



EVALUATION REPORT FOR EVALUATION OF RESEARCH ORGANIZATION IN THE SEGMENT OF HIGHER EDUCATION INSTITUTIONS IN YEAR 2025

HIGHER EDUCATION INSTITUTION NAME: UNIVERSITY OF DEFENCE
COMPANY REGISTRATION NUMBER (CRN): 60162694
THE LIST OF EVALUATION UNITS IN MODULE 3:
FACULTY OF MILITARY LEADERSHIP
FACULTY OF MILITARY TECHNOLOGY
MILITARY FACULTY OF MEDICINE
NBC DEFENCE INSTITUTE

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EVALUATION REPORT IN MODULE 3

NAME OF EVALUATED UNIT: FACULTY OF MILITARY LEADERSHIP

FORD: 5 - Social sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

Indicator 3.1 is a non-evaluated indicator that provides basic information about the evaluated unit such as its mission and vision, organizational structure, size and staffing, or R&D&I capacities.

Commentary:

The Faculty of Military Leadership (FML) at the University of Defence (UoD) serves as a central institution for military education, research, and professional training, primarily supporting the Czech Ministry of Defence (MoD) and the Armed Forces of the Czech Republic (ACZR). Its mission focuses on developing military professionals with expertise in leadership, operational theory, logistics, crisis management, and specialized armed forces domains. With approximately 800 students - 90% cadets and 10% civilians - the FML combines higher education at all three levels with professional courses tailored to military needs. The faculty operates within a state legal framework, which also allows the employment of staff over the age of 70, ensuring continuity and experience in its academic workforce.

FML's research and educational activities are highly interdisciplinary, spanning social sciences, humanities, engineering, technology, logistics, and military tactics. Departments are divided into theoretical units - covering economics, law, management, history, psychology, leadership, and crisis management - and professional units - focusing on artillery, logistics, engineering, and intelligence. This structure allows FML to integrate scientific insight with operational military applications, including leadership assessment, decision-making processes, technological integration, and scenario simulations. Research projects frequently align with NATO and EU initiatives and address emerging and disruptive technologies (EDTs), such as additive manufacturing, cyber defense, and automation, demonstrating the faculty's focus on strategic innovation and the modernization of military systems.

While FML produces results with both national and occasional international relevance, its primary focus remains on Czech defense needs. Research outputs include professional and scientific publications indexed in Web of Science, as well as applied solutions like artillery interoperability studies, automated fire system risk analyses, and environmental assessments. Collaboration with the Czech Armed Forces and international partners ensures that research directly enhances operational readiness, crisis response, and defense effectiveness. However, the faculty faces structural challenges: a high teaching workload limits space for research, broad research themes complicate the allocation of resources for cutting-edge R&D&I, and smaller department sizes restrict large-scale project implementation.

Overall, the FML demonstrates a balance between education, professional training, and applied military research. Its two primary activity domains - soft skills development in leadership and command, and specialized armed forces education - reflect the strategic mission of supporting the ACZR. The faculty's interdisciplinary approach, combined with a focus on EDTs, positions it as both an educational leader and a driver of innovation within Czech military science, while also

maintaining potential for broader societal and international impact through applied research and collaborations.

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

Evaluate the position of the evaluated unit in the R&D&I research community based on the facts presented in indicator 3.2 and its annexed tables (3.2.1 to 3.2.5).

Rating [1–5]:

4 - Very good

Qualitative assessment:¹

The Faculty of Military Leadership (FML) is consistently recognized as a prominent and respected institution within the research, development, and innovation (R&D&I) community, with particular strength in military, defense, and security-focused research. The IEP Committee recognizes its contributions through specialized research teams, participation in working groups, committees, and panels, and its alignment with national defense priorities and NATO-related initiatives. FML's applied research in areas such as autonomous systems, logistics, and military economics is noted as both mission-driven and impactful, directly supporting operational and training needs.

The Faculty has received significant recognition at both national and international levels, including the Rector's Award for scientific excellence and acknowledgment from NATO and its Science and Technology Organization. FML staff are active as invited lecturers, members of international editorial boards, and participants in global conferences, reflecting its integration into the broader academic and defense research community. At the same time, the IEP Committee noted areas for improvement, such as clarifying project scopes, increasing participation in top-tier international research councils, and diversifying publication strategies to balance high-impact journals with specialized military and defense outlets.

Overall, the FML is viewed as a well-established, mission-driven institution with growing international influence, strong recognition for its experts, and a solid foundation for further development. Continued expansion of international collaborations, greater visibility in high-level academic networks, and a more strategic approach to publication could further enhance its reputation and global standing.

Average Rating – 3.9

Recommendations:

The Faculty of Military Leadership (FML) and the University of Defense (UD) should continue fostering creativity and showcasing achievements at all levels, while also improving the clarity and structure of reporting in documents such as the Self-Evaluation Report. The IEP Committee stresses the importance of highlighting the dual role of faculty members as both researchers and teachers, while strengthening FML's strategic specialization in areas like autonomous systems, logistics, and robotization. They also encourage more systematic testing of research in practical training and operations, leveraging FML's unique connection with the Ministry of Defence.

The need exists to expand and deepen international collaboration. This includes actively seeking broader engagement with NATO, EU institutions, and leading defense universities, while increasing participation in high-level research councils, projects, and conferences. To achieve this, investment

¹ Provide verbal assessment of the indicator and briefly comment on the reasons for awarding the specific rating. Follow a similar procedure for the other indicators.

in training, mentoring, and foreign study is recommended, along with enhanced language and technological skills to support stronger global engagement. The IEP Committee also suggests diversifying funding sources through greater involvement in European defense research programs such as EDF and Horizon Europe.

Finally, the Faculty is advised to refine its publication strategy. While targeting Web of Science journals is commendable, the IEP Committee recommends balancing this with high-quality, domain-specific military and defense journals to ensure broader relevance and impact. Additionally, applying advanced methods such as artificial intelligence to research and development offers the opportunity to accelerate modernization in command, logistics, and operational systems, thereby aligning academic output more closely with future defense needs.

RESEARCH PROJECTS

3.3 Research projects

Evaluate the most important research projects of the evaluated unit, especially regarding the results achieved and the application potential of the project, the proportionality with respect to the R&D&I capacities of the evaluated unit, the degree of interdisciplinarity and collaboration with other parts of the evaluated HEI, and the consistency with the declared mission and vision of the evaluated unit. Use the data from the full list of research projects and contract research activities in Tables 3.3.1 and 3.3.2 to supplement the evaluation.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The Faculty of Military Leadership (FML) is deeply engaged in mission-driven, purpose-oriented research that primarily addresses the needs of the Czech Ministry of Defence (MoD). Its projects focus on military science, general security, and applied innovations that can be integrated into operational structures of the armed forces. The MAD21 project on camouflage patterns is a flagship initiative demonstrating internationally competitive results, while other projects such as ZNALEC and 3D-printing-related initiatives also reflect the applied research profile. A key strength is the faculty's ability to align its research with both national defense priorities and its teaching curriculum, reinforcing the integration of education, applied science, and professional military development.

However, the IEP committee raised some concerns regarding the presentation and reporting of projects in the Self-Evaluation Report (SER). Specifically, the IEP Committee noted some inconsistencies in how projects and results are chronologically organized, the inclusion of outdated outputs outside the evaluated period, and insufficient details about project contributions, partners, and the specific impact of research outputs. The absence of contract research activities during the evaluation period is flagged as a limitation, as is the need for more precise documentation of publications, including journal titles and impact factors. These gaps suggest that while the faculty is productive and aligned with its mission, clearer communication of results and broader contextualization of achievements are needed to fully demonstrate impact.

Another recurring theme is the limited scope of international engagement. While FML participates in NATO STO, EDA, and PESCO initiatives, IEP committee members emphasize that these engagements are largely strategic rather than financial, with most research still relying heavily on Czech national funding. The faculty is seen as having strong capabilities and a solid national reputation, but IEP Committee members argue that greater involvement in EU and NATO-funded projects, as well as partnerships with foreign defense universities, would significantly enhance

visibility, impact, and resource diversification. This would also better position FML within global defense research networks.

In summary, the FML has made notable progress in national-level research, producing applied results that support defense modernization and operational needs. Its close integration of research and teaching strengthens the educational mission while maintaining practical military relevance. At the same time, the faculty is encouraged to refine its reporting, expand international collaborations, diversify funding sources, and more systematically showcase the global significance of its work. By doing so, FML could transition from being a strong national player to an internationally recognized leader in defense research and innovation.

Average Rating – 3.7

Recommendations:

Although FML's projects are strong and well-aligned with national defense priorities, there is considerable potential to expand their international reach. The IEP Committee encourages the faculty to more clearly evaluate and highlight how its research contributes to national defense needs, fosters multidisciplinary cooperation, and integrates best practices from NATO, EDA, and PESCO. Projects like MAD21, POV 3D Printing, IKRYTY, and KRIZTRANS are recognized as good examples of applied innovation and civil-military integration, but clearer frameworks for assessing impact, collaboration, and technology transfer are advised.

A recurring observation was the need to increase international engagement and diversify funding sources. Currently, most of FML's projects rely heavily on Czech funding, and the IEP Committee is concerned about missed opportunities for participation in larger EU and NATO research initiatives. Strengthening involvement in programs such as Horizon Europe and the European Defence Fund (EDF), as well as pursuing deeper collaborations with NATO and EU partners, would both enhance the faculty's global visibility and provide direct financial support. Overall, FML is encouraged to leverage its excellent capabilities and strong national reputation to expand its influence, funding base, and collaborative networks internationally.

3.4 Research results with existing or prospective impact on society

Evaluate the research results already applied in practice or intended to be applied in practice. When evaluating, consider whether the results are proportionate to the R&D&I capacities of the evaluated unit, how they contribute to the fulfilment of the mission and vision of the evaluated unit and, if stated in the self-evaluation, how the results take into account the gender dimension and sustainability. Use the data from the full results summary in Table 3.4.1 to supplement the evaluation.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The Faculty of Military Leadership (FML) produces research with strong applied value, particularly in the areas of defense, crisis management, and national security. Several projects stand out for their societal relevance, including the RESILIENCE project on critical infrastructure preparedness, the IKRYTY project on improvised shelters, and initiatives in food storage and logistics. These efforts not only support the Czech Armed Forces but also have broader implications for civil protection, emergency management, and public resilience. However, the IEP Committee notes that while such projects are impactful at the national and regional levels, they have not yet gained international recognition or adoption. Additionally, gaps remain in addressing cross-cutting issues such as gender perspectives and sustainability within the research agenda.

Another strength lies in the faculty's integration of research with education and leadership development. Evidence-based findings are incorporated into teaching and practical training to better prepare graduates for command roles. While it is not clear that a formal framework for incorporating gender perspectives has been established, there are early signs of attention to inclusivity through training modifications. This alignment of teaching, research, and operational application underscores FML's mission-driven approach.

The applied outputs reported in the self-evaluation include recommendations, methodologies, software tools, and studies that support both peacetime and operational military activities. A particularly notable achievement is the development of European industrial designs for camouflage fabrics. However, the IEP Committee notes that the faculty has not yet produced higher-level applied outputs such as patents or doctrines, which would represent a step forward in research impact and recognition.

Financially, the faculty has shown progress, with a notable increase in funding compared to the previous evaluation period. Much of this funding supports the development of methodologies and outputs tailored to the needs of the Czech Armed Forces, aligning well with FML's statutory objectives. At the same time, the IEP Committee recommends that continued diversification of funding and greater pursuit of international opportunities could strengthen long-term sustainability and visibility.

Overall, the FML is recognized for its strong applied research base, clear alignment with national defense priorities, and expanding societal contributions. Its projects demonstrate both national competitiveness and regional relevance, particularly in crisis management and civil-military integration. To further enhance its impact, the faculty would benefit from achieving international recognition for its applied research, addressing gender and sustainability dimensions more systematically, and pursuing higher-level applied outputs alongside continued growth in funding and partnerships.

Average Rating – 3.9

Recommendations:

The Faculty of Military Leadership (FML) is encouraged to broaden its scope and strengthen the societal and international relevance of its research. While its current work is strongly aligned with national defense priorities, the IEP Committee suggests placing greater emphasis on societal impacts, civil-military cooperation, and the Czech Republic's role in NATO and other international frameworks. This includes qualitatively assessing the real-world operational effectiveness of implemented systems, such as unmanned ground vehicles, and systematically integrating dimensions like gender and sustainability into research and education.

At the same time, FML is encouraged to strengthen its strategic depth by pursuing innovation, commercialization, and higher-level research outputs. This could involve, for example, conducting an internal review of intellectual property in collaboration with the Ministry of Defence, exploring commercialization opportunities, and securing funding for new research infrastructure. By identifying priority areas of future-oriented defense research, FML could create the conditions to generate patents, industrial models, and other high-impact outputs, thus elevating its position nationally and internationally while reinforcing its mission-driven focus.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

Evaluate the effectiveness of the transfer of results into practice by the unit being evaluated. Pay attention to whether the composition of the stated users of the results or the way the R&D&I results are commercialised (if stated) is consistent with the R&D&I results produced and the mission and vision of the evaluated unit and how successful the evaluated unit is in its activities, such as attracting new users of the results, commercialising the R&D&I results and obtaining funding from non-public, non-grant sources.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The Faculty of Military Leadership (FML), as part of the University of Defence (UD) and structurally tied to the Ministry of Defence (MoD), is unable to commercialize its research outputs in the traditional sense. This limitation arises from its legal and organizational status, including sharing a business identification number with the MoD, which prevents activities such as licensing or selling intellectual property. Instead, its role is to provide applied recommendations, methodologies, and tools that directly serve the operational needs of the armed forces and related state institutions.

While commercialization is formally restricted, the IEP Committee emphasizes that FML's research maintains significant practical value. Its outputs are systematically transferred into practice through the MoD and related defense entities, ensuring that results contribute to national defense modernization and readiness. For example, recommendations, methodologies, and technologies are implemented within the Czech Armed Forces and aligned with broader defense strategies. This process substitutes for conventional commercialization by ensuring the direct applicability and uptake of research results within the structures of government.

The IEP Committee notes that the Faculty should explore broader opportunities for technology transfer beyond its current defense-focused channels. While commercialization in the traditional sense may not be possible, partnerships with civil organizations, public agencies, and cross-sector initiatives could expand the societal impact of FML's work. This could include sharing expertise and tools with ministries responsible for transport, infrastructure, and emergency response, thereby reinforcing the role of FML research in national security and crisis management.

Overall, there appear to be a dual reality: on one hand, FML cannot pursue commercialization due to structural restrictions; on the other, its research achieves substantial impact by directly informing defense, security, and crisis management practices in the Czech Republic. By continuing to strengthen these applied outputs and exploring new avenues for knowledge transfer outside of traditional commercialization models, the Faculty can further expand the reach and relevance of its mission-driven research.

Average Rating – 3.7

Recommendations:

The IEP Committee notes the importance of strengthening technology transfer and expanding collaboration beyond the military sector. We suggest establishing a formal structure for intellectual property management, licensing, and industry connections, alongside exploring opportunities for commissioned or privately financed applied research. An internal review of intellectual property and commercialization, in coordination with the Ministry of Defence, is also recommended to clarify processes and identify pathways for broader application of research results.

In addition, the Faculty is encouraged to build secondary research support through partnerships with cooperating institutions and to actively increase collaboration with non-academic stakeholders

at both national and international levels. Expanding ties with civil organizations, industries, and international partners would not only diversify the impact of research but also enhance visibility, funding opportunities, and societal relevance. Together, these steps could help the Faculty balance its defense-focused mission with broader engagement in innovation and knowledge transfer.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

Evaluate how active and successful the evaluated unit is in the field of popularisation of R&D&I and communication with the public.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The Faculty of Military Leadership (FML) is actively engaged in promoting research, development, and innovation (R&D&I) to both professional audiences and the general public. The faculty participates in a variety of outreach activities, including Scientists' Night, Open Days, and media engagement, where experts provide interviews, lectures, and hands-on demonstrations. These efforts allow prospective students, local communities, and professional organizations - such as law enforcement, fire departments, and local governments - to interact directly with FML research and gain insight into military and security-related innovations.

FML's outreach strategy is described as well-developed and effective, balancing the popularization of scientific outputs with the confidentiality requirements inherent in defense-related research. Electronic and print media are regularly used to share knowledge, while targeted events provide experiential engagement with research, making complex military and defense topics accessible to wider audiences. The IEP Committee notes that these activities demonstrate both the faculty's commitment to public engagement and its ability to communicate applied research in a meaningful way.

Most of FML's engagement is directed toward professional and academic audiences, particularly within the Ministry of Defence and the Czech Armed Forces, which reinforces its mission-driven focus. However, the faculty also ensures broader public awareness through national initiatives like Scientists' Night and Open Days, which allow for direct interaction with military science demonstrations. This dual approach strengthens both professional collaboration and societal understanding of defense research.

A minor observation from the IEP Committee involves the relatively small number of international projects presented in public engagement activities. While national and local outreach is strong, expanding international participation could further enhance visibility and the global impact of FML's research. Nonetheless, our overall assessment is positive, recognizing that the faculty effectively balances its specialized mission with efforts to communicate and popularize its R&D&I outputs.

In summary, FML demonstrates a comprehensive and strategic approach to public engagement, effectively promoting its research outputs through media, events, and direct collaboration with professional audiences. Its activities not only support national defense priorities but also contribute to public understanding of military and security issues, with potential for further expansion in the international arena.

Average Rating – 4.3

Recommendations:

Our recommendations emphasize expanding and strengthening the Faculty of Military Leadership's (FML) public engagement and visibility. The IEP Committee suggests promoting events and research outputs more widely through the university website, social media, and multimedia content, including webinars and public lectures on leadership, defense technology, or crisis response. Engaging students, local communities, schools, companies, and the general public through open innovation events and interactive activities is also recommended to increase awareness of the faculty's work and its societal relevance.

The IEP Committee also notes the importance of building on the current R&D&I popularization strategy by expanding cooperation with other universities, research institutes, and media outlets, including Czech Radio and Television. Greater participation in international projects, fairs, and exhibitions is suggested to enhance FML's global profile, while a more structured and coordinated science communication strategy could strengthen the consistency and impact of outreach efforts.

Overall, the FML should focus on broadening engagement beyond the defense sector, ensuring that the faculty's research and educational activities are accessible, relevant, and visible to both national and international audiences. By leveraging multimedia, online platforms, and collaborations with external institutions, FML can further solidify its role as a bridge between military research and broader societal and academic communities.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

Evaluate how the evaluated unit has reflected the recommendations from the previous evaluation of the IEP, if applicable.

If the evaluated unit has not been evaluated before, the indicator will be marked as N/A – Not Applicable.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The Faculty of Military Leadership (FML) has made significant progress in addressing the recommendations from its previous evaluation, particularly regarding internationalization, project expansion, practical application, and the consideration of economic and social impacts of military deployment. Previously, deficiencies were noted in the limited international engagement, narrow project portfolio, low practical application, and weak reflection of societal implications. Since then, FML has intensified efforts to participate in international initiatives such as NATO, EDA, PESCO, and Horizon Europe, while also diversifying partnerships through foreign internships and recruiting more doctoral students. Although the success rate in securing international project funding remains modest, the faculty has clearly increased both the number and strategic focus of its projects, emphasizing interdisciplinary and dual-use technologies.

The number of projects undertaken by FML has grown from four to eleven, with a notable improvement in alignment with end-user needs, particularly within the Czech Ministry of Defence, crisis management, and the integrated rescue system. Applied outputs are now more closely tied to operational requirements, reflecting a stronger integration of research into practice. Furthermore, the faculty has increasingly considered the broader economic and social implications of military activities, integrating insights from current geopolitical developments, such as the Ukraine conflict, into areas like mobility, logistics, artillery, and intelligence. Ethical dimensions, including the use of AI and emerging technologies in military leadership, are also being explored, signaling a more socially aware research agenda.

Internationalization has improved through increased staff and PhD student mobility, engagement with former Erasmus partners, and expansion into non-academic collaborations. FML has strategically shifted its focus from the quantity of international conference participation to quality, prioritizing indexed and thematically relevant events. Collaboration with the Faculty of Military Technology has supported military technological development, while the overall growth in project numbers and financial support reflects a more systematic approach to research management.

Despite these positive developments, the IEP Committee believes that some challenges remain. The lack of standardized OECD fields for military and security research limits recognition and contributes to organizational fragmentation, and most project growth has occurred at the national level rather than in fully funded international schemes. Nevertheless, the faculty's strategic focus on practical application, interdisciplinary research, and international engagement demonstrates substantial improvement and positions FML as increasingly competitive and relevant within both national and international defense research frameworks.

In summary, FML has effectively addressed the majority of previous recommendations, showing measurable progress in project expansion, practical application, internationalization, and societal relevance. While further efforts are needed to increase success in international funding and strengthen organizational coherence, the faculty has demonstrated a clear trajectory of improvement, balancing quality research, applied outputs, and strategic international partnerships.

Average Rating – 4.1

Recommendations:

The Faculty of Military Leadership (FML) should continue to strengthen its internationalization, research quality, and strategic integration. The IEP Committee's suggestions include expanding partnerships with international universities, NATO Centers of Excellence, and non-academic organizations, as well as recruiting doctoral students with global research interests. FML is encouraged to focus on high-quality scholarly exchanges, co-publications, and hosting international workshops or symposia to enhance visibility and impact, even if overall conference participation is reduced. Structured internal support, such as project offices, librarians, and statisticians, is recommended to improve proposal preparation, project management, and research outcomes.

Another major focus is enhancing the quality, societal relevance, and interdisciplinary reach of research. The IEP Committee recommends broadening dual-use and interdisciplinary projects at the intersection of defense, crisis management, cybersecurity, energy resilience, ethics, and AI in command decision-making. Applying cutting-edge technologies such as modeling, simulation, virtual reality, and artificial intelligence, alongside integrating knowledge from global armed conflicts, will further strengthen the faculty's applied research and ensure alignment with military operational needs. Additionally, distinguishing between routine professional tasks and projects that generate high-impact scientific outputs (category A) is emphasized to prioritize strategic research directions.

Finally, financial sustainability and recognition within international research frameworks are highlighted. While FML has made notable progress in collaboration through NATO, EDA, and other networks, it is encouraged to actively pursue participation in internationally funded programs like Horizon Europe or EDF to secure additional resources and strengthen its global research profile. Addressing structural gaps, such as the lack of OECD/FORD classification for military science and security research, will further enhance organizational coherence, facilitate recognition, and position FML as a center of excellence in applied military research and education.

