VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETO /
VILNIUS TECH
VEIKLOS VERTINIMO IŠVADOS

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INSTITUTIONAL REVIEW REPORT OF
VILNIUS GEDIMINAS TECHNICAL UNIVERSITY /
VILNIUS TECH

Grupės vadovė: Panel chairperson:	Prof. Dr. Maria Hinfelaar
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Grupės nariai (kategorija): Panel members (category):	Prof. Dr. Vincent Wertz (academic)
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Report language – English

CONTENT

I hereby certify that this is the final text of the institutional review report of Vilnius Gediminas Technical University - Vilnius Tech.

Professor Maria Hinfelaar

I. EXECUTIVE SUMMARY

1. The purpose of the external review is to determine the quality of the performance of a higher education institution based on the findings of the external review, to create prerequisites for improvement of the performance of a higher education institution, to promote a culture of quality, and to inform founders, academic community and the society about the quality of higher education institutions.

2. This review report is based on the evidence given in the self-evaluation report, additional evidence requested by the panel, information provided by the Centre for Quality Assessment in Higher Education (hereinafter – Centre, SKVC) and a site visit, where meetings with a wide range of audiences were held.

3. The Panel was composed of the reviewers, following the Experts Selection Procedure approved by the Director of Centre for Quality Assessment in Higher Education on 31 December 2019 Order No. V-149 and included the following members:

   Prof. Dr. Maria Hinfelaar (academic, panel chairperson)

   Ms. Magdalena Lieb (review secretary)

   Prof. Dr. Vincent Wertz (academic)

   Prof. Dr. Mile Dželalija (academic)

   Mr. Kęstutis Jasiūnas (social partner)

   Ms. Nora Keslere (student)

4. As a result of external review **Vilnius Gediminas Technical University / Vilnius Tech** is given a **positive evaluation**.

5. Evaluation areas:

Area	Assessment with points*
MANAGEMENT	4
QUALITY ASSURANCE	4
STUDIES AND RESEARCH (ART)	3
IMPACT ON REGIONAL AND NATIONAL DEVELOPMENT	3

*5 points - **excellent**– the area is rated exceptionally well in the national context and internationally;

4 points – **very good** – the area is rated very well in the national context and internationally, without any drawbacks;

3 points – **good** – the area is being developed systematically, without any major drawbacks;

2 points – **satisfactory** – the area meets the minimum requirements, and there are drawbacks that must be addressed;

1 point - **unsatisfactory** – the area does not meet the minimum requirements, there are fundamental drawbacks.

6. **9** examples of good practices were found; **19** recommendations are made.

II. INTRODUCTION

2.1. Background of the review process

7. The external review of VILNIUS GEDIMINAS TECHNICAL UNIVERSITY (hereafter referred to as VILNIUS TECH or the University) was organised by the Centre for Quality Assessment in Higher Education and carried out in Vilnius by an Expert Panel of international experts (hereinafter – the Panel). It was conducted in accordance with the Procedure for the External Evaluation and Accreditation of Higher Education Institutions and Branches of Foreign Higher Education Institutions, Evaluation Areas and Indicators approved by the Minister of Education, Science and Sport of the Republic of Lithuania (hereinafter – the Procedure) on 19 of December 2019 Order No. V-1529 and the Methodology for Conducting an Institutional Review in Higher Education approved by the Director of SKVC on 9 of March 2020 Order No V-32 (hereinafter – the Methodology).

8. According to the Procedure the external review consists of the following stages: submission of a self-evaluation report prepared by a higher education institution to the Centre; formation of an expert panel and analysis of the self-evaluation report; expert panel visit to the a higher education institution; preparation of the external review report, decision-making on the external review as well as accreditation and publication thereof; follow-up activities aimed at improving the performance of the higher education institution, taking into account the external review report.

9. At the preparatory stage of the external review, the Panel received a Self-Evaluation Report (hereinafter – SER) of 90 pages with 19 annexes. SKVC provided to the Panel additional information about the University, as set in the Methodology (Chapter 26), including statistical data on students and staff; financial data; findings from the ex-ante and ex-post study programme and study field evaluation, institutional reviews and evaluations of research and development activities; State-budget allocations for research activities; information on potential violations of academic ethics from the Office of the Ombudsperson for Academic Ethics and Procedures of the Republic of Lithuania. The Panel requested additional information, such as statistics about the evaluation conducted and a list of progammes taught in English.

10. The site visit was undertaken after two training sessions organized by SKVC staff and preparatory Panel meetings. The Panel visited the University 24th - 26th May 2022 where it had meetings with internal and external stakeholders in 14 sessions. These meetings were very helpful for the panel to gain further insights and examine issues in more detail. Subsequently, the Panel met virtually to review and agree conclusions and recommendations. The review report was finalised by correspondence and submitted to the SKVC.

11. In line with the Procedure, the external review focused on four areas covered by the evaluation indicators and related criteria: **Management, Quality Assurance, Studies and Research (Art)** and **Impact on Regional and National Development**. In analysing the evidence collected, the Panel also gave due consideration to the recommendations of the previous review and how the University had followed up.

12. The review of a higher education institution assesses each of the evaluation areas with one of five ratings: **excellent** – 5 points – the area is rated exceptionally well in the national context and internationally; **very good** – 4 points – the area is rated very well in the national context and internationally, without any drawbacks; **good** – 3 points – the area is being developed systematically, without any major drawbacks; **satisfactory** – 2 points – the area meets the minimum requirements, and there are drawbacks that must be addressed; **unsatisfactory** – 1 point – the area does not meet the minimum requirements, there are fundamental drawbacks.

13. The decision on **positive** evaluation is made when none of the evaluation areas is evaluated unsatisfactorily (1 point). The decision on **negative** evaluation is made when at least one of the evaluation areas is evaluated unsatisfactory (1 point).

14. In line with the Methodology, the review report, prepared by the Panel is reviewed by SKVC and sent to the higher education institution to submit comments on factual errors and the evaluations based thereon. The Panel revises the report in response to the comments from the higher education institution (if applicable) and submits it to SKVC.

15. The Panel received VILNIUS TECH´s comments and considered them. As a result 3 changes were made to the report and the feedback from the Panel to SKVC and Vilnius TECH was provided.

16. After the Panel considers comments from the higher education institution (if applicable) and finalizes it, the report is considered by the external Commission of the Higher Education Institutions' Review (hereinafter – the Commission), set up by SKVC. On the basis of the proposal, made by the Commission, provisioned in the Commission's regulations, approved by the order of the Director of SKVC on 8 of January, 2020 order No. V-5, SKVC takes one of the decisions:

  - to evaluate the performance of the higher education institution positively (that is the outcome in this case);
  - to evaluate the performance of the higher education institution negatively.

The higher education institution shall be entitled to lodge a reasoned complaint to the Commission for Appeals formed by the Centre.

The decisions of the Centre and the Commission for Appeals may be appealed against in accordance with the procedure established by the Law on Administrative Proceedings of the Republic of Lithuania.

17. On the basis of the external review decision SKVC will take one of the following decisions on the **accreditation** of the higher education institution:

  - to **accredit for a period of seven years** if performance of the higher education institution is evaluated positively;
  - to **accredit for a period of three years** if performance of the higher education institution is evaluated negatively;
  - to **provide no accreditation** if the repeated external review results of the higher education institution are negative.

18. SKVC will announce the decision on the external review together with the conclusions of the external review and the decision on the accreditation of the higher education institution on its

website. The higher education institution will respectively announce the decision on the evaluation of the higher education institution together with the external review report on its website and will maintain it until the next external review.

2.2. Background information about the institution

19. The University is a state higher education institution which is focussed on technology. It was originally established as a branch campus of Kaunas Polytechnic Institute in 1956. Subsequently it was reorganised into Vilnius Civil Engineering Institute in 1969, becoming, Vilnius Technical University in 1990, and finally being retitled Vilnius Gediminas Technical University in 1996, after the Grand Duke of Lithuania, Gediminas (c.1275 – 1341). In 2020 VILNIUS TECH brand name was registered, which replaced the previously used abbreviation VGTU.

20. The University has nine Faculties[1] and the Aviation Institute. It is governed collegially through the structure of a Council and Senate with a Chief Executive Officer in the post of Rector who is supported through a Rectorate. Some of the Rector's functions are delegated to the Vice-Rectors and the Chancellor. Each Faculty is headed by a dean and consists of Departments, study and research laboratories, and other units. The University views the most important unit for organising higher education and research as the Department. Departments have the remit to independently pursue the goals of research and studies defined for them by the Senate and the Faculty Council, and operate with significant autonomy.

21. On 15 of March, 2011, the Seimas of the Republic of Lithuania approved a new VGTU Statute and the University was reorganised from a state-funded institution into a public institution under the resolution No. XI-1277, and amended on 28 of June, 2012 by the resolution No. XI-2150. This status provides for universities to dispose of their own property with autonomy which the University does.

22. Students attend higher education programmes across the three Bologna cycles, Bachelor, Master and Doctorate.

23. As at October 2021, the University had 8365 students, of whom

- 5986 were first cycle Bachelor students
- 1681 were second cycle Master students
- 520 were integrated study students
- and 178 were doctoral candidates.

Over 14 thousand specialists graduated from VILNIUS TECH from 2015 to 2021, and about 40–45% of them belong to the field of Engineering and 20% to the field of Information Technologies.

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[1] Faculty of Environmental Engineering; Faculty of Architecture; Faculty of Electronics; Faculty of Fundamental Sciences; Faculty of Creative Industries; Faculty of Mechanics; Faculty of Civil Engineering; Faculty of Transport Engineering; Faculty of Business Management; and A. Gustaitis' Aviation Institute.

As at October 2012, the University had 11,744 students, over the review period enrolments have dropped by about 3,500 students. The reasons and conditions of this significant drop of students will be covered in the following chapters.

In total, more than 88,000 persons have graduated from the University since its establishment.

