technopolis group

June 2025

International Evaluation of Scientific Institutions of Latvia

Methodology

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Abbreviations

ARC - Average of Relative Citations

CDC - Citation Distribution Chart

CDI - Citation Distribution Index

DDA - Disciplinary Diversity of Authors

DDR - Disciplinary Diversity of References

DOIs - Digital Object Identifiers

FWCI - Field Weighted Citation Impact

HCP - Highly Cited Publications

ICR - International Collaboration Rate

NRIS - National Research Information System

WoS - Web of Science

1 Introduction

To differentiate between unit and institutional evaluation assessment, hereinafter we use the following definitions:

- **Unit** - units that participate in the evaluation and are evaluated by Expert Groups (includes, for example, research institutes, HEIs, organisational units of universities such as faculties, platforms, etc.). The process and criteria to evaluate units are explained in Sections 2 and 4 of this document.
- **Institution** - institutions that participate in the evaluation with several units.

1.1 Objectives of the evaluation

The Regulation on Procedures for Organising the International Evaluation of Scientific Institutions Activity[1] defines the procedures by which the Ministry of Education and Science should organise international evaluation of scientific institutions activity (hereinafter – international evaluation) once every six years.

The overall objective of the international evaluation is:

Improvement of the quality of research performed by research institutions in Latvia, including improvement of international competitiveness of research institutions, better integration in the European Research Area, increased competitiveness of the country as well as implementation of effective and evidence based research, technology development and innovation policy.[2]

The international evaluation will produce analytical assessment that will highlight the scientific performance and competitiveness, socioeconomic impact and development potential of scientific institutions. This assessment will

- Provide evidence for science policy making and funding allocations
- Enable the scientific institutions involved in the process to gain a significant impetus for improving their operations

The assessment is designed to meet the requirements of the Republic of Latvia Cabinet Regulation No. 619, 2018 (hereinafter Cabinet Regulation) and therefore is based on the following principles:

- *In evaluating the quality of scientific activity, fundamental and applied research shall be evaluated as equally significant*
- *In evaluating the impact of scientific activity on the relevant field of science, its impact on the related fields, the conformity with the objectives of the State scientific and technological development, as well as education and innovation development policy shall be evaluated*
- *In evaluating the economic and social impact of scientific activity, the potential of scientific results to promote higher education, social equality, integration and welfare, public health,*

[1] Republic of Latvia Cabinet Regulation No. 619. 2018. Procedures for Organising the International Evaluation of Scientific Institution Activity. Available at: https://likumi.lv/ta/en/en/id/301995-procedures-for-organising-the-international-evaluation-of-scientific-institution-activity

[2] Objective of the assessment as defined in the Technical Specification, Annex 1 to contract between Ministry of Education and Science of Republic of Latvia and Technopolis Ltd.

national security, sustainable development of the social, economic and culture field, public understanding of the significance of scientific activity, as well as impact on the achievement of the objectives, development of priorities and areas of the Smart Specialisation Strategy shall be evaluated

- *In evaluating the research infrastructure and its conformity with the operation of the scientific institution, the conformity with the institutional management, ensuring open access, long-term development, and resource planning shall be evaluated*
- *In evaluating the development potential of the scientific institution, the following aspects shall be evaluated:*
  - *the future vision of the scientific institution, including to what extent the evaluation of the strengths, weaknesses, opportunities and threats of the scientific institutions is justified*
- *the development plan of the scientific institution for the management of the following factors:*
  - *the ability of the selected scientific objectives to influence the international scientific community*
  - *the ability to initiate new research directions*
  - *the ability to attract students, doctoral candidates, and foreign researchers*
  - *the ability to attract funding as a result of tenders*
  - *international competitiveness of the academic staff*
- *In evaluating the quality of scientific activity, the cooperation of the scientific institution with the sector of national economy corresponding to the field of its activity shall be evaluated*

Consolidated institutional evaluation

The purpose of the consolidated institutional assessment is to provide inputs based on the International Evaluation to support the larger process of classifying universities as Universities of Science, Universities of Arts and Culture, and Universities of Applied Sciences as required by the Law on Higher Education Institutions and Cabinet Regulation No. 619. 2018. Procedures for Organising the International Evaluation of Scientific Institution Activity.