EVALUATED UNIT RATING

Evaluation of unit	
Having evaluated the individual criteria of module M3, please summarise your evaluation in the context of the module, describing and justifying the strengths and weaknesses of the unit being evaluated.	
3.1 Introductory information about the unit under evaluation	NOT RATED
3.2 Recognition by the research community	4 - Very good
3.3 Research projects	4 - Very good
3.4 Research results with existing or prospective impact on society	4 - Very good
3.5 Transfer of results into practice	4 - Very good
3.6 The most important activities in the field of popularization of R&D&I and communication with the public	4 - Very good
3.7 Implementation of the recommendations in Module	4 - Very good
Average rating [1–5]:	4 - Very good
Grade [A–D]:	B
Summary assessment: The IEP Committee commends the Faculty of Military Leadership (FML) for being recognized and influential for its research, development, and innovation, particularly in military science, crisis management, and societal impact areas such as infrastructure resilience and emergency systems. FML's work is closely aligned with Czech Ministry of Defence (MoD) priorities and NATO frameworks, ensuring that research directly supports operational needs and leadership training exercises like ALPE and FOURLOG. The faculty's legal framework allows the continued employment of experienced staff, contributing to institutional stability and continuity of expertise. Its team is large and diverse, capable of delivering applied research with significant national relevance, and faculty members receive recognition through awards and international acknowledgment. Despite these strengths, the faculty faces notable challenges. Its research outputs are often broad-spectrum, limiting the attainment of top-level, high-impact category A outputs such as patents or industrial models. Limited commercialization, modest fundraising, and a mid-sized structure with fewer grants and staff than larger universities restrict the scale and scope of projects. Doctoral students frequently struggle to dedicate sufficient time to dissertations, and the faculty has yet to fully integrate considerations of gender equality and sustainability into strategic planning and research evaluation. Moreover, dependency on government and military funding can constrain adaptability and innovation, while the highly specialized military focus may make the faculty less attractive to civilian students or external collaborators. Opportunities exist to strengthen FML's visibility, relevance, and societal impact. Expanding public communication through lectures, webinars, media engagement, and open events could broaden outreach beyond professional audiences. There is also potential to systematically incorporate gender and sustainability perspectives into research planning and outputs. Pursuing commissioned projects, private funding, and international collaborations - particularly through NATO, EU, and Horizon Europe frameworks - could enhance both financial sustainability and global engagement. In terms of limitations, heavy responsibilities in higher education and vocational training reduce time and resources available for research, limiting the ability to focus on high-impact outputs. The relatively small number of specialized researchers constrains the scale of projects, and some	

research efforts remain narrowly focused on operational or professional applications rather than broader scientific or societal relevance. Fundraising for R&D&I projects remains challenging, limiting the faculty's ability to expand beyond national-level initiatives.

Overall, FML demonstrates a solid combination of applied research, mission-driven focus, and institutional expertise, achieving strong results despite structural and resource limitations. While its contributions are significant nationally and within defense frameworks, addressing weaknesses in commercialization, gender and sustainability integration, research focus, and public engagement will be key to enhancing its international recognition, societal relevance, and long-term strategic impact.

Average Rating – 3.9

Summary recommendations:

The Faculty of Military Leadership (FML) should strengthen its international presence and recognition. This includes actively promoting projects at global conferences, publishing in high-impact international journals, and expanding partnerships beyond the military and defense sectors to include academia, industry, and international organizations such as NATO and the EU. Clear strategic planning and dedicated roles for international liaison are recommended to address organizational fragmentation, while regular monitoring of project outcomes and dissemination of results will enhance institutional cohesion and effectiveness.

In addition, FML is encouraged to integrate gender considerations, sustainability initiatives, and dual-use societal relevance into research planning, project execution, and educational programs. Public engagement should be expanded through webinars, open lectures, social media, multimedia content, and expert commentary in the media to improve visibility and knowledge transfer. A formalized technology transfer strategy, including licensing and industry partnerships, along with diversification of funding sources through commissioned research and private-sector collaboration, is suggested to increase both impact and financial sustainability.

Finally, educational innovation and collaboration remain key priorities. Evidence-based leadership training should incorporate the latest research findings, and civilian-relevant components should be developed to support dual-career pathways for military personnel. Clear impact indicators are recommended to measure success in commercialization, public engagement, and societal benefit, while continued focus on high-quality research outputs in internationally recognized journals will further enhance the faculty's reputation and global standing.

EVALUATION REPORT IN MODULE 3

NAME OF EVALUATED UNIT: FACULTY OF MILITARY TECHNOLOGY

FORD: 2 - Engineering and technology

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

Indicator 3.1 is a non-evaluated indicator that provides basic information about the evaluated unit such as its mission and vision, organizational structure, size and staffing, or R&D&I capacities.

Commentary:

The Faculty of Military Technology (FMT) at the University of Defense (UoD) serves as a cornerstone for the Czech Republic's national defense strategy, integrating education, research, and technological innovation. Its primary mission is to train highly specialized personnel for the Czech Armed Forces (CAF) and the Ministry of Defense (MoD), supporting operational readiness and strategic defense capabilities. FMT is internationally recognized and aligns its research and innovation with NATO and EU standards, focusing on areas such as aerial operations, cyber operations, and autonomous military systems. Between 2019 and 2023, the faculty significantly contributed to defense modernization through applied research, expert consulting, and the development of advanced systems such as Health and Usage Monitoring Systems (HUMS), TITUS 6x6 vehicles, fire control mechanisms, and 3D printing for logistics.

The faculty's organizational structure includes 13 departments, covering diverse fields such as weapons and ammunition, combat and special vehicles, aviation technology, electronic warfare, informatics and cyber operations, robotics, mechanical and electrical engineering, and military geography and meteorology. This structure allows FMT to integrate theoretical knowledge with practical applications, bridging scientific research and operational needs. With 190 employees, the faculty has expanded its workforce by 20 compared to the previous five-year period, enhancing its capacity for complex national and international R&D&I projects. Cadets form the majority of the student body, with a small number of civilian students, and leisure-time sections, such as drone creation and piloting, contribute to hands-on experience and skill development.

Research at FMT emphasizes emerging and disruptive technologies (EDTs) and their applications in military systems, reflecting both strategic relevance and innovation potential. Key focus areas include aerial and cyber operations, autonomous systems, military vehicles, communications, electronic warfare, sensor technologies, simulation, materials science, and robotics. Projects are designed to support NATO, EU, and national defense requirements, providing practical solutions such as artillery and air defense system enhancements, automated control systems, and environmental assessments. Collaboration with defense industries, public institutions, and international experts ensures that research outputs are directly applied to enhance security infrastructure and operational effectiveness.

The faculty has strategically aligned its activities to meet the current needs of the MoD and CAF while also expanding international recognition. Its research and innovation efforts have advanced technical security across the armed forces, covering virtually all relevant fields related to military technology. Applied projects, combined with theoretical insight, demonstrate FMT's capacity to address complex challenges and maintain relevance in emerging defense domains. The legal

framework allowing employment of staff over 70 further supports continuity and experience in both research and education.

Overall, the FMT demonstrates a well-integrated approach to military education, R&D, and innovation, with a strong focus on interdisciplinary collaboration and strategic responsiveness to NATO and EU priorities. Its comprehensive portfolio of projects, skilled workforce, and international engagement position it as a leading institution in defense technology, ensuring the Czech Republic's operational readiness and contributing to global military innovation.

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

Evaluate the position of the evaluated unit in the R&D&I research community based on the facts presented in indicator 3.2 and its annexed tables (3.2.1 to 3.2.5).

Rating [1–5]:

5 - Outstanding

Qualitative assessment:¹

The Faculty of Military Technology (FMT) at the University of Defense (UoD) is an interdisciplinary academic institution composed of 13 departments covering diverse military and technical domains such as armament engineering, robotics, cybersecurity, and autonomous systems. Its research and educational programs integrate theoretical knowledge with practical applications, addressing both national and international defense needs. Faculty members have received notable recognition for their work, including NATO awards, academic honors, and editorial positions on reputable scientific journals. Between 2019 and 2023, the faculty has strengthened its reputation as a leading institution in defense science, demonstrating a strong commitment to advancing technologies critical for the Czech Armed Forces and the Ministry of Defense.

The faculty actively engages in international scientific collaboration through hosting visiting scholars, delivering invited lectures at global conferences and universities, and participating in strategic NATO, EU, and civilian research programs. These efforts not only expand the visibility of FMT's research but also foster knowledge exchange and curriculum development. Faculty members contribute to research evaluation processes for major projects both domestically and internationally, including TACR programs such as THÉTA, EPSILON, and TREND. This dual focus on practical defense applications and rigorous academic standards positions FMT as a key player in shaping national and international defense research priorities.

Recognition of faculty achievements is extensive. Individual honors, such as the NATO Science and Technology Organization award and the awarding of the Doctor of Sciences degree to Prof. David Vališ, underscore the faculty's impact in defense innovation. Academic staff participate in editorial boards for journals like IEEE Access and Advances in Geoscience, further demonstrating their authority in the scientific community. These accolades, combined with strong involvement in advisory councils, committees, and project evaluations, reflect the faculty's influence on both research standards and the development of military technologies globally.

FMT also maintains a balanced and collaborative research environment, blending experienced researchers with younger faculty members to sustain innovation and mentorship. Internal cooperation has improved, supporting a growing number of projects and expert activities that align closely with the operational needs of the Czech military. While some facilities are older, modern

¹ Provide verbal assessment of the indicator and briefly comment on the reasons for awarding the specific rating. Follow a similar procedure for the other indicators.

research equipment ensures high-quality outputs, supporting both defense and industry applications. The faculty's strategic project selection prioritizes national defense relevance, ensuring that research and innovation directly address the needs of the Ministry of Defense and Czech Armed Forces.

Overall, the FMT demonstrates excellence in interdisciplinary military research, international engagement, and practical technological development. Its combination of national leadership, global collaboration, and focus on applied defense outcomes establishes the faculty as a central hub for innovation in military science and technology, contributing to both the Czech Republic's security infrastructure and broader defense research communities.

Average Rating – 4.7

Recommendations:

The Faculty of Military Technology (FMT) is well-positioned as a leader in defense research, but the IEP Committee recommendations include further strengthening its international visibility and collaborative impact. Expanding partnerships with other faculties within the University of Defense, as well as with national and international defense research institutions, would enhance innovation, knowledge sharing, and integration into the global R&D&I community. Encouraging open-access publishing, increasing publications in high-impact journals, and boosting citation rates through collaborative international research are key strategies to improve both the faculty's scholarly impact and reputation.

In addition, FMT is encouraged to strengthen researcher visibility and institutional branding by supporting faculty participation as keynote speakers, session chairs, and editors for prestigious journals. Hosting high-impact scientific events, workshops, and international lectures would further raise awareness of FMT's research outputs and foster relationships with prominent global defense experts. Expanding faculty and PhD exchange programs with leading international institutions and defense laboratories would also enhance expertise and integration into major European and NATO-funded projects, such as EDF, Horizon Europe, or NATO STO initiatives.

Finally, maintaining and optimizing internal systems is essential to sustain high performance. This includes embedding a strong R&D&I culture among faculty members, actively involving young researchers and doctoral students, and ensuring balanced workloads across education, research, and expert activities. Recruiting additional staff in research and support roles, where possible, and improving internal planning processes would help preserve research quality while preventing staff overload. Continuation of these strategic measures will solidify FMT's international standing and long-term contributions to defense science and technology.

RESEARCH PROJECTS

3.3 Research projects

Evaluate the most important research projects of the evaluated unit, especially regarding the results achieved and the application potential of the project, the proportionality with respect to the R&D&I capacities of the evaluated unit, the degree of interdisciplinarity and collaboration with other parts of the evaluated HEI, and the consistency with the declared mission and vision of the evaluated unit. Use the data from the full list of research projects and contract research activities in Tables 3.3.1 and 3.3.2 to supplement the evaluation.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The Faculty of Military Technology (FMT) has established a strong reputation for high-quality research and applied scientific work, particularly in areas supporting the Czech Armed Forces. Its projects are notable not only for their direct military relevance but also for their potential societal and economic impact. Supported by the Ministry of Defense, Ministry of the Interior, private sector partners, and the European Defence Agency, the faculty has effectively leveraged diverse funding sources to achieve substantial outcomes, reflecting both institutional maturity and strategic outreach. Over the past five years, FMT carried out 33 projects with a total budget of 3.4 million EUR, demonstrating the faculty's capacity to manage significant, interdisciplinary research efforts.

The faculty's research portfolio is both broad and strategically aligned. Projects range from the development of ATC simulators with remote access and automated pseudo-pilots to AI-controlled robotic intelligence systems and autonomous pyrotechnic reconnaissance vehicles. These projects exemplify the faculty's commitment to applied research, interdisciplinary collaboration, and innovative technological solutions. Several initiatives, such as the ATC simulator, integrate multiple disciplines - engineering, IT, pedagogy, logistics, and psychology - while others, like autonomous intelligence systems, focus on advanced AI and robotics, showcasing the faculty's ability to tackle complex, mission-critical challenges.

FMT's projects are also internationally significant, often designed for use within NATO and aligned with European defense priorities. Many initiatives address crucial defense needs, including ballistic protection, air defense optimization, signal analysis, satellite tracking, and automated reconnaissance systems. The faculty has successfully combined fundamental research with practical applications, ensuring that project outputs are directly relevant to the Ministry of Defence, Ministry of the Interior, and other national stakeholders. Funding levels have been adequate, and the outputs consistently reflect the resources invested, underlining the efficiency and effectiveness of the faculty's research management.

Moreover, FMT demonstrates a well-balanced approach to research, securing support from multiple sources beyond national institutions. This includes partnerships with international organizations, the private sector, and European funding bodies, which highlights the faculty's strategic collaboration and ability to engage in complex, multi-institutional projects. This diverse funding and partnership strategy strengthens the faculty's role in international defense R&D and facilitates knowledge transfer across institutions and borders.

Overall, the faculty's research achievements exemplify both depth and breadth. Its projects combine technical rigor, interdisciplinary integration, and clear strategic alignment with national and international defense priorities. By scaling tactical projects into long-term strategic platforms, enhancing international collaboration, and moving toward operational deployment, FMT is positioned to sustain and expand its impact, contributing significantly to defense innovation, military education, and technological development.

Average Rating – 4.7

Recommendations:

The IEP Committee recommends that the Faculty of Military Technology (FMT) strengthen both the strategic focus and operational capacity of its research activities. Central to this is aligning research priorities with national defense and NATO/EU objectives, particularly in areas such as cyber defense, hybrid warfare, and air defense modernization. Dual-purpose research that offers both military and civilian applications is encouraged to maximize societal impact and broaden funding opportunities. Interdisciplinary and inter-faculty collaboration is also highlighted, including joint laboratories with other university departments and deeper cooperation with civilian universities, fostering a more integrated research ecosystem.

International engagement is another key area for development. While current projects are largely supported by Czech agencies, The IEP Committee strongly encourages FMT to actively pursue funding from competitive European and NATO sources, including Horizon Europe, the European Defense Fund (EDF), NATO STO programs, and upcoming FP10 initiatives. Expanding networks through joint PhD programs, postdoctoral exchanges, and co-led international projects would enhance the faculty's visibility, expertise, and influence within the European and NATO defense research communities.

Operationally, IEP Committee recommendations focus on strengthening infrastructure, human capital, and internal support mechanisms. Upgrading laboratories, establishing seed grants for early-stage research, and creating mentorship programs would support innovation and skill development. Additionally, the creation of an internal Innovation and Prototyping Office and partnerships with the defense industry would accelerate the translation of research into practical applications. Enhancing technical and administrative support for project preparation, management, and reporting is also advised to allow academic staff to concentrate on research while ensuring efficiency and sustainability of externally funded projects.

3.4 Research results with existing or prospective impact on society

Evaluate the research results already applied in practice or intended to be applied in practice. When evaluating, consider whether the results are proportionate to the R&D&I capacities of the evaluated unit, how they contribute to the fulfilment of the mission and vision of the evaluated unit and, if stated in the self-evaluation, how the results take into account the gender dimension and sustainability. Use the data from the full results summary in Table 3.4.1 to supplement the evaluation.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The Faculty of Military Technology (FMT) has demonstrated remarkable success in both research and practical application, particularly in the development of military technical equipment and procedures. Its work extends beyond purely academic outputs, positively influencing real-world operations and societal safety. The faculty's projects are well-aligned with national defense priorities and show a strong emphasis on operational utility, ensuring that research outcomes are directly applicable to real-world environments and the evolving needs of the Czech Armed Forces.

Over the evaluation period, FMT produced tangible results, including one patent, four functional models, one prototype, two software applications, and one demonstrator. Notable achievements, such as the covertly worn protective vest, have already been implemented in practical settings, enhancing security standards for personnel during aircraft escorts. Other outcomes demonstrate innovative connections between scientific research and security applications, contributing to the protection of the population in challenging scenarios. These outputs underscore the faculty's ability to translate scientific findings into effective, operational tools with both military and civilian relevance.

The faculty's research portfolio encompasses technologies, tools, and software that benefit both defense and civilian sectors. Several functional samples, software tools, prototypes, and demonstrators have been developed, addressing specific problems for public services such as the police and emergency response. The faculty also engages in international cooperation, producing applied research with economic and societal impact. Its methodologies, particularly in security-related domains, reflect a high level of technical sophistication and strategic alignment with the Ministry of Defense and Ministry of the Interior.

Compared to peer institutions at other defense universities, FMT stands out for the practical applicability and quality of its research outputs. The faculty successfully balances rigorous scientific investigation with operational relevance, ensuring that its projects generate measurable benefits for national security, public services, and society at large. This combination of high-quality research, effective knowledge transfer, and real-world utility positions FMT among the leading global institutions in defense-related scientific research.

Average Rating – 4.6

Recommendations:

IEP Committee recommendations for the Faculty of Military Technology (FMT) include increasing the visibility and societal impact of its research while maintaining established strengths in project management and scientific excellence. Sharing research findings with appropriate audiences, within the constraints of sensitive or classified information, is encouraged to raise awareness of FMT's achievements and demonstrate the practical value of its work. Promoting applied outcomes within NATO and EU research frameworks is also recommended to strengthen international engagement and recognition.

In addition, the faculty is encouraged to systematically track and report on gender and sustainability aspects, reflecting broader societal priorities and enhancing accountability. Expanding collaboration with civil organizations is suggested to further extend the reach and applicability of research outcomes beyond military contexts. Attention to intellectual property management, including patent protection for innovations, is also highlighted as a means to secure and leverage research outputs effectively.

Finally, sustaining the current system of management and scientific research is essential, but additional support in funding and administrative resources is advised. This would allow FMT to scale successful projects, share best practices within the university and internationally, and continue contributing to both national defense priorities and societal needs. Strengthening these support structures would ensure that the faculty not only maintains its current excellence but also amplifies its overall institutional and societal impact.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

Evaluate the effectiveness of the transfer of results into practice by the unit being evaluated. Pay attention to whether the composition of the stated users of the results or the way the R&D&I results are commercialised (if stated) is consistent with the R&D&I results produced and the mission and vision of the evaluated unit and how successful the evaluated unit is in its activities, such as attracting new users of the results, commercialising the R&D&I results and obtaining funding from non-public, non-grant sources.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UD), particularly through its Faculty of Military Technology (FMT), has established an effective system for translating research into practical applications, primarily within the defense and security sectors. Its work is strategically oriented toward mission-specific projects commissioned by key stakeholders such as the Ministry of Defence (MoD), Ministry of the Interior (Moi), NATO, and European Union bodies like the European Defence Agency (EDA) and the European Defence Fund (EDF). This focus ensures that research outputs are directly aligned with operational needs and can be applied efficiently in real-world military and security contexts. Funding for these

activities comes almost entirely from government sources and competitive grants, as the UD, being a state-controlled institution, cannot independently commercialize its research or generate profit.

The FMT employs a model of co-creation with end users, collaborating closely with military and security institutions to ensure that outcomes are immediately usable. Research outputs such as ballistic equipment, simulation tools, cyber systems, and ground-based air defence (GbAD) optimization models are transferred directly into practice through technological demonstrators, methodologies, procedures, and training systems. This close engagement with operational users minimizes the risk of misalignment between research results and practical needs, ensuring that innovations have an immediate and measurable impact on defense capabilities.

Despite its strong practical focus, the faculty faces legal and institutional constraints that limit traditional commercialization avenues. Patents and intellectual property (IP) are typically owned by the MoD, making it complex for the UD to engage with commercial entities or generate revenue through licensing, spin-offs, or direct sales. While the faculty cannot independently monetize its outputs, its research contributes significantly to national defense and public security, providing strategic value rather than financial returns. Collaboration with the Association of Defence and Security Industry CZR and the Ministry of Industry and Trade enables indirect commercialization, particularly in supporting exports and industry partnerships.

Overall, the Faculty of Military Technology demonstrates a well-organized and effective approach to transferring research into practice. Its structured processes, strong partnerships with key users, and flexibility in addressing current defense and security needs ensure that research outputs are applied efficiently and effectively. While traditional commercialization is legally restricted, the faculty's impact is measured through operational relevance, technological adoption, and strategic contribution to the Czech Republic's defense capabilities, positioning it as a critical scientific and expert partner for both national and international defense institutions.

Average Rating – 4.6

Recommendations:

IEP Committee recommendations for the Faculty of Military Technology (FMT) focus on expanding the impact of its research through international collaboration, structured knowledge transfer, and broader societal applications. Strengthening partnerships with global and European institutions, such as NATO STO, DSIA, and EU-funded projects, is emphasized to enhance the visibility and relevance of FMT's work. Encouraging cadets and students to showcase their projects internationally is also recommended, highlighting both the faculty's achievements and the practical contributions of its research to national and global audiences.

To improve the practical application of research, establishing a structured framework for knowledge transfer is advised, including standardized agreements with industrial partners facilitated through the Ministry of Defence. Exploring new funding mechanisms, such as defense procurement programs and innovation calls from national agencies like TACR PRODEF and the Ministry of the Interior, could support the scaling of projects and ensure broader adoption. Additionally, increasing research implementations in non-military sectors would allow FMT to extend the societal impact of its work beyond defense, demonstrating the dual-use potential of its innovations.

Finally, strategic engagement with commercialization opportunities is suggested. While the UD cannot directly commercialize its research, liaising with the Ministry of Defence to enable licensing of technology and incentivizing inventors could foster broader uptake of FMT innovations in industry. Overall, these recommendations aim to enhance the faculty's international presence, operational relevance, and societal impact while maintaining its mission-focused research strengths.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

Evaluate how active and successful the evaluated unit is in the field of popularisation of R&D&I and communication with the public.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The Faculty of Military Technology (FMT) has established a strong commitment to promoting research, development, and innovation (R&D&I) both within the defense sector and to the broader public. Its efforts encompass a wide range of strategic partnerships with academic institutions, professional communities, and civilian organizations. FMT actively shares knowledge through publications like the University of Defence Bulletin, media appearances, and participation in numerous public and educational events. Notable examples include the Science Festival Brno, the Science Fair of the Czech Academy of Sciences, Nights of Scientists, and military-specific exhibitions such as the Czech Army Ground Forces Days, NATO Days, and Days with the Integrated Rescue System. Open house days and regional army unit events further extend visibility, offering prospective students and the public direct access to labs, research outputs, and staff.

FMT's approach to science popularization demonstrates both breadth and depth. Public engagement initiatives are designed to translate complex military research into formats that are understandable and appealing to general audiences, including students, families, and science enthusiasts. Interactive exhibitions and live demonstrations showcase technologies such as robotics, cybersecurity, ballistics, sensors, drones, and protective systems. Civil-military collaboration is also emphasized, with events highlighting the practical application of military R&D in crisis management, firefighting, and police operations. This approach not only informs the public about defense innovations but also illustrates the broader societal relevance of the faculty's research.

The faculty's visibility is reinforced through consistent media engagement and institutional communications. Researchers actively provide interviews and commentary, linking current events to FMT expertise, while publications such as the UoD Bulletin have historically disseminated research highlights and outreach activities. The scope of FMT's popularization extends internationally and includes engagement with civilian schools, research institutions, and manufacturing enterprises, demonstrating the unit's commitment to promoting knowledge beyond the immediate defense community.

While the faculty's efforts in public engagement and science popularization are already strong, the IEP Committee notes that the scale of activities could be expanded further. Given the number of faculty members and the breadth of ongoing research, increased participation in international projects and additional outreach initiatives could enhance FMT's visibility and demonstrate the full caliber of its scientific and technological achievements. Overall, the Faculty's outreach activities effectively raise awareness of its research, strengthen its public profile, and underscore the practical and societal relevance of its work in defense and security innovation.