24. The University offers Bachelor and Master programmes, of which the majority are in the fields of technological science. A number of programmes are also offered in Social Sciences, Arts and Physical Sciences. The vast majority of programmes, and enrolments, are in the technical fields which will be elaborated in the section of study and research. The study of each of these programmes lead to awards at Level 6 of the Lithuanian Qualifications Framework (LQF) for Bachelor Programmes, Level 7 for Master Programmes and Level 8 for Doctoral programmes. The Lithuanian Framework was referenced in 2012 to the European Qualifications Framework for Lifelong Learning (EQF) and also to the European Higher Education Area (EHEA), Bologna Framework, during the same process.

25. In 2021 the University employed 1,521 staff members, 934 of whom are lecturers, research workers and researchers. The University differentiated between two different types of doctoral degree, the Doctor of Philosophy (PhD) and the Doctor Habilitus (Habil. dr). Now there is only one doctoral degree (PhD).

26. The period reviewed in the self-evaluation covered 2014 to 2021.

27. VILNIUS TECH's vision as stated in the Development Plan 2014-2021 is to be a *prestigious higher education institution in Lithuania. The level of its research and studies is in line with the level of the best technical universities in Europe. The University is attractive to Lithuanian and foreign researchers and students. VILNIUS TECH is able to address the challenges of the surrounding environment and has a considerable social importance for the country's progress.*

28. The stated mission is *to develop a civically responsible, creative, competitive individual who is receptive to science, the latest technologies, and cultural values; to promote scientific progress, social and economic prosperity; and to create the value that ensures the development of both Lithuania and the region in the global world.*

III. ANALYSIS BY EVALUATION AREAS

3.1. Management

Management area is analysed in accordance with the following indicators and criteria, set up in the Methodology.

1.1. Compliance of the higher education institution's strategic action plan with the mission, assurance of its implementation:

1.1.1. The strategic action plan is consistent with the mission of the higher education institution, legal acts regulating research and study activities and it takes into account the provisions of the national research and study policy, the European Higher Education Area and the European Research Area;

1.1.2. The parts of the strategic action plan (analysis of the current situation, priorities and aims, objectives of the activities, implementation means, resources, planned performance

29. Following the last institutional review in 2013, a significant number of changes were made by Vilnius Gediminas Technical University (VILNIUS TECH) to how the University is managed. Several changes were in response to recommendations made by the panel at the time, but many were also driven by external developments as well as new insights within the University itself since that period. Improvements were referenced consistently across various sessions during our panel visit, and the strong commitment from senior leaders at the University to achieve positive change was also acknowledged consistently. The most important improvements which the panel saw evidence of have been **digitisation of services for students and staff, including quality assurance process; a more student-centred approach; a stronger international profile; more strategic partnerships with industry and the community; consolidation of elements of the study programme portfolio and investment in new facilities**. Centrally coordinated support **mechanisms for professional staff development and incentivisation schemes for academic staff** were also put in place. All these aspects will be covered in detail in this report, but it is important to set the scene by recognising that VILNIUS TECH has undergone a transformation over the past number of years.

30. The Strategic Plan 2014-2021 was aligned with national policies and legal acts in Lithuania, such as the Government's National Progress Strategy *Lithuania 2030*. There is also a national educational strategy and various regulations which the higher education sector must adhere to, and which were shared with the review panel by SKVC in advance of the site visit. The SWOT analyses presented in the SER report notes that there have been frequent changes in national study and research policies, which is deemed challenging. European Union (EU) policies and provisions referenced in the SER with regard to the development and implementation of **VILNIUS TECH's strategic plan include the Standards and Guidelines for Quality Assurance in the Higher Education Area (ESG)**, the European strategies for higher education and research and development (R&D) and various current themes which span across the EU regions, such as the digital economy and the green agenda.

31. Strategic action plans and objectives at department level are derived from the corporate strategic plan. Twenty-six **key performance indicators (KPIs)** are defined in the areas of research, studies, impact on society and the national economy. These indicators are reviewed annually but there is also a rolling three-year strategic planning cycle. VILNIUS TECH has adopted the principle of academic freedom, but during panel sessions it was also confirmed that staff are accountable for achieving results within its strategic frameworks. To support a transparent approach for reviewing performance, VILNIUS TECH developed its **Quality Management System (QMS)** to support the implementation and monitoring of the 2014-2021 strategic plan as well as quality assurance. The QMS was initially modelled on ISO 9001 standards, but VILNIUS TECH has since decided not to pursue accreditation. However, the QMS is seen by internal stakeholders as a major step forward in providing clarity, efficiency and robust regulation, using **digital technologies** (see also analysis of 1.2 criteria below).

32. **Performance against the objectives and KPIs** in the strategic plans is monitored and managed through follow up with the responsible owners of specific objectives. Based on evidence seen by the panel and covered across the themes of this review, the University has

successfully implemented its 2014-2021 strategic plan. If performance deviates from the plan, relevant Senate committees or the Rectorate will drill down into the reasons in what was described to the panel as a constructive dialogue with the objectives' owners. In addition, the KPIs themselves and how they are defined may be revisited if it is agreed that the criteria are not fit for purpose. For instance, VILNIUS TECH has adopted a **more strategic approach to external partnerships** (within Lithuania and internationally) which now focuses on in-depth collaboration and quality, instead of solely measuring the quantity of partnerships.

33. In parallel with producing the SER, VILNIUS TECH has developed its new *Vilnius Tech Strategy 2021-2030*. The style in which this is written is very different from the outgoing strategy plan 2014-2021; it is more visionary and aspirational. Its underlying theme is *Creating for Tomorrow* and the Strategy sets out its vision for VILNIUS TECH to be „a prestigious and international European technical University, distinguished by the quality of studies and research, its significant impact on the individual, the community and society". This vision is in line with its original mission as a technical university. **Values of „Sustainability, Connection, Creativity, Openness and Innovativeness"** are articulated in the plan and will also be applied to strategic partnerships. Furthermore, „moonshots" are presented of how specific ambitions will be pursued as regards the student learning experience, partnership working, alumnus contributions to society and attracting international talent.

34. Due to the recent completion of the new strategic plan under a changed **Rectorate** leadership team as well as a newly appointed **Council**, there are no implementation plans for the new strategy yet. However, during panel sessions it became clear that staff and students had had ample opportunity to be involved in the development of the new plan through a series of workshops and had also been kept briefed through internal newsletters. In contrast with this, the awareness of *Vilnius Tech Strategy 2021-2030* among **external stakeholders** we met, specifically the **social partners and alumni**, appeared to be minimal. It was acknowledged that opportunities to meet face to face or hold events has been severely constrained in recent times due to COVID-19. The new strategic plan was submitted to Government, but the panel saw no evidence that a wider public launch had taken place yet by the time of the visit.

35. During meetings with the Rectorate and the Council, it was emphasised that the **new strategic plan** with its different communication style is intended **to inspire, motivate and empower**. It was felt that this approach is more appropriate for VILNIUS TECH in a rapidly changing world. The University is still working on a deeper understanding of the „moonshots" and how they might be translated into implementation plans and KPIs at local department level. Nevertheless, the university anticipates that there will be continuity in terms of the system of objective setting, annual plans and utilisation of the QMS. It was stated that this process is likely to take another year.

1.2. Effectiveness of process management of the higher education institution:

1.2.1. A clear structure for governance, decision making and distribution of responsibilities is defined;

1.2.2. Regular process management analysis is performed, preconditions for process improvement and risk management are planned;

1.2.3. Stakeholders are involved in the management process at an adequate level.

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36. VILNIUS TECH operates to a collegial governance model, as is the norm in the Lithuanian university system. The **Council and the Senate have clearly delineated roles and remits**, with defined procedures for appointments and membership. For instance, the Council has 11 members: six are internal including one student, all of whom are elected by relevant bodies (the Senate and the Student Representation body respectively). Five are external and are selected on a competitive basis. It was clarified during our visit that this process focuses on social reputation of applicants from businesses and the community, not on any specific interest their organisations may have as stakeholders for instance ongoing collaboration contracts with the University. The Senate is drawn from the academic Faculties and currently has 51 members.

37. The five external members of council are elected on a **5-year term**, all commencing and finishing on the same dates. The other members, being drawn from Senate, provide continuity which goes beyond the 5-year term offered to external membership. This was therefore not considered to be a problem.

38. The **Rectorate has a presence at Council meetings as well as Senate meetings**, with the Rector being the chief accountable officer of the University with end responsibility. It was explained to the panel that, typically, strategic debates take place at the Rectorate and are also considered by the Senate before the outcomes and proposals are presented and discussed at Council meetings. Council is responsible for approving the mission and strategy, the annual budget and underlying activity plans.

39. **Faculty structures** are clear, following a process of consolidation and rationalisation of the number of academic departments in recent years. Faculty councils include representatives of stakeholders (employers, professional and branch associations, students). It was noted that students have recently become more active participants in the development of study regulations and they also have a voice on Study Programme Committees (SPC) (more on this in Section 3.2, Quality Assurance).

40. Risk reviews take place as part of **internal audits**. These include scrutiny of non-compliance with targets for KPIs through dialogue with the individual departments, discussing aspects which are flagged up in the QMS. It was clarified that the Rectorate is the key platform where the risk register is scrutinised further; the Council had not yet had an opportunity to review this since its appointment which was only a few months prior to the panel visit. However, even though the risk register had not yet been formally discussed, there was a commonly held view that the overwhelming risk for VILNIUS TECH was the **demographic decline and the impact on student enrolments** (see profile of the University presented in section 2.2 above). In later sections of this report, actions taken by VILNIUS TECH to mitigate this risk are covered; these include promotion activities with the school sector and recruitment of international students.

41. VILNIUS TECH has not carried out an independent review of the effectiveness of its **collegial governance model**. However, it was noted to work well, with regular engagement between the bodies both formally and informally particularly if there were significant decisions to be taken, for instance regarding capital investment.

