technologies. MOND publishes a call and invites universities to develop research for them, but the available resources can only support the material costs of the projects and not the salaries. MERYS has also its own National Research, Development and Innovation Plan which is competitive and can finance projects. Academics feel that the deadlines are short and applications are time-intensive. MOND provides few grants for PhD theses, but MTA academics are optimistic and believe that this is a transitional phase and that it will improve in the future.

At the moment, MTA does not benefit greatly from various NATO funds, although it offers some grants for team projects that allows groups to develop ideas or for experimenting, but rarely for real research projects. Within NATO, research is defined according to the field of activities — knowledge exchange and sharing knowledge — but participation involves co-funding.

MTA has not been very successful in applying for EU project funding, but would like to improve in this field. There were some obstacles in Romanian legislation but this has changed and it may enable MTA to fully explore international funding possibilities in the future.

Student involvement in research

For the academic year 2012/2013, MTA provided 44 places on the PhD programme, two of which are budget-funded and 42 fee-based. MTA should explore every possibility to improve the balance between fee-paying and budgeted PhD students. To this end, the team encourages MTA to continue negotiating with MOND so that more PhD candidates are supported. MTA should use clear arguments of international comparability, since the fee-paying PhD students are not full-time. The fee can be waived if the students work for MTA, or if they are former graduates; this can be further promoted as an advantage to attract more full-time students. There are also teaching opportunities for PhD students and some teach 400 hours per year, while others are research assistants. MTA should consider offering further fee reduction to doctoral students employed by MTA when they are engaged in teaching.

The team was informed of the involvement of undergraduate students in scientific research activities through the students' scientific circles. These are organised by disciplines or fundamental disciplines groups, in technical or complementary fields, for the first year students



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and into specialised disciplines — discipline groups — for students in senior years. The plan for the organisation of student scientific circles is elaborated for each academic year and validated by the Senate. The results of these scientific activities are valorised through the scientific papers presented on the occasion of scientific manifestations organised in the country and abroad. MTA organises several scientific events like the International Conference on Communications — COMM, International Conference on Security for Information Technology and Communications — SECITC, Laser Bucharest to promote MTA’s scientific status and obtain ISI or BDI indices. MTA should continue the good practice of informal teaching with research results, particularly through organising students’ scientific circles and conference events and to enlarge it internationally and expand it to other disciplines.

Research development

The team believes that the implementation of the recently adopted research strategy would need an increase in funds earmarked for research within the budget provided by the state. Current financing does not include funds specific for research; this should be amended. Given the limitations, it is difficult to generate additional income out of research activities; nevertheless MTA should consider:

- Forming research partnerships with industries (starting with small steps such as donation of equipment, subsidies for laboratories...)
- Exploiting the research outcome, innovative results for the industry should be generated, ensuring that intellectual property rights rest with the Academy rather than individual staff member.
- Fully explore international research funding possibilities. Maximise the proposals to FP7 and other EU programmes.



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5. Service to society

The role of the beneficiaries

The positioning of MTA in terms of community engagement and service to society is specific by its nature but also indicates that MTA is a credible institution. In the SER it is stated that MTA has developed its study programmes based on identifying and describing competences for the Bachelor, Master's and Doctoral programmes. These programmes were developed in close cooperation with the employers and, often, in response to specific requests. Thus, MTA received requests from beneficiaries such as the Service of Special Telecommunications, the External Intelligence Service, the Romanian Intelligence Service and some structures within the Ministry of the Interior to encourage Bachelor graduates to immediately continue with the Master's programmes in order to meet these employers' requirements.

The team met a number of representatives from MOND, Ministry of Administration and Interior, Special Telecommunications Services, Romanian Intelligence Service, External Intelligence Service, Protection and Guard Service and National Administration of Penitentiaries. Most of them were also MTA graduates and are engaged in regular and close cooperation with MTA, in different areas. During the discussion, the beneficiaries explained that the quality of MTA graduates is of essential importance to them and some have their selection criteria of future candidates based on quality criteria that are in coherence with MTA students. Some monitor the progress of certain students during the whole education process; develop the curricula with the faculty to make sure that the students have the knowledge they need and propose the final diploma projects that are jointly coordinated. Some students come to do practice in the offices or laboratories of beneficiaries so that the latter can evaluate how well the students are doing in their studies. The basic training of MTA graduates meets their expectations but they would like to have more of them.