In 2024, the Cabinet Regulation was amended to include a requirement for the contractor delivering the evaluation to award a consolidated institutional evaluation to the scientific institution if the scientific institution participates in the evaluation with several units. The consolidated evaluation shall be awarded in addition to the evaluations awarded to the units to be evaluated.

The Cabinet Regulation requires a joint evaluation by the representatives of the groups of experts involved in the expert examination of all units when awarding the consolidated evaluation to the scientific institution, taking into account:

- The evaluation of each unit to be evaluated
- The report of the group of experts and the consolidated report
- The scientific research capacity of the units to be evaluated
- The specific nature of the major fields of science

2 Scope

The international evaluation is directed at institutions included in the Register of Scientific Institutions. Evaluation is compulsory for all state-funded scientific institutions, while private scientific institutions that are not Higher Education Institutions can participate on a voluntary basis.

The evaluation will cover 62 units. Table 1 shows the distribution of units across science fields.

Table 1 Number of units in each science field

Field	**Number of units**
Natural Sciences	6
Medical and Health Sciences	6
Agriculture, Forestry and Veterinary Sciences	5
Social Sciences	22
Humanities	10
Engineering and Technology	13

Eight institutions participate in the evaluation with more than one unit and will receive a consolidated institutional score.

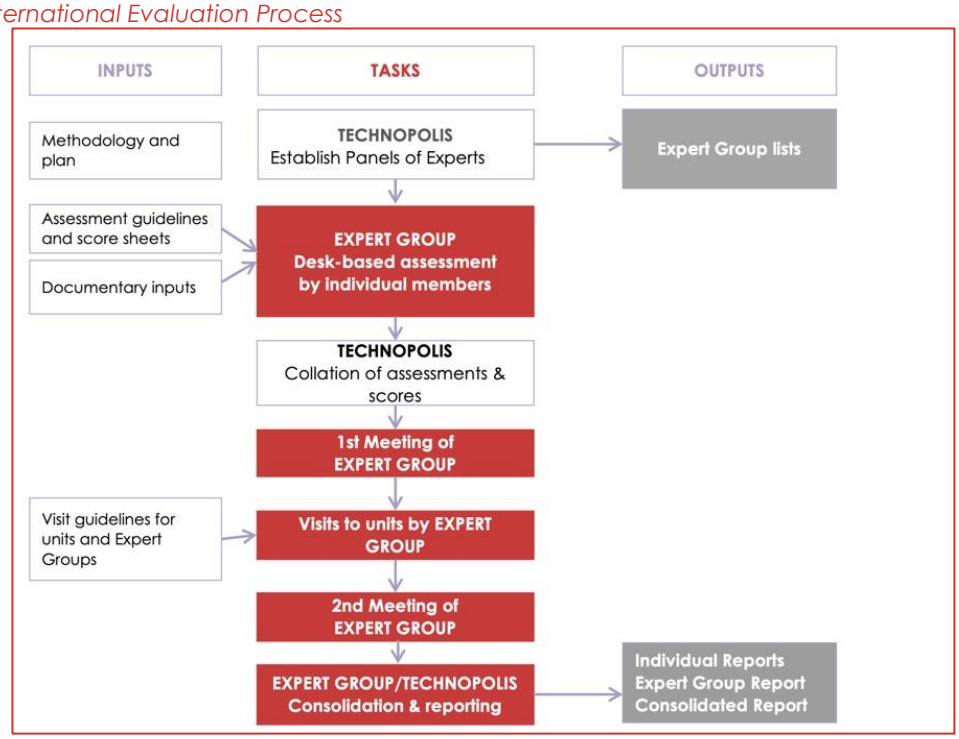
The international evaluation covers the research activities of Latvian institutions from 1 January 2019 to 31 December 2024.

3 The process

3.1 Overview of the process

The international evaluation is a peer review of Latvian research institutions by international experts. Their assessment is based on documentary evidence, a review of selected research outputs and institutional visits. Figure 1 shows the process of international evaluation.

Figure 1 International Evaluation Process



The main documentary inputs to the international evaluation are this methodology, which will guide the process, self-assessment reports, information from the National Research Information System (NRIS), selected research publications, general background information on the research, development and innovation system of Latvia and bibliometric analyses.