42. At several meetings, it was stated that the outputs of the **QMS and tracking KPIs could be further enhanced by visual presentations** and graphics on a dashboard system which would be more user-friendly. This was reported to be under development. However, it was also reported that the **IT systems and know-how at VILNIUS TECH were ahead of many universities** in

the Lithuanian sector, some of whom had come to VILNIUS TECH to procure their services and help them improve their systems. The panel views this as a strong position for the University.

> *1.3. Publicity of information on the performance of the higher education institution and its management effectiveness:*
>
> *1.3.1. Systematic collection and analysis of the performance data, results (including student employment and graduate career monitoring) is in place, data is used for the improvement of performance of the higher education institution;*
>
> *1.3.2. Information on the performance of the higher education institution is clear, accurate and accessible to the academic community and the public, and is provided regularly to the founders and members of the legal entity.*

43. VILNIUS TECH participates in the data gathering and analysis of their graduates' performance on the labour market, overseen by the Lithuanian Government Strategic Analysis Centre for the wider university system. In addition, VILNIUS TECH carries out its **own surveys of alumni and employers** (within data protection constraints). This is coordinated by the Academic Affairs Office. Feedback at study field or programme level is passed on to the academic departments; in some cases they will organise round-table discussions with stakeholders.

44. When meeting student and alumni groups, as well as employer representatives, the panel found that their awareness of such surveys and their outcomes was mixed. Some had participated but could not remember results being shared with them by VILNIUS TECH to close the feedback loop. However, we also heard examples of actions that had been taken by VILNIUS TECH in response to feedback, usually at individual programme level. So there is evidence that **the surveys have impact.**

45. VILNIUS TECH makes **effective use of online communication methods** in order to connect with internal and external stakeholders, for instance through its website and social media. It will be important that this approach is followed through when the new strategic plan is launched and implemented.

46. Benchmarking VINIUS TECH's performance against peer HEIs is only possible where statistical data are published by Government or other agencies. This is the case with the centralised admissions system (enrolment trends by subject area for the sector), and with graduate employment ratios compared with averages for universities across the country. The panel heard that such data are analysed and subsequently presented by senior administrative staff to the Senate or to individual Faculties. These **benchmarking data** are then used for setting targets in relevant areas. The panel is satisfied that processes were in place to use benchmarking data appropriately.

> *1.4. Effectiveness of human resource management:*
>
> *1.4.1. Clear and transparent principles and procedures for the formation, management, evaluation of academic and non-academic staff are established and applied;*
>
> *1.4.2. The higher education institution has sufficient academic (in-house academic staff) and non-academic staff to meet its operational objectives;*
>
> *1.4.3. The qualifications of the academic and non-academic staff are appropriate for the*

> *purposes of the higher education institution;*
>
> *1.4.4. Conditions are created for the academic staff to improve the knowledge and skills required for teaching and research activities;*
>
> *1.4.5. Conditions are created for non-academic staff to develop competencies.*

47. Under the outgoing Strategic Plan 2014-2021, VILNIUS TECH placed significant emphasis on the importance of developing a cadre **of highly qualified and competent research and academic staff** as a key enabler for the delivery of the strategy. The current principles and procedures for appointing and promoting academic staff members were established by the Senate in 2018. There is a Commission for Attestation and Competition which reviews the eligibility of the qualifications of lecturers and researchers seeking a position, or seeking to permanently renew a position after a five-year term. This Commission comprises a minority of external stakeholders, plus an international expert.

48. Additionally, in 2018 a procedure was adopted for the assessment of academic staff performance and appropriate remuneration. This involved the creation of a model whereby **academics can earn additional salary of up to 100%** on top of their basic salary. There is a criteria framework for this variable part with a menu of approximately 70 activities and grades. From our meetings with managers and staff, the panel understands that the activities which justify additional income are linked to strategic goals, such as research publications, marketing and recruitment efforts and gaining international partnerships. **The digital system allows academic staff and heads of unit to upload activity and have instant visibility of how many „points" have been earned**, which are then converted into extra salary by the start of the next academic year. This system works over two-year cycles.

49. Details of this salary incentivisation scheme were not set out in the SER but they were explained during the panel visit. The scheme was viewed by the University as a success as it helped to attract and retain good academic staff, and it was highly competitive within the Lithuanian university sector. The panel concurs with this view. Approximately two thirds of academic staff currently benefit. The **system was considered to be largely fair and transparent**. There are also clear guidelines and norms for workload allocation for academic staff.

50. Aside from the variable salary scheme, it is possible for academics within certain subject areas to earn even more salary, i.e. considerably exceeding 100% on top of basic salary, if they carry out external consultancy contracts which may be highly paid at commercial rates. The formula allows for the University to also take its share of contract revenues, but the panel did not have visibility of this formula.

51. The breakdown between numbers of academic and non-academic staff groups is in line with government policy, i.e. **lecturers and researchers make up 50% of full-time equivalents**; the other **50% comprise administration, support and estates staff**. VILNIUS TECH has adopted **gender equality policies** and is monitoring the implementation of this plan.

52. Non-academic staff salaries were increased in recent years, but not by the same percentage as academic staff salaries (24% versus 50% on average respectively). Opportunities for **non-academic staff to earn additional salary exist**, but not on the same scale as for academic staff. The SER outlines that an incentive scheme was introduced during 2021/22 for non-academic

staff, linked to the performance results of their units. The SER also highlights the procedure for evaluating non-academic staff performance as an area for improvement.

53. During the panel′s visit, it was clarified that non-academic staff have the chance to earn additional salary, for instance if they agree to do extra work to deliver non-routine projects or to provide services to external clients, for instance in IT or academic services. The **maximum additional salary that may be earned by non-academic staff is 30%**, which is considerably below what is possible for academic staff. Furthermore, it is not possible for all non-academic departments to be involved in external projects and thereby have access to additional salary opportunities. Of course, there are internal career paths and promotion opportunities which would also lead to salary increases.

54. The culture and the degree of job satisfaction at VILNIUS TECH were described to the panel as very positive. This perception was consistently shared with the panel across the different sessions, i.e. when meeting with staff at different levels of the organisation. The panel therefore accepts that this perception is based on reality. Flexibility, a collaborative ethos and support structures were cited as contributory factors. **Even though salary levels in industry may be higher, people felt that VILNIUS TECH was a better place to work**. There were also several examples of staff joining from other universities because VILNIUS TECH was considered to offer a more attractive working environment.

55. Competency development opportunities and supports for staff offered at VILNIUS TECH will be covered in the next chapter (pertaining to criteria 2.1.4).

1.5. Efficiency of financial and learning resource management:
1.5.1. Financial resources are planned, allocated and used rationally;
1.5.2. Various financial resources for the implementation of higher education activities are attracted;
1.5.3. Learning resources for provision of studies and research (art) activities are planned and used rationally;
1.5.4. Learning resources for conducting studies and research (art) activities are appropriate, sufficient and available.

56. The SER sets out the range of funding sources available to VILNIUS TECH: state budget allocations, revenue generated from service provision e.g. studies, competitively awarded funding e.g. for research, and project funds from external organisations. Across all these areas, **income has increased significantly in the last few years**. Total turnover at VILNIUS TECH went up from €36.4m in 2016 to €55.3m in 2020.

57. This **rise in income happened in spite of the overall decline in student enrolments** at VILNIUS TECH over the period; it was mainly driven by the Lithuanian state increasing staff salary funding as well as increasing the „basket" of state-funded students by approximately 40%. Doctoral scholarships, research funding and targeted state capital investments to cover essential building repairs also accounted for improved resources available to VILNIUS TECH.

58. However, some of the increases were achieved due to VILNIUS TECH's performance in its own right and were not due to extra funding from the state. Specifically, the University research output reflected in external assessment results created a 25% increase in that category, and

VILNIUS TECH also brought in more revenue from contracts with non-state external organisations. The proportion of non-state budget allocations in the overall budget now stands at 44%, which is ahead of target. **The University is financially healthy**.

59. Internal budget allocations are approved centrally by Council, upon recommendation from the Senate and the Rectorate in line with strategic objectives. Project allocations are decentralised, depending on which departments are involved in their delivery.

60. One of the critical objectives in the strategic plan 2014-2021 was to improve the University infrastructure and facilities in order to provide favourable conditions for studies and R&D. The State investment programme has greatly helped in meeting this objective. Major ongoing projects are the consolidation of Engineering programmes into one new facility with state of the art labs and workshops, and the upgrading of some of the student dormitories.

61. During the panel visit, panel were able to see **building projects** and get an impression of the quality of some of the specialist facilities in Engineering and Technology programmes, where VILNIUS TECH has a leading position in the sector. The central library on campus is conveniently situated next to student dormitory blocks and is open 24/7, offering a growing catalogue of printed and online resources. However, VILNIUS TECH is aware that more will be needed to stay competitive; for instance, additional IT to support hybrid or blended learning, as well as further renovation of dormitories.

62. **In summary,** VILNIUS TECH has been on a journey of major development and improvements over the past number of years, demonstrating good governance and leadership. Systems and processes to monitor implementation of strategic plans are in place and are embedded across the University, appropriately supported by digitisation. Resources for students have been modernised and are well-funded, although further investment in facility upgrades will be needed. There are clear human resources policies in place which incentivise staff to work at VILNIUS TECH, particularly for academic staff. These policies require further elaboration for non-academic staff groups.

Based on the evidence provided above regarding strategic management and leadership, the panel concludes the following:

Firstly (1.1), the strategic plan developed and implemented by VILNIUS TECH is consistent with its mission and with relevant national legal acts, as well as the European Higher Education Area. **Strategic action plans are appropriately executed and monitored**.

Secondly (1.2), VILNIUS TECH has a **clear governance and management structure** with sufficient attention for processes and systems. Stakeholders are involved.

Thirdly (1.3), **VILNIUS TECH systematically collects and analyses performance data and this information is made available to appropriate audiences**.