The number of places for military students is limited by MOND and is changing according to the military needs. This is connected to the fact that all military graduates must get jobs so the number of places is determined by the Ministry. Some beneficiaries feel that this is a limitation for them in certain areas where they need more graduates and also for MTA this practice causes difficulties in planning their teaching load. MOND representatives are aware of the incompatibilities between two legislations — education and military — therefore MOND is trying to harmonise and cooperate with MERYS to influence the changes in legislation as well. The team strongly supports this line of action.

Future development

Service to society includes among others lifelong learning; in this respect MTA is limited since the Bachelor and Master's courses as well as the postgraduate courses it offers are planned by MOND and are targeting military personnel. Even though the team acknowledges the fact that



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MTA currently has neither the time nor the resources available to engage more actively in lifelong learning, the team recommends that MTA should seriously consider this activity, as it could both increase MTA's outward visibility and generate additional income.

The team feels that MTA is not fully exploiting its unique position with regards to defence and specialised industry. There are areas where MTA has no competitors; it is the only institution with this expertise in Romania, so it should be actively marketing its unique characteristics. The target audience of such marketing should be the current beneficiaries but efforts should be expanded to identify a larger circle of potential beneficiaries. Once this is done, MTA can have more outward-looking activities like initiating the diversification of the educational offer, for example to design special courses, offering consulting to industry, etc. This should also be actively marketed and, if necessary, by eliciting professional marketing advice.

Beneficiaries from industry have explained that they facilitate the students' access to their factories for training purposes and to gain access to the know-how of and the expertise of MTA. Unfortunately, some of the beneficiaries cannot benefit from the best students because many of them go abroad or to private industries where salaries are higher.

MTA students actively participate in events organised by the local community, for instance on the occasions of the national day of Romania, in the parade, different ceremonies, promotional activities and fairs. MTA Students' Association has organised a series of humanitarian activities for institutionalised persons in children hostels and retirement homes, fundraising activities, students' participation in social activities, such as blood donation, recycling and a donation campaign for the victims of the harsh winter of 2012, etc. MTA should further encourage students' activities related to the service to society at large and give them full support.

The reputation of any educational institution depends upon good results, co-curricular activities, environment, and investments. But there is one factor, which only requires support and encouragement and brings strength and expansion to the institution's reputation and progress and that is its alumni. An alumni association encourages graduates to contribute to their alma mater and to promote it nationally and internationally. An alumni association is also responsible for a range of activities and programmes through which the graduates can keep in touch with their institution after the completion of their studies. They get benefits from the university and play an effective role in promoting the university. Alumni associations often organise social events, publish newsletters or magazines and raise funds for organisations as well as helping students who are currently studying.² The team met with some alumni representatives who expressed a desire to be involved in MTA Alumni Association and help develop activities targeted at keeping close contacts with each other and organise at least one annual event. MTA alumni

² Anila Fatima Shakil et al.: The Importance of Alumni Association at University Level in Karachi, Pakistan



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can be influential people, so the Academy needs to strengthen the relationship with them as much as possible. Examples of possible actions to this end are the organisation of alumni homecoming events, sending an electronic newsletter to alumni, systematically keeping track of their careers, etc.



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6. Quality culture

Quality development and management of quality is described in the documentation provided as being centrally positioned in MTA's objectives and strategic development plans. This documentation, that consists of more than 30 regulations, reporting guidelines, evaluation models, operational procedures, analysis guides and tool descriptions, results in a significant amount of information. In the discussions with academics and students this was also brought up as work overload to a certain extent but, on the other hand, the awareness of quality processes is considerably high among them.