Average Rating – 4.1

Recommendations:

IEP Committee recommendations for the Faculty of Military Technology (FMT) focus on enhancing the visibility and impact of its science popularization and outreach activities. Promoting events, projects, and research outcomes through the university website, social media channels, and other online platforms is encouraged to engage a broader public and showcase the relevance of the

faculty's work. Short videos from labs, expert talks, and public events can be particularly effective in communicating complex research to diverse audiences and generating interest in the faculty's projects. Tracking metrics such as attendance, feedback, and social media reach is also advised to assess the effectiveness of outreach efforts and inform future strategies.

Engagement with international publications, press releases, conferences, workshops, and fairs is highlighted as a key avenue for promoting FMT's excellence in R&D&I on a global scale. Expanding the faculty's presence at international science and defense events would strengthen recognition within the global research community and showcase its applied innovations. Additionally, adopting new methods - potentially incorporating AI-based tools - could further increase public interest in scientific research, encourage enrollment at the University of Defence, and foster greater engagement in military-related studies.

Finally, the IEP Committee recommends maintaining and enhancing the already broad and well-established system of science popularization. FMT is encouraged to continue outreach to both military and civilian audiences, including schools, manufacturing enterprises, and research institutions, while seeking innovative approaches to expand its impact. Increasing international projects, fairs, and exhibitions would not only highlight the faculty's research achievements but also support broader collaboration and knowledge exchange within the global defense and scientific community.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

Evaluate how the evaluated unit has reflected the recommendations from the previous evaluation of the IEP, if applicable.

If the evaluated unit has not been evaluated before, the indicator will be marked as N/A – Not Applicable.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The Faculty of Multimedia Technologies (FMT) has made significant progress in implementing the recommendations from its previous Institutional Evaluation Program (IEP), demonstrating a strong commitment to strategic growth, research excellence, and international collaboration. The faculty has diversified its funding base through national support projects and participation in international programs, despite some setbacks such as unsuccessful European Development Fund (EDF) applications. Notably, FMT currently leads the EDA Advanced Machine Learning Systems (AMLS) project and maintains active collaborations with NATO and EU initiatives. Laboratory modernization, supported by the Ministry of Defence (MoD), includes international exchanges with countries such as Poland, Slovakia, Hungary, France, Germany, and Italy, enhancing student mobility, scientific conferences, and joint research activities. Research expertise spans advanced cybernetics, electronics, and new materials, with applications in both defense and civilian sectors, including patents and innovative methodologies.

International cooperation has been a strong focus for FMT, with partnerships established with multiple military academies and universities across Europe. These collaborations involve joint projects, publications, and conferences, reflecting the faculty's efforts to increase its visibility and influence within the global defense research community. While IEP Committee members note that some collaborations could be deeper and more significant, there is clear evidence of proactive engagement, including student exchanges, participation in major EU projects, and cross-border

scientific activities. The faculty has also intensified its efforts to secure large-scale international projects with practical applications, particularly in areas such as robotics, cybernetics, simulation, virtual reality, and artificial intelligence in military contexts.

In terms of institutional development, FMT has modernized research infrastructure, expanded project funding, and strengthened internal support structures for scientific research. The creation of new councils and support bodies has facilitated greater involvement of young scientists and students in advanced research, fostering skills development and capacity building. Outputs in Category A - including patents and functional models - have increased, reflecting higher-quality and more practically applicable research results. Strategic planning of research tasks has improved, ensuring that project selection and execution are aligned with the faculty's mission and priorities, particularly in defense-relevant technological fields.

Overall, FMT has demonstrated notable progress in almost all areas assessed by the expert panel. Its enhanced funding base, strengthened international collaborations, and improved research outputs confirm a clear trajectory of institutional improvement and strategic development. While some recommendations from the previous evaluation remain partially addressed, the faculty has successfully raised its research potential, expanded international involvement, and improved the dissemination and practical application of its results. These achievements collectively reinforce FMT's position as a leading educational and research entity within the University of Defence and the broader European defense R&D community.

Average Rating – 4.4

Recommendations:

The IEP Committee recommend that the Faculty of Multimedia Technologies (FMT) continue strategic development in line with the institution's 2030 vision, particularly in advancing cybernetics, autonomous systems, and emerging technologies. Strengthening international engagement is highlighted, including improving success rates in acquiring EU and NATO-funded projects and increasing the faculty's presence in global innovation ecosystems. Monitoring the strategic impact of research through tools such as internal dashboards, which track application pathways and user adoption by organizations like the MoD, MoI, and NATO, is recommended to align research outputs with operational and strategic priorities.

Enhancing institutional visibility in scientific publishing is also advised, with a focus on open-access dissemination in defense-relevant fields and providing editorial mentoring or writing workshops for young researchers and PhD students. A systematic outreach and popularization strategy is encouraged, including the creation of a dedicated communication officer role and a faculty-branded platform to regularly showcase projects and innovations. Deepening student engagement in R&D&I is another key focus, through research internships with MoD, DSIA companies, or NATO-linked institutions, as well as student innovation grants for applied projects with potential real-world impact.

Finally, sustaining and expanding the faculty's R&D&I system is considered essential. The IEP Committee recommends increasing the number of staff in education and research, supporting the involvement of young scientists, and securing additional funding from the Ministry of Defence to sustain and grow research capacity. Reviewing and integrating recommendations from both the previous and current evaluations will help FMT further elevate its performance, strengthen its strategic alignment, and enhance its contributions to defense research and innovation.

EVALUATED UNIT RATING

Evaluation of unit	
Having evaluated the individual criteria of module M3, please summarise your evaluation in the context of the module, describing and justifying the strengths and weaknesses of the unit being evaluated.	
3.1 Introductory information about the unit under evaluation	NOT RATED
3.2 Recognition by the research community	5 - Outstanding
3.3 Research projects	5 - Outstanding
3.4 Research results with existing or prospective impact on society	5 - Outstanding
3.5 Transfer of results into practice	5 - Outstanding
3.6 The most important activities in the field of popularization of R&D&I and communication with the public	4 - Very good
3.7 Implementation of the recommendations in Module	4 - Very good
Average rating [1–5]:	5 - Outstanding
Grade [A–D]:	A
Summary assessment: The Faculty of Military Technology (FMT) at the University of Defence (UoD) in the Czech Republic plays a central role in advancing national defense capabilities through a combination of education, research, and technological innovation. The faculty specializes in areas such as aeronautics, cybersecurity, autonomous systems, and additive manufacturing, with its work adhering to NATO and European Union standards. Its programs focus on training military personnel while engaging in international collaborations to modernize defense technologies. Notable achievements include the development of Health and Usage Monitoring Systems (HUMS), fire control technologies, and 3D printing applications. The faculty has fostered strategic partnerships with industry and scientific communities, promoting innovation and applied research that benefits both military operations and society at large. Additionally, FMT actively engages the public through media outreach, exhibitions, and open days to raise awareness of its research and defense-related topics. The faculty has demonstrated significant success in implementing research initiatives and strengthening defense capabilities. Its mission-driven research aligns closely with the priorities of the Czech Ministry of Defence (MoD) and NATO, while its visibility within national and EU/NATO R&D&I systems continues to grow. Strengths include specialized research in military robotics, cyber defense, protective systems, simulation technologies, and autonomous platforms, as well as high academic-professional visibility through conferences and applied showcases. FMT has also leveraged its legal framework to retain experienced staff, including those over the age of 70. Its international collaborations and participation in European defense projects further underscore the faculty's leadership and recognition in the field. However, certain challenges persist. Legal and institutional limitations prevent the faculty from commercializing research outputs through spin-offs or licensing, and engagement with the private sector remains limited. Doctoral students often face time constraints that impact their ability to complete dissertations. Additional risks include potential regulatory challenges from EU and NATO compliance requirements and limited mobility and publication opportunities for young researchers. Opportunities for improvement include expanding EU and NATO funding participation, enhancing industry cooperation via procurement-driven innovation, and strengthening training in applied	

scientific translation, proposal writing, and publication for undergraduates and early-career researchers.

Overall, FMT is recognized as one of Europe's leading institutions in military technologies, producing excellent scientific outputs and securing substantial funding for high-profile research projects. Faculty members are internationally acknowledged specialists, frequently receiving awards for their contributions. While the faculty has effectively considered recommendations from previous evaluations, areas such as commercialization, industry engagement, and doctoral training require ongoing attention to ensure sustained growth, strategic impact, and international competitiveness.

Average Rating – 4.5

Summary recommendations:

The IEP Committee recommends that the Faculty of Military Technology (FMT) focus on sustaining and expanding its financial, research, and international capacities. The faculty is encouraged to continue exploring diverse funding sources, including national support projects and international programs, while refining application strategies to increase success rates in EU and other competitive funding schemes. Modernizing laboratories with advanced technologies and establishing specialized research centers in key areas such as cybernetics, electronics, and new materials will help attract top talent and foster innovative research. Collaboration with NATO, EU agencies, and national defense organizations should be leveraged to develop patentable innovations aligned with strategic priorities, while also increasing publication output and supporting scholarly dissemination to enhance academic visibility.

Additionally, the IEP Committee encourages the FMT to strengthen partnerships and collaborative initiatives. FMT should expand joint research with other University of Defence faculties, increase involvement in PhD programs, and promote student exchange programs and international conferences. This would maximize the faculty's resource potential, enhance global visibility, and contribute to achieving the 2030 strategic goals. Continuous monitoring systems are advised to track progress toward these objectives and to regularly share outcomes with staff and students, ensuring alignment with emerging technological trends such as autonomous systems and other innovations.

Finally, while FMT has a strong scientific base, highly qualified staff, and a clear vision for future development, further improvements in internationalization are recommended. Strengthening cooperation with international partners and funding agencies will elevate the faculty's global presence, enhance collaborative research outputs, and further position FMT as a leading institution in military technology research. Overall, embracing these recommendations would consolidate FMT's strengths, address remaining gaps, and ensure sustained growth in both academic and applied defense research domains.

EVALUATION REPORT IN MODULE 3

NAME OF EVALUATED UNIT: MILITARY FACULTY OF MEDICINE

FORD: 3 - Medical and health sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

Indicator 3.1 is a non-evaluated indicator that provides basic information about the evaluated unit such as its mission and vision, organizational structure, size and staffing, or R&D&I capacities.

Commentary:

The Military Medical Faculty (MFM) at the University of Defense in Hradec Králové plays a central role in supporting the Czech Armed Forces (CAF) through its integration of scientific research, education, and specialized military training. Its mission focuses on advancing military healthcare, protection against chemical, biological, radiological, and nuclear (CBRN) threats, and leveraging emerging technologies such as telemedicine, artificial intelligence, and virtual reality. The faculty's research spans drug development for nerve agents, detection and identification of biological and chemical threats, radioprotective substances, vaccines, and advanced diagnostic tools. By offering accredited doctoral programs and combining applied and basic research, the faculty serves as a unique platform where scientific innovation directly supports national defense needs.

MFM has significantly strengthened its scientific and educational capacity over the past five years, including the addition of 20 staff members. Over half of the faculty's personnel actively participate in research and development activities, contributing to a modern and well-structured system that combines pedagogy with applied research. The faculty has produced numerous professional and scientific publications indexed in Web of Science, and its doctoral programs have received long-term national accreditation, demonstrating the high quality of its academic offerings. Collaborative initiatives with institutions such as the Faculty of Medicine at Charles University, as well as partnerships with European research networks and the European Defence Fund, further reinforce its scientific impact and international relevance.

The faculty's research and development efforts are closely aligned with the practical needs of the CAF, particularly in medical support and CBRN protection. It applies cutting-edge technologies in real-world defense contexts, making it a leading center for military healthcare innovation in Europe. The MFM's capabilities extend beyond research to include education, training, and operational readiness, providing both military personnel and, to a limited extent, civilian students with advanced expertise in defense medicine. Its combination of high-level scientific activity, modern infrastructure, and a clear strategic mission positions the faculty as an essential pillar of national defense and a benchmark for military medical education and research internationally.

Overall, the Military Faculty of Medicine demonstrates a strong balance between research excellence, applied innovation, and educational output. Its commitment to integrating emerging technologies, maintaining high accreditation standards, and participating in international defense research initiatives underscores its ambition to be a leading hub of military healthcare. With a well-defined strategic vision, sufficient staffing, and an active role in European research networks, the faculty is positioned to continue advancing military medical science while contributing directly to the operational capabilities of the Czech Armed Forces. Its focus on modernization, collaboration,

and cutting-edge research ensures both national relevance and international recognition in military healthcare and CBRN defense.

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

Evaluate the position of the evaluated unit in the R&D&I research community based on the facts presented in indicator 3.2 and its annexed tables (3.2.1 to 3.2.5).

Rating [1–5]:

5 - Outstanding

Qualitative assessment:¹

The Military Medical Faculty (MFM) at the University of Defense is a highly recognized institution specializing in the intersection of medical and military research. Its work primarily focuses on diagnostics, treatment, prevention, and protection against threats such as weapons of mass destruction, infectious diseases, and war-related injuries. The faculty integrates advanced preclinical research with practical applications for the Czech Armed Forces, particularly in chemical, biological, radiological, and nuclear (CBRN) defense, epidemiology, toxicology, and preventive medicine. Through its unique facilities - including BSL-3 laboratories, radiation sources, and advanced analytical tools - MFM enables sophisticated research that directly enhances military readiness and public health preparedness.

MFM has achieved a strong national and international reputation due to its research output, collaboration network, and active participation in the scientific community. Faculty members regularly publish in top-tier journals, serve on editorial boards, deliver invited lectures at prestigious conferences worldwide, and participate in national and EU research evaluation panels. The faculty has received numerous prestigious awards recognizing excellence in both medical and military-related research, reflecting the global impact of its work. Furthermore, it hosts distinguished international scientists, fostering knowledge exchange and enhancing its research environment. Its participation in European and NATO-related projects underscores the faculty's commitment to advancing defense-related medical science on a broader scale.

Collaboration is a cornerstone of MFM's operations. The faculty works closely with both domestic and international academic, research, and private institutions, leveraging partnerships to enhance scientific innovation and applied research. This extensive collaboration allows MFM to contribute effectively to specialized areas such as CBRN protection, infectious disease research, and preventive medicine tailored to military environments. Additionally, the faculty maintains a balance between education, research, and professional expertise, offering doctoral programs and training that prepare both military personnel and researchers for advanced careers in defense medicine.

While MFM demonstrates strong research and educational outcomes, some structural challenges remain. The distribution of teaching and research activities across departments is uneven, with some units heavily focused on education and others on research. This imbalance can limit opportunities for faculty members to pursue academic careers that integrate both teaching and research. Addressing these disparities would further strengthen the faculty's capacity to cultivate highly skilled researchers and maintain excellence in its scientific contributions.

Overall, MFM exemplifies a high-performing institution where medical research and military expertise converge. Its combination of cutting-edge research, international recognition, robust

¹ Provide verbal assessment of the indicator and briefly comment on the reasons for awarding the specific rating. Follow a similar procedure for the other indicators.

collaborations, and applied military relevance positions the faculty as a leading center for military healthcare and CBRN defense. The faculty's achievements in publications, awards, and global scientific engagement underscore its pivotal role in advancing military medicine, safeguarding the Czech Armed Forces, and contributing to international defense and biomedical research.

Average Rating – 5

Recommendations:

The Military Medical Faculty (MFM) is advised to strengthen the balance between teaching and research responsibilities across all departments to ensure opportunities for both academic and research development. Addressing discrepancies in teaching loads will allow all academic staff to contribute effectively to research activities, fostering a more equitable and productive environment. Implementing flexible career tracks that allow staff to shift between teaching-focused and research-focused roles would further support professional development and help retain and motivate high-performing faculty.

MFM is encouraged to deepen its international engagement and translational research impact. This includes expanding collaborations with NATO, EU Horizon programs, and leading biomedical institutions, promoting longer-term stays abroad for young researchers, and hosting visiting professors. Strengthening technology transfer, protecting intellectual property, and pursuing commercialization opportunities - such as diagnostic kits, radioprotectants, and AI-based telemedicine tools - would enhance the faculty's strategic value. Developing interdisciplinary research platforms integrating biomedical sciences, engineering, and artificial intelligence is recommended to tackle complex challenges, including CBRN defense, pandemic preparedness, and soldier health under extreme conditions.

The IEP Committee further recommends expanding research infrastructure and capacity. Investments in next-generation biosafety, radiation, and toxicology laboratories are needed, alongside recruitment or training in specialized areas such as genomics, vaccine development, neuropharmacology, and synthetic biology. Establishing mentorship programs, internal seed funding, and support for high-impact scientific publishing will aid talent development. Finally, implementing internal performance evaluations aligned with national and EU research metrics, with clear KPIs for collaboration, publications, patents, and societal impact, will ensure MFM continues to advance as a leading center for military medical research and innovation.

RESEARCH PROJECTS

3.3 Research projects

Evaluate the most important research projects of the evaluated unit, especially regarding the results achieved and the application potential of the project, the proportionality with respect to the R&D&I capacities of the evaluated unit, the degree of interdisciplinarity and collaboration with other parts of the evaluated HEI, and the consistency with the declared mission and vision of the evaluated unit. Use the data from the full list of research projects and contract research activities in Tables 3.3.1 and 3.3.2 to supplement the evaluation.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The Military Medical Faculty (MFM) at the University of Defence demonstrates a strong national and international reputation in military medical research, with a particular focus on clinical medicine, preclinical studies, and defense against CBRN threats. Its research portfolio spans biomedical innovation, preventive healthcare, diagnostics, and operational support for the Czech Armed Forces.

These activities not only advance scientific knowledge but also translate directly into practical applications that enhance military readiness and national security. The faculty maintains extensive partnerships through international collaborations, joint research projects, and student exchange programs, reinforcing its role as a leader in military health sciences education and research.

MFM's research projects exhibit high scientific quality and translational value. Key examples include nanoparticle-based mucosal vaccination strategies, low-cost immunosensors for celiac disease diagnostics, certified radiation triage methods, and countermeasures for acute radiation syndrome. Many of these initiatives are interdisciplinary, integrating biomedical sciences, toxicology, chemistry, and clinical research. They are designed for practical use in clinical, emergency, and low-resource settings, maximizing societal impact. Over the past five years, the faculty has secured more than 50 million CZK in research funding, enabling high-quality execution without overstressing available infrastructure and staff capacities.

The faculty successfully balances national and international research endeavors. National funding comes from multiple ministries, including Defense, Education, Health, and Interior, while international collaborations increasingly engage European Defense Fund projects. These projects enhance both scientific and teaching capabilities, while broadening the scope of interdisciplinary research. Limitations in commercializing research outputs restrict some engagement with industry, yet the faculty maintains a growing presence in applied projects with societal relevance. Overall, MFM exhibits a robust research infrastructure, highly qualified staff, and an effective integration of scientific innovation with operational and educational objectives.

Average Rating – 4.7

Recommendations:

The IEP Committee's recommendations for the Military Medical Faculty (MFM) emphasize both internal optimization and external expansion of its research impact. Internally, there is a strong call to balance teaching and research responsibilities across all departmental units to ensure that all faculty members have opportunities to engage in scientific work. This includes encouraging interdisciplinary collaboration within the university, integrating research across departments, and establishing thematic programs focused on strategic areas such as CBRN protection and diagnostics. Additionally, capacity building for young researchers through mentorship, training in translational research, grant writing, and support for PhD and postdoctoral development is highlighted as a priority.

Externally, the IEP Committee recommends a focus on strengthening global alliances and increasing international engagement. MFM is encouraged to actively seek partnerships and funding opportunities through initiatives like Horizon Europe, NATO collaborations, and other EU research programs. Increasing the number of projects related to medical security for the Czech Armed Forces, while simultaneously pursuing international projects with foreign institutions, is a means to enhancing both scientific visibility and operational relevance. Methodical tracking of research outputs, including their real-world applications, policy impact, and knowledge transfer, is also advised to ensure accountability and maximize societal benefits.

Finally, maintaining and expanding the existing system of research project execution and funding acquisition is essential. Continued investment in state-of-the-art scientific infrastructure and leveraging grants and subsidies from the Ministries of Education, Health, and Interior are recommended to sustain high-quality research outputs. Overall, the combined focus on internal optimization, capacity building, and international collaboration positions MFM to strengthen its leadership in military medical research and applied biomedical sciences.

3.4 Research results with existing or prospective impact on society

Evaluate the research results already applied in practice or intended to be applied in practice. When evaluating, consider whether the results are proportionate to the R&D&I capacities of the evaluated unit, how they contribute to the fulfilment of the mission and vision of the evaluated unit and, if stated in the self-evaluation, how the results take into account the gender dimension and sustainability. Use the data from the full results summary in Table 3.4.1 to supplement the evaluation.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The Military Medical Faculty (MFM) has demonstrated substantial impact in applied research, particularly in diagnostics, radiation safety, and therapeutic interventions. Its work contributes significantly to societal well-being by enhancing healthcare efficiency, improving public safety, and increasing emergency preparedness. Innovations such as radioprotectants, hydrogel-based postoperative treatments, and antidotes for organophosphate poisoning directly improve patient outcomes and clinical efficacy. Additionally, the Faculty's development of tools like software for dose evaluation and immunosensors for celiac disease highlights a commitment to accessible, cost-effective, and deployable healthcare solutions. The planned Army Simulation Centre is set to further strengthen hands-on and scenario-based medical training for military personnel.

MFM has a strong record of translating research outputs into practical applications, which aligns closely with its mission to support defense readiness and public health. Its portfolio includes eight applied outputs - four patents, a recognized technique, one software tool, a utility model, and a functional sample - which demonstrate effective use of infrastructure and skills across radiation diagnostics, chemical and biological protection, and pharmaceutical innovation. Certified methodologies and devices for biodosimetry and radiation injury management have already been integrated into systems used by the Czech Armed Forces and other regulatory bodies, highlighting the Faculty's high translational capacity. Notably, much of this research is nationally focused, with limited evidence of applied research in international collaborations.

The Faculty's work is also highly interdisciplinary and strategically aligned with defense and healthcare priorities. Projects integrate biomedical sciences, clinical research, toxicology, and digital innovation, reflecting the Faculty's adaptability to emerging threats, including insights drawn from recent operational experiences such as the war in Ukraine. Research outputs support academic growth within the Faculty, underpinning PhD studies and promotion pathways for academic staff, and enabling the Faculty to maintain its status as a leading scientific and pedagogical institution. While gender-specific impacts were not explicitly addressed, the overall societal benefits of MFM's applied research remain substantial, with a clear alignment between the Faculty's outputs and its strategic mission in military healthcare and emergency preparedness.

Average Rating – 4.9

Recommendations:

The IEP Committee encourages the Military Medical Faculty (MFM) to maintain a balanced distribution of teaching and research responsibilities across all departmental units, ensuring that all academic staff have equitable opportunities for research, professional growth, and contribution to the Faculty's applied science mission. Current outputs are highly relevant, practically applicable, and well-aligned with the Faculty's R&D&I capacities, demonstrating notable societal, clinical, and defense-oriented impact, particularly in diagnostics, emergency response, and pharmaceutical innovation. While the research environment is strong, integrating gender considerations and sustainability into future studies could further enhance the quality and inclusivity of outcomes.

Additional IEP Committee recommendations focus on strengthening technology transfer and commercialization by collaborating more closely with industry and healthcare providers to accelerate the transition of prototypes, patents, and other innovations into market-ready products. Expanding multidisciplinary and international collaboration is also advised, particularly through partnerships between material scientists, clinicians, and data scientists, as well as increased participation in EU-level programs like Horizon Europe. These steps would enhance MFM's global visibility, benchmarking, and translational impact, while promoting a culture of cross-sector innovation.