Fourthly (1.4), **VILNIUS TECH has principles and procedures in place for human resources management and has sufficient academic and non-academic staff to meet its operational objectives**.

Fifthly (1.5), **financial and learning resources of an adequate quality standard are available at VILNIUS TECH and are allocated rationally**.

In the paragraphs below the panel offers its judgment for the review theme "Management", proposes some recommendations for further improvements and enhancements, and indicates which areas of good practice the panel identified.

63. **Judgment:** the area is rated very well in the national context and internationally, without any drawbacks and is given 4 points.

64. **Recommendations for the area:**

- The new *Vilnius Tech Strategy 2021-30* **urgently needs to be launched for external audiences**, particularly where these represent strategically important partnerships. This would be an opportunity to deepen relationships.

- Priority should also be given to the **development of strategic action plans and implementation monitoring to ensure that the new strategic plan** maintains momentum; these should be completed as early in the new academic year 2022/23 as possible.

- VILNIUS TECH should consider whether, at some point before the next SER, it would be worth commissioning an **independent external review into the effectiveness of its collegial governance model**. This could help to further build the University's reputation and professionalisation.

- The career structures, performance evaluation and salary **incentivisation schemes for non-academic staff at VILNIUS TECH need to be further developed** so that they are aligned with systems for academic staff. It is important to ensure that the methodology is transparent and motivating, recognising the essential contributions made by non-academic staff in all departments.

- The Lithuanian and the global education market is highly competitive. It will therefore be important to continue with an ambitious programme for upgrading and **developing facilities and learning resources to attract students**. In recent years, the State investment programme has contributed significantly; should this level of additional state funding decline, VILNIUS TECH might consider alternative funding sources including profit margins from commercial project income.

65. **Good practice examples:**

- VILNIUS TECH **responded strongly to the last external review in 2013/14 and went beyond its recommendations for improvement.** This is indicative of being a **mature institution**.

- VILNIUS TECH has developed a **professional Quality Management System (QMS)** within a relatively short timeframe, supported by fully digitised processes, which is an essential instrument for implementing and monitoring strategic plans and KPIs. This appears to be fully embedded within the organisation.

- VILNIUS TECH has created an **internal culture** which has led to staff consistently regarding VILNIUS TECH as a more attractive place to work than elsewhere.

3.2. Quality Assurance

Quality Assurance area is analysed in accordance with the following indicators and criteria, set up in the Methodology.

2.1. Implementation and effectiveness of the internal quality assurance system:
2.1.1. The higher education institution has approved and made publicly available internal quality assurance documents that are consistent with the Standards and Guidelines for Quality Assurance in the European Higher Education Area;   *2.1.2. Internal quality assurance measures of planning, implementation and improvement are appropriate, applied periodically and ensure the involvement of the whole institution and stakeholders;*   *2.1.3. Processes for planning, implementation, monitoring, periodic evaluation and development of activities are specified;*   *2.1.4. Students and academic and non-academic staff of the institution receive effective support;*   *2.1.5. Provisions and procedures for academic integrity, tolerance and non-discrimination, appeal and ethics are specified and applied;*   *2.1.6. The results of the external review are used to improve the performance of the higher education institution.*

66. Following the last institutional review in 2013, a significant number of changes related to quality assurance were made by VILNIUS TECH mostly in – **strategic components for internal quality assurance; facilities and laboratories; digitisation tools; internationalisation of education and research; reflection between research, learning and teaching; involvement of students, alumni, and other stakeholders in internal quality assurance; student-centred learning; and institutional responsibility for cyclic external quality assurance**. Documents and processes for internal quality assurance are consistent with the **ESG**. A culture of quality and sharing good practice in education and research has been established.

67. Stakeholders, including students, alumni, and key employers are engaged in the internal quality assurance processes at the VILNIUS TECH. But there are possibilities for **additional strategic partnerships with the VILNIUS TECH alumni, key employers, and community improving research, education, and innovation ecosystems**.

68. VILNIUS TECH is a member of the Lithuanian Association for Quality Management and Innovation. As a result, VILNIUS TECH staff have an opportunity to participate in **training courses** offered by the Association, which develop their competencies in quality management.

69. Clear progress in development and implementation of **digitisation** at VILNIUS TECH brings new impetus to the management of education, research, and other actions. Among other things, the digital, online, distance learning system has been improved. The digitisation system is used for **information management**, following key performance indicators, student progression and drop-outs. The Quality Management System serves as a tool for assessing and implementation of the Strategic Development Plan, focusing on process modelling, monitoring, and measuring their efficiency. The Quality management System has been facilitated by a further developed digital tool on the basis of Business Intelligence, which allows monitoring and analysis of the strategic

plan and quality indicators. VILNIUS TECH should continue with further development of the digitisation system, specifically to improve analytical tools.

70. There is a strong orientation of VILNIUS TECH to **internationalisation** of research, education, and third mission.

71. VILNIUS TECH is a member of the European University alliance, ATHENA, Advanced Technology Higher Education Network Alliance, which brings new potentials to share experiences and impetus for further development of internal quality assurance mechanisms for all universities in EU. Panel recommend VILNIUS TECH to use the potentials of the ATHENA for further development of the internal quality assurance system.

72. At VILNIUS TECH there are new education and research **facilities and laboratory equipment**, for example, at the Faculty of Environmental Engineering, Faculty of Mechanics, etc.

73. VILNIUS TECH has relevant internal processes for **design and approval of study programmes** according to the ESG, which includes planning, implementation, monitoring, and improvement of study programmes. The processes include measures for internal quality assurance of studies, the scope of their implementation, principles of engaging the academic staff in the quality assurance. The **internal quality processes are assured at all levels of the management** – at the University level, faculty level, and Study programme committee. The SPC submit reports to the Faculty Study Committee, which processes the received information and together with recommendations sends it to the University Study Committee for consideration. The University Study Committee further provides generalised qualitative and quantitative reports to the Senate.

74. Design and approval of **study programmes** includes relevant **stakeholders**, including students, alumni, and social partners. Learning outcomes, with defined student workload are specified and their complexity are related to cycles in the Framework of the European Higher Education Area. Cross-cutting competences are involved in study programmes (sustainability, entrepreneurship, environmental and financial impacts, digitisation, quality of publications, etc.). Study programmes reflect key purposes of higher education.

75. There has been progress in the **student-centred** learning, teaching, and assessment. Strategically, VILNIUS TECH is very student oriented. Student opinions are heard, evaluations are taking place. There is a support for sensitive groups of students and staff. The appeal system is relevant. There are appropriate procedures for students' complaints, which create good examples of student-teacher relationship. However, VILNIUS TECH should analyse and improve their pedagogical methods of teaching, lecture materials, and assessment processes of students' achievement.

76. VILNIUS TECH has relevant internal quality assurance process for improvement of study programmes and their implementation, which includes **surveys on study programmes**: student survey on teaching quality, student survey on the implementation of the study programmes, academic staff survey on the quality of study programmes, student survey on the choice of studies, survey of exchange students, survey on dropouts, survey on alumni career trends, and survey of social partners. VILNIUS TECH uses the results of those surveys, analysing them, presenting within VILNIUS TECH, discussing at Rectorate meetings, academic units, programme committees, and with students, and making and implementing decisions. Students

are members of the senate, committees, councils, and working groups, and thus able to participate and follow decisions on improvement of study programmes. Students can follow improvement on study programmes via internal system mano.vilniustech.lt. The reports on study programmes are available to students and also academic staff.

77. **Teaching staff** are relevant, well-motivated, and with institutional support for research, teaching, and development of relevant skills for teaching. As mentioned above there is an interesting salary model with incentives for academics and other staff, rewarding more involvement in various teaching actions (e.g. scientific achievements; external professional work; industrial expertise; internal management). The Academic Support Centre provides relevant support for teachers for improvement of their teaching skills, such as didactic training.

78. **Learning resources** and the support for students are relevant. VILNIUS TECH has an appropriate funding system for learning and teaching activities for students. There are both, physical resources and expert human support, but there is room for improvement for international mobilities, foreign students, and lecture resources.

79. VILNIUS TECH has developed and implemented the Code of **Academic Ethics**, which aims to promote the culture of study and research quality and socially responsible behaviour, supporting academic integrity, transparency, and responsibility towards stakeholders. The Code provides a broader clarification of ethical elements, including mobbing, sexual harassment, equal opportunities, etc.

80. The **academic integrity** is promoted and ensured in different ways and is regulated by the University's regulations, covering funding, student assessments, their rights and duties, sanctions against plagiarism, and other elements within the academic integrity.

81. The provisions of **tolerance and non-discrimination in the academic community** are defined in the Declaration on Assurance of Equal Opportunities and Gender Equality, which promotes equality and diversity by applying the principle of zero-tolerance to discrimination in all activities. By analysis of documents and a couple of examples on complains and resolutions that happened during the review period, the panel finds provisions of tolerance and non-discrimination are relevant. Students aware on the system for academic ethics, integrity and non-discrimination, and there are no objections from students regarding the implementation of the provisions.

82. Appeal procedures are regulated in the Description of Procedures for Resolving Student Appeals and Complains, which includes student assessments, and other student complaints about the actions at VILNIUS TECH.

83. **In summary,** VILNIUS TECH has professionalised its quality assurance systems, policies and approaches since the last institutional review. They are fully aligned with the ESG guidelines for the design and approval of study programmes. Further work can be done to ensure that all stakeholder groups, specifically students, alumni and social partners, are fully aware of opportunities to be involved with such processes and their outcomes across all Faculties. The University has appropriate structures and committees in place to oversee quality assurance mechanisms. Engagement with European University alliance can be further developed.

Based on the evidence provided above regarding the internal quality assurance, the panel concludes the following:

Firstly (2.1.1), the **internal quality assurance documents are publicly available and are consistent to the ESG**.

Secondly (2.1.2), the **internal quality assurance measures are appropriate, applied periodically and ensure the involvement of VILNIUS TECH staff, students, and other stakeholders**.