Quality management

Based on the decision of the Academic Senate regarding the Education Quality Evaluation and Assurance, three fundamental documents were adopted in 2007: "Functional Scheme of the Quality Management System in the Military Technical Academy", "Quality Assurance Code in the Military Technical Academy" and the "Quality Manual".

The MTA's rector is directly responsible for the quality assurance (QA) of the educational and research services. Based on the rector's decision, this system's operative management is further delegated to the vice-rector responsible for quality. The Quality Assurance Department is coordinated by the director for QA and works closely with specialists and quality assurance executives, represented by each academic and administrative entity.

In accordance with legislation, the Evaluation and Quality Assurance Commission includes teachers and students. This Commission functions based on its own regulations; it issues an annual Internal Report on the Quality Evaluation and Assurance and is subordinated to the Senate. Each faculty has a QA Commission and each department has a representative responsible for QA as well.

Evaluation of teaching activities

Several changes have taken place at MTA that influence many QA processes and procedures. These are the implementation of the National Higher Education Qualifications Framework (NHEQF); the creation of the National Higher Education Qualifications Register (NHEQR) in 2011, where every university describes its study programmes, i.e. qualifications provided, competences, curricula and syllabuses (subject cards).

In this context, MTA carries a range of activities to ensure the quality of its study programmes, including:



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- In order to continuously improve quality, the Academy has organised periodical meetings between its representatives and the beneficiaries, which led to drawing up and reviewing the "Graduate's Model" and the Graduates' Competences.
- Application of the internal regulations concerning the approval, monitoring and evaluation of the academic study programmes creates a strong relationship between the contents of the Academy's educational processes and the explicit or implicit requirements of the employers or those of the national higher education system, including the national qualifications framework.
- Also, analyses, reviews, periodical evaluations and internal controls and audits contribute to the identification of the activities to be performed in order to improve the institution's activity and to the involvement of all the personnel and students in the implementation.
- MTA regularly offers training courses in the field of quality assurance for its teachers, administrative staff and students.
- Every year MTA draws up the syllabuses, which are periodically updated in accordance with the requirements and suggestions formulated in the analyses made by the expert groups, specialised departments, faculty councils, the employers and the students.
- The curricula are reviewed upon the departments' proposal with the approval of the faculty council. The revision of a syllabus is initiated by a tenured teacher. MTA also promotes analysis of a group of subjects in order to harmonise training in certain domains at institutional level. The analyses made within the specialty groups by the respective teachers identify solutions for the continuous improvement of the subjects.
- According to regulations, the learning outcomes and students' promotion to the next year of study are based on a series of marking and promotion rules; these are announced by the tutor at the beginning of the academic year, and by the teacher when the subject is presented during the first class and they are included in the syllabus, in the ECTS guide (which is only in Romanian) and in the student's guide. For each subject in the curricula it is specified: the form of evaluation and the way evaluation is done. The students admitted on the budgeted places shall pass all forms of evaluation at least three days before the beginning of the academic year. They shall acquire 60 ECTS, which is more than the civilian fee-paying students who need 45 ECTS for promotion into the next year because they do not need to take the military subjects.

Objectivity and transparency of the students' examination and marking is analysed every year by each faculty based on the "Questionnaires for Teachers' Evaluation by the Students". The document called Synthesis of the results shows the students' learning results (situation of the students who have not passed their exams) and the expulsion situation over the last academic years.



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External evaluation processes

In addition, MTA submit to several types of external QA processes:

- Following MTA's objectives, the institution was certified for the quality management system by S.C. PARTNER CERT S.R.L. in 2010, by SR EN ISO 9001/2000 standard in 2011 and by the NATO publication AQAP 2131 in 2012.
- The evaluation and accreditation that were done at MTA by ARACIS is a source for increased performance as well as national and international acknowledgement of MTA's competences. As a result, MTA has started an extensive self-evaluation and external evaluation programme for the majority of its study programmes. Thus, starting in 2005, MTA has sent the periodical evaluation reports for all Bachelor programmes, and following the ARACIS commission's visits, all these programmes have been accredited. Also, in 2007, 2008, 2009, 2011 ARACIS visited the Academy for periodical evaluation or temporary authorisation of some programmes.