Finally, the IEP Committee believes that supporting talent development and capacity building remains essential. The Faculty should continue investing in young researchers and interdisciplinary training programs, offering structured career pathways and incentives for those engaged in applied research. Emphasis on internationalization - through joint projects with foreign partners and broader cooperation with international institutions - is also recommended to strengthen the global relevance and strategic impact of MFM's applied research.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

Evaluate the effectiveness of the transfer of results into practice by the unit being evaluated. Pay attention to whether the composition of the stated users of the results or the way the R&D&I results are commercialised (if stated) is consistent with the R&D&I results produced and the mission and vision of the evaluated unit and how successful the evaluated unit is in its activities, such as attracting new users of the results, commercialising the R&D&I results and obtaining funding from non-public, non-grant sources.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The Military Medical Faculty (MFM) is primarily tasked with translating research outcomes into practical applications that directly support the Czech Armed Forces (CAF) Medical Service and the broader Integrated Rescue System. Its activities focus on identifying operational research needs, developing strategic plans, and securing funding through grants. The MFM generates a range of applied outputs, including certified methodologies, treatment protocols, utility models, and patents. These innovations are designed for end-users such as military medical personnel and first responders, with notable examples including a certified method for classifying individuals exposed to radiation, a rapid biodetection device for assessing radiation damage, and a hydrogel for preventing postoperative complications in colorectal surgery. Due to its status as a state institution under the Ministry of Defence, the MFM is legally prohibited from commercializing its research results.

The faculty's mission emphasizes education, training, and research to enhance the operational capabilities of the CAF and its Medical Service. Many of its outputs are embedded into military and emergency-response doctrine, ensuring that research is not only academically rigorous but also directly applicable in real-world scenarios. Collaboration with external companies and institutions is carefully aligned with the faculty's goal of translating research into defense-relevant health technologies. Research areas such as diagnostics, cancer, and celiac disease demonstrate both innovation and translational potential, although some projects remain under development and require additional time for full application.

The MFM also engages in large-scale, well-funded projects with practical applications, many of which extend beyond military security into broader public health domains. These projects enhance

both the faculty's scientific capacity and its teaching potential, providing students with hands-on experience in research and applied medical science. The faculty encourages student involvement in research and professional dissemination, which strengthens academic training while contributing to operational readiness.

Overall, the MFM's research and applied outputs are closely tied to the strategic priorities of the CAF and the Integrated Rescue System, reinforcing its critical role in military medical education, first responder training, and national health protection. By integrating applied research with operational training, the faculty ensures that innovations in diagnostics, treatment, and emergency preparedness are effectively deployed to serve both military and civilian stakeholders. Its work exemplifies a mission-driven approach where scientific inquiry directly enhances practical outcomes for defense and public safety.

Average Rating – 4.7

Recommendations:

IEP Committee recommendations for the Military Medical Faculty (MFM) emphasize enhancing the practical impact and international visibility of its research. One key suggestion is to formalize post-deployment monitoring by tracking performance indicators, such as the adoption of radiation triage methods by field units. This would provide measurable evidence of the faculty's real-world impact and help guide future improvements. Additionally, participation in NATO workshops and EU consortiums is recommended to test MFM approaches with partner military forces, allowing cost-sharing while increasing exposure and credibility on an international scale.

An additional set of IEP Committee recommendations focuses on expanding collaboration and commercialization. The faculty is encouraged to strengthen partnerships with industry to translate its R&D&I outputs into products and solutions that serve both military and civilian medical needs. This would help bridge the gap between research and practical application while potentially generating additional resources to support ongoing projects.

Finally, our recommendations highlight the importance of increasing the scope and scale of projects related to medical security for the Czech Armed Forces. This includes intensifying efforts to secure international projects in collaboration with EU and NATO partners. By doing so, MFM can enhance its strategic relevance, broaden its research network, and ensure that its applied knowledge and innovations continue to address real-world challenges in military and emergency healthcare.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

Evaluate how active and successful the evaluated unit is in the field of popularisation of R&D&I and communication with the public.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

From 2019 to 2023, the University of Defense (UoD) and its Military Medical Faculty (MFM) demonstrated a strong commitment to promoting their academic and research activities through a wide range of communication and outreach efforts. These included publishing a quarterly journal showcasing scholarly achievements, participating in science festivals, fairs, and commemorative events, and organizing open days and academic competitions. Such initiatives aimed to raise

awareness of educational opportunities, highlight the university's research strengths, and encourage scientific engagement within the defense sector.

The MFM, in particular, has actively engaged in science popularization through multiple channels. Its publications, including articles in UoD Pages and Military Medical Science Letters, target both professional and general audiences, while regular media coverage on national television, radio, and print outlets ensures broad visibility. The faculty also participates in public events such as open days, air base presentations, and secondary school outreach, connecting directly with future students and the wider community. These efforts contribute to making complex scientific research accessible, promoting both education and societal understanding of defense-related science.

Despite these achievements, there is potential for MFM to further expand its outreach activities. Given the size of the faculty and the breadth of research undertaken, the engagement in media and public communication could be intensified, including more consistent use of digital platforms, social media, and online video content. While international project visibility is currently limited, the faculty demonstrates strong national and defense-focused communication, effectively reaching military stakeholders and translating research outcomes into practical applications.

Overall, the MFM has established a well-balanced and mission-aligned strategy for popularizing research. Its dual focus on the general public and military audiences ensures that research findings are both widely disseminated and practically applied, enhancing the faculty's visibility, credibility, and societal impact. The consistent presence in media, public events, and targeted outreach demonstrates the faculty's recognition of the importance of communication as an integral part of its academic and research mission.

Average Rating – 4.6

Recommendations:

IEP Committee recommendations emphasize enhancing the visibility and impact of the Military Medical Faculty's (MFM) research and outreach activities through both traditional and digital channels. A key focus is on consistently promoting faculty events, projects, and achievements on the university website and social media platforms to raise public awareness and engagement. Leveraging personal stories or real-world applications of research is suggested as a way to make communication more relatable and compelling, thereby encouraging greater interest in scientific and defense-related careers.

Further IEP Committee recommendations call for advancing digital communication strategies, including the use of YouTube, Instagram, short science videos, and AI-driven tools, alongside methods to measure public engagement such as attendance tracking, online interactions, and feedback collection. Expanding outreach internationally through publications, press releases, conferences, workshops, fairs, and exhibitions is also highlighted, with the goal of promoting MFM's excellence in research, development, and innovation (R&D&I) on a global stage.

Finally, the IEP Committee recommends pursuing continuous innovation in science popularization methods, exploring novel approaches to increase interest in the armed forces and in studying or conducting research at the UoD. Expanding international collaboration and project participation is encouraged where legally permissible, further integrating MFM into global scientific networks and enhancing the faculty's strategic visibility and influence.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

Evaluate how the evaluated unit has reflected the recommendations from the previous evaluation of the IEP, if applicable.

If the evaluated unit has not been evaluated before, the indicator will be marked as N/A – Not Applicable.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The Military Medical Faculty (MFM) has made notable progress in implementing recommendations from previous evaluations, with a strong emphasis on increasing funding, promoting applied research, and expanding international collaboration. Efforts have focused on projects that support the Czech Armed Forces (CAF), with participation in NATO programs such as PRODEF and EDF, as well as partnerships with major defense universities abroad. The faculty has prioritized practical applications in military healthcare, CBRN defense, and related areas, which has enhanced both societal impact and operational relevance. These initiatives have also strengthened the faculty's role in international defense research networks.

In terms of research outputs, the MFM has improved the quality and visibility of its contributions, particularly in Category A publications, patents, functional models, and certified methodologies. The faculty has modernized research infrastructure and increased editorial participation in international journals, while also ensuring that young scientists and graduate students are actively involved in research projects. These measures have enhanced the faculty's research capacity, scientific credibility, and practical application of results, demonstrating a high degree of alignment with its mission to support defense and public health needs.

Funding diversification has been a central achievement. Previously reliant on internal university resources, the MFM now secures support from national ministries, NATO, and European defense programs, which allows for more ambitious, interdisciplinary, and internationally engaged projects. While challenges remain - such as limited technology transfer due to MoD IP ownership requirements - the faculty has made strides in improving international engagement, including participation in NATO STO initiatives and increased representation at conferences and foreign institutions. Overall, these developments illustrate substantial progress in research capacity, international cooperation, and applied impact, while highlighting areas for continued growth, particularly in IP management and broader commercialization efforts.

Average Rating – 4.7

Recommendations:

The IEP Committee recommendations for the Military Medical Faculty (MFM) focus on advancing applied research, expanding international collaborations, and increasing the visibility of its R&D&I efforts on a global scale. To achieve this, we advise that teaching and research responsibilities be distributed more equitably across all departmental units, enabling all staff to engage meaningfully in research activities and academic development. Strengthening partnerships with foreign universities, NATO, and EU programs remains a priority, alongside fostering mobility programs such as Erasmus+ to enhance the international experience of faculty and students.

In terms of research outputs and innovation, the IEP Committee encourages the faculty to continue processing patents and leveraging internal incentive programs to improve quality, despite current limitations imposed by the Ministry of Defence (MoD) ownership rules on intellectual property. Expanding editorial participation, attending international conferences, and increasing dissemination

of achievements through newsletters, social media, and other outreach channels will further elevate the faculty's international profile. While national public engagement is strong, additional institutional support for science popularization could enhance the faculty's worldwide visibility and influence.

Finally, the IEP Committee believes that continued development of human resources is critical. Increasing staff numbers in both education and research, supporting the career growth of young scientists, and systematically monitoring new technologies in military healthcare are recommended. Leadership should also address structural barriers to technology transfer by engaging with the MoD to revisit IP policies and by providing expertise in technology transfer offices (TTOs), ensuring that research outcomes are effectively protected and fully leveraged. Collectively, these measures aim to sustain the faculty's high-quality applied research and expand its impact within national and international defense and healthcare communities.

EVALUATED UNIT RATING

Evaluation of unit	
Having evaluated the individual criteria of module M3, please summarise your evaluation in the context of the module, describing and justifying the strengths and weaknesses of the unit being evaluated.	
3.1 Introductory information about the unit under evaluation	NOT RATED
3.2 Recognition by the research community	5 - Outstanding
3.3 Research projects	5 - Outstanding
3.4 Research results with existing or prospective impact on society	5 - Outstanding
3.5 Transfer of results into practice	5 - Outstanding
3.6 The most important activities in the field of popularization of R&D&I and communication with the public	5 - Outstanding
3.7 Implementation of the recommendations in Module	5 - Outstanding
Average rating [1–5]:	5 - Outstanding
Grade [A–D]:	A
Summary assessment: The Military Medical Faculty (MFM) at Brno University of Defence is recognized as a leading institution in military medical research, emphasizing diagnostics, treatment, prevention, and protection against threats such as weapons of mass destruction, infectious diseases, and war injuries. Its research integrates both medical and military expertise, translating scientific findings into practical applications for the Czech Armed Forces (CAF) and broader society. This includes certified methodologies, treatment protocols, and detection devices. The faculty actively engages in outreach, participates in NATO and EU programs, fosters international collaboration, and disseminates knowledge through publications, conferences, and public engagement initiatives. These efforts collectively aim to strengthen military operational capabilities, advance public health, and elevate the faculty's global reputation. MFM demonstrates several key strengths, including a strong alignment with end-users such as the CAF and the Integrated Rescue System, ensuring that research outputs have tangible societal and defense relevance. The faculty maintains well-established public engagement activities, participates	

in major science fairs and media outlets, and has an internal incentive program that encourages high-quality outputs, patents, and practical innovations. Moreover, the faculty is actively involved in national and EU projects, achieving recognition for its scientific contributions and maintaining a pool of internationally recognized experts. However, challenges remain: its journal, *Military Medical Science Letters*, is not indexed in Web of Science, and researchers often face unequal working conditions compared to teaching staff. Legal restrictions prevent commercialization of results, and international visibility of awards and editorial activities is limited.

Opportunities exist for MFM to expand its international profile by increasing collaboration with NATO, EU programs, and foreign universities, modernizing laboratory infrastructure, and leveraging applied research results for dual-use applications. Greater participation in international science communication platforms, including publishing in English and attending global fairs, could further enhance global recognition. At the same time, the faculty faces threats such as dependence on government funding mechanisms, competition from more internationally oriented institutions, and limited flexibility in adjusting strategic directions due to alignment with MoD priorities.

Despite these challenges, the faculty's research and teaching performance is excellent, with diverse and impactful projects at both national and EU levels. However, the broad spectrum of research, coupled with a limited number of specialists in certain fields, constrains the ability to achieve top-level outputs, such as Category A patents, industrial, or utility models. Fundraising for R&D&I projects is also challenging, and some projects are narrowly focused on operational or professional needs of the armed forces rather than broader scientific advancement.

Overall, MFM plays a vital role within the University of Defence and the broader defense research ecosystem. Its employees are recognized nationally and internationally for their expertise, and the faculty contributes significantly to applied scientific research in military medicine. Continued modernization, targeted international collaboration, and strategic focus on high-impact outputs could further strengthen its reputation and practical impact in both military and civilian contexts.

Average Rating – 4.8

Summary recommendations:

IEP Committee recommendations for the Military Medical Faculty (MFM) emphasize expanding both its research and educational impact while strengthening international engagement. Key priorities include increasing joint research projects, exchange programs, and participation in global conferences to enhance the faculty's international visibility and share best practices. International collaboration should be deepened through strategic partnerships with foreign universities and NATO/EU institutions, supported by structured long-term academic mobility for staff and students. Promotion of MFM's scientific achievements, awards, and innovations through international platforms, publications, and networks is encouraged to raise global recognition. Benchmarking against similar military medical units in Europe could help identify areas for improvement in research funding and other performance metrics.

Internally, the IEP committee recommends improving working conditions and ensuring a fair distribution of teaching and research responsibilities across all departmental units to foster academic growth for all staff. Efforts should be made to enhance the faculty's journal, *Military Medical Science Letters*, by pursuing inclusion in Web of Science to increase the visibility and impact of its publications. Expanding simulation centers, hands-on training modules, and translational research initiatives is advised to strengthen practical skills and accelerate the application of research findings in military and public health contexts. Collaboration with other UD faculties and PhD-led projects is encouraged to maximize the research potential of the MFM, while partnerships with academic librarians and professional statisticians can enhance access to comprehensive scientific resources.



IEP Committee also recommends sustained outreach and public engagement, including science festivals, open days, media campaigns, and participation in international fairs and exhibitions, supported by a dedicated communication budget. Special attention should be given to technology transfer, socially responsible commercialization, and alignment with long-term defense and health priorities, ensuring that research outcomes benefit both the CAF and society. Continuous monitoring of progress toward strategic goals, regular updates to staff and students, and adaptation to emerging technological trends - such as autonomous systems and innovative medical solutions - will help maintain the faculty's relevance, societal impact, and global reputation.

EVALUATION REPORT IN MODULE 3

NAME OF EVALUATED UNIT: NBC DEFENCE INSTITUTE

FORD: 1 - Natural sciences

SOCIAL CONTRIBUTION OF THE EVALUATED UNIT

3.1 Introductory information about the unit under evaluation

Indicator 3.1 is a non-evaluated indicator that provides basic information about the evaluated unit such as its mission and vision, organizational structure, size and staffing, or R&D&I capacities.

Commentary:

The NBC Defence Institute (NBCDI) at the University of Defence (UoD) is a specialized unit dedicated to advancing national security through applied research and education focused on chemical, biological, radiological, and nuclear (CBRN) threats. Primarily serving the Czech Armed Forces' Chemical Corps, the NBCDI is tasked with the detection, identification, protection against, and decontamination of hazardous substances, including chemical warfare agents and radioactive materials. Its research outputs have both military and civilian relevance, supporting operational readiness and public safety. The NBCDI's authorization to work with real hazardous materials ensures that experiments are practical and directly applicable, while its educational programs train specialists in chemical and radiological defense, contributing to the strategic development of the Czech Armed Forces.

Organizationally, NBCDI is a relatively small unit, composed of 19 approved posts with 13-15 academic staff members and a few long-term vacancies. The NBCDI is divided into two main departments: the Department of Chemical and Radiation Protection and the Department of the Chemical Corps. Despite its modest size, the NBCDI maintains a strong focus on applied research that directly addresses the operational needs of military units. Its research includes hazard detection technologies, personal protective equipment, decontamination methods, and operational chemical warfare tactics. Over the past five years, the NBCDI has produced 52 articles in indexed journals, authored five books, developed utility models, and established methodological procedures that are integral to both laboratory work and field applications.

Education forms a central pillar of NBCDI's mission. While the NBCDI cannot independently administer accredited degree programs, it provides essential lectures, practical training, and supervision for UoD students, particularly in the recently approved Military Chemistry program and doctoral research related to weapons of mass destruction. The educational focus is closely integrated with research outputs, ensuring that students receive up-to-date, practice-based knowledge. Faculty members are actively engaged in university governance and scientific committees, reinforcing the NBCDI's role within the broader UoD community.

Despite its successes, the NBCDI faces structural and capacity limitations. The small size of the unit, combined with a high educational workload, restricts its ability to fully expand research and development activities to produce high-category (A-level) R&D outputs. Laboratory facilities are modern, but building infrastructure requires upgrades to support advanced research. Additionally, the NBCDI's two long-standing vacant academic positions hinder full utilization of its research and teaching potential. Nevertheless, its strategic focus, strong professional networks, and applied research agenda ensure that NBCDI remains a critical contributor to both military preparedness and civilian hazard response capabilities.

Overall, the NBCDI represents a highly specialized, mission-driven unit within UoD that successfully integrates applied research, practical training, and operational support for the Chemical Corps. Its outputs, from publications to utility models, demonstrate direct relevance to national security needs, while its collaboration with other national faculties and governmental institutions enhances its impact. Continued attention to staffing, infrastructure modernization, and expansion of research capacity will be essential to maintaining and strengthening its contribution to both military and civilian sectors.

RECOGNITION BY THE RESEARCH COMMUNITY

3.2 Recognition by the research community

Evaluate the position of the evaluated unit in the R&D&I research community based on the facts presented in indicator 3.2 and its annexed tables (3.2.1 to 3.2.5).

Rating [1–5]:

4 - Very good

Qualitative assessment:¹

The NBC Defence Institute (NBCDI) serves as a key national center for chemical, biological, radiological, nuclear, and explosive (CBRNE) defense, operating in close alignment with the strategic objectives of the Czech Ministry of Defence. Its primary mission is to enhance the capabilities of the Czech Armed Forces' Chemical Corps in detecting, identifying, protecting against, and decontaminating hazardous substances, including chemical warfare agents and radioactive materials. The NBCDI also plays a critical educational role, delivering specialized training programs and supporting doctoral research in chemical and radiation protection, which directly strengthens operational readiness and expertise within the Czech military. Faculty members engage in international exchanges, lectures, and collaborative research projects, ensuring that NBCDI maintains high relevance in both national and broader NATO/EU security contexts.

NBCDI has developed a strong research and academic reputation through both national and international collaborations. It works closely with the Military Research Institute in Brno, the Population Protection Institute, and technical universities in the Czech Republic, as well as with institutions in Germany, Romania, Bulgaria, and Vietnam. Participation in NATO's Joint CBRN Defence Centre of Excellence and hosting the biennial CBRN PROTECT conference demonstrate the NBCDI's role in fostering regional and international CBRN expertise. Faculty achievements include prestigious Rector's Prizes, dissertation awards, and recognition for conference presentations, reflecting the scientific excellence of its research outputs. Its work on projects such as PROTECT, PROTECT II, and MARYŠA has practical application for both the Czech Armed Forces and NATO partners, emphasizing real-world relevance and operational impact.

The NBCDI's research agenda is highly applied, driven by the operational needs of the military, with outputs including methodologies, utility models, and technological solutions for CBRNE defense. These projects are well-funded by national institutions, contributing to both the scientific and teaching capacity of NBCDI. Faculty publications and educational materials support practice-based learning for military students, reinforcing the NBCDI's dual role in research and instruction. While its staff are highly capable and motivated, the NBCDI faces challenges in expanding international project networks due to limited administrative support for grant writing and proposal coordination, which constrains participation in larger competitive funding opportunities.

¹ Provide verbal assessment of the indicator and briefly comment on the reasons for awarding the specific rating. Follow a similar procedure for the other indicators.

Overall, NBCDI is recognized as a small but highly specialized and mission-critical unit within the University of Defence, with a strong emphasis on applied research, operational relevance, and international collaboration. Its work has significant value for both national security and allied defense efforts, while its educational programs ensure the ongoing development of highly skilled chemical defense specialists. Addressing capacity limitations, enhancing international project engagement, and strengthening administrative support will be key to expanding its impact and sustaining its role as a leading CBRNE research and training center.

Average Rating – 3.7

Recommendations:

The NBC Defence Institute (NBCDI) has significant potential to expand its international profile and research impact by actively pursuing collaborations with European institutions, NATO, and other foreign organizations. Establishing joint research initiatives, exchange programs for staff and students, and hosting international guest researchers would strengthen the NBCDI's presence in the global CBRN research community. Greater engagement with NATO-COE and EU partners could facilitate knowledge transfer, operational alignment, and access to larger-scale international projects.

To enhance academic visibility, the IEP Committee encourages NBCDI staff to join editorial boards, participate in international scientific societies, and publish more unclassified research in high-impact journals. Participation in international conferences, project brokerage events, and keynote lectures would further raise the NBCDI's profile and provide opportunities for collaboration. Strengthening partnerships with national and international institutions, as well as industry stakeholders, would position NBCDI as a central player in CBRN research and applied defense technology.

Institutional support is also critical to realizing these goals. Administrative assistance for grant writing, matchmaking platforms for locating international partners, and coordination with other faculties at the University of Defence can facilitate broader engagement in EU and NATO-funded projects. Expanding staff in key areas and fostering structured international collaboration will ensure that NBCDI not only maintains its current expertise but also significantly increases its influence and contribution to global CBRN defense research.

RESEARCH PROJECTS

3.3 Research projects

Evaluate the most important research projects of the evaluated unit, especially regarding the results achieved and the application potential of the project, the proportionality with respect to the R&D&I capacities of the evaluated unit, the degree of interdisciplinarity and collaboration with other parts of the evaluated HEI, and the consistency with the declared mission and vision of the evaluated unit. Use the data from the full list of research projects and contract research activities in Tables 3.3.1 and 3.3.2 to supplement the evaluation.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The NBC Defence Institute (NBCDI) demonstrates a highly focused scientific agenda aimed at enhancing the capabilities of the Czech Armed Forces' Chemical Corps. Its research is concentrated on chemical and radiation protection, decontamination procedures, dosimetry, and personnel safety protocols. The NBCDI also emphasizes infrastructure improvements and operational support for chemical operations, ensuring that both theoretical and applied outputs directly enhance the

readiness and effectiveness of military units tasked with chemical, biological, radiological, and nuclear (CBRN) defense.

Key projects highlight the NBCDI's applied research strengths. The PROTECT and PROTECT II projects have advanced methodologies for detecting hazardous compounds, improved chemical reconnaissance, and produced patents and utility models, addressing both domestic and NATO requirements. Radiation protection research has focused on rapid detection technologies, aerial gamma spectrometry, and dose monitoring, while decontamination studies optimize emulsion combinations and deployment strategies. The MARYŠA project assessed nerve agents such as A-234 and evaluated equipment, antidotes, and cleaning methods in collaboration with other defense institutes, illustrating a strong integration of experimental research with operational needs. Other notable projects, including RANUS-TD and ADAR, have developed nuclear and radiation detection technologies and explored subcritical nuclear reactors, fostering international collaboration with partners in the United States.