Thirdly (2.1.3), the processes **for planning, implementation, monitoring, periodic evaluation, and development of activities** are specified, and strategically integrated within the digital collection and analysis performance data.

Fourthly (2.1.4), **VILNIUS TECH has a system to provide the support to student, and academic and non-academic staff**.

Fifthly (2.1.5), VILNIUS TECH **provides and applies provisions and procedures for academic integrity, tolerance, and non-discrimination, appeal, and ethics**.

Sixthly (2.1.6.), VILNIUS TECH uses results of the external review for improvement its performance.

In the paragraphs below the panel offer their judgment, propose recommendations for further improvements and enhancements, and indicate which areas of good practice we have identified.

84. **Judgment:** the area is rated very well in the national context and internationally, without any drawbacks, and is given 4 points.

85. **Recommendations for the area:**

- In order to improve the research, education, and innovation ecosystem, partnership with VILNIUS TECH alumni, key employers, and community should be strengthened.

- The **membership within the European University initiative, ATHENA, should be used more strategically** in order to have additional benefits in – digitisation sphere, attractive joint programmes, recognition processes, internal quality assurance mechanisms, lifelong learning programmes and micro-credentials. The European University alliances bring a number of possibilities to their member universities, such as strategic outgoing and inviting guest lectures, new relationships to foreign social partners.

- At the session with internal stakeholders it was explained that there are examples of lectures that are quite outdated and not very relevant for the study programmes. Thus, it is recommended to analyse the teaching materials and to motivate the **teachers to update and improve them**.

- The progress of the **digitisation of the quality management system** is well advanced, but **more visualised** tools are needed for effective use of data and analysis.

86. **Good practice examples:**

- **Support for new students** with additional courses in mathematics, physics, and other relevant subjects that new students need for better start of their study at the University.

- **Digitisation** and support for key quality assurance processes at VILNIUS TECH.

3.3. Studies and Research (Art)

Studies and Research (Art) area is analysed in accordance with the following indicators and criteria, set up in the Methodology.

> **3.1. The level of research (art), compatibility of studies and research (art) and its compliance with the strategic aims of activities:**
>
> *3.1.1. The study and research (art) activities carried out and their results are consistent with the mission and strategic aims of the higher education institution;*
>
> *3.1.2. The level of research (art) activities is sufficient for the ongoing studies of the higher education institution;*
>
> *3.1.3. Studies are based on research (art);*
>
> *3.1.4. Consistent recognition of foreign qualifications, partial studies and prior non-formal and informal learning is performed.*

87. The vast majority of **VILNIUS TECH study programmes** belong to Engineering and related fields. Most study programmes are implemented in the two following groups of study fields: Engineering Sciences (26 in the first cycle, 32 in the second cycle, and 2 of integrated studies) and Information Sciences (8 in the first cycle, 4 in the second cycle). The vast majority of students also study in these fields: 45% – in Engineering Sciences and 22% – in Information Sciences. In 2021, admission to 23 full-time study programmes in the Engineering Sciences study field and 7 in the Information Sciences study field was organised. This constitutes 72% of all VILNIUS TECH study programmes. In the same year, 70% of all students enrolled in VILNIUS TECH selected studies in two abovementioned study fields. The University also offers study programmes in the study fields of Social Sciences, Business and Public Administration, and Arts. The objectives and learning outcomes outlined in these study programmes are distinguished by the fact that in addition to the knowledge and abilities of the main study field, students are also provided with the basic knowledge of technological, engineering and other sciences. University graduates get an advantage in the labour market and are highly valued by employers. The programmes delivered by the Faculty of Creative Industries *(Creative Industries, Entertainment Industries, Event Engineering)* are considered (notably by alumni and social partners) distinctive in Lithuania because of this strong technical component.

88. The main strategic priorities of VILNIUS TECH are also reflected in the process of **new study programme development**. Out of three new study programmes offered in 2021, two belong to the study fields of Civil Engineering and Informatics. The panel saw evidence that these study programmes (i.e. *"Building Information Modelling"* and *"Artificial Intelligence Systems"*) have been discussed with internal and external stakeholders who have really had their say in the construction of the programme. These new programmes are also part of the actions taken by the University to fight the decrease in the number of students.

89. The University also aims to **make studies more interdisciplinary**. This is related to the University's strategic goal of developing creative and socially responsible professionals. However, the University faces challenges in seeking the interdisciplinarity of studies, partly because of the legal framework which requires all study programmes to be assigned to only one prevailing study field, and the description of the chosen study field defines the intended learning outcomes. VILNIUS TECH representatives are currently participating in the Lithuanian

interuniversity working group, which develops proposals for the validation of truly interdisciplinary studies. Some elements of interdisciplinarity have already been integrated into several study programmes in particular *Event Engineering* (which combines the study courses of Social Sciences and Engineering) but further development of interdisciplinary studies is needed. This is identified by the Panel as an area for improvement, subject to national frameworks being agreed between the university sector and the Government.

90. The quality of the current programmes is consistently monitored, systematically revised and improved by the various bodies (SPC, Faculty, Senate) who share this responsibility. In all these bodies, students and external stakeholders are well represented and consulted when changes are envisaged. The feedback given by students is appropriately taken into account. The involvement of external stakeholders has been even enhanced by introducing functions of Partner Associate Professor and Partner Professor which allow some external members from various industries to be involved and recognized in teaching activities. The Panel has been informed that occasionally, due to some lack of formalization of calling meetings and distributing agendas, students have missed important meetings where difficulties inside programmes were discussed. **Formalizing the organization of the Study Programme Committee meeting** in order to avoid these problems is another area for improvement.

91. Individual courses are also systematically monitored for further improvement. **Systematic visits of lectures by peers inside the study programme** are organised for the benefits of both parts, focus groups with students are also organised.

92. Student dropout (still quite large, 18-20% in recent years) is addressed notably by organizing some **additional courses on various scientific subjects for first year students**. Additionally, freshmen's camps, lecturer-mentors, student-mentors, psychological support are also provided. It was however unclear for the panel whether the effectiveness of these activities was measured and analysed.

93. The Academic Support Centre (ASC) developed since 2016) provides a large offer of **trainings for teachers** (close to 50 different subjects, complemented by over 20 subjects given by guest lecturers). Part of this training is compulsory, but many teachers attend more trainings than what is required. The offer is very wide (for example use of information technologies, e.learning, student-centred learning, assignment methods) and teachers can also suggest specific topics if desirable. All the trainings are followed by feedback surveys, which in general show a very high degree of participant satisfaction. For the teachers who have followed a large number of trainings, ASC offers also individual help in portfolio writing (where the teachers can formalize their learnings) and encourage these teachers to give seminars to colleagues about their teaching practices. A very interesting point is that ASC staff includes a psychologist (in addition to education researchers and e-learning specialists) whose role is to assist teachers engaged in student centred active learning (e.g. flipped classroom teaching), showing how one can really achieve a behavioural change of the students.

94. As a result of the pandemic, **hybrid modes of teaching** have been developed and are now proposed on a broader scale. In this process of designing an offer for hybrid programmes, students are well consulted and involved.

95. In 2015 VILNIUS TECH was granted the right for the recognition of formal qualifications gained in foreign countries. As stated in the SER, academic recognition is carried out in

accordance with EU policies as well as the documents elaborated by SKVC and VILNIUS TECH. This was also confirmed by the additional information, provided by SKVC to the panel, which shows that VILNIUS TECH largely followed general and individual recommendations for academic recognition in practice, which is very important for the institution, striving to be more international.

96. **Achieved learning outcomes are recognized** at VILNIUS TECH for those who have studied or are studying in higher education study programmes in Lithuanian or foreign higher education institutions, and who intend to continue their studies at the University, considering their learning outcomes including practical training acquired in a foreign company.

97. Seeking to enable admitted students to individualize their studies, not only **alternative modules are offered**, but also **non-formally acquired competencies and alternative methods of knowledge assessment are recognized** in accordance with VILNIUS TECH "Description of the Procedure for Assessment and Recognition of Competences Acquired through Non-Formal and Informal Education" of 2020. From the discussions during the visit, it appears that this procedure is not widely known and very few students make use of it. The Panel considers it as an area for improvement.

98. **Key research areas** are specified in the University priority areas of research approved by the Senate. These areas are regularly reviewed. They are further detailed in the strategic plans of the faculties and implemented through research activities. The identification of the priority areas of research of the University units promotes the formation of stronger groups of researchers, allows carrying out projects and contract-based works of a wider range and scope.

99. The University was granted the right to implement **doctoral studies** in 12 fields of science in which advanced research activities are carried out. Doctoral dissertations topics are selected following the priority areas of research, taking into account the research topic of the student's supervisor and the research infrastructure available at the University. The topics of doctoral dissertations are evaluated by the doctoral committees of the correspondent field of science. Each year, 40–60 students according to SER are admitted to doctoral studies. Their studies are funded from the state budget of the Republic of Lithuania, the EU structural funds distributed by the Research Council of Lithuania, companies' or students' own funds. The share of foreign PhD students (e.g. from Ukraine, Belarus, Lebanon, Italy, China, India, other) increased from 5 to 16% within the period 2016-2021.

100. In order to maintain a high level of research activity of VILNIUS TECH, an **internal analysis of R&D activities is regularly performed**. The results are communicated to the academic community through meetings at the faculties, presentations at the Rectorate, the Senate and the Council. The Rectorate organise annual discussions on the promotion of R&D activities. During the discussion, the results of R&D are analysed, deans present relevant proposals, and further priorities are envisaged:

- increasing the number of top-level publications in priority research directions;
- enhancing the value of projects and contract-based works;
- prioritising research in the University units;
- participation in prestigious conferences within the respective field of science.

101. The prioritisation of R&D activities (focus on those having real added value for academic staff and students) has resulted in a quantitative decrease of the number of contracts, but an **increase in the quality** of these as evidenced by the number of publications in WoS Journals. In terms of R&D, the collaboration with the Knowledge and Technology Transfer Centre has also improved significantly the quality **of the partnerships with local, regional and national companies**. The Centre also offers help to students to find appropriate internships, and facilitates the creation of start-ups, notably thanks to an incubator.