The international evaluation starts with the establishment of Expert Groups and the preparation of documentary inputs to support their work. This will result in Expert Group lists and background information for groups to review. This will be followed by a desk-based assessment performed by individual members of Expert Groups. The next step in the process is the first Expert Group meeting, where initial assessments and scores are agreed upon. Following the meeting, Expert Groups will visit the evaluated units. After the visits, the Expert Groups will meet again to agree on final assessments and scores. The process is completed by Expert Groups drafting Individual Reports. Technopolis will share Individual Reports with evaluated units for fact-checking and will share feedback from the units with the Expert Group. After considering feedback from units, Expert Groups will prepare Expert Group Reports. Technopolis will summarise the assessment in the Consolidated International Evaluation Report.

3.2 Documentary inputs to the international evaluation

Unit assessments will be based on documentary evidence, a review of selected research outputs and visits.

The unit assessments will make use of the following documentary inputs:

- Self-assessment reports submitted by units
- Selected research publications per unit
- Bibliometric indicators
- General background information, for example, national regulations, policy planning documents, key characteristics of the research, development and innovation system and other material will be used to provide background information to Expert Groups

The Expert Groups will also be provided with guidelines on the assessment process and score sheets. Technopolis will prepare this.

The research publications to be reviewed will be selected from the ranked list provided in section 3.4 of the self-assessment reports, with the number of publications based on the size of the institution (in staff numbers).

The number of research outputs to be assessed for each unit is calculated as follows:

- The minimum number of papers for review is **5** (regardless of the size of the unit)
- The maximum number of papers for review per unit is one paper per 10 academic/research staff as defined in section 2.1 in the self-assessment report (except where this would fall below a minimum of **5 papers**) i.e. the maximum number of papers to be reviewed is one-tenth of the number of academic/research staff, but not more than 15 papers
- Academic/research staff are defined based on section 2.1 in the self-assessment. It includes the total number of academic staff (excluding PhD students) and the total number of research staff (excluding PhD students) in the table in section 2.1.

3.3 Bibliometric analysis

Technopolis will work with Elsevier to perform a bibliometric analysis for each unit. The analyses will be provided to the experts in each of the Expert Groups.

The table below explains the components of the analysis.

Table 2 Components of bibliometric analysis

Components of bibliometrics analyses	
Period of analysis	Publications published in the period 1 January 2019 to 31 December 2024. For citation impact indicators, this period will be limited to 1 January 2019 to 31 December 2023. Note that the scores for recent publications (e.g., those published in 2023) may be less reliable due to a shorter citation window than the minimum usually recommended in bibliometrics (i.e., publication year plus 2).
Type of documents	Articles in peer reviewed journals, reviews, conference papers, books and monographs.
Approach to data harvesting	Publications for each unit will be identified in the bibliographic database (Scopus[3]) by collecting publication DOIs or titles from the units. If the unit cannot provide a list of DOIs, the unit should provide a list of publications

[3] If a majority of the publications in the list of publications submitted by the unit cannot be identified in Scopus, indicators will also be produced using the Web of Science database.

Components of bibliometrics analyses	
	including the following information: author(s), title, journal, publication year, volume, issue number and page number. Technopolis will make a request to submit a list of DOIs or titles of publications produced by the unit in the evaluation period.
Data Source(s)	Scopus database. If a majority of the publications in the list of publications submitted by the unit cannot be identified in Scopus, indicators will also be produced using the Web of Science database.

The following bibliometric indicators will be produced for each unit:

Number of Publications: The total count of published papers. Under the full counting method, each contributing unit receives full credit for a publication regardless of the number of co-authors. In contrast, the fractional counting method divides credit for a publication among contributing entities based on the number of affiliated authors.

Total Citations: The sum of all citations received by a unit's publications. The period will be limited from 1 January 2019 to 31 December 2023.

Citations by Document Type: The number of citations categorised by the type of document (e.g., article, review, conference paper).

Average Citations per Publication: The total number of citations divided by the number of publications. The number of citations can be used as a proxy for measuring contributions to subsequent knowledge generation.

Average of Relative Citations (ARC): Each paper's citation count is compared to the global average for papers of the same subfield, year, and document type. ARC is the average of these normalised scores. An ARC value above 1 indicates above-average citation impact.