NBCDI projects demonstrate strong relevance to military operational needs, with outputs frequently arising from real-world challenges. Applied research efforts are supported with substantial national funding, enhancing both scientific potential and teaching capabilities within the University of Defence. While the research staff are highly capable and motivated, the unit faces limitations in expanding its international network and securing competitive international grants due to the lack of structured administrative support for proposal writing and project coordination. Nevertheless, the NBCDI has made significant contributions to national security and possesses outputs with high practical value for both military and civilian applications.

Overall, NBCDI exemplifies a well-integrated, mission-driven research organization that balances education, applied research, and operational support. Its projects are closely aligned with national security priorities, producing high-impact results for the Czech Armed Forces and allied partners. Despite certain structural constraints, the NBCDI's outputs - ranging from chemical and radiation detection technologies to operational procedures - demonstrate both scientific excellence and real-world applicability.

Finally, the NBCDI has cultivated strong networks with national and international academic, governmental, and defense partners. Collaborations with other universities, defense research units, and professional bodies create a networked research environment, ensuring that NBCDI's scientific work maintains practical relevance while contributing to broader knowledge in CBRN defense. Enhancing administrative support and international project engagement could further increase the NBCDI's global visibility and research impact.

Average Rating – 3.9

Recommendations:

IEP Committee recommendations emphasize enhancing the NBC Defence Institute's (NBCDI) international engagement and research capacity. Central to this is the need to strengthen collaboration with NATO, EU research frameworks (such as Horizon Europe), and transatlantic academic and military partners. Expanding international partnerships would support joint research projects, improve access to advanced infrastructure, and align the NBCDI's work with allied defense standards. Increased participation in European funding programs and other international grants is also recommended to broaden the scope and impact of NBCDI's research.

Additionally, the IEP Committee recommends that NBCDI focus on internal capacity-building to support these international ambitions. Increasing the number of staff and securing additional funding from the Ministry of Defence would enable the NBCDI to manage complex research infrastructure and handle larger, multi-institutional projects. Administrative support structures, such as grant-writing assistance and matchmaking platforms for international collaboration, are

suggested to facilitate smoother engagement with foreign institutions and funding bodies. Expanding professional networks through conferences, brokerage events, and hosting international guest researchers will further enhance the NBCDI's visibility and collaborative opportunities.

Finally, improving the framework for academic participation is recommended to ensure fair and transparent support for staff attending conferences or international events. Clear guidelines for travel expenses, registration fees, and eligibility criteria would encourage broader scholar participation, promote diversity, and support knowledge exchange within the academic and defense research communities. Combined, these measures aim to strengthen NBCDI's research output, international profile, and strategic relevance in CBRN defense.

3.4 Research results with existing or prospective impact on society

Evaluate the research results already applied in practice or intended to be applied in practice. When evaluating, consider whether the results are proportionate to the R&D&I capacities of the evaluated unit, how they contribute to the fulfilment of the mission and vision of the evaluated unit and, if stated in the self-evaluation, how the results take into account the gender dimension and sustainability. Use the data from the full results summary in Table 3.4.1 to supplement the evaluation.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The NBC Defence Institute's (NBCDI) research outputs are strongly oriented toward practical applications that directly support the Czech Armed Forces' Chemical Corps, as well as broader civilian needs. During the evaluation period, the NBCDI produced methodologies for hazardous substance identification, gamma spectrometry calibration, electrodeposition sample preparation, and new protective gear. These results translated into utility models such as liquid polymer films and scintillator tanks, prototypes like the liquid scintillator cell, and regulatory outputs including two military regulations and professional books. The Ministry of Defence formally recognized these achievements, underscoring their immediate value for both stationary and mobile laboratory operations.

The NBCDI's work aligns closely with its mission of advancing chemical defense, protection, and detection capabilities. Certified methodologies and innovative prototypes foster operational readiness, improve safety, and enhance technological progress for military and civilian users alike. While the outputs are technically strong and socially relevant, reviewers noted gaps in addressing broader dimensions such as gender equality and sustainability principles. Explicit integration of these considerations into research design and dissemination could expand the NBCDI's strategic impact and inclusivity on both national and international levels.

Another noted strength lies in the applied nature of the projects, which deliver tangible tools and procedures to the field. Utility models for chemical detection and radiation safety, along with specialized books and regulations, directly support the effectiveness and reliability of chemical defense operations. Despite the NBCDI's relatively small research team of 17 members, the scope and adequacy of outputs demonstrate strong efficiency and focus. However, the national orientation of many outputs - particularly in publications - suggests limited international dissemination of results.

Importantly, research results also show societal relevance beyond defense, as the methodologies and innovations contribute to civilian safety and public health. Articles published in scientific journals and specialized books extend knowledge in chemical and radiological protection, although

their reach remains primarily within a national context. Expanding international collaboration and publication could broaden the NBCDI's impact and visibility.

Overall, the IEP Committee characterizes NBCDI's scientific work as high-quality, practically relevant, and well aligned with its mission, while also pointing out opportunities for growth. By addressing internationalization, sustainability, and inclusivity, the NBCDI could amplify its already significant contributions to national security, civilian safety, and the wider research community.

Average Rating – 4.3

Recommendations:

IEP Committee recommendations emphasize the importance of maintaining the NBC Defence Institute's (NBCDI) focus on applied research while expanding its societal impact and inclusivity. IEP Committee members suggest supporting ongoing innovation in protective equipment and rapid detection technologies to address evolving chemical and biological threats, including novel synthetic opioids and next-generation warfare agents. In parallel, public awareness campaigns and stronger collaboration with civilian agencies - such as law enforcement, emergency response, and public health sectors - are advised to ensure that research outputs are effectively translated into practical tools that enhance societal resilience and public safety.

Beyond technical progress, IEP Committee highlights the need to integrate gender and diversity perspectives into research teams, methodologies, and testing processes. Doing so would make solutions more inclusive and better adapted to the needs of all personnel. Training and knowledge dissemination should also be prioritized by modernizing instructional materials and aligning them with best practices, thereby ensuring that both military and civilian users remain well prepared. Finally, the IEP Committee encourages further internationalization of applied research through deeper cooperation with global partners, which would broaden the NBCDI's reach, visibility, and long-term influence.

TRANSFER OF RESULTS INTO PRACTICE

3.5 Transfer of results into practice

Evaluate the effectiveness of the transfer of results into practice by the unit being evaluated. Pay attention to whether the composition of the stated users of the results or the way the R&D&I results are commercialised (if stated) is consistent with the R&D&I results produced and the mission and vision of the evaluated unit and how successful the evaluated unit is in its activities, such as attracting new users of the results, commercialising the R&D&I results and obtaining funding from non-public, non-grant sources.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The NBC Defence Institute (NBCDI) plays a central role in strengthening the operational readiness of the Czech Armed Forces while contributing to broader national defense and public safety. Its research results are owned by the Ministry of Defence, which ensures their deployment across a wide range of stakeholders, including military units, civilian protection services, academic institutions, and commercial enterprises. Notable collaborations include joint projects with the Population Protection Institute, the Military Research Institute, and the National Institute for NBC Protection, as well as partnerships with customs authorities and private companies such as Oritest and NUVIA. The NBCDI also maintains a strong academic profile through work with the Czech Technical University and organizes high-level events such as the biennial CBRN PROTECT conference, which facilitates knowledge sharing and international networking.

The NBCDI's transfer of research and development results into practice is described as effective, despite structural limitations on commercialization. As part of a public university operating under the Ministry of Defence, the NBCDI cannot directly sell its outcomes or pursue patents. Instead, its results are channeled into strengthening the capabilities of the Chemical Corps and other defense and safety institutions, including the Ministry of the Interior's Fire Rescue Service, the National Radiation Protection Institute, and customs laboratories. This arrangement ensures that the NBCDI's work has consistent and tangible application in both military and civilian contexts, though the absence of direct commercialization limits financial contributions from non-public sources.

Nevertheless, the NBCDI has successfully positioned itself as a leader in chemical, biological, radiological, and nuclear (CBRN) defense research in the Czech Republic. Its expertise supports not only military readiness but also public health, disaster response, and environmental safety. By fostering collaboration with industry and academia, the NBCDI demonstrates the capacity to extend its influence beyond defense into societal applications. Reviewers also note that it is the only institution where soldiers can train and advance as CBRN scientists, further underlining its unique role in bridging applied science with military needs.

While the restrictions on direct commercialization are well justified, the NBCDI could benefit from seeking broader avenues for technology transfer beyond defense-related entities. Opening up to additional forms of cooperation with civilian sectors and international partners could expand the reach and impact of its innovations. Overall, the NBCDI effectively translates research into practice, builds strong partnerships, and fulfills its mission of supporting both national defense and public safety, even as it navigates structural limitations on commercialization.

Average Rating – 4

Recommendations:

IEP Committee recommendations emphasize the importance of strengthening collaboration, visibility, and practical application of the NBC Defence Institute's (NBCDI) work. To that end, the IEP Committee suggests deepening ties with civilian agencies such as law enforcement and emergency response services to ensure that research outputs can be effectively applied to public safety. Increasing engagement with non-academic stakeholders, both nationally and internationally, is also seen as vital to broadening the NBCDI's impact beyond defense. Conferences should be leveraged more strategically as platforms to showcase innovations, enhance visibility, and attract new partners, while stronger integration of research with education - through student involvement and practical training - would help prepare the next generation of experts.

In addition, the IEP Committee encourages the NBCDI to adopt a more proactive approach to intellectual property management, including developing a formal IP protection plan and exploring industrial partnerships to enable commercialization of its technologies. Expanding international collaboration, particularly with NATO and EU nations, is highlighted as a way to enhance both the NBCDI's global standing and its ability to respond to emerging threats. Overall, the recommendations stress a balance between applied research, education, and broader partnerships to ensure that innovations move effectively from the lab into real-world practice.

POPULARIZATION OF VAVAI

3.6 The most important activities in the field of popularization of R&D&I and communication with the public

Evaluate how active and successful the evaluated unit is in the field of popularisation of R&D&I and communication with the public.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The NBC Defence Institute (NBCDI) has made significant efforts to promote its research, development, and innovation (R&D&I) activities, particularly in the areas of nuclear, radiological, and chemical safety. Outreach has included lectures delivered by respected experts on topics such as nuclear weapons, radiological risks, misuse of chemicals, and the role of mobile chemical laboratories in the Czech Armed Forces. These activities have been directed at both specialized audiences, such as regulatory officials and academic institutions, and the general public, thereby reinforcing the NBCDI's mission to raise awareness and share knowledge broadly.

A central element of its outreach is the biennial CBRN PROTECT conference, which brings together around 100 participants and provides a platform for showcasing the NBCDI's research and strengthening professional networks. In addition, members of the NBCDI regularly participate in both national and international conferences and public events. These activities are complemented by public engagement initiatives such as the Night of Science and the Academy of the Third Age, as well as educational outreach for secondary schools and vocational students, helping to connect the NBCDI's work with wider communities.

The NBCDI's approach to popularization of science is well-developed, extending beyond military environments into civilian research institutions, universities, and schools. Its scientific contributions - such as articles, books, and educational resources - support both academic and practice-based learning, with a particular strength in making material accessible in the national language. However, while these outputs strengthen national visibility and relevance, there is limited presence in international publications or broader international projects, which constrains its global reach.

Overall, the NBCDI is recognized for its strong educational mission, proactive dissemination of R&D&I findings, and consistent engagement with diverse audiences. Nonetheless, the IEP Committee suggests a need for greater internationalization and more frequent participation in global scientific discourse to elevate its visibility and ensure its contributions are recognized beyond the national context.

Average Rating – 3.7

Recommendations:

IEP Committee recommendations emphasize the importance of expanding the NBC Defence Institute's (NBCDI) international presence and strengthening its outreach activities. Greater collaboration with global institutions, more active participation in international conferences, symposia, fairs, and exhibitions, and even hosting international conferences would enhance the NBCDI's visibility and allow its research outputs to reach a broader audience. By doing so, the NBCDI could position itself more prominently in global discussions on R&D&I while also fostering valuable partnerships.

At the same time, the IEP Committee encourages the NBCDI to broaden its public outreach domestically and internationally. This includes increasing lectures and demonstrations at schools and community events, leveraging digital platforms such as webinars and social media for wider engagement, and involving more students in research popularization. Expanding participation in

science festivals and forums would also strengthen public awareness of the NBCDI's work. Overall, the recommendations recognize that while the NBCDI's popularization of science is already at a strong level, there remains considerable potential to amplify its impact and influence through deeper internationalization and more dynamic outreach strategies.

IMPLEMENTATION OF RECOMMENDATIONS

3.7 Implementation of the recommendations in Module 3

Evaluate how the evaluated unit has reflected the recommendations from the previous evaluation of the IEP, if applicable.

If the evaluated unit has not been evaluated before, the indicator will be marked as N/A – Not Applicable.

Rating [1–5]:

3 - Average

Qualitative assessment:

While the NBC Defence Institute (NBCDI) has made progress on several recommendations from the previous evaluation, implementation has been uneven and hindered by structural, financial, and administrative barriers. Collaboration with national partners has advanced, particularly with the Military Research Institute, the National Institute for NBC Protection, and Brno University of Technology, and applied research outputs continue to strengthen the Czech Armed Forces' capabilities. However, challenges remain in attracting and managing international projects, where limitations in staffing, administrative support, and institutional structures - both within the University of Defense and the Ministry of Defence - have restricted the NBCDI's ability to expand abroad.

Educational and public outreach recommendations have been better addressed. The NBCDI has produced textbooks and specialized publications, developed materials in the national language, and engaged in popularization activities such as lectures at secondary schools and participation in public events like the Night of Scientists. These efforts demonstrate a strong commitment to public awareness and educational support, even though limited personnel has constrained further improvements, such as maintaining a dynamic digital presence.

Despite these accomplishments, internationalization remains a significant weakness. Although the NBCDI has initiated partnerships with institutions in Germany, Romania, and Bulgaria, cross-border cooperation is still limited in scope and impact. The evaluations emphasize that the NBCDI's justification - that its mission is tied exclusively to supporting Czech Armed Forces capabilities - is not fully convincing, as R&D&I is inherently international. Similarly, reliance on internal collaborations within the University of Defense, such as with the Military Faculty of Medicine, does not adequately replace the broader external partnerships originally recommended.

Overall, the IEP Committee conclude that the NBCDI has only partially implemented previous recommendations. While it has achieved notable progress in collaboration at the national level, education, and public engagement, international visibility, project management capacity, and broader institutional cooperation remain underdeveloped. Continued structural and administrative limitations, along with insufficient staffing, hinder the NBCDI from fully realizing its potential in research excellence and global engagement.

Average Rating – 3.8

Recommendations:

IEP Committee recommendations emphasize the need to strengthen both the institutional capacity and international reach of the NBC Defence Institute (NBCDI). To that end, IEP Committee members emphasize the importance of enhancing global collaboration, particularly through applied research that addresses pressing international challenges while generating broad societal benefits. Expanding partnerships abroad would not only increase the NBCDI's visibility but also reinforce its role as a key contributor to the global research community.

At the same time, IEP Committee recommendations focus on structural and organizational improvements within the University of Defense. Increasing staff numbers, improving HR processes, and securing stronger financial support from the Ministry of Defence are seen as essential for sustaining the NBCDI's research and educational activities. IEP Committee members also suggest that integrating the NBCDI into one of the university's faculties could streamline management, project acquisition, and resource allocation. Practical improvements to cadet support, such as better accommodations, food reimbursements, and fitness access, are also highlighted as important for overall institutional development.

Overall, the IEP Committee's advice underlines the dual priority of continuing progress in R&D&I while pressing leadership at the University of Defense to fully support organizational reforms. By addressing both internal structural needs and external internationalization goals, the NBCDI can strengthen its reputation, improve operational effectiveness, and secure a more sustainable role within both the national and international research landscape.

EVALUATED UNIT RATING

Evaluation of unit	
Having evaluated the individual criteria of module M3, please summarise your evaluation in the context of the module, describing and justifying the strengths and weaknesses of the unit being evaluated.	
3.1 Introductory information about the unit under evaluation	NOT RATED
3.2 Recognition by the research community	4 - Very good
3.3 Research projects	4 - Very good
3.4 Research results with existing or prospective impact on society	4 - Very good
3.5 Transfer of results into practice	4 - Very good
3.6 The most important activities in the field of popularization of R&D&I and communication with the public	4 - Very good
3.7 Implementation of the recommendations in Module	3 - Average
Average rating [1–5]:	4 - Very good
Grade [A–D]:	B
Summary assessment: The IEP Committee acknowledges the NBC Defence Institute's (NBCDI) strong contributions to national defense, particularly in chemical protection, radiological safety, and CBRNE defense. Its applied research directly supports the Czech Armed Forces and has been recognized by the Ministry of Defence. The NBCDI has also fostered meaningful collaborations with domestic partners, such as the Military Research Institute and the National Institute for NBC Protection, while maintaining an active role in education through textbooks, study materials, and specialized training. Its engagement	

with the public through lectures, secondary school outreach, and events like the Night of Scientists demonstrates its commitment to knowledge sharing beyond the military context.

Despite these achievements, several limitations persist. The NBCDI lacks accreditation for an independent CBRN Defense degree program, faces ongoing shortages in staffing, and struggles with inadequate cadet support systems, including accommodations and fitness access. Administrative and financial barriers further hinder its ability to lead or expand international projects. Additionally, the small academic staff and security constraints make it difficult to share applied research results widely, limiting its international impact. Its isolation from broader defense research networks, such as NATO-COE, also constrains opportunities for global collaboration.

Nonetheless, there are clear opportunities for growth. Increasing cooperation with international military academies and universities, leveraging cross-disciplinary applications of its patents and technologies, and responding to the rising global demand for NBC protection expertise could significantly elevate the NBCDI's standing. Expanding its participation in international projects and conferences, alongside better integration with external partners, would help address the challenges of limited visibility and broaden its influence.

The IEP Committee also notes potential threats - limited staffing, resource constraints, and fluctuating defense priorities - that may impact the continuity of research, potentially restricting the NBCDI's ability to scale up its contributions. However, given its proven expertise, recognition through awards, and successful delivery of nationally significant projects, the NBC Defence Institute holds substantial potential to strengthen both national security and its international reputation if its organizational and financial barriers are effectively addressed.

Average Rating – 3.8

Summary recommendations:

IEP Committee recommendations emphasize the importance of expanding the NBC Defence Institute's (NBCDI) methodologies and research outputs into both military and civilian sectors, ensuring they are effectively applied to improve safety and preparedness against chemical and biological threats. This includes creating structured training programs for military and civilian personnel, particularly in areas like fentanyl detection and protective equipment use, while also fostering stronger collaborations with civilian agencies such as law enforcement and emergency responders. Public awareness campaigns and outreach activities are also encouraged to build societal resilience, alongside consistent dissemination of research findings through military regulations, publications, and specialized forums. Furthermore, enhancing research infrastructure through academic librarians, statisticians, and closer ties with the University of Defence faculties and PhD programs would strengthen the overall quality of applied research.

The IEP Committee suggests the need for deeper internationalization and stronger integration into broader networks. This includes expanding administrative support for managing international projects, pursuing partnerships with NATO and EU institutions, and improving visibility through conferences, peer-reviewed publications, and patent development. Collaboration with external partners for commercialization of innovations, as well as improved conditions for cadets and students, are also seen as key steps forward. Persistent weaknesses, particularly insufficient staffing, remain a barrier that limits both educational and research capacity, underscoring the urgency of resource and personnel investment. Taken together, these actions would not only enhance the NBCDI's contributions to national and civilian security but also significantly strengthen its international reputation and long-term sustainability.

SUMMARY RATING IN MODULE 3

MODULE 3 – SUMMARY RATING

After evaluating the individual units, please provide a summary evaluation of social relevance in Module 3 for the HEI as a whole. Please assess the balance of the evaluated units, how they contribute to the mission and vision of the HEI and describe the strengths and weaknesses of the HEI assessed in Module 3.

The summary rating is determined in accordance with the rules of the Methodology HEI2025+ as the average of the grades of the individual units, weighted by their size in terms of FTE staff.

EVALUATED UNIT	Grade [A–D]
FACULTY OF MILITARY LEADERSHIP	B
FACULTY OF MILITARY TECHNOLOGY	A
MILITARY FACULTY OF MEDICINE	A
NBC DEFENCE INSTITUTE	B
Summary grade	B

Summary quality assessment:

Based on the evaluations of the four constituent units, the University of Defence (UoD) demonstrates a strong and mission-focused performance across research, education, and applied innovation in support of national defense and security. Each faculty contributes uniquely to the broader objectives of the University while maintaining high alignment with the priorities of the Czech Ministry of Defence (MoD) and NATO frameworks. Collectively, the UoD excels in applied research, strategic international collaboration, and knowledge translation into practical outcomes, encompassing areas such as leadership and crisis management, military technology, military medicine, and CBRNE defense. Its staff are highly experienced and internationally recognized, and the institution actively engages in outreach, public engagement, and professional training to support both military and societal needs.

The UoD's strengths include strong alignment with operational end-users, well-established public engagement strategies, and participation in EU and NATO programs that enhance visibility and credibility. Applied research outputs from the faculties—such as military medical protocols, NBC protection technologies, and autonomous defense systems—demonstrate both national relevance and potential dual-use applications. The UoD has made substantial progress in international collaboration, securing funding through NATO, EU, and national programs, while fostering partnerships with academic and industry stakeholders. Additionally, internal incentive programs, editorial involvement, and recognition of staff achievements promote high-quality scientific outputs and knowledge dissemination.

However, challenges remain across all units. Legal and institutional restrictions limit commercialization of research outputs, and a dependence on government and MoD funding constrains strategic flexibility. Staffing limitations, particularly in specialized areas, restrict the scale of high-impact research projects, and the breadth of research in some faculties dilutes the ability to achieve top-level outputs such as Category A patents or industrial models. Doctoral students often face time constraints, and integration of gender equality and sustainability into strategic planning and research evaluation is still limited. The NBC Defence Institute, in particular, faces staffing shortages, potentially limited cadet support, and barriers to international engagement, constraining its global impact despite its applied expertise.

Opportunities for the UoD include expanding international partnerships, leveraging dual-use applications of research, and increasing participation in global conferences and EU programs to enhance visibility and benchmarking. Strengthening public engagement through digital communication, open events, and outreach activities can further raise awareness of its contributions. Investment in infrastructure modernization, technology transfer, and strategic project funding could amplify both practical and scientific outputs, while a more systematic focus on commercialization, interdisciplinary collaboration, and support for early-career researchers can enhance sustainability and long-term impact.

Overall, the University of Defence is a high-performing, mission-driven institution with significant national and international recognition in defense-related research and education. Its faculties collectively achieve excellent applied research outcomes, strategic alignment with defense priorities, and active knowledge translation. Addressing challenges in commercialization, staffing, strategic flexibility, and international visibility, while capitalizing on opportunities for cross-faculty collaboration and global engagement, will be essential for strengthening its long-term strategic position, societal relevance, and international reputation.