102. **Comparative expert assessment of research is carried out every five years,** last time by the international experts of the Research and Higher Education Monitoring and Analysis Centre (currently the Government Strategic Analysis Centre). Assessment of research fields was based on three criteria for evaluation of the Units of Assessment (UoA): quality (weighting factor 0.65), economic and social impact (weighting factor 0.2) and development potential (weighting factor 0.15) of research and experimental development activities.

103. VILNIUS TECH was assessed in seven UoA. UoA of Civil Engineering has received the highest scores of the R&D quality criteria, and the UoA of Fundamental Sciences the lowest.

104. In the area of Humanities, VILNIUS TECH received a high score of 4 (experts rated the quality of research – 4; economic and social impact – 4, and development potential – 5). In the fields of Economics, Management, Communication and Information, VILNIUSTECH received a score of 3; however, the experts assessed the development potential of VILNIUS TECH R&D activities by 5 points. In Technological Sciences, the quality of VILNIUS TECH R&D activities in the fields of Civil Engineering and Materials Engineering was assessed with a high score of 4 . This fact reveals the strong position of VILNIUS TECH in Civil Engineering. In Transport Engineering, VILNIUS TECH received the highest 3 points in comparison to other Lithuanian institutions. The high level of Technological Sciences is also revealed by the fact that VILNIUS TECH did not receive less than 3 points in any of the corresponding fields.

105. The diverse activities of researchers and artists of the University **in the field of Architecture make a significant cultural contribution**. VILNIUS TECH artists showcase their work at national and international exhibitions. The evaluation of VILNIUS TECH works of art is high (98 points in 2019).

106. The University encourages researchers to **publish research findings in top-ranked journals**, thanks to a variable part of the salary of academics based among others on this type of publication. A qualitative change in the publication of research findings and their international recognition has followed. The important number of own peer-reviewed international journals is mainly justified as an opportunity for Master and PhD students to publish the results of their first research accomplishments.

107. The links between VILNIUS TECH study programmes and research in various research fields are revealed by the overview of results of research activities carried out by the University lecturers and their participation in research projects. The overview shows that **lecturers are not only familiar with the latest research findings in the areas they teach but also contribute to their development.** The obtained research findings and acquired new knowledge are used in the study process in all study cycles. The study programmes and study courses are regularly updated following the new results obtained by the research groups. Guest lecturers who are world-famous

researchers or artists contribute to the delivery of study programmes. They introduce students to the global trends in their subjects.

108. The link between research and studies is ensured through the **involvement and participation of students in scientific research**, which constitutes an integral part of studies. Students are taught to explore the latest research and to learn how to use its findings in their own research. During the preparation of the final thesis, students are encouraged to prepare research projects. In addition the SER mentions that a large proportion of graduates, who defended their Master theses in 2017–2021, presented their research at the conference for young scientists "Science – Future of Lithuania". The University also encourages students to attend conferences and publish the results of their research activities. Students and lecturers prepare joint publications and present them at conferences, in Lithuania and abroad.

109. The University PhD students have opportunities to improve their qualifications and prepare for an academic career. In order to gain teaching experience as well as improve communication, public speaking, psychological, research management and organisation skills, the majority of the University PhD students take part in a pedagogical internship of 50–70 hours per year. More than half of the PhD students are employed as assistant lecturers, lecturers or researchers in University projects.

110. VILNIUS TECH has invested and prepared several plans for investments regarding the **improvement of the facilities and resources** existing in VILNIUS TECH, such as premises, new buildings, laboratories, study and research equipment, library (both physical and e-resources, designated spaces including for student group work). However some labs are still considered "old-fashioned" by students.

3.2. Internationality of studies, research (art):

3.2.1. The higher education institution has a strategy for internationalisation of research (art) and study activities (including indicators of internationalisation), means for its implementation, and measurements of the effectiveness of these activities are performed (not applicable to colleges unless provided for in its strategic documents);

3.2.2. The higher education institution integrates aspects of internationalisation into the content of studies and research (art) activities.

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111. The recruitment of international students has significantly increased in recent years, and VILNIUS TECH students have been enabled to gain international experience notably due to the fact that more and more Lithuanian students register with the English Language programmes, where they are in close contact with foreign students.

112. The Internationalisation Strategy constitutes an integral part of the VILNIUS TECH Strategic Development Plan for 2014–2021. Two of the key objectives of the Strategic Development Plan are the following:

- train qualified, creative and socially active professionals who are able to work successfully in Lithuania and abroad;

- conduct international scientific research by concentrating research activities in the research divisions of the highest competence and pursuing a policy on attracting acknowledged researchers.

113. The strategic action plans of VILNIUS TECH identify the criteria for monitoring the implementation of **internationalisation** priorities: Outcome criteria:

- Number of joint study programmes (this criteria was applied up to 2017);

- Percentage of study programmes implemented in a foreign language;

- Percentage of international degree-seeking students;

- The number of research articles in priority areas of research published in journals referenced in international databases per one full time equivalent of a researcher (this criteria has been applied since 2018).

Product criteria:

- Percentage of international (exchange and degree-seeking) students;

- The number of research articles in priority areas of research published in journals referenced in Clarivate Analytics Web of Science database.

114. Nine **key performance indicators related to internationalisation** are included in the annual strategic action plans of the University study and research units: three are related to the number of students, four to the results of research activities, and two to the received R&D funds.

115. The University **encourages international activities through the variable part of academic staff salary**. Indicators of international activity in the fields of studies and research constitute 38% of all indicators for this variable part.

116. In line with the strategic goals, the internationalisation of VILNIUS TECH study programmes has been steadily promoted. The **number of double degree study programmes has increased** over the past 5 years (11 such study programmes are currently being implemented, including with 16 Chinese universities, and inter-institutional agreements for three more study programmes are being negotiated). **Over 40% of all VILNIUS TECH study programmes are offered in English.** In most of these programmes, a significant number of Lithuanian students are registered, which supports integration of the international students and also provides an international experience for Lithuanian students. In 2021, almost 1,300 students from 81 countries worldwide studied at VILNIUS TECH, of whom 62% were degree-seeking, and 38% were exchange students from abroad. The visuals in the Strategic Plan 2021-2030 could reflect the diversity of VILNIUS TECH's current student population a little more. Similarly, the composition of any delegation during panel visits should always be a good cross-section of that particular stakeholder group. So, if roughly 15% of the student population is international, one would expect to meet some of them as it is a sizable group.

117. The VILNIUS TECH Division of Foreign Languages also offers English language training courses to improve the English language skills of VILNIUS TECH staff.

118. The internationalisation of studies can also be assessed in terms of students' opportunities to have a **study or traineeship abroad** (under the Erasmus+ programme and bilateral cooperation agreements). In 2016–2020, on average, 11% of VILNIUS TECH graduates had experienced a study or training period abroad. International internships are also an interesting way of gaining international and intercultural experience but it was pointed out to the Panel that there has been

insufficient information and communication about the possibilities of these international internships. This is hence identified as an area for improvement.

119. Within the discussed period, the number of VILNIUS TECH academic and administrative staff participating in the **Erasmus+ international mobility programme** was constantly growing (except for the period of 2020–2021, which was affected by the COVID-19 pandemic). Teaching visits to partner universities in Europe accounted for the largest part of mobility. The University is seeking to ensure two-way mobility of the academic staff for teaching, as the number of outgoing VILNIUS TECH lecturers was still higher compared to the number of incoming ones in 2016–2021.

120. The University has a well-developed support system for exchange and degree-seeking students, coordinated by the **International Relations Office**, the **International Studies Centre and faculty Erasmus+ coordinators**. In addition, VILNIUS TECH mentors (from Erasmus Student Network) help international students integrate into the University and adapt to the new country. The International Relations Office is also in charge of teaching and training visits for academic staff, from VILNIUS TECH and from abroad**.**

121. In the area of doctoral studies, the University promotes the implementation of **high-level interdisciplinary research**. PhD students are encouraged to present research findings at international conferences. Following the regulations for doctoral studies, international internships are mandatory for PhD students (the recommended duration is 3 months). The internationalisation of the doctoral study process is developed by joint supervision and involvement of international researchers in committees and defence procedures. At least one researcher from foreign research and study institutions is included in all doctoral thesis defence boards. The proportion of international PhD students has been increasing at the University: ~ 8.7% in 2017–2018, ~ 11.6% in 2018–2019, and ~ 13.3% in 2019–2020.

122. The internationalisation of research activities has been implemented following the provisions and priorities of the Communication on the European Research Area (Horizon 2020; Horizon Europe) and "Europe 2030". All research activity areas are now based on the principles of international cooperation, transparent research and partnership.

123. **Conferences** are crucial for the communication and dissemination of research. On average, VILNIUS TECH annually organises 5 international, 4 national and 15 conferences for young scientists. These events are very stimulating for students and staff. The University also encourages participation in conferences abroad that corresponds to the main research areas. University offers funding for participation in the most prestigious conferences.

124. The Strategic Development Plan also highlights the need to increase the effectiveness of international strategic partnerships: to intensify cooperation with the leading universities worldwide, make better use of partnerships in university networks and consortia, and create a wide network of international business partners. **VILNIUS TECH actively participates in multilateral alliances**. The University and its units have joined nearly 30 international alliances, associations and networks that unite universities and experts in various fields. One of the latest of these networks is the European University Alliance ATHENA, as mentioned above. The members of the alliance consolidate their study and research resources and develop new study content and common digital infrastructure in electronics and information and communication technologies. Focusing on the green digital transformation of societies, the ATHENA aims to

create joint programmes and research clusters, give access to international mobility to the largest number of students and staff, and bring added value to citizens and local communities. This alliance should play a major role in the future internationalisation of VILNIUS TECH.