Highly Cited Publications (HCP10): Proportion of an entity's papers that fall within the top 10% most cited in their subfield, year and document type. This measures the concentration of highly cited work and is frequently used to examine research excellence, measuring how many high-impact papers are produced by a given research unit, relative to their expected contribution to world-leading research.

Citation Distribution Chart (CDC) and Citation Distribution Index (CDI): The CDC is a decile-based chart showing how units' papers are distributed across global citation percentiles. It enables visual assessment of research impact distribution to compare units' performance to the global level. The CDI is a summary score derived from the CDC, capturing deviations from the expected global citation distribution. The theoretical range of the CDI is from -50 (worst) to +50 (best); 0 represents parity with global norms. In practice, CDI mostly ranges from -25 to +25.

Field Weighted Citation Impact (FWCI) – an impact indicator showing how the number of citations of a publication compares with the average number of citations received by all other similar publications indexed in the Scopus database. FWCI is useful to benchmark papers, researchers or institutions regardless of differences in size, disciplinary profile, age and publication types. FWCI and ARC can be seen as equivalent metrics relying on different classification systems. Hence, consistency between both metrics is a sign of robustness in the results.

International Collaboration Rate (ICR): The share of publications co-authored with international partners. This reflects the global engagement of the units' research output.

Q1 Journal Share: Proportion of publications appearing in journals ranked in the top 25% of their subfield by CiteScore. This reflects the share of research being published in top journals.

Disciplinary Diversity of Authors (DDA): Measures the diversity of co-authors' disciplinary backgrounds based on their prior publications. Higher scores indicate broader disciplinary integration among authors.

Disciplinary Diversity of References (DDR): Assesses the diversity of subfields cited in a paper, including the balance and cognitive distance among those subfields. Higher scores indicate interdisciplinary integration.

The Expert Groups will follow the principles set in the DORA declaration and the CoARA agreement, when performing the bibliometric analysis and the interpretation of its results, in particular, taking into account the diversity in the research outputs and their use, not covered by Scopus or Web of Science, as well as the differences across the fields of science.

3.4 Expert Groups

The international evaluation will be conducted by independent international experts, supported by Technopolis. The experts will be divided into seven Expert Groups:

- Natural Sciences
- Medical and Health Sciences
- Agriculture, Forestry and Veterinary Sciences
- Humanities
- Engineering and Technology
- Social Sciences 1
- Social Sciences 2

Due to the large number of units in Social Sciences, two Social Sciences Expert Groups will evaluate the units, with units split between the two groups. The Chairs of the two Social Sciences Expert Groups, with support from Technopolis, will coordinate the evaluation and drafting of the Social Sciences report to ensure consistency and provide relevant recommendations regarding the development of the discipline.

Each Expert Group will have six experts[4], with one expert assigned the role of Expert Group Chair.

Expert Group members will be selected based on the following criteria:

- Doctoral degree
- Experience in conducting evaluations of international research and development systems or the evaluation of scientific institutions in various countries
- At least 10 years of scientific work experience and original scientific publications in journals indexed in WoS or SCOPUS with citation index at least at the average of the sector average index (does not apply to industry experts)
- Does not represent evaluated research units and is not in conflict of interest

[4] If six experts cannot cover all fields of the units evaluated by the Expert Group, additional experts might be added.

To ensure consistency, some Expert Group members will be selected from the experts involved in the previous international evaluation, and others will be new to ensure a fresh perspective. Each Expert Group as a whole will provide disciplinary breadth to cover subject fields of units, will provide good geographical coverage across Europe and gender balance.

To ensure the presence of an industrial viewpoint, academic experts with industry experience or collaboration links with industry will be included in each Expert Group.

The list of Expert Group members will be sent to each unit in the NRIS and to the e-mail address of the contact person indicated in the self-assessment report. The unit should provide written confirmation of the list of experts. If there are objections, Technopolis will review them, and if justified, the list of experts will be reviewed and updated accordingly.

Expert Group Chairs were already selected for the tender procedure organised by the Ministry of Education and Science of Latvia when selecting the contractor to deliver the evaluation. In addition to the criteria listed above, Technopolis ensured that the chairs have experience in chairing similar Expert Groups to evaluate research institutions.