Research evaluation

All scientific research outcomes are submitted to an internal process of evaluation and approval by a team of the Scientific Council members. The internal approval is carried out according to a specific procedure and concludes with a record of the proceedings for internal approval. Furthermore, the research is submitted to a reception process from the beneficiaries with another written record of reception. All written materials with the results of research are recorded and filed at the military literature section of the university library.

Staff evaluation

The military and civilian teachers are evaluated according to the MOND rules. Academic staff evaluation includes peer evaluation, performed yearly for each teacher and approved by the Senate. These data are collected on evaluation cards, which contain performance indicators for teaching, research and for other activities for the academic community. The latter refer to the teacher's involvement in the department/faculty/academy's activities such as encouraging teamwork, the contribution to the department self-budgeting and students' guidance. This is the criterion where peer opinion is the most important.

The teaching staff evaluation also includes evaluation by the students, based on questionnaires; some of the questions therein are different for civilian and military staff. Currently, the scores obtained by each teacher are not made public. At the academy level, the 2011 results were centrally collected by the personnel department and a summary was presented to the Senate. It is acknowledged that the evolution of the statistical indicators that measure the institution's development requires periodical management analyses; this is stated in the Quality Manual.

The management of any military institution is bound by MOND's specific, internal instructions; these include an annual evaluation of the entire personnel's professional activity including



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administrative staff. In this respect, the military students are also evaluated, according to a specific methodology.

Future development

There has been a debate on the method of carrying out evaluations considering the specificity of the academy as a military institution. The aim of this debate was to establish a correct, coherent and unitary teacher evaluation system. In the SER it was mentioned that the Academic Senate analysed numerous systems present in many well-known European universities, finally approving a “Methodology for the Organization and Carrying out of the Teachers' Evaluation by the Students and an Evaluation Questionnaire”.

Although MTA has many demanding formal written QA procedures, these are complemented by less formal personal communication between students and academic management. The team has noticed that in some cases there is an unnecessarily complicated structure for quality assessment. Despite the legislative nature, it is important that the ownership of the QA system is clearly and uniquely identified within the system. MTA should also consider revisiting the need for having two quality commissions and to assess whether certain QA procedures are solely administrative burden with no added value.

The team also advises to use the European Standards and Guidelines (ESG) in addition to other quality standards at MTA. The European Standards and Guidelines in QA are designed to be applicable to all higher education institutions and quality assurance agencies in Europe, irrespective of their structure, function and size, and the national system in which they are located. There are many European higher education institutions and agencies, which have implemented the standards and guidelines since they were first adopted by the Bologna Process ministerial summit in Bergen (Norway) in 2005. Further information about the ESG can be found at: <http://www.eqar.eu/application/requirements/european-standards-and-guidelines.html>.



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7. Internationalisation

Improving and broadening internationalisation is one of the MTA's strategic goals and is mentioned in a variety of documents and reports. This aim is resulting from the facts that MTA can exploit the possibilities given by political changes. Internationalisation is pursued through:

- bilateral collaboration with foreign universities;
- participation in the European programmes ERASMUS MUNDUS;
- joint supervision of diploma projects and doctoral theses;
- participating in NATO work groups;
- organisation of and participation in international scientific events.

The most intense activities take place within the bilateral inter-university exchange programme for military training and courses, especially with French, Spanish, Dutch, Portuguese, Polish, English, Irish and Italian institutions. Cooperation agreements can be signed only if the defence ministries of both countries agree and have previously signed an agreement. Ten joint mentorships with French institutions were created for PhD students and also for some diploma projects. There is also some exchange with the United States military institutions where, among others, MTA participates annually at the "USA Air Force's international Week" at the US Air Force Academy in Colorado Springs.