125. **In summary,** VILNIUS TECH continues to mainly deliver programmes in technical fields, which is where the University's strengths lie. There are appropriate pedagogical supports in place for academic staff, and additional tuition for students struggling with certain subjects. However, student dropout rates have increased in recent years which is a concern. Interdisciplinary studies require further development. The quality of research in specific fields at the University is recognized by the national agency, and by partners in academia and industry. VILNIUS TECH has significantly grown its international student enrolments in recent years and also actively participates in Erasmus mobility schemes.

Based on the evidence provided above regarding the internal quality assurance, the panel concludes the following:

Firstly (3.1.1), **the study and research (art) activities carried out and their results are consistent with the mission and strategic aims of the higher education institution,** although interdisciplinary studies should be developed further, as indicated in the new strategic plan**.**

Secondly (3.1.2**), the level of research (art) activities is sufficient for the ongoing studies of the higher education institution**

Thirdly (3.1.3), **Studies are based on research (art);**

Fourthly (3.1.4), **consistent recognition of foreign qualifications, partial studies and prior non-formal and informal learning is performed,** although there is room for improvement as far as non formal and informal learning recognition is concerned**.**

Fifthly (3.2.1), **the higher education institution has a strategy for internationalisation of research (art) and study activities (including indicators of internationalisation), means for its implementation, and measurements of the effectiveness of these activities are performed;**

Sixthly (3.2.2), **the higher education institution integrates aspects of internationalisation into the content of studies and research (art) activities,** notably in its offer of English Language programmes.

126. **Judgment:** the area is being developed systematically, without any major drawbacks and is given 3 points.

127. **Recommendations for the area:**

- **Interdisciplinary studies** should be developed further, first by supporting the efforts of the working group which establishes a new national framework for these studies but also by making good use of what is already allowed in the present legislation to develop truly interdisciplinar technical programmes.

- The organization of the **Study Programme Committee meeting should be formalized** in order to avoid students missing meetings, especially critical ones where difficulties are addressed.

- To further **reduce drop out of students**, measures taken should be evaluated and adapted if necessary.

- The importance of Non-Formal and Informal Education to acquire competencies, their possible recognition and the Procedure to follow for this should be made more public and widely known within the University.

- **International internships should be more effectively promoted** and become widely used within the University.

128. **Good practice examples:**

- **Good IT tools** allow staff (in particular teachers/researchers) to monitor their teaching and research activities.

- Teacher's training offered by the Academic Support Centre is quite remarquable. A very wide offer, invitation of guest lecturers for specific subjects, result in a high participation level. Also, specific provision exists for academics having followed a large number of trainings, so that permanent professional development is really in place. The fact that Academic Support Centre staff includes a psychologist to assist teachers engaged in **student centred active learning** is also worth mentioning.

3.4. Impact on Regional and National Development

Impact on Regional and National Development area is analysed in accordance with the following indicators and criteria, set up in the Methodology.

4.1. Effectiveness of the impact on regional and national development:
4.1.1. The higher education institution carries out an analysis of national and (or) regional demands, identifies the needs to be met and foresees the potential impact on national and (or) regional development;
4.1.2. The monitoring, analysis and evaluation of the effectiveness of the measures on national and (or) regional development are performed.

129. In order to fulfil the University's **third mission in society and economy**, VILNIUS TECH consistently uses the knowledge from studies, research and innovation to address the growing societal and economic challenges. The University trains high-quality specialists, conducts applied research, develops innovations and initiatives that address the national sustainable development needs.

130. The University's impact focuses on the following types of activities:

- Education: training of specialists, education and training services,
- R&D services and projects,
- public projects and initiatives, promotional events, culture and heritage communication and volunteer activities.

131. As presented in earlier chapters of this report, VILNIUS TECH is responsible for thousands of graduates in the key industries of Science, Technology and Engineering. These specialists significantly contribute to the growth and competitiveness of the Transport and Logistics, Aviation, Construction, IT services, and Electronics sectors within Lithuania.

132. The **industry represents the most important stakeholder** and the most active partner of the University in developing the study programme portfolio and defining the priority areas for the training of specialists. In 2021, VILNIUS TECH had 208 agreements for cooperation in research, studies and training of highly qualified specialists with various organizations in Lithuania. The panel found a significant decrease of such agreements during the last few years. **This decline in the number of cooperation agreements was explained by recent moves to increase the quality and efficiency requirements for contracts and partnerships**. Several non-effective contracts were terminated. Additionally, any scientist or lecturer can have their own relations with companies which may not have been included in the numbers counted. The panel welcomes VILNIUS TECH's more strategic approach to contracts and partnerships.

133. **Business partners deliver more than 600 academic hours of lectures** to students every year. Since 2018, business representatives with extensive expert and leadership experience have been invited to work as partner professors or partner associate professors in the University. In 2020, 19 partner associate professors and 7 partner professors were working in VILNIUS TECH.

134. **Student internships** contribute to the University's impact on national and regional development. Every year more than 1.5 thousand VILNIUS TECH students have internships in business organizations. The geographic distribution of these organizations reflects a wide scope of the University's impact on Lithuanian regions.

135. The **majority of students are working during their studies** and they choose themselves which company to join for their internship. Students confirmed there is support from faculty's administration to help find a suitable placement/internship company. As the panel understand after sessions with students and with business partners, **there is not enough methodological help for companies on how to supervise and organise an internship**.

136. University studies focus on solving the most relevant challenges of the country or Vilnius city are included in the topics for students' final theses and internships that are offered by companies and researchers to reflect the priorities of sustainable national development linked to "Lithuania 2030". During the session with social partners the Panel found that there was a **lack of information from the University about activities and events**. There is no tradition to attract alumni to such events. Furthermore, participants had often not received feedback after the surveys carried out by the University.

137. The University faculties and the Quality Management Centre organize various **professional development courses for Lithuanian companies**, organizations, and individuals (e.g. high-level professional development courses to executives and specialists working in the construction-related area). The University offers a broad range of training courses: professional development courses in regional environmental protection, road building and infrastructure safety, geodesy, cadastral measurements, training of pilots and air traffic controllers. VILNIUS TECH also offers accredited professional development programs. During the Panel sessions with business and social partners it was observed that **engagement has improved since 2015, but more involvement is needed.** Also it was pointed out to the Panel that the University could provide management and entrepreneurship training for engineering professionals, as there is a lack of such training opportunities in the sector even though there is demand.

138. The city of Vilnius is a unique location for the University's experimental activities, testing and applying the newest technologies of a smart city and smart society, and the main "sandbox"

for the development of VILNIUS TECH technological expertise. **The University researchers play an important role in the management and preservation of Vilnius city heritage and the creation of new cultural spaces.**

139. The VILNIUS TECH Creativity and Innovation Centre "LinkMenų Fabrikas", established in December 2015, became a new modern space for the development of students' creativity and a place for scientific communication, training, prototyping, and creation for city communities, and is one of the strongest partners in the city community development projects. LinkMenų Fabrikas contributed to the development of STEM and setting up of FabLabs in secondary schools. Over the past two years, **"LinkMenų Fabrikas"** has cooperated with the Vilnius Municipality to build a community of creators. School students' creativity and engagement in engineering and technological activities have been encouraged.

140. The contribution of the University to the development of other Lithuanian regions represents another significant area of activity. In 2015–2021 the University had **collaboration agreements with 28 municipalities**. R&D and innovation services provided to municipalities made up 16% of all the University revenue from the contract-based works.

141. Within the review period, the researchers of the University made a significant contribution to **creating a greener environment**. They researched air and water quality, soil pollution, transport noise and vibration, advised municipalities and municipalities companies on CO2 reduction in buildings and reduction of environmental pollution. Road laboratory testing and marking were carried out. The expertise and solutions proposed by the researchers of VILNIUS TECH were deemed important to help solve complicated technological problems and assist regions with solving the challenges related to the COVID-19 pandemic in the spring of 2020. Although the University has a technological profile, in addition to technological innovations, it creates social and cultural innovations for society.

142. One of the declared priorities in the SER was for **R&D activities to correspond to the needs of business, facilitating integration with the global markets, knowledge-and-innovation-based international networks**. In 2015–2021, approximately 65% of contract-based research was carried out according to agreements with business entities. However, during Panel sessions it was observed that a significant proportion of University R&D contracts with businesses involved public infrastructure projects, for example with municipalities as the key clients.

143. In the SER it was declared that the University actively participates in the **commercialization of R&D results**, creation and development of innovative small and medium enterprises implementation of globally competitive and innovative ideas, products and services and initiatives through collaboration with business. During the Panel sessions with business partners and academic staff, it emerged that **more systematic support in that area was desired**.

144. In SER was declared that more and more students and researchers are choosing to start their own innovative businesses. **In the period 2015–2021, VILNIUS TECH students and researchers have created 29 start-ups**. The University encourages students and researchers to start their own businesses and supports them in the course of their studies or research activities. Since 2014 the **Knowledge and Technology Transfer Centre** has been helping students to transfer their ideas into innovations. The abovementioned activities contribute to entrepreneurship education and to the improvement of the general level of entrepreneurship in

the country. During the Panel sessions with business partners, academic staff and students, greater activity, awareness raising and more structured help in that area was desired.

145. From 2015 to 2020, 76 **collaboration agreements were signed with gymnasiums and secondary schools**. Since 2011 the University has been establishing VILNIUS TECH classes to deepen school students' knowledge of engineering, technologies and natural sciences and encourage them to take up university studies in those fields. 55–75 VILNIUS TECH lecturers deliver about 200–350 classes to school students per academic year. The Engineering Lyceum of Vilnius Gediminas Technical University was established in Vilnius. The University appoints lecturers who contribute to the implementation of engineering education in the Lyceum, accept school students for internships, and provide the necessary infrastructure. The Panel pointed out that activity with school students to motivate them to choose engineering and helping to teachers to do that is an example of good practice.