Average Rating – 4.2

(Note: this calculated average is not adjusted for the relative size of each UoD unit)

Summary recommendation:

Based on the IEP Committee's recommendations across units, the University of Defence (UoD) should consider a coordinated strategy emphasizing internationalization, research impact, infrastructure modernization, and knowledge translation. Across all four units, the IEP Committee the need to enhance global visibility through participation in international conferences, joint research projects, exchange programs, and active promotion of faculty achievements via high-impact publications, awards, and networking. Expanding partnerships with NATO, EU institutions, and foreign universities is consistently highlighted as a way to strengthen collaborative research, improve benchmarking against peer institutions, and elevate UoD's overall international reputation. Structured academic mobility for staff and students, alongside engagement in PhD-led projects, is recommended to maximize research potential and facilitate knowledge sharing.

Strengthening internal capacity and working conditions is another key theme. IEP Committee recommendations stress ensuring an equitable distribution of teaching and research responsibilities across faculties, enhancement of working conditions, and support for early-career researchers and doctoral students to ensure academic growth and high-quality outputs. Investment in modern laboratories, simulation centers, hands-on training modules, and access to comprehensive scientific resources through academic librarians and professional statisticians is advised to improve both research and educational outcomes. Faculties are encouraged to focus on translational and dual-use research that benefits both military operations and civilian society, supported by structured monitoring systems and alignment with long-term defense and health priorities.

IEP Committee recommendations also emphasize strategic dissemination and knowledge transfer. Faculties should formalize technology transfer strategies, explore socially responsible commercialization avenues, and foster collaborations with industry to leverage applied research outputs. Public engagement through science festivals, open days, media campaigns, and digital outreach is recommended to increase societal impact and attract students and collaborators. Across the UoD, regular monitoring of progress toward strategic goals, adaptation to emerging technological trends (such as autonomous systems and innovative medical solutions), and integration of gender, sustainability, and societal relevance into research planning are advised to strengthen institutional cohesion, visibility, and long-term sustainability. Collectively, these actions



would consolidate UoD's position as a leading defense-focused academic and research institution with robust international and societal impact.

EVALUATION REPORT FOR MODULES 4 & 5

HIGHER EDUCATION INSTITUTION NAME: UNIVERSITY OF DEFENCE

COMPANY REGISTRATION NUMBER (CRN): 60162694

MODULE 4 – VIABILITY

ORGANISATION AND MANAGEMENT OF R&D&I

4.1 Organisation and management of R&D&I

Evaluate the organizational structure and setup of the R&D&I management system in relation to the size and type of the university and its mission and vision. Also consider comparisons with foreign universities of similar size and focus.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:¹

The University of Defence (UoD) in Brno, operating under the Czech Ministry of Defence (MoD), is one of the country's two military universities and plays a central role in the education and research of defense and security. Its structure includes three faculties – Military Leadership, Military Technology, and Military Medicine – alongside institutes and research centers that specialize in areas such as robotics, CBRN protection, and military medicine. Governance is centralized under the Rector-Commandant, with strategic oversight provided by the Scientific Council, ensuring alignment between national defense priorities and academic integrity. UoD combines military-specific education with broader research and development activities, offering both accredited military and civilian programs.

The institution has a strong focus on research, development, and innovation (R&D&I), with systems in place to support both applied and academic outputs. Its organizational structure is hierarchical yet balanced, granting autonomy to faculties while maintaining central guidance to ensure coherence in research standards, project development, and use of information systems. This structure mirrors international best practices and is broadly consistent with similar defense universities in Europe. In comparison with its regional peers, UoD stands above Slovakia's Armed Forces Academy and Hungary's Ludovika University in specialized fields such as military medicine and CBRN defense, though it remains smaller and less commercially integrated than Germany's Bundeswehr University in Munich.

Despite its mid-size scale, UoD achieves effective integration of education and applied research, particularly in areas that directly serve the needs of the Czech Army and Ministry of Defence. It maintains high-quality military-oriented research and contributes significantly to accreditation and academic advancement processes, such as habilitations and professor appointments. While it has certain structural and financial limitations compared to civilian universities, it is nonetheless recognized as one of Europe's most important centers for military expertise and training.

UoD's organizational model fosters scientific growth and employee engagement through incentive programs and a division of faculties into specialized research teams. UoD's centralized yet flexible structure ensures consistent standards, enhances collaboration across units, and promotes both

¹ Provide verbal assessment of the indicator and briefly comment on the reasons for awarding the specific rating. Follow a similar procedure for the other indicators.

national relevance and international integration. The institution is well-positioned within the European defense academic landscape: though smaller than some of its counterparts, it excels in applied research areas directly tied to modern defense needs, offering a distinctive contribution to both Czech national security and broader European defense cooperation.

Average Rating – 4.8

Recommendations:

IEP Committee recommendations for the University of Defence (UoD) emphasize strengthening transparency, collaboration, and internationalization in its research, development, and innovation (R&D&I) activities. Key proposals include enhancing openness in R&D&I management, fostering greater cooperation among internal faculties and research centers, and expanding partnerships with foreign military and civilian institutions. Such steps would promote joint research projects, knowledge exchange, and researcher mobility, while also increasing access to external funding from government and private sources. The establishment of a dedicated Technology Transfer Office and a comprehensive research information system is also advised to maximize institutional efficiency, visibility, and impact.

At a strategic level, the IEP Committee encourages UoD to strengthen its international role by taking on leadership positions in major European and NATO research initiatives, rather than remaining primarily a partner. Long-term recommendations include aligning organizational structures more effectively, such as by increasing the proportion of assistant professors to form a more sustainable academic “pyramid” and by considering the relocation of the NBC Defence Institute to the Military Faculty of Medicine. The latter would enhance collaboration, resource-sharing, and interdisciplinary research in critical areas such as protection against nuclear and biological threats. Together, these measures would reinforce UoD’s competitive position, broaden its research influence, and better align its infrastructure with strategic defense needs.

R&D&I QUALITY MANAGEMENT AND SUPPORT SYSTEM

4.2 System of support for a quality R&D&I environment and incentive measures for quality science

Evaluate the systems/measures/tools described to stimulate high-quality science at the HEI being evaluated. In your evaluation, consider the documented effectiveness of the measures described, their impact on achieving the mission and vision of the HEI being evaluated, the realization of excellent science and the possible absence of key systems/measures/tools.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) is recognized as playing a crucial role in advancing research, development, and innovation (R&D&I) in support of national defense and security. Its projects cover diverse areas such as defense policy development, weapons systems, cybersecurity, and resource protection, with several initiatives supported through the AMBICE Programme (2020–2024). The institution has established mechanisms to promote quality, such as the Rector’s Prize and the Student Creative Activity program, which reward excellence and encourage staff and student involvement in research. Intellectual property contributions are also acknowledged in line with Ministry of Defence regulations, reflecting UoD’s alignment with national priorities.

UoD has made significant progress in creating an incentive structure to support mission-oriented research and build a culture of scientific excellence. Cash prizes, scholarships, and grants are all positively viewed, alongside a favorable internal financial policy that minimizes administrative fees so researchers can allocate more resources directly to projects. This has encouraged faculty and

students to pursue innovative work and strengthened institutional capacity in priority areas. Regular communication about project opportunities and strategic guidance on research directions ensures that activities are aligned with both institutional and defense sector needs.

At the same time, the IEP Committee identified several gaps that limit UoD's broader impact and international competitiveness. UoD currently lacks systemic support for international publishing, interdisciplinary collaboration, and competitive participation in EU-level research projects. IEP Committee members pointed to missing elements such as external research support structures, seed funding, and organized training for early career researchers. These omissions hinder UoD's ability to fully integrate into the international academic and research landscape. Enhancing these areas would enable UoD to consolidate its strategic research planning and increase its presence in high-profile, globally recognized projects.

Overall, UoD has successfully built a strong foundation for mission-oriented research and created a supportive internal culture that values scientific achievement. Its recognition programs, favorable financial practices, and growing administrative support stand out as notable strengths. However, to maximize its long-term potential, UoD must expand beyond its national focus by addressing systemic gaps in internationalization, interdisciplinary engagement, and early-career support. By doing so, it would not only enhance its competitiveness but also position itself as a more active and influential participant in international defense and security research networks.

Average Rating – 4.5

Recommendations:

IEP Committee recommendations emphasize the importance of strengthening the University of Defence's (UoD) research environment through improved resources, support structures, and incentives. Expanding access to high-quality scientific resources with the help of academic librarians and statisticians would directly enhance the quality of research outputs. At the same time, greater emphasis on collaboration within and across faculties would foster innovation and interdisciplinary approaches. Developing a comprehensive research excellence strategy is central to this effort, ensuring global visibility, alignment with international standards, and stronger integration into the wider scientific community.

In parallel, UoD should build robust support systems to enable greater success in securing competitive international funding. This includes creating specialized administrative units to guide applications for programs such as Horizon Europe, the EDF, and NATO, as well as establishing internal seed funding to stimulate collaboration and pilot projects. Targeted support for early-career researchers – through training, mentorship, mobility, and incentives – would help build the next generation of scientific leaders. Additionally, reforms to allow fair financial recognition of research contributions, comparable to practices at other public universities, would address legal and motivational gaps. Together, these measures would not only strengthen UoD's R&D&I ecosystem but also expand its international standing and long-term research impact.

4.3 Quality control system for R&D&I environment

Evaluate the described internal and external evaluation system in terms of its quality, effectiveness and suitability for the HEI.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The University of Defence (UoD) has established a comprehensive framework for ensuring the quality and integrity of research, development, and innovation (R&D&I). Foundational documents

such as the Statute, Quality Assurance System Rules, and Code of Ethics provide a clear structure, while the Internal Evaluation Board oversees procedures, issues recommendations, and ensures accountability through annual reports. Ethical principles are strictly enforced for all staff and students, supported by an independent Ethics Committee and tools like the Repozitar.cz plagiarism detection system. These mechanisms collectively safeguard intellectual property and uphold research integrity.

The internal evaluation system is mission-oriented, closely aligned with Ministry of Defence regulations, and embedded within UoD's 2021–2030 strategic goals. Regular self-evaluations at faculty and institute levels, along with supervision from Rectorate and MoD bodies, ensure that outcomes directly inform planning and resource allocation. Strong emphasis is placed on producing high-quality outputs, particularly publications in top-tier journals (Q1, Q2) and contributions to SCOPUS and WoS databases, as well as patents and industrial designs. Academic promotion requirements are rigorous, reflecting the institution's commitment to excellence in research and teaching.

While the system demonstrates strength in national alignment and structured processes, areas for improvement remain. Limited attention is given to international benchmarking and global performance indicators, which constrains UoD's visibility and competitiveness in the global research community. Furthermore, some aspects of the quality assurance system are not fully transparent to external stakeholders, which may restrict opportunities for broader collaboration and external recognition.

Despite these challenges, the quality assurance framework is robust, adaptive, and forward-looking. UoD's approach includes annual monitoring, continuous feedback, and follow-up evaluations in cases of underperformance, ensuring accountability and steady improvement. Evidence of growth in high-quality outputs and increasing international cooperation reflects the system's effectiveness. Overall, the University of Defence has developed a strong and responsive quality assurance system that maintains high ethical standards, supports strategic research objectives, and lays a solid foundation for enhancing its international standing.

Average Rating – 4.4

Recommendations:

IEP Committee recommendations emphasize strengthening the University of Defence's (UoD) quality assurance framework by enhancing transparency, accountability, and international competitiveness. A key suggestion is to allow students to use plagiarism detection software before submission, which would not only improve academic integrity but also support student learning. To ensure long-term success, UoD should establish a progress monitoring system for its 2030 strategic goals, regularly communicating updates to staff and students. This would keep the community engaged while enabling strategies to be adapted to emerging technological fields such as autonomous systems and other innovations.

On the research side, the IEP Committee recommends that UoD expand its internal and external evaluation criteria to better reflect both international standards and its unique military-academic character. This includes integrating global research performance indicators – such as journal quality, collaboration intensity, and citation metrics – while also incorporating European priorities like gender equality, sustainability, and open science. Follow-up evaluations should go beyond compliance checks, offering constructive support such as mentorship, training, and access to best practices, particularly for underperforming units in international research projects. At the same time, UoD is advised to maintain its current high-quality control system for R&D&I, which is functioning effectively and should be continued as a foundation for further improvements.

4.4 Sustainability and resilience of R&D&I

Evaluate the described system of measures for sustainability and resilience of R&D&I in terms of their quality, effectiveness or possible absence of key measures.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) has developed a strong and comprehensive sustainable development strategy that integrates environmental, economic, and social dimensions into its academic and research framework. This includes goals such as reducing its ecological footprint, promoting green technologies, and embedding sustainability principles into teaching and research. Initiatives like upgrading campus infrastructure for energy efficiency and conducting military-related projects on biodegradable materials highlight the practical application of these principles. UoD also emphasizes ethical standards, intellectual property protection, and transparency, supported by tools like *Repozitar.cz* and *Theses.cz*. Doctoral training further integrates intellectual property and technology transfer, equipping students with valuable knowledge for future careers.

UoD's research and development structure is mission-oriented, with long-term projects closely aligned with the priorities of the Ministry of Defence, particularly in CBRN protection, medical readiness, and military technology. These efforts ensure research outputs are translated effectively into military regulations and practice. However, challenges remain: UoD relies heavily on national public funding and does not fully utilize international or private sources, limiting its research diversity. In addition, the absence of a formal HR strategy and a university-wide sustainability framework for research evaluation creates risks for long-term workforce development and weakens its alignment with global sustainability standards. Issues related to gender, diversity, and risk planning in research projects also remain underdeveloped.

Despite these challenges, UoD's strategic approach to sustainability has created strong conditions for high-quality R&D&I, particularly in defense applications. The institution has adopted advanced ICT tools, including Moodle and MS Teams, for both education and research management, while integrating smart technologies across logistics, management, and teaching. Its cyber security strategy and protection of intellectual property are well-developed and compliant with national, EU, and NATO regulations. Furthermore, UoD has made environmental responsibility a visible priority through energy-saving measures and climate change considerations, embedding sustainability into its long-term operational planning.

Another significant achievement is UoD's advancement in digitalization and information systems. UoD is the first university in the Czech Republic to implement a major integrated information system for tracking scientific outputs and expert activities, setting an example of best practice. This system supports internal monitoring, open science, and data protection, while also balancing transparency with the unique security requirements of a defense institution. The ability to adapt international standards of open science to a national security context demonstrates UoD's innovative and context-specific approach.

Overall, UoD's sustainability and resilience strategies are well-structured, comprehensive, and forward-looking. While there are gaps in international engagement, HR planning, and inclusivity, UoD has established a strong foundation that links sustainability with academic excellence and defense needs. Its integration of smart technologies, ethical governance, and balanced approach to open science reflects both innovation and responsibility, positioning it as a leader in sustainable defense-oriented higher education.

Average Rating – 4.5

Recommendations:

IEP Committee recommendations emphasize the importance of strengthening both the internal and external foundations of UoD's R&D&I environment. Internally, gathering feedback from students and faculty would help tailor educational approaches more effectively to their needs, while expanding intellectual property training to all staff and undergraduates would foster a stronger culture of innovation and ethical research. In addition, developing a long-term sustainability strategy for R&D&I – covering environmental, economic, and social dimensions – would align UoD with EU standards while reinforcing its resilience and competitiveness.

Externally, the IEP Committee encourages UoD to diversify its funding streams by pursuing grants from international organizations, EU and NATO programs, and public-private partnerships, as well as by fostering stronger collaborations with industry. This approach would not only strengthen financial stability but also expand the scope of innovation, particularly in sustainability and dual-use technologies. To support these efforts, adopting an HR strategy to attract and retain top research talent – especially early-career staff – alongside gender equality measures in research design and evaluation, would modernize institutional practices in line with European expectations. Finally, given its achievements in areas such as Open Science and secure knowledge sharing, UoD is urged to share its best practices nationally and internationally, positioning itself as a leader among defense-oriented academic institutions.

PERSONEL POLICY

4.5 Structure of human resources

Evaluate the described structure of human resources at the evaluated HEI in terms of age composition, degree of internationalization, distribution by job classification, and gender balance. For the assessment, use the data from the annexed tables 4.5.1 and 4.5.2; it is also possible to draw on the more detailed staffing data presented in indicator 3.1 of the self-evaluation reports for the evaluated units.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The University of Defence (UoD) demonstrates a generally stable and mission-oriented human resources structure for its R&D&I activities, though some imbalances and challenges remain. Data presented in institutional reviews highlight clear patterns across age distribution, gender balance, job classification, and internationalization, with many of the variations reflecting the unique missions of different faculties. While staffing levels are adequate to meet UoD's specialized defense-related mandate, the structural characteristics of the workforce raise important concerns for long-term sustainability and renewal.

Age distribution is a recurring issue, as a large proportion of senior academic staff – professors and associate professors – are over the age of 50. This raises potential risks for generational renewal and knowledge transfer. While the number of early-career researchers has seen a modest increase in recent years, they remain a relatively small segment of the workforce. UoD is therefore challenged to create stronger pathways for younger academics to advance into leadership roles, ensuring continuity of expertise in the future.

Gender balance remains uneven, though incremental progress has been made. Female representation has increased slightly across most academic roles, with assistant professors rising from 21% to 25% female between 2020 and 2024. However, women remain underrepresented in senior positions, with only 12% of professors and associate professors being female in 2024. Despite

these disparities, UoD's efforts to promote women in science, particularly in male-dominated faculties such as engineering, represent a positive institutional commitment.

Internationalization is another area of weakness. UoD employs very few foreign staff, which limits both the diversity of perspectives in research and the institution's visibility and collaboration potential on the global stage. While this may partly reflect its mission as a state defense university, a broader international outlook would likely strengthen its scientific contributions and competitiveness.

On a positive note, UoD has effective internal systems for staff development and evaluation. The annual staff evaluation process is well received and helps align individual, departmental, and faculty objectives, promoting both accountability and professional growth. This process contributes to the overall balance of the human resources structure, reinforcing UoD's capacity to fulfill its defense-oriented mission while also highlighting areas where targeted reforms – particularly in age renewal, gender equality, and internationalization - will be crucial for long-term resilience.

Average Rating – 4.3

Recommendations:

IEP Committee recommendations emphasize the need for ongoing monitoring and strategic management of the University of Defence's (UoD) human resources to ensure the long-term sustainability and effectiveness of its R&D&I activities. Key priorities include addressing generational gaps by attracting and retaining early-career researchers, providing structured mentoring and training, and supporting career development to ensure continuity and knowledge transfer across academic roles.

Gender balance is another priority, particularly in senior academic and leadership positions, with efforts aimed at increasing female representation and promoting equity across all levels. Additionally, increasing internationalization is highlighted as a critical area, with recommendations to expand recruitment channels, offer fellowships and mobility programs, and reduce barriers for hiring international staff.

Given the constraints associated with UoD's status as a state military university, implementing these recommendations will require careful adaptation of personnel policies. Particular attention should be paid to rejuvenating the workforce in positions such as Assistants and Assistant Professors in R&D&I roles, ensuring a balanced, diverse, and sustainable academic staff structure capable of supporting UoD's long-term research and educational goals.

4.6 Academic and Research Careers

Evaluate the described system for the recruitment and career development of academic and research staff. Evaluate the system in terms of its quality and effectiveness, as well as the potential absence of key elements.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) in the Czech Republic has established a comprehensive system for the career development of its academic and research staff, integrating both national and military regulations, as well as internal policies such as Measure of the Rector No. 7/2019, OTM-R, and HRS4R. The institution has been recognized with the HR Excellence in Research Award in January 2024, reflecting its commitment to fostering a supportive and equitable work environment. Career growth is facilitated through annual personal development plans, mentorship programs, and structured professional pathways that encompass teaching, research, and managerial roles.

Onboarding procedures are tailored to diverse employees and aligned with the Gender Equality Plan 2022–2030, while reintegration policies support staff returning from career breaks, parental leave, or foreign assignments.

UoD maintains a transparent recruitment and promotion system, with clearly defined academic ranks and evaluation criteria. Staff performance is regularly assessed through the Academic Staff Evaluation Information System, with standards set for each academic level. While the system provides solid support for early-career researchers through mentorship and designated contact persons, limitations remain, particularly regarding internationalization. Recruitment and long-term career growth opportunities for foreign staff are limited due to UoD's status as a state military university, and promotion practices tend to emphasize teaching and seniority over research excellence.

UoD also offers institutional support for continuous professional development, including internships and training, ensuring that staff can enhance their skills and adapt to evolving educational and research demands. Academic staff have opportunities to transition between teaching-focused and research-focused roles according to their interests and departmental missions, which helps maintain motivation and flexibility. Overall, UoD demonstrates a structured and mission-oriented approach to career development, balancing national regulations, military priorities, and the needs of its staff, while continuing to improve research quality, international competitiveness, and professional support for early-career researchers.

Average Rating – 4.5

Recommendations:

The IEP Committee encourages the University of Defence (UoD) to ensure a more balanced allocation of teaching and research responsibilities across all departmental units, enabling all staff to engage meaningfully in research while fulfilling their teaching obligations. This approach would enhance professional development opportunities and allow academic staff to maximize their contributions to both education and research. Maintaining transparency and adherence to established mechanisms for career development and staffing is also essential to ensure fairness and consistency in recruitment and promotion processes.

To modernize its academic workforce, UoD should adopt a more strategic and internationally open human resources approach. This includes attracting and retaining talented researchers, promoting global collaboration, and fostering professional growth through structured mentoring, training, and mobility programs. Encouraging early-career researchers and providing them with clear pathways for advancement will strengthen the long-term sustainability and competitiveness of the academic staff.

Additionally, UoD should formalize flexible career path policies that allow staff to transition between teaching-focused and research-focused roles over time. Such policies should include explicit criteria, timelines, and support measures, such as temporary teaching load reductions, mentoring, or access to seed funding. By providing these options, UoD can retain talented staff, enhance individual motivation, and better utilize academic potential across departments, particularly in units where heavy teaching workloads currently limit research engagement.

4.7 Gender equality measures

Evaluate the gender equality measures described in self-evaluation. Evaluate the measures in terms of their quality and effectiveness, as well as the potential absence of key measures.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The University of Defence (UoD) shows a clear commitment to promoting gender equality across its organizational activities. The institution has implemented a Gender Equality Plan for 2022–2030, aligning with both Ministry of Defence directives and the European Strategy for Gender Equality. Efforts include promoting equitable recruitment, career development, leadership appointments, and compensation practices. UoD emphasizes increasing female participation in leadership roles and ensuring transparent hiring processes. Family-friendly policies, such as flexible working hours, part-time employment, and childcare facilities, further support an inclusive and supportive environment. Additionally, UoD has established preventive measures and standardized procedures to address sexual harassment, reinforcing a safe workplace culture.

Despite these initiatives, gender equality remains a developing area within UoD. Women are still underrepresented in senior academic and leadership positions, reflecting broader trends in military institutions. While junior-level participation is gradually increasing, there is a lack of systematic institutional mechanisms, such as consistent data tracking, formal integration of gender considerations into HR and research policies, and long-term strategic planning for gender equality. This indicates the need for more structured and methodical approaches to achieve substantial progress.

UoD has successfully applied the principle of equal opportunities in key areas, including career growth, recruitment, managerial appointments, professional nominations, and evaluation systems. Parenthood and family responsibilities are taken into account, supporting staff in balancing professional and personal obligations. Given the military nature of the institution, male dominance in employment is understandable and consistent with trends at comparable defense universities. Nevertheless, UoD is actively encouraging female engagement in traditionally male-dominated fields, particularly in engineering, technical areas, and scientific research. Overall, while current measures are appropriate and contextually relevant, continued monitoring, mentorship programs, and targeted leadership opportunities for women would enhance the institution's gender equality efforts and promote long-term inclusivity.