3.5 Tasks

Two Expert Group Members will be assigned to review the documentary inputs (including research outputs) and provide an initial assessment and initial scores (and explanatory notes for the score) for each unit against the assessment criteria. The Technopolis Expert Group coordinator will collate the scores.

The Expert Group members will attend the 1st Expert Group meeting to review and moderate the scores and make any necessary adjustments. Following the meeting, the Expert Group members will visit units in Latvia (described below). After the visits, the Expert Group members will attend a 2nd Expert Group meeting to review scores in light of the visits and make any final adjustments. After the visit to Latvia, the Expert Group will prepare Individual Reports that will be shared with units for fact-checking. After collecting feedback from units, the Expert Group Chair will write the Expert Group report, presenting the Group's assessment (i.e., that of the Group as a whole) for each unit, along with a summary of the research performance across the disciplines covered by the Expert Group.

Based on the Expert Group reports, Technopolis will prepare a Consolidated Report that presents a summary of all Expert Group reports, a comparison, and recommendations.

3.6 Unit Visits

The Expert Group members will visit all units in Latvia. The visits will enable the Expert Group to meet with researchers and research managers /senior staff. During the visits, units may organise interviews for the Expert Group members with the sectoral ministry to which the unit is subordinate, as well as with representatives of the involved industries, taking into account the specific nature of the units' operations.

The unit visits will be approximately 3 hours in length and will entail:

- Interviews or group discussions with senior staff, faculty staff, and leaders, where appropriate (lasting between 1 and 1.5 hours). This should include the head of the particular unit
- A tour of the facilities (between 45 minutes and 1 hour, or more if relevant for the unit)
- Interviews/group discussion only with doctoral students of the unit (about 0.5 hour)

- If applicable, interviews/group discussions with representatives of the sectoral ministry and/or industry representatives (between 1 and 1.5 hours)

If possible, the Expert Groups will have longer visits in larger units. This depends on the overall schedule of the visits and the number of units evaluated by the Expert Group.

The schedule of the Expert Groups is very tight. Therefore, units are expected to prepare carefully for the visit, taking into account the available time.

The units are asked to:

- Provide meeting space for in-person meetings, where the Expert Group can discuss with senior staff and researchers from the unit
- Arrange a visit to the research facilities
- Arrange for the most relevant people from the unit to be present

Table 3 presents the preliminary schedule of the Expert Group visits, indicating the week during which each Expert Group will visit Latvia. Technopolis will send a detailed schedule for each group to the relevant units at least one month ahead of the visit.

Table 3 Schedule of the Expert Group visits

Year	**2025**														
Calendar week	28.07.	04.08.	11.08.	18.08.	25.08.	01.09.	08.09.	15.09.	22.09.	29.09.	06.10.	13.10.	20.10.	27.10.	10.11
Agriculture, Forestry and Veterinary sciences (A)	A														
Engineering and Technology (E)											E				
Medicine and Health Sciences (M)									M						
Social sciences 1 (SS1)										SS1					
Social sciences 2 (SS2)														SS2	
Humanities and Arts (H)								H							
Natural Sciences (N)															N

4 Assessment criteria

4.1 Quality of the Research Performance of the unit

The overall process will assess the Quality of the Research Performance of each unit. The relevant Expert Group will score the research performance of each unit using the scale presented in Table 4 (using whole numbers only).

Table 4 Overall assessment criterion: Quality of the Research Performance of the unit

QUALITY OF THE RESEARCH PERFORMANCE OF THE UNIT	
SCORE	**DEFINTION**
5	Outstanding level of research
4	Very good level of research
3	Good level of research
2	Adequate level of research
1	Poor level of research

The score assigned to the overall assessment will be based on the assessment of six sub-elements A to E listed below and illustrated in Table 5. The Expert Group will provide the final overall score

based on its overall view, rather than a mathematical average. The criteria and scoring for each sub-element are described in Tables 5 to 9.

A The quality of the research

B The impact on the development of the field of science

C1 The economic impact of the research

C2 The social impact of the research

D The research environment and infrastructure

E The development potential

The Expert Group will provide scores against each sub-element and the overall score, and will also provide narrative descriptions of their scores, the overall score, and the sub-elements. The overarching final assessment of each unit will include the Experts' Groups' qualitative assessment of the unit's alignment with the objectives of national scientific and technological development. The Expert Groups will also provide an assessment of each unit's potential to offer doctoral training based.