The ERASMUS mobility programme is the second biggest international activity at MTA since 2000/2001. It is coordinated by the national agency for community programmes for education and professional training – ANPCDEFP – and each activity has to be also approved by MOND. In 2003, MTA was awarded the Erasmus Charter that was extended until 2013. In 2011/2012, 52 students participated in Erasmus mobility and this year there will be 61 outgoing Erasmus students, 13 incoming ones and four teaching and one administrative staff mobility. The selection criteria for Erasmus mobility among students are pretty strict and involve also an examination.

Cooperation with NATO is limited to specialists who are involved in special NATO working groups to develop scientific research projects, to elaborate the military standards and any other NATO documents. MTA is chairing some working groups, on behalf of Romania as the leading nation. MTA has also signed a memorandum with Nc3 Agency (NATO Consultation, Command and Control Agency) located in The Hague, Netherlands, where several activities take place in diploma projects, short courses, research projects and joint organisation of international conferences and exhibitions.

On the basis of a Memorandum of Understanding signed between the representatives of the Ministries of Defence of the Netherlands and Romania in the field of distance learning, MTA



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developed an infrastructure and a pilot centre, where the Academy's specialists participated in elaborating a NATO manual in the field of designing and implementing distance learning platforms.

As a result of the scientific cooperation and the support given for increasing MTA's international scientific visibility the academy conferred the honorary title of *Doctor Honoris Causa* onto several Romanian and foreign personalities.

The international relations activities are coordinated by the Community Programmes and International Relations Office at the Academic Management Section.

The team was impressed with the English proficiency of the students' representatives and the alumni who met with it.

The team recommends developing a clearly formulated and focused internationalisation strategy. MTA has already developed the strategy for the institution's development, the education and research strategy, where elements of international activities can be found. However, it would be greatly beneficial if MTA has a separate strategy for internationalisation and consider also separate strategy for activities for incoming and outgoing students and staff. These can differ by financial means and available exchange programmes. This would also give the international relations office a road map to follow. The team's recommendations are:

- Explore several EU initiatives for internationalisation where additional financing can be acquired through specific projects (CEEPUS, TEMPUS, 7FP, Marie Curie, DAAD, OAD).
- Define the priorities for strategic partnerships.
- Develop a language policy, offer selected subjects/modules in foreign languages for home and international students.
- Prepare intensive programmes/summer schools in selected subjects in foreign languages.
- Develop and offer Master's courses in foreign languages so as to attract international students.
- Systematically attract international teachers and researchers.
- Apply internationalisation beyond mobility programmes and consider that internationalisation can take place also at home with integration of international, intercultural perspective in study programmes, inviting guest lecturers, organising an international day with international students, transnational virtual lectures.



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8. Conclusion

This evaluation process at MTA has been a unique experience for all team members.

The team finds MTA fit for purpose with regard to educating engineering officers. If MTA decides to remain a teaching and research institution, it has to decide on its identity and strategic priorities — even more so because the resources are limited. Whatever the decision, it is important that it is communicated to the whole academic community and to MTA's beneficiaries.

The quality of leadership, the motivation and the morale of the academic community at MTA provide excellent ground for achieving its strategic objectives. The process will not be easy, but as MTA's motto says: *per aspera ad astra* (through hardships to the stars).

Summary of conclusions and recommendations:

1. *The mission of MTA is clearly stated and widely shared by academics as well as by students and it should be part of and driving the strategic development plan and clearly defined goals also in the future.*
2. *The usefulness of the strategic documents would be maximised if they included milestones, clear goals and priorities for the institution as a whole, in addition to describing mostly objectives.*
3. *The commitment from the university and its leadership, but most importantly, the development of the strategic documents should be in line with the mission and vision of the institution and the available and anticipated resources.*
4. *MTA should initiate discussion within the academic community on the institution's identity they all are willing to accept and further develop this in the vision statement. To facilitate the process of developing a vision statement, an aspirational image of the future, the university leaders need to understand where they see the institution five years from now, to know what they have to achieve within that period and what the goals of the institution are.*
5. *MTA should consider ways for diversifying the sources of its income, within the constraints imposed by its character and by the overall financial situation in the country. Examples of income-making activities that MTA could possibly engage in are the organisation of lifelong-learning programmes for industry; consulting activities; exploitation of research results.*
6. *Teaching staff professional development should not solely be based on research achievements but also on teaching qualities.*
7. *MTA should take into account the goals of the Bologna Process to shift to student-centred learning and try to find ways to implement active learning.*