Average Rating – 4.4

Recommendations:

The University of Defence (UoD) is encouraged to continue refining and actively promoting its Gender Equality Plan, ensuring that the principles of gender balance are integrated across all institutional processes. This includes fostering gender-sensitive recruitment practices, evaluation procedures, and professional development opportunities, particularly in leadership roles, to support equitable representation and advancement of women within UoD.

Additionally, integrating gender considerations into research and teaching is recommended to embed inclusivity throughout the academic and scientific environment. Maintaining strict adherence to existing equal opportunity mechanisms will help sustain progress, and the ongoing increase of women in managerial positions – such as rector, vice-rector, and vice-dean – demonstrates the effectiveness of these measures while highlighting the need for continued attention to leadership diversity.

4.8 Mobility of academic and research staff (including sectoral and inter-sectoral mobility)

Evaluate the described mobility of academic and researcher staff. Pay attention to whether the evaluated HEI achieves the set objectives, whether the mobility objectives are appropriately set for the HEI and whether the strategies in place lead to their achievement or help remove existing barriers to mobility.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The University of Defence (UoD) has established a comprehensive mobility strategy aimed at enhancing the professional development of its academic staff and doctoral students, particularly in alignment with the strategic priorities of the defence sector. This strategy is supported by the ERASMUS+ program, which facilitates international cooperation, scientific collaboration, and networking opportunities. The mobility initiatives are well integrated into long-term academic and research goals, ensuring that participants gain valuable experience relevant to both education and defense research. A notable example is the 2023 “Mobility at the University of Defence in Brno” project, funded primarily by EU sources, which enabled eight researchers, including doctoral candidates, to undertake international work placements and disseminate their findings through seminars.

Despite these structured efforts, international mobility at UoD remains limited, largely due to regulatory restrictions imposed by the Ministry of Defence and financial constraints, especially for military doctoral students. While the strategy is clearly defined and strategically aligned, only a small percentage of academic staff and doctoral students actually participate in mobility programs. Mobility for doctoral students is often a requirement for completing their education, while academic staff rely on research project funding to support international placements. As such, participation is inconsistent and primarily driven by individual initiative rather than systematic institutional planning.

The ERASMUS+ program and other external funding mechanisms are effective in enabling mobility without placing undue strain on institutional budgets, and participants generally report positive outcomes from these experiences. However, early-career researchers have highlighted the lack of sufficient mobility funding as a significant barrier, limiting their ability to engage fully with international research networks. While the strategy is strong in intent and design, expanding participation and ensuring more systematic support across all staff categories would further enhance professional development, research collaboration, and UoD’s international presence.

Average Rating – 4

Recommendations:

The IEP Committee encourages the University of Defence (UoD) to enhance mobility by first gathering feedback from faculty and students to identify barriers and develop strategies to remove them. Expanding mentorship and internship programs for students would also support mobility by providing structured guidance and practical experience. Special attention should be given to engineering students, potentially by creating dedicated time within their academic schedule to participate in mobility opportunities.

A formalized mobility strategy is recommended, with stronger integration of programs like ERASMUS+ and NATO/EU initiatives. Reducing administrative and military-specific obstacles would make participation more feasible, particularly for early-career researchers who are not yet involved in externally funded projects. Establishing systematic tracking and monitoring of mobility data would help measure progress, identify gaps, and ensure that mobility initiatives are accessible and effective for all eligible staff and students.

Overall, these measures would strengthen international engagement, enhance professional development, and better align mobility opportunities with UoD's mission and strategic goals. By combining targeted support, structured programs, and clear policies, UoD can increase participation in mobility programs and maximize their impact on research, education, and career development.

RESEARCH INFRASTRUCTURE

4.9 Research infrastructure

Evaluate the system described for the acquisition/optimisation of core facilities and other equipment and their renewal. Evaluate the system in terms of its effectiveness and suitability for the HEI. Also consider the system for sharing instruments and equipment, including core facilities and equipment of evaluated units. Use the data in Annex Table 4.9.1 to support your evaluation.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) has established a well-structured system for procuring and managing research instruments and equipment. Requests are submitted through the centralized Research, Development, and Innovation Information Portal, which coordinates with the Bursar's Department and the Procurement Office. The recent establishment of the Research, Expertise, and Technology Centre (RETC) further centralizes access to advanced laboratory resources, benefiting both internal and external users. Financial analyses indicate stable and predictable expenditure over the past three years, reflecting disciplined budget management. Large-scale research infrastructure projects, however, remain under the direct oversight of the Ministry of Defence (MoD), limiting UoD's independent investment in such facilities.

While UoD's individual units are equipped to meet their specialized needs, there is limited sharing of tools and facilities across faculties and institutes. This decentralized approach may lead to inefficiencies and underutilization, highlighting the potential benefits of a more coordinated institutional infrastructure plan. Nonetheless, the available infrastructure is of very high quality and supports the successful implementation of both research and teaching activities, indicating that the current system adequately meets immediate operational requirements.

Infrastructure development at UoD is guided by strategic plans and MoD priorities, ensuring that procurement and modernization efforts align with national defense objectives. Funding from the MoD has been sufficient to maintain and upgrade research workplaces, including communication and information infrastructure. UoD's status as a state military school imposes certain restrictions, such as limitations on using R&D&I funds for external consortia or large-scale independent infrastructure projects, but this does not prevent steady modernization and improvement of existing facilities.

The acquisition and renewal process is transparent and systematically organized. The centralized Information Portal streamlines planning, submission, and approval procedures, ensuring accountability and compliance with both MoD regulations and Czech public procurement laws. During recent site visits, ongoing infrastructure projects at the Military Faculty of Medicine and planned upgrades at the Faculty of Military Technology were highlighted as particularly valuable for enhancing UoD's long-term research capacity and strategic competitiveness.

Overall, UoD demonstrates a balanced approach: maintaining high-quality research infrastructure within the constraints of its military mandate, while ensuring transparency, efficiency, and strategic alignment with national defense priorities. The combination of well-managed current resources,

targeted upgrades, and centralized support through the RETC positions UoD to continue advancing its R&D&I activities effectively.

Average Rating – 4.7

Recommendations:

The IEP Committee recommends that the University of Defence (UoD) develop a comprehensive, university-wide infrastructure strategy to enhance the efficiency and effectiveness of its research and development activities. Such a strategy should prioritize the shared use of equipment across faculties and institutes, promoting collaboration and avoiding underutilization of resources. Allocating dedicated institutional funds for core facility upgrades would ensure that critical instruments and laboratories remain state-of-the-art and capable of supporting high-quality research aligned with UoD's mission.

Regular assessment of equipment needs and performance is also advised, enabling proactive planning for upgrades or replacements and ensuring that research teams have access to the tools required for their projects. Given the technological complexity of defense-related R&D&I, including military operations and modernizing weapon systems, increased funding for infrastructure is essential. This investment would support UoD in maintaining cutting-edge capabilities, sustaining long-term research competitiveness, and meeting the specialized demands of national defense priorities.

FINANCES

4.10 Budget and structure of financial resources

Evaluate the budget and financial resource structure of the evaluated HEI in terms of its suitability for the HEI, i.e. whether the financial resource structure is appropriate for the size and type of the evaluated HEI. You should also pay attention to the ability of the evaluated HEI to attract prestigious research projects. Use the data in the annexed tables 4.10.1 to 4.10.5 to support your evaluation.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The University of Defence (UoD) maintains a stable and well-structured budget that adequately supports its educational and research activities, particularly in the areas of defense and security. Recent funding initiatives include a 37.7 million CZK subsidy from the Operational Programme Employment (OP JAK), designated for upgrading teaching and scientific equipment for doctoral studies under the “PhD Infrastructure at the UoD” project, scheduled between 2024 and 2026. In addition, UoD participates in major international collaborative projects, such as “COUNTERACT” and the European Defence Medical Countermeasures Alliance (Resilience), which aim to advance medical countermeasures against CBRN threats and involve multiple partner institutions across Europe. Although some projects like “FranAm” and “STEADFAST” were active, no foreign funding was received for these in 2024.

UoD's overall financial resources, totaling approximately 30.8 million Euro, are primarily derived from the Ministry of Defence, with additional support from the Ministries of Education and Internal Affairs, as well as external grants. This funding structure is typical for state defense higher education institutions and provides a steady foundation for both teaching and research activities. The share of resources allocated specifically to research, development, and innovation (R&D&I) is adequate, ensuring continuity and stability, even if UoD's specialized focus limits participation in larger-scale, highly prestigious projects that demand extensive personnel and infrastructure.

Despite the stability of its budget, UoD faces limitations due to the lack of diversity in funding sources. Reliance on national public funding restricts financial flexibility and may limit UoD's resilience in a rapidly evolving research environment. Diversifying funding streams and investing strategically in grant support infrastructure could strengthen UoD's capacity to attract competitive and prestigious projects, thereby enhancing both research quality and long-term financial sustainability.

On a positive note, UoD demonstrates an ability to secure external funding, such as European Defence Fund grants, reflecting effective financial planning and strategic positioning. This balanced mix of national and external resources enables continued investment in high-quality research and innovation projects. Overall, while the funding model is robust and sufficient for UoD's current mission, targeted measures to increase funding diversity and international grant participation would further enhance its research competitiveness and long-term sustainability in the defense and security sector.

Average Rating – 4.3

Recommendations:

The IEP Committee recommends that the University of Defence (UoD) implement a transparent and regularly communicated system for allocating research funding, ensuring that all staff are aware of priorities and procedures. Clear communication of funding decisions would promote fairness, accountability, and better planning for both teaching and research activities across UoD.

In addition, diversifying research funding sources is encouraged to reduce reliance on a single provider and increase resilience. This could involve developing internal seed funding schemes to support early-stage projects, as well as engaging with private industry and applied research sectors to foster innovation and create additional financial opportunities. Expanding funding channels would strengthen UoD's capacity for high-quality research and international collaboration.

Given UoD's specific role as a military university, it is also necessary to increase dedicated support from the Ministry of Defence (MoD CZR) budget for strategic research projects. Enhanced MoD funding would ensure continuity in priority areas, particularly those aligned with national defense needs, while complementing efforts to diversify external research income. Together, these measures would improve financial stability, research quality, and institutional strategic capacity.

4.11 Rules for the use of institutional support for the LCDRO

Evaluate the strategy described and the rules for the use of institutional support for the LCDRO. In your evaluation, consider the effectiveness of the implemented strategy and policies and whether they contribute to the mission and vision of the HEI.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) demonstrates a structured and strategic approach to the allocation and use of institutional support (IP) funds, which are primarily directed toward strengthening education, research, and infrastructure in line with national defense priorities and NATO/EU standards. Funding is organized according to Long-term Development Plans (OLDP) and covers core areas such as educational activities – including specialized programs and teaching tools – research and development projects, infrastructure maintenance, and operations. Institutional support also facilitates participation in national and international projects, contributing to professional development opportunities for staff and doctoral students. Between 2020 and 2024, UoD reported

66 high-quality research outputs, reflecting the tangible impact of these resources on scientific and creative work.

The use of institutional support is generally effective in maintaining core research areas, supporting personnel, and modernizing infrastructure. This approach ensures operational stability and the continuous development of priority military study programs, providing the fundamental conditions necessary for university accreditation and the strategic functioning of the R&D&I environment. Funds are also allocated to international cooperation, enabling participation in NATO (STO) and EU (EDA) projects, with outputs including publications in Q1 and Q2 journals indexed in WoS and Scopus. These allocations highlight UoD's focus on aligning institutional support with its defense mission and educational responsibilities.

However, while the existing funding framework effectively sustains core activities, it is largely maintenance-focused and provides limited support for innovation, interdisciplinary growth, and early-career researchers. The allocation process is perceived as less transparent, and competitive or performance-based distribution is minimal. Opportunities to foster internationalization, participation in global networks, and high-quality research excellence are therefore somewhat constrained. Strengthening support for project-related activities – such as international conferences, internships, networking events, and collaborative research initiatives – could further enhance UoD's global visibility and long-term competitiveness.

Overall, UoD has developed a coherent strategy for institutional support, grounded in the principles of knowledge and technology transfer and aligned with its broader mission. Funds are systematically used to sustain education, R&D, operations, and infrastructure, contributing to strong research performance across multiple units. Enhancing mechanisms for competitive allocation, innovation funding, and support for international and interdisciplinary projects would further maximize the effectiveness of institutional support and ensure UoD remains a leading center for defense-related research and education.

Average Rating – 4.6

Recommendations:

IEP Committee recommendations emphasize enhancing the strategic impact of institutional support and LCDRO funding at the University of Defence (UoD). Key priorities include expanding and strengthening UoD's international presence through increased participation in global research collaborations, conferences, and exchange programs. Linking LCDRO funding more closely to research excellence and measurable performance, as well as dedicating resources to early-career researchers, would help foster talent development and ensure high-quality scientific outputs.

While current institutional support funds are effectively used and contribute to cutting-edge research, the IEP Committee stresses the need for increased investment, particularly in light of the growing importance of military education and defense-related R&D&I within the European context. Allocating additional resources would sustain UoD's core operations while enabling more ambitious research initiatives.

Furthermore, the IEP Committee encourages targeted professional development funding to enhance the internationalization of research activities. This includes supporting staff and students in participation in international projects, networking events, and collaborations, thereby maximizing the impact of institutional support and ensuring that UoD remains competitive and globally engaged in its defense and scientific missions.

NATIONAL AND INTERNATIONAL COOPERATION

4.12 Significant collaborations in R&D

Evaluate listed examples of significant R&D&I collaborations with respect to the effectiveness of the collaborations established, their proportionality and appropriateness to the type of HEI and its mission and vision.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) demonstrates a strong commitment to collaborative research through its partnerships at both national and international levels. Key national collaborations include the Military Faculty of Medicine (MFM) with Hradec Králové University Hospital, resulting in notable publications and patents in clinical and preclinical research, such as proteomic markers for cardiomyopathy and innovative radioprotective agents. Applied research is further strengthened through industry partnerships, exemplified by MFM's collaboration with RANADAL s.r.o. on a colorimetric sensor for pesticide poisoning. Similarly, the Faculty of Military Technology (FMT) engages in projects like NEOCLASSIG with the Technology Agency of the Czech Republic and develops autonomous ground vehicles with the Ministry of Industry and Trade, advancing military robotics capabilities. The NBC Defence Institute (NBCDI) works with the Military Research Institute of Brno and industry partners like NUVIA on projects addressing protection against weapons of mass destruction and radiation detection, demonstrating a robust integration of academic, governmental, and private expertise.

These partnerships are mission-driven and aligned with the defense-oriented objectives of the UoD. Collaborations with national defense institutions, such as MRI Brno and NINBCP, and civil research partners like CTU, provide strong frameworks for knowledge sharing, prototype development, and cooperative research. Long-standing collaborations, including those with NATO centers of excellence, have proven effective, though international project participation and commercialization of results remain limited due to strict intellectual property laws and reliance on Ministry of Defence funding. Expanding engagement with competitive EU grants and improving technology transfer mechanisms could further enhance UoD's research impact.

Internationally, UoD staff and doctoral students participate in internships and collaborative projects with foreign universities, primarily in Central and Eastern Europe, and with NATO-related research initiatives. While the quality of these experiences is high, the overall number of participants is relatively low, highlighting an area for potential expansion. UoD's collaborations also extend to industry partners in both military and non-military sectors, reflecting a balanced approach to applied research that addresses strategic defense needs while leveraging broader technological expertise.

Overall, UoD's research partnerships demonstrate strategic alignment with its defense and security mission, fostering applied research and innovation across multiple disciplines. The scale, quality, and duration of these collaborations are appropriate to UoD's profile, and they contribute significantly to the institution's knowledge production, technology development, and capacity-building efforts. Continued attention to expanding international engagement, promoting technology transfer, and increasing the number of staff participating in international exchanges would strengthen UoD's competitive position in both national and global defense research arenas.

Average Rating – 4.5

Recommendations:

The IEP Committee encourages the University of Defence (UoD) to strengthen and expand its international and national research collaborations. Key recommendations include increasing

participation in international projects, enhancing exchanges for researchers, and expanding cooperation with civilian universities and industry partners. Tracking the outcomes of these collaborations is also essential to ensure effectiveness, optimize knowledge transfer, and maximize the impact of joint research efforts. Additionally, improving regulations and guidance around intellectual property would facilitate smoother collaboration with external partners while safeguarding UoD's innovations.

To support these initiatives, the IEP Committee recommends that UoD increase funding for business trips, study visits, and research exchanges, which are critical for building strong international partnerships. Expanding collaborations within Europe and globally would not only enhance UoD's research visibility but also contribute to the professional development of staff and doctoral students. By fostering a more interconnected research environment and strategically investing in international mobility, UoD can strengthen its position as a leading defense-focused research institution while promoting innovation and knowledge sharing across sectors.

STUDIES

4.13 Doctoral studies

Evaluate the described organisation of doctoral studies. Pay attention to the setup and quality of the processes, as well as their effectiveness through basic statistics, such as drop-out rate or data on the future career of graduates.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) demonstrates a strong and mission-aligned approach to doctoral education, particularly in fields relevant to national defence, security, and applied research. Its programs are strategically developed in close collaboration with the Czech Armed Forces and Military Intelligence to ensure that dissertation topics and research activities align with the operational needs of the Ministry of Defence. Doctoral programs are offered in disciplines including Security Studies, Engineering, Earth Sciences, and Medicine, with most candidates being military officers or MoD staff. Both full-time and part-time study modes are available, and programs are accredited by the Ministry of Education, with regular evaluations ensuring quality and compliance with national standards.

Doctoral supervision is carefully structured, with faculty members – primarily associate and full professors – assigned based on their expertise, and exceptional external experts occasionally contributing to supervision. Students benefit from practical integration into defense research projects and early involvement in applied research, which strengthens the relevance of their work to national security priorities. UoD also organizes annual PhD conferences to support academic exchange, feedback, and professional development. Drop-out rates are low, typically around 15%, and nearly 80% of graduates continue to serve in the military or defense sector, demonstrating the effectiveness of the programs in meeting workforce needs.

While UoD offers programs in both Czech and English and provides opportunities for internships and study abroad through Erasmus+, international student participation and joint doctoral programs remain limited. UoD emphasizes quality and applied outcomes, with structured study plans and collaborations with defense institutions ensuring alignment with research priorities. Overall, the organization, supervision, and strategic orientation of doctoral studies at UoD are strong, supporting the development of highly qualified experts while maintaining a balance between national academic standards and sector-specific defense requirements.

Average Rating – 4.7

Recommendations:

The IEP Committee recommends that University of Defence (UoD) strengthen collaboration across all faculties, ensuring that doctoral students have full access to UoD's scientific resources. Enhancing research support through partnerships with licensed academic librarians and professional statisticians would improve the quality and outcomes of doctoral projects. Additionally, monitoring graduate career paths and promoting international mobility would help track the long-term impact of doctoral programs and expand professional opportunities for students. Improving English language proficiency for PhD candidates is also essential to facilitate participation in international research and collaboration.

Expanding enrollment in internal doctoral programs is another priority, as it would intensify research activities within UoD. At the same time, UoD should explore opportunities to educate international students, which would diversify the research environment and increase UoD's global engagement.

Given the specialized nature of many research topics, structural challenges may arise in assembling dissertation committees that fully align with each student's focus. To address this, UoD should continue emphasizing international advisory and defense boards, while encouraging dissertations to be written in English. These measures will help maintain high academic standards, ensure rigorous evaluation, and strengthen UoD's capacity to conduct high-quality, internationally relevant doctoral research.

Average Rating – 4.7

IMPLEMENTATION OF RECOMMENDATIONS

4.14 Implementation of recommendations in Module 4

Evaluate how the HEI has reflected the recommendations from the previous evaluation of the IEP, if applicable.

If the HEI has not been evaluated before, the indicator will be marked as N/A – Not Applicable.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) has made significant strides in responding to recommendations from the Ministry of European Parliament (MEP) Evaluation Report, particularly regarding intellectual property protection, plagiarism prevention, and educational quality. UoD has implemented formal guidelines for managing intellectual property rights and adopted digital tools such as Odevzdej.cz and Theses.cz to detect plagiarism in seminar papers and theses. Staff receive targeted training through courses like the Methodology of Scientific Work. Furthermore, the recently established VETC centralized support center enhances research and expert activities, facilitating collaboration with academic and industrial partners, while also improving information access on doctoral programs and admissions. Despite these efforts, international interest remains limited due to language barriers, as current accreditation is offered only in Czech.

Progress has also been achieved in strengthening UoD's core defense-oriented mission. UoD has reinforced partnerships with national defense and research institutions, such as the Military Research Institute and the National Institute for NBC Protection, resulting in joint projects like MARYŠA and shared doctoral supervision. Applied research outcomes have improved through the development of new methodologies, prototypes, and utility models, while the production of high-quality Czech-language academic textbooks has addressed gaps in locally relevant educational

resources. These efforts demonstrate tangible gains in both research and teaching aligned with UoD's mission.

UoD has further addressed broader recommendations from the previous evaluation, including qualitative improvements in doctoral programs. Admissions processes have been enhanced, social support for students improved, and opportunities for international experience increased through Erasmus+ exchanges for staff and students. Gender balance in selection committees has been promoted, and internal evaluation mechanisms ensure high-quality R&D&I outputs. Advanced research facilities have been built to support key defense and security activities, complemented by formal strategic planning, quality management, and ethical codes.

Overall, UoD has implemented many of the previous evaluation recommendations effectively, reflecting a strategic commitment to continuous improvement. Intellectual property protection, anti-plagiarism measures, and internal governance have been strengthened, including the creation of the Internal Evaluation Council to guide research directions. While challenges such as fluctuations in doctoral student numbers and limited internships persist, these are largely due to factors beyond UoD's control, such as the Ministry of Defence posting system. UoD has also made notable progress in attracting external funding and fostering inclusiveness across faculties, including in traditionally male-dominated fields.

In conclusion, UoD has demonstrated a well-organized, proactive response to prior recommendations, enhancing structural, academic, and research capacities. By combining targeted educational reforms, improved internal governance, strengthened external collaborations, and technological and procedural innovations, UoD is positioned to continue developing its academic staff, expand research output, and maintain alignment with national defense priorities and international standards.

Average Rating – 4.5

Recommendations:

The IEP Committee encourages the University of Defence (UoD) to strengthen its engagement in international projects and expand the internationalization of its doctoral programs. This includes developing systematic tracking of graduate careers to monitor outcomes and improve program effectiveness. Additionally, UoD should establish an internal framework for technology transfer and intellectual property (IP) support to better facilitate the commercialization of research and ensure protection of innovations. Integrating principles of gender equality and sustainability into the R&D strategy is also advised, promoting inclusive and socially responsible research practices.

At the same time, the IEP Committee recommends that UoD continue its standard system of evaluation as a military higher education institution. Maintaining rigorous quality assessment processes ensures that both education and research activities remain aligned with national defense priorities, meet regulatory standards, and sustain continuous improvement. By combining these measures, UoD can enhance its global research presence, improve doctoral education outcomes, and strengthen the strategic impact of its R&D activities.

MODULE 4 RATING

MODULE 4 – SUMMARY EVALUATION

After evaluating each indicator, please provide an overall evaluation of Module 4. Assess the overall state of the research and institutional environment and the quality of the internal processes of the HEI. Consider whether and how the set processes contribute to the fulfilment of the HEI's mission and vision.

The aggregate grade is determined in accordance with the rules of the Methodology HEI2025+ as a simple average of the scores for each indicator.