The scores provided by the Expert Groups are judgements, not calculations, and are made based on the norms of the respective epistemic communities. They are consistent with international practice and are generally understood by expert reviewers. The scores (A to E) are not a calculation; they represent the Expert Group's assessment of the unit's performance based on all the documentation provided and the unit visits, and using the qualitative definitions for each criterion in Tables 6-10. Likewise, the overall consolidated score is also not calculated. It represents the Expert Group's overall assessment of the units' performance based

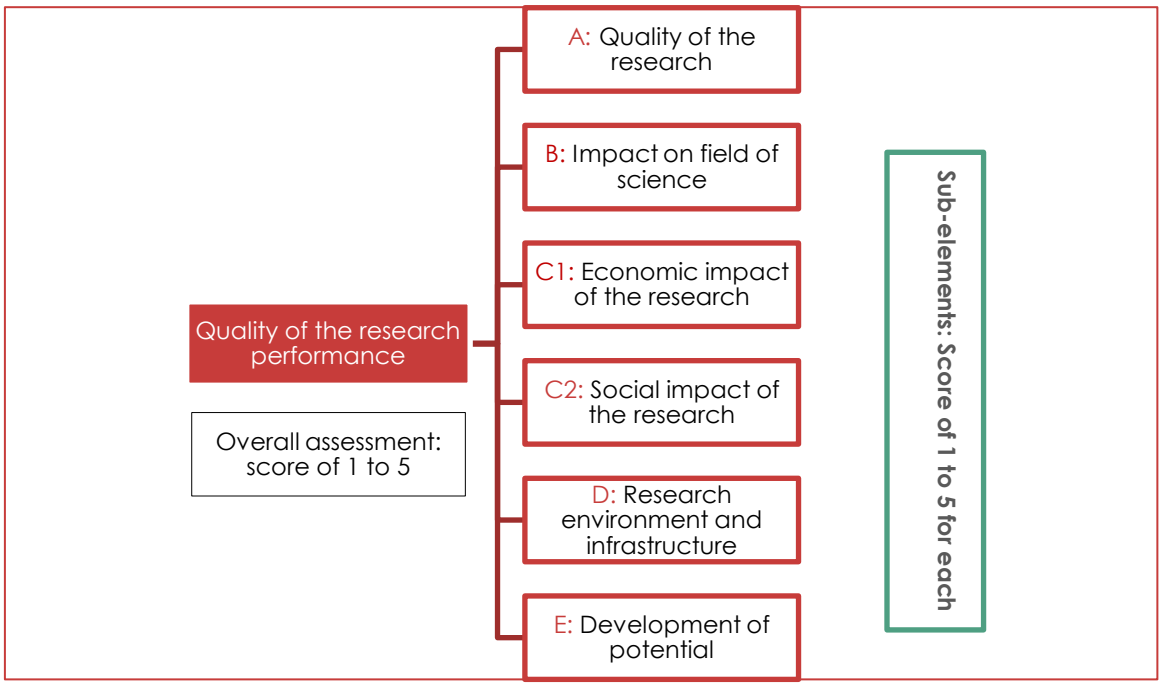
on the qualitative definitions in Table 11. All assessments (A to E plus the consolidated assessment) are provided as a score plus a narrative.

If the assessment of Expert Group members differs significantly, score definitions are reminded to ensure all group members follow the methodology. If disagreement remains, the Chair of the Expert Group decides the final score.

The key mechanism to ensure consistency in scoring is to use score definitions as outlined in the methodology. To ensure calibration, Technopolis Expert Group coordinators will attend all Expert Group meetings when scores are decided and will remind score definitions and ensure the Expert Groups follow the definitions. Consistency within and across Expert Groups is provided via the moderation of assessments. Moderators are senior Technopolis staff (Partners)experienced in implementing research evaluation processes who attend each Expert Group meeting where the scores are assigned. They ensure that all Expert Groups implement the scoring mechanism consistently.

Consistency over time is provided by the use of Moderators who were involved in the two prior International Evaluations in Latvia, plus including Experts in each Expert Group that were involved in the previous International Evaluation.

Table 5 Assessment criteria



4.2 Sub-elements

Tables 5 to 9 below describe the criteria and the 5-point scoring system for each sub-element. Appendix A illustrates the structure of the assessment output.