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8. *Clearly defined procedures for professional development of teaching staff (participating in staff training activities, using different teaching methods, implementing multimedia technology, e-learning, etc.), which are consistently followed throughout the institution, are to be considered in the future staff development policy.*
9. *The rector's policy of rewarding exceptional staff teaching and research should be continued.*
10. *MTA shall occasionally find it beneficial to organise social events for their employees and their families, since these events can provide a way for employees to get to know one another outside of the work environment in a different way.*
11. *The existing plans to restructure the doctoral studies in MTA should be implemented.*
12. *MTA should continue to regularly consult with its beneficiaries on syllabus, course content and diploma projects.*
13. *MTA should use the expertise it has and try to offer it to the broader society in a form of specialised courses, consulting, and by engaging in developing lifelong learning programmes.*
14. *Rules and guidelines about plagiarism should be introduced to the students at the very beginning of their learning process.*
15. *It is recommended that MTA attempt to finance some initiatives for equipment procurement and simple maintenance through European projects (such as FP7, EU Structural funds projects, ESFRI, GÉANT).*
16. *MTA's aim to retain its classification position as "university for education and scientific research" is realistic under the circumstances and should continue to be pursued.*
17. *The teaching staff should continue to be encouraged to publish the results of their research in ISI journals with a significant impact factor.*
18. *MTA should explore every possibility to improve the balance between fee-paying and budgeted PhD students.*
19. *MTA shall continue negotiating with MOND so that more PhD candidates are supported, using clear arguments of international comparability, since the fee-paying PhD students are not full-time.*
20. *MTA should consider waiving, fully or partially, the fee for PhD students if they work for MTA, or if they are former graduates.*
21. *MTA should consider offering further fee reduction to doctoral students employed by MTA when they are engaged in teaching.*
22. *MTA should continue the good practice of informal teaching with research results, particularly through organising students' scientific circles and conference events and to enlarge it internationally and expand it in other disciplines.*
23. *The implementation of the recently adopted research strategy would need an increase in funds earmarked for research within the budget provided by the state. Given the limitations, it is difficult to generate additional income out of research activities; nevertheless MTA should explore possible avenues to this end.*



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24. *Even though MTA currently has neither the time nor the resources available to engage more actively in lifelong learning, it is recommended that this activity should be seriously considered, as it could both increase MTA's outward visibility and generate additional income.*
25. *MTA should fully exploit its unique position with regards to defence and specialized industry, by actively marketing its unique characteristics, if necessary by eliciting professional marketing advice.*
26. *MTA should further encourage students' activities related to the service to society at large and give them full support.*
27. *MTA needs to strengthen the relationship with its alumni as much as possible.*
28. *It is important that the ownership of the QA system is clearly and uniquely identified within the system. MTA should also consider revisiting the need for having two quality commissions and to assess whether certain QA procedures are solely administrative burden with no added value.*
29. *It is advisable to use the European Standards and Guidelines (ESG) in addition to other quality standards at MTA.*
30. *MTA should develop a clearly formulated, focused internationalisation strategy and consider also separate strategy for activities for incoming and outgoing students and staff.*
31. *MTA would significantly benefit from achieving institutional autonomy comparable to civilian institutions of the same or similar kind. This implies, inter alia, that the institution is not faced with conflicting legal or regulatory requirements stemming from its dual nature. Further, it is imperative that MTA's ability to manage its funds is significantly enhanced, towards aligning it to the ability of civilian institutions.*