INDICATOR	RATING [1–5]
4.1 Organisation and management of R&D&I	5 - Outstanding
4.2 System of support for a quality R&D&I environment and incentive measures for quality science	5 - Outstanding
4.3 Quality control system for R&D&I environment	4 - Very good
4.4 Sustainability and resilience of R&D&I	5 - Outstanding
4.5 Structure of human resources	4 - Very good
4.6 Academic and Research Careers	5 - Outstanding
4.7 Gender equality measures	4 - Very good
4.8 Mobility of academic and research staff (including sectoral and inter-sectoral mobility)	4 - Very good
4.9 Research infrastructure	5 - Outstanding
4.10 Budget and structure of financial resources	4 - Very good
4.11 Rules for the use of institutional support for the LCDRO	5 - Outstanding
4.12 Important collaborations in R&D&I	5 - Outstanding
4.13 Doctoral studies	5 - Outstanding
4.14 Implementation of recommendations in Module 4	5 - Outstanding
AVERAGE RATING	5 - Outstanding
GRADE [A–D]	A

Summary assessment:

The University of Defence (UoD) in the Czech Republic is a military higher education institution operating under the Ministry of Defence, composed of three main faculties – Military Leadership, Military Technology, and Military Medicine – along with specialized institutes and research centers. Governance is led by the Rector-Commandant, supported by the Vice-Rector for Scientific and Expertise Activities and the UoD Scientific Council, ensuring strategic and operational oversight. UoD places strong emphasis on research, development, and innovation (R&D&I) to advance national defense priorities. Its research portfolio includes projects in defense policy, weapon systems, and cybersecurity, funded through programs such as AMBICE (2020–2024). The Science and Research Department encourages research excellence through initiatives like the Rector's Prize and student research programs, while an Internal Evaluation Board maintains quality standards and promotes continuous improvement.

UoD maintains a comprehensive ethical framework, supervised by an independent Ethics Committee, particularly focusing on creative and innovative projects. Academic integrity is reinforced through tools like Repozitar.cz for plagiarism detection and training on intellectual property rights for doctoral students. Sustainability is integrated into research and educational activities, emphasizing ecological responsibility, green technologies, and reducing environmental impact. UoD also prioritizes digital transformation, modernizing research practices and expanding online learning opportunities to enhance both teaching and research capabilities.

Overall, the evaluation indicates that UoD holds an excellent position among European institutions focused on military education and R&D&I. Its combination of structured governance, ethical oversight, robust research initiatives, and attention to sustainability and academic integrity contributes to a strong institutional profile. This ranking reflects UoD's effectiveness in integrating education, research, and innovation to meet the strategic needs of the Czech defense sector.

Average Rating – 4.5

Summary recommendations:

The IEP Committee's primary recommendation emphasizes the continued development and strengthening of the University of Defence (UoD) as a state military higher education institution. This entails maintaining its dual mission of providing advanced education to military personnel while conducting specialized research in military and defense-related fields relevant to the Czech Republic.

This recommendation underscores the importance of sustaining high academic standards and research excellence, ensuring that UoD remains a key contributor to national defense capabilities. It also implies ongoing investment in faculty development, infrastructure, and programs that support both military training and applied research initiatives.

Overall, the IEP Committee's recommendations focus on consolidating UoD's role as a strategic institution that integrates education, research, and innovation to meet the evolving needs of the Czech Armed Forces, while reinforcing its position as a leading military higher education institution in the region.

MODULE 5 – STRATEGY AND POLICIES

5.1 Mission and vision of the evaluated institution in R&D&I

Evaluate the described vision and general mission of the university emphasizing R&D&I (in context of its educational function and the educational policy strategy of the state or the relevant ministry for higher education. Compare the defined mission with reality. The evaluation should consider how the mission and vision of the HEI has been fulfilled in the past five-year period and whether the vision for the next five-year period is adequately set and realistically achievable.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) has established a clear and focused mission to serve the defense and security needs of the Czech Republic through specialized education, applied research, and expert support. Its strategic priorities encompass leadership, military technologies, cybersecurity, defense medicine, and CBRN protection, aligning closely with national defense objectives and European security standards. Over the period from 2019 to 2024, the UoD has successfully advanced this mission by implementing targeted research projects, integrating findings into practical military applications, establishing the Research, Education, and Technology Centre (RETC), and supporting

doctoral training programs. While UoD has made substantial progress, areas such as PhD completion rates and international mobility still present opportunities for improvement.

The UoD's vision emphasizes becoming a recognized leader in research, development, and innovation (R&D&I) within the defense and security sector. Its interdisciplinary approach fosters collaboration among government agencies, industry partners, and academic institutions, supporting both applied research and practical solutions that enhance national security and societal well-being. Strategic initiatives have strengthened human capital through the development of researchers and doctoral candidates, upgraded research infrastructure, and promoted international collaborations, including partnerships with NATO-affiliated organizations. Key research outputs have been realized in cybersecurity, military technology, health sciences, and security studies, demonstrating UoD's ability to translate high-quality research into operational impact.

UoD's strategic planning, as outlined in its "Strategic Intent for Educational and Creative Activities (2021–2030)," is coherent and realistic, building on a solid material, personnel, and organizational foundation. Oversight from the Ministry of Defence ensures alignment with national priorities, EU, and NATO standards, while internal mechanisms monitor and control the fulfillment of long-term development plans. UoD's mission and vision are effectively realized, providing strong conditions for the education of military personnel across all three levels and for the delivery of high-quality R&D&I outputs that support the operational capabilities of the Czech Armed Forces.

Overall, the UoD demonstrates a consistent and comprehensive approach to integrating education, research, and applied innovation within its defense mandate. Its vision and strategic activities are coherent, realistic, and fully aligned with the needs of the Czech Republic, creating a robust framework for continued advancement in national defense, security research, and international collaboration. UoD's achievements over the past five years provide a strong foundation for sustaining and expanding its role as a leading institution in military higher education and applied defense research.

Average Rating – 4.6

Recommendations:

IEP Committee recommendations for the University of Defence (UoD) emphasize the continued expansion of its international presence and active engagement in collaborative research initiatives. This includes strengthening partnerships with European Union research programs and NATO, which would support knowledge exchange, access to funding, and enhanced opportunities for applied research. Expanding international mobility for staff and students is also highlighted, ensuring broader exposure to global best practices and fostering collaboration across borders.

In addition, UoD is encouraged to improve its internal capacities for innovation, interdisciplinary research, and dual-use applications, aligning research efforts with both military and civilian needs. Enhancing doctoral program completion rates is also recommended, ensuring that UoD develops a robust pipeline of highly skilled researchers and practitioners to support national defense priorities.

Finally, these IEP Committee recommendations reinforce the strategic vision of the UoD as a state military university dedicated to building and modernizing the Czech Armed Forces (ACZR). By maintaining its focus on applied research, education, and international collaboration, UoD can continue to serve as a central tool for advancing the operational capabilities, innovation, and strategic readiness of the national defense system.

5.2 Research and development objectives

Evaluate the set goals of the HEI in both the area of R&D&I and the development of the HEI as an institution. Consider whether the goals are adequately established in relation to the size and type of the HEI, as well as its mission and vision, and whether they are achievable within the proposed timeframe.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) has articulated a set of ambitious, mission-driven goals for the next five years that closely align with its strategic focus on research, development, and innovation (R&D&I). Central to these goals is the strengthening of both basic and applied research, emphasizing interdisciplinary collaboration to generate technological solutions with societal and defense applications. UoD seeks to develop strong research teams, expand its international presence, and participate actively in collaborative innovation ecosystems, including partnerships with NATO, the EU, and other international research networks.

Cooperation and societal impact are also key priorities. UoD plans to broaden its engagement with public administration, the business sector, and non-profit organizations, aligning research activities with challenges in areas such as environmental protection, health, and social equity. In parallel, UoD is investing in human potential by enhancing staff development, improving research infrastructure, and fostering both domestic and international mobility of researchers. Institutional resilience is emphasized through the strengthening of internal processes to adapt to political, economic, and technological changes, ensuring the sustainability of research efforts and effective project management.

UoD places strong emphasis on transparency, ethics, and integrity in research. Open science initiatives are being promoted to make data and publications more accessible, while ethical standards and responsible conduct are reinforced to maintain trust and transparency in scientific activities. Additionally, UoD's strategic priorities include gender equality and sustainability policies, ensuring that institutional growth aligns with broader societal values.

Overall, the goals set by UoD are realistic and attainable, supported by stable financial coverage from the state and the Ministry of Defence, as well as a high-quality academic staff. The objectives are scaled to UoD's specialized role as a military higher education institution and reflect its dual mission of supporting national defense while contributing to scientific advancement. Effective implementation will require continued support for strategic HR planning, PhD supervision, international funding, and policy coordination, but the framework is well-aligned with UoD's long-term mission and operational context.

In conclusion, the University of Defence has clearly defined, mission-driven objectives that are both appropriate and valid for its size, scope, and strategic priorities. If fully implemented, these goals will strengthen the institution's research capacity, enhance its contribution to national defense and societal needs, and consolidate its position as a leading center for applied scientific research and innovation.

Average Rating – 4.6

Recommendations:

The University of Defence (UoD) should ensure that its goals remain closely aligned with its defense-oriented mission and operational scope. Priority areas include dual-use research, doctoral education, and active cooperation with EU and NATO initiatives. Strengthening internationalization,

staff training, and internal quality systems is also critical, alongside promoting gender equality and sustainability within UoD's research and operational activities.

To achieve these objectives, UoD should enhance support for human resource planning, PhD supervision, and access to international funding. Consistent guidance and resources will be necessary to ensure that these goals are met within the next five years. The IEP Committee also encourages UoD to maintain its focus on the R&D&I priorities already defined in its strategic documents.

Overall, the key IEP Committee recommendation is for UoD to actively implement the strategies it has developed, translating strategic objectives into measurable actions. By doing so, UoD can strengthen its mission-driven research, educational programs, and international collaborations while sustaining continuous improvement across all areas of operation.

5.3 Institutional instruments and measures for the implementation of the research and development strategy

Evaluate the described institutional and strategic instruments for the fulfilment of the research and development objectives regarding how they will contribute to the fulfilment of these objectives. In your evaluation, also pay attention to the possible absence of key instruments or measures.

Rating [1–5]:

5 - Outstanding

Qualitative assessment:

The University of Defence (UoD) has developed a comprehensive strategic plan for research and development activities covering the period 2021–2030, with specific objectives for the next five years. The plan emphasizes supporting innovative projects in the defense sector, establishing specialized research centers in defense technology, military medicine, and cybersecurity, and promoting high-quality research outputs. Key goals include annual assessment of research achievements, boosting UoD's reputation through publications and international conferences, providing training to enhance research and teaching capabilities, and offering funding and mobility opportunities for PhD students and early-career researchers. The strategy also highlights the importance of participation in international research projects, continuous updates to research infrastructure and digital systems, financial and environmental sustainability, and adherence to ethical standards and intellectual property rights.

UoD has established a suitable mission-oriented framework to pursue defense-related R&D&I goals, supported by the newly created Research, Expertise and Technology Centre (RETC), project-based management, and steady Ministry of Defence funding. While the foundation is strong, certain institutional tools remain underdeveloped, including a formal human resources strategy for researchers, risk assessment frameworks, institutional policies on open science, gender equality, and sustainability, and targeted support for international grant acquisition. Addressing these gaps is essential for fully realizing the long-term strategic goals and aligning with broader European R&D&I standards.

Institutional tools and measures are defined through a combination of legal, regulatory, and organizational frameworks, reflecting UoD's role as a state military school. UoD's strategic instruments include systems for supporting innovative projects, regular evaluation of research using international metrics, construction of specialized centers, and efforts to achieve high-quality publications indexed in WoS and Scopus. Additional support encompasses academic staff and doctoral student training, modernization of research infrastructure, and active participation in international research activities. UoD's self-assessment confirms that these procedures form a

comprehensive and well-organized framework for implementing its development objectives, demonstrating both quantitative and qualitative rigor in achieving R&D&I excellence.

Average Rating – 4.8

Recommendations:

IEP Committee recommendations emphasize strengthening UoD's support infrastructure to enhance research and development outcomes. Key suggestions include establishing a dedicated office to assist with funding acquisition and international research initiatives, creating a structured HR plan to facilitate researcher mobility and career advancement, and introducing foresight tools for risk assessment and long-term strategic planning. Additionally, integrating principles of gender equality and open science into research policies is advised to ensure inclusivity and transparency. Aligning research strategies with EU priorities is also recommended to enhance UoD's competitiveness and relevance on the international stage.

Furthermore, while the current institutional instruments for implementing the R&D strategy are considered strong, further improvements are warranted. These include fostering research that achieves excellent outputs, expanding collaboration with foreign universities, and participating in international research consortia. Together, these measures aim to enhance both the quality and visibility of UoD's research, ensuring it continues to meet national defense priorities while increasing its global impact.

5.4 Implementation of recommendations in Module 5

Evaluate how the HEI has reflected the recommendations from the previous evaluation of the IEP, if applicable.

If the HEI has not been evaluated before, the indicator will be marked as N/A – Not Applicable.

Rating [1–5]:

4 - Very good

Qualitative assessment:

The University of Defence (UoD) has made substantial progress in aligning its educational and research programs with national defense priorities and previous evaluation recommendations. In 2023, UoD proposed a master's program in Military Chemistry, designed to address the needs of the Ministry of Defence and the Czech Armed Forces. This program emphasizes advanced chemical technologies, toxicological agents, and protection strategies against weapons of mass destruction. UoD also organizes seminars for research and development training and allocates institutional support to reward outstanding academic performance, reflecting a strong commitment to building personnel competencies and enhancing operational capabilities.

Significant steps have been taken to implement recommendations from previous International Evaluation Panels (IEP) and MEP Committee assessments. UoD has strengthened collaboration with defense-sector institutions, improved research infrastructure, and produced study materials aligned with national defense needs. Participation in funding initiatives such as the OP JAK project has enabled modernization of laboratories, classrooms, and research facilities, while also supporting international cooperation. UoD has developed new study programs and established systems to support the professional growth of academic staff and students, including rewards and motivational programs.

Despite these achievements, some areas remain in development. While UoD has made partial progress toward internationalization, doctoral support, and technology transfer, challenges persist in fully integrating these aspects into its research and academic programs. Securing international projects and increasing PhD completion rates are areas needing further attention. Overall, the UoD

demonstrates a proactive and structured approach to implementing past recommendations, strengthening its alignment with both national defense strategies and international academic standards, while continuing to address gaps in broader modernization and global engagement.

Average Rating – 4.2

Recommendations:

The IEP Committee encourages the University of Defence (UoD) to continue to strengthen and expand its international presence, building on existing collaborations and increasing participation in global research initiatives. Enhancing engagement with foreign universities, NATO-affiliated institutions, and EU research networks will help UoD improve its visibility, competitiveness, and access to international funding opportunities. This will also support doctoral mobility and the exchange of knowledge and expertise across borders.

Additionally, the IEP Committee recommends that the UoD address areas that have received less attention, such as gender equality, sustainability, and alumni tracking. While UoD has made strong progress in areas directly aligned with its defense-oriented mission, further efforts are needed to meet broader European standards in inclusivity, environmental responsibility, and long-term monitoring of graduate outcomes. Strengthening these aspects will ensure a more comprehensive and balanced development of the institution, supporting both strategic and ethical goals.

MODULE 5 RATING

MODULE 5 – SUMMARY EVALUATION

After evaluating each indicator, please provide an overall evaluation of Module 5. Evaluate the overall setting of the HEI's strategic objectives and development plan.

The aggregate grade is determined in accordance with the rules of the Methodology HEI2025+ as a simple average of the scores for each indicator.

INDICATOR	RATING [1–5]
5.1 Mission and vision of the evaluated institution in R&D&I	5 - Outstanding
5.2 Research and development objectives	5 - Outstanding
5.3 Institutional instruments and measures for the implementation of the research and development strategy	5 - Outstanding
5.4 Implementation of recommendations in Module 5	4 - Very good
AVERAGE RATING	5 - Outstanding
GRADE [A–D]	A

Summary assessment:

The University of Defence (UoD) has positioned itself as a leading institution in research, development, and innovation (R&D&I) within the Czech Republic's defense and security sector. Between 2020 and 2024, UoD has made significant progress by improving research quality, expanding human capital through doctoral programs and researcher development, upgrading infrastructure – including the establishment of the Research, Expertise and Technology Centre (RETC) – and building international collaborations. UoD's strategic vision for 2021–2030 emphasizes interdisciplinary research, partnerships with public and private sectors, staff development, institutional resilience, open science initiatives, and the promotion of ethics and

integrity in scientific work. These efforts demonstrate UoD's commitment to fostering excellence and ensuring that its research has practical applications for national defense and public security.

UoD's R&D&I initiatives have been evaluated as outstanding, with a clear alignment to its mission and defense-oriented objectives. Strengths identified include robust integration of R&D&I into teaching and practical applications, achievable strategic goals that reflect UoD's size and resources, and attention to critical defense areas such as cybersecurity, CBRN protection, military technologies, leadership, and dual-use innovations. UoD has effectively incorporated applied research into its academic programs and maintained strong cooperation with the Ministry of Defence, ensuring that scientific outputs are relevant to national security priorities.

However, the evaluation also highlights areas needing improvement. There are gaps in institutional tools, including the absence of formal human resource strategies for researchers, limited support for obtaining international funding, and insufficient integration of sustainability, gender equality, and open science into policies. Additionally, some recommendations from previous international evaluation panels (IEP) – particularly those concerning technology transfer, internationalization, and enhanced support for doctoral studies – have only been partially implemented. Addressing these weaknesses will be critical for UoD to fully realize its strategic potential and maintain its position as a leading defense-oriented university.

Overall, UoD demonstrates systematic and realistic strategic planning. UoD's management has successfully aligned its development plans with national defense priorities and higher education standards, while actively involving scientific and academic staff in achieving these objectives. Its approach ensures that the institution not only meets current defense and security challenges but also builds sustainable structures for long-term research excellence, making it one of the foremost military higher education institutions in the region.

Average Rating – 4.6

Summary recommendations:

The IEP Committee recommends that the University of Defence (UoD) continue strengthening its international presence by actively participating in global research networks and collaborative projects. Expanding engagement with EU and NATO initiatives would enhance UoD's visibility, facilitate knowledge exchange, and provide opportunities for staff and doctoral student mobility. Efforts to increase international collaborations should be complemented by systematic tracking of outcomes and targeted support for researchers involved in cross-border projects.

In addition, UoD should prioritize the development of interdisciplinary and dual-use research, linking defense-oriented projects with broader societal applications. Advancing doctoral education through improved supervision, mobility, and funding will further reinforce UoD's research capacity. Institutional policies should also be strengthened to integrate gender equality, sustainability, and open science principles into research practices, ensuring alignment with broader European and global standards.

Finally, formal human resource strategies for researchers are needed to support career development, long-term planning, and international engagement. Establishing dedicated offices for international projects and research support will enhance UoD's capacity to secure funding, manage collaborations, and maintain high-quality outputs, ensuring that UoD continues to develop as a leading defense-focused research institution with global relevance.

OVERALL EVALUATION IN MODULES 1 TO 5

OVERALL EVALUATION

Provide a summary evaluation of the HEI as a whole across all five modules. Justify your evaluation and highlight the main strengths and/or weaknesses of the evaluated HEI. The overall grade is determined according to the rules of the "Methodology VŠ2025+".

MODULE	MODULE WEIGHT	GRADE [A–D]
MODULE 1 and 2	50 %	B
MODULE 3	30 %	B
MODULE 4	10 %	A
MODULE 5	10 %	A

OVERALL RATING

B – Very good

Qualitative assessment:

The University of Defence (UoD) is a mission-driven, high-performing institution that plays a crucial role in advancing the Czech Republic's defense and security capabilities. Across all evaluations, the IEP Committee praises UoD for its strong alignment with the Ministry of Defence and NATO priorities, robust applied research, and integration of innovation into practical outcomes. Its faculties contribute specialized expertise in military leadership, technology, medicine, and CBRNE defense, and together they ensure that the university maintains both national relevance and growing international recognition. Strategic collaboration with EU and NATO programs, as well as strong partnerships with academic and industry actors, further bolster its visibility and credibility.

Governance and institutional structures are identified as clear strengths. The university is overseen by the Rector-Commandant, Vice-Rector for Scientific and Expertise Activities, and the Scientific Council, ensuring effective decision-making and accountability. Supporting mechanisms such as the Science and Research Department, Internal Evaluation Board, and an independent Ethics Committee provide frameworks for quality assurance, research integrity, and ethical oversight. UoD also demonstrates commitment to sustainability, digital transformation, and ecological responsibility while embedding academic integrity through plagiarism detection systems and intellectual property training. These practices reflect an institution that balances military needs with modern academic standards.

At the same time, recurring challenges were noted by the IEP Committee. UoD faces limitations in commercialization due to legal and institutional barriers, along with a heavy dependence on state and Ministry of Defence funding. Staffing shortages in specialized fields restrict its ability to expand high-impact research, while doctoral students often encounter constraints that limit research quality and depth. Broader issues include the incomplete integration of gender equality, sustainability, and open science into institutional policies, as well as only partial implementation of previous international recommendations, particularly in areas such as technology transfer, internationalization, and support for early-career researchers.

Despite these challenges, UoD has a clear roadmap for strengthening its long-term position. Opportunities lie in expanding dual-use applications of research, increasing international collaborations and conference participation, and enhancing visibility through public engagement and digital communication. Investments in infrastructure modernization, interdisciplinary

research, and stronger support systems for doctoral and early-career researchers could address current weaknesses while amplifying the impact of its applied research. Formalizing HR strategies, diversifying funding sources, and embedding equality and sustainability into strategic planning would also bolster institutional resilience and global standing.

In summary, the IEP Committee recognizes the University of Defence as a strategically vital and academically strong institution, combining applied innovation with defense-oriented education and training. Its reputation is built on high-quality research outputs, strong partnerships, and an ability to translate knowledge into practice. By addressing structural barriers, investing in human capital, and advancing internationalization, UoD is well-positioned to consolidate its role as a leading European center for defense research and education while enhancing its societal and global impact.

Overall HEI Grade is calculated as a B (weighted average = 4.2)

Recommendations:

Overall, IEP Committee recommendations collectively emphasize the need for the University of Defence (UoD) to strengthen its internationalization, research capacity, and institutional sustainability. A key theme is expanding UoD's global presence through active participation in NATO and EU programs, international conferences, and joint projects with foreign universities. Encouraging staff and doctoral student mobility, promoting high-impact publications, and engaging in global research networks are highlighted as ways to increase visibility, benchmarking, and collaboration. To support this, UoD is advised to establish dedicated offices for international project management and provide structured support for researchers involved in cross-border initiatives.

Equally important is building internal capacity through investment in infrastructure, modern laboratories, simulation centers, and digital resources, alongside stronger HR strategies that promote equitable workloads, career development, and early-career researcher support. IEP Committee recommendations call for greater integration of interdisciplinary and dual-use research, ensuring that defense-focused projects also address broader societal needs. Doctoral education is seen as central to this mission, requiring improved supervision, funding, and mobility opportunities. At the institutional level, embedding gender equality, sustainability, and open science into strategic planning and research evaluation is recommended to align UoD with broader European standards and enhance long-term resilience.

Finally, IEP Committee recommendations emphasize knowledge transfer, commercialization, and societal engagement as essential for maximizing UoD's impact. By formalizing technology transfer strategies, strengthening collaboration with industry, and pursuing socially responsible commercialization, UoD can better translate research into practical applications. Public engagement through open days, media outreach, and science festivals will raise awareness of its contributions while attracting new talent and partners. Together, these actions are designed to consolidate UoD's role as a leading military higher education institution that integrates research, education, and innovation to meet both national defense priorities and global challenges.