146. Since 2017, VILNIUS TECH has been developing the **non-formal education platform "Future Engineering"**. It offers high-quality non-formal education and career education for secondary education school students and teachers' professional development in engineering, technologies, mathematics, natural sciences, creativity, and entrepreneurship. The University organizes various competitions as well as creative workshops in schools and VILNIUS TECH laboratories. During the session with students the Panel found that many students had chosen engineering or other technological studies thanks to those activities. However, the panel did not see evidence of **formal monitoring of the efficiency and effectiveness** of this activity by the University.

147. The open study and research infrastructure of the University represents services to society. VILNIUS TECH "LinkMenų Fabrikas" actively contributes to the organization of **open training for open society**. The students and staff of the Faculty of Architecture regularly participate in regional recovery projects aimed at heritage communication, support to local communities and cultures. The resources of VILNIUS TECH Library are accessible to any individual outside the University community. The library regularly organizes art exhibitions, which are also open to the public. VILNIUS TECH Civil Engineering Research Centre dedicates about 30% of the working time in 8 laboratories to external users. The panel therefore found that the activity of "LinkMenų Fabrikas" is an example of good practice.

4.2. Assurance of conditions for lifelong learning:
4.2.1. The higher education institution monitors and analyses the need for lifelong learning;
4.2.2. The higher education institution anticipates the diversity of forms and conditions of lifelong learning and ensures their implementation;
4.2.3. The higher education institution performs the evaluation of assurance of conditions for lifelong learning.

148. The University offers a wide range of lifelong learning services provided in close collaboration with different stakeholders, professional or sectoral organizations, and regions. The **lifelong learning needs** are identified through the following activities:

- Direct involvement of VILNIUS TECH **partners in the development of study programmes**;

- Involvement of **partners in activities of the University Council, the Faculty Councils, the Study Program Committees;**
- **Surveys** of employers and alumni;
- **Regular analysis of the feedback** from the participants of professional development courses

During the session with social partners and alumni the Panel noticed that **little attention is paid to postgraduate teaching and professional development**.

149. The students at the University are offered **part-time studies**, which have a lower intensity and are attractive to working individuals. This creates favourable conditions for employees to combine their studies and work and helps to meet employers' expectations to ensure the professional development of their staff. Part-time distance studies are organized in order to increase the access to studies for persons living and working in Lithuania and abroad.

150. In SER there are named areas for improvement under this theme:

- To **strengthen the focus on the fulfilment of the "third mission"** in the strategic documents of the University, emphasizing its role in creating national progress based on innovation.
- To implement more **consistent monitoring** of the impact on society, to strengthen the ability to identify new areas of impact and forms of activities.
- To improve the **range of services for society** created on the basis of studies, training and R&D.
- To **encourage greater student involvement** in relevant activities for society through interdisciplinary University activities.

During the sessions with management of the University or team prepared the SER **the Panel did not see evidence of detailed plans how to achieve those improvements**.

151. **In summary,** VILNIUS TECH has made good progress in this area. It was acknowledged by social partners that the University had become more outward-looking and engaging during the period under review. Several new collaborations for R&D and lifelong learning with industry and with public authorities have been put in place, linking academic departments with social partners. There is promotion of science and technology courses to school students; this is important for the national economy. Further work can be done to monitor the impact of all these initiatives and to ensure better coordination.

Based on the evidence provided above regarding the impact on national and regional development, the panel concludes the following:

Firstly (4.1.1), the University **analyses national and regional demand**, identifies needs to be met and the potential impact on national/regional development.

Secondly (4.1.2), the University monitors, analyses and evaluates the **effectiveness of its work in relation to national and regional development, although more can be done to discuss this with key stakeholders.**

Thirdly (4.2.1), the University **monitors and analyses the need for lifelong learning**.

Fourthly (4.2.2), the University anticipates the diversity of forms and conditions of lifelong learning and ensures their implementation, although this **should be coordinated more closely with social partners.**

Fifthly (4.2.3), the University performs an **evaluation of the assurance of conditions for lifelong learning**. Again, this area can be improved through closer coordination with social partners.

152. **Judgment:** the area is being developed systematically, without any major drawbacks and is given 3 points.

153. **Recommendations for the area:**

- **Leadership for bringing together community, alumni, business and social partners** at the University corporate level **should be strengthened** and complemented, what may already be happening at Faculty level.

- **Comprehensive guidelines for companies hosting VILNIUS TECH student internships** should be further developed.

- **The life-long learning strategy to benefit social partners**, especially for postgraduate teaching and professional development s**hould be further developed and enhanced**.

- **Bigger support in technology transferring to business or establishing start-ups by the University scientists and students** should be provided. This should be coupled with more information about existing supports and promotion of that activity, so that better take-up is encouraged.

- **A detailed action plan for achieving the improvements under this theme as presented in the SER** should be developed.

154. **Good practice examples:**

- VILNIUS TECH's **outreach activities with school students** to motivate them to choose engineering and helping school teachers to do that is an example of good practice.
- The **"LinkMenų Fabrikas" facility** which is open to external users is an example of good practice.

IV. EXAMPLES OF GOOD PRACTICE

Across the four thematic areas reviewed, the Panel has identified the following examples of good practice in:

Management:

- VILNIUS TECH responded strongly to the last external review in 2013/14 and went beyond its recommendations for improvement. This is indicative of being a mature institution.

- VILNIUS TECH has developed a professional Quality Management System (QMS) within a relatively short timeframe, supported by fully digitised processes, which is an essential instrument for implementing and monitoring strategic plans and KPIs. This appears to be fully embedded within the organisation.

- VILNIUS TECH has created an internal culture which has led to staff consistently regarding VILNIUS TECH as a more attractive place to work than elsewhere.

Quality Assurance:

- Support for new students with additional courses in mathematics, physics, and other relevant subjects that new students need for better start of their study at the University.

- Digitisation and support for key quality assurance processes at the VILNIUS TECH.

Studies and Research (Art):

- Good IT tools allow staff (in particular teachers/researchers) to monitor their teaching and research activities.

- Teacher's training offered by the Academic Support Centre is quite remarkable. A very wide offer, invitation of guest lecturers for specific subjects, result in a high participation level. Also, specificprovision exists for academics having attended a large number of trainings, so that permanent professional development is really in place. The fact that ASC staff includes a psychologist to assist teachers engaged in student centred active learning is also worth mentioning.

Impact on Regional and National Development:

- VILNIUS TECH's outreach activities with school students to motivate them to choose engineering and helping school teachers to do that is an example of good practice.

- The "LinkMenų Fabrikas" facility which is open to external users is an example of good practice.

V. RECOMMENDATIONS FOR ENHANCEMENT

The review by external experts has led to a positive overall evaluation of VILNIUS TECH, with judgments at points 4 for the areas of Management and Quality Assurance, and at level 3 for the areas of Studies and Research and National/Regional Impact.

To further improve performance delivered by VILNIUS TECH into the future, the Panel's recommendations for further enhancement across the four thematic areas are:

Management:

- The new *Vilnius Tech Strategy 2021-30* urgently needs to be launched for external audiences, particularly where these represent strategically important partnerships. This would be an opportunity to deepen relationships.

- Priority should also be given to the development of strategic action plans and implementation monitoring to ensure that the new strategic plan maintains momentum; these should be completed as early in the new academic year 2022/23 as possible.

- VILNIUS TECH should consider whether, at some point before the next SER, it would be worth commissioning an independent external review into the effectiveness of its collegial governance model. This could help to further build the University's reputation and professionalisation.

● The career structures, performance evaluation and salary incentivisation schemes for non-academic staff at VILNIUS TECH need to be further developed so that they are aligned with systems for academic staff. It is important to ensure that the methodology is transparent and motivating, recognising the essential contributions made by non-academic staff in all departments.

● The Lithuanian and the global education market is highly competitive. It will therefore be important to continue with an ambitious programme for upgrading and developing facilities and learning resources to attract students. In recent years, the State investment programme has contributed significantly; should this level of additional state funding decline, VILNIUS TECH might consider alternative funding sources including profit margins from commercial project income.

Quality Assurance:

● In order to improve the research, education, and innovation ecosystem, partnership with the VILNIUS TECH alumni, key employers, and community should be strengthened.

● The membership within the European University initiative, ATHENA, should be used more strategically in order to have additional benefits in – digitisation sphere, attractive joint programmes, recognition processes, internal quality assurance mechanisms, lifelong learning programmes and micro-credentials. The European University alliances bring a number of possibilities to their member universities, such as strategic outgoing and inviting guest lectures, new relationships to foreign social partners.

● At the session with internal stakeholders it was explained that there are examples of lectures that are quite outdated and not very relevant for the study programmes. Thus, we recommend to analyse the teaching materials and to motivate the teachers to update and improve them.

● The progress of the digitisation of the quality management system is well advanced, but more visualised tools are needed for effective use of data and analysis.

Studies and Research (Art):

● Interdisciplinary studies should be developed further, first by supporting the efforts of the working group which establishes a new national framework for these studies but also by making good use of what is already allowed in the present legislation to develop truly interdisciplinar technical programmes.

● The organization of the SPC meeting should be formalized in order to avoid students missing meetings.

● To further reduce drop out of students, measures taken should be evaluated and adapted if necessary.

● The procedure for Assessment and Recognition of Competences Acquired through Non-Formal and Informal Education should be made more public and widely known within the University.

● International internships should be promoted and become widely known within the University.

Impact on Regional and National Development:

● Leadership for bringing together community, alumni, business and social partners at the University corporate level should be strengthened and complemented, what may already be happening at Faculty level.

● Comprehensive guidelines for companies hosting VILNIUS TECH student internships should be further developed.

● The life-long learning strategy to benefit social partners, especially for postgraduate teaching and professional development should be further developed and enhanced.

● Bigger support in technology transferring to business or establishing start-ups by the University scientists and students should be provided. This should be coupled with more information about existing supports and promotion of that activity, so that better take-up is encouraged.

● A detailed action plan for achieving the improvements under this theme as presented in the SER should be developed.