Table 6 Criterion A: Scientific Quality

A: QUALITY OF THE RESEARCH		
Particular factors to take into account		• Fundamental and applied research shall be evaluated as being of equal significance
SCORE	**DEFINTION**	**DESCRIPTION**
5	**Outstanding**	**The unit is a Global Leader.** In terms of the quality, the research output is comparable with the best work internationally[5] in the same area of research. The research possesses the requisite quality to meet highest standard in terms of originality, significance and accuracy. Work at this level should be the primary point of reference in the respective area.
4	**Very good**	**The unit is a strong international player.** Research by the unit possesses a very good standard of quality in terms of originality and importance. Work at this level can arouse serious interest in the international academic community, and international publishers or journals with the most rigorous standards of publication (irrespective of the place or language of publication) could publish work of this level.
3	**Good**	**The unit is a strong national player with some international recognition.** The importance of research by the unit is unquestionable in the experts' assessment. Internationally recognized publishers or journals could publish work of this level.
2	**Adequate**	**The unit is satisfactory national player.** The international academic community deems the significance of the research by the unit to be acceptable. Nationally recognized publishers or journals could publish work of this level.
1	**Poor**	**The unit is a poor national player.** Research by the unit contains new scientific discoveries only sporadically. The profile of the research by the unit is expressly national, i.e., the unit is not involved in international debates of the scientific community. It focuses mainly on introducing international research trends in Latvia.

[5] The designation "international" indicates that the activity and achievements of units are internationally comparable with globally recognised research teams in the same area of research.

Table 7 Criterion B: Impact on the Scientific Discipline

B: IMPACT ON FIELD OF SCIENCE		
Particular factors to take into account		• The impact of the research on the development of the scientific discipline and related fields
SCORE	**DEFINTION**	**DESCRIPTION**
5	**Outstanding**	**The unit is a Global Leader.** The research outputs of the unit are published in the leading forums of the respective discipline, and they have a considerable impact on the development of the discipline; the unit is highly valued as a partner in international research projects.
4	**Very good**	**The unit is a strong international player.** The unit is internationally recognised in its discipline and is highly regarded as a partner in international research projects and networks.
3	**Good**	**The unit is a strong national player with some international recognition.** The unit occupies a stable position in the international scientific community, is considered a respected and recognized centre of competence, and possibly hosts national research centres.
2	**Adequate**	**The unit is satisfactory national player.** The unit occupies a stable position in the national scientific community. The position of the unit within the international scientific community is still evolving; it still has to strive for its status as a recognised member of the discipline; its impact on the international scientific community is undetermined.
1	**Poor**	**The unit is poor national player.** The publishing strategy and scientific impact of the unit are predominantly geared towards the national scientific community and has limited impact also at national level.

Table 8 Criterion C: Economic and Social Impact

C: ECONOMIC (c1) AND SOCIAL IMPACT (c2)		
Particular factors to take into account		• Economic impact scoring will consider relevance to, and cooperation with, economic actors (with a particular focus on the national economy) • Social impact will consider development of the social and cultural spheres, the promotion of higher education, social equality, integration and welfare, public health, national security, public understanding of the significance of scientific activity
SCORE	**DEFINTION**	**DESCRIPTION**
5	**Outstanding**	**Highly Important Research and Highly Sought-after R&D Partner by Non-academics.** Research of the unit is highly important for the economy /society, which renders the unit a highly esteemed partner in research and development projects outside the academic environment. Staff members of the unit are in high demand as experts in the private / public sector /the public, and the unit is an important driver of societal development.
4	**Very good**	**Very Important Research and Sought-after R&D Partner by Non-academics**. Research of the unit is very important for the economy /society. The units' interactions with the private /public sector/the public stand out in terms of their extensive and dynamic nature.
3	**Good**	**Important Research and Satisfactory Level of Interaction with Non-academics.** Research of the unit is important for the economy /society. The units interactions with the private /public sector/the public are at a level that is expected of recognised academic institutions.
2	**Adequate**	**Important Research but Low Level of Interaction with Non-academics**. Research of the unit is important for the economy /society. The research activities of the unit are characterised by a low level of interaction with the private /public sectors/ the public.
1	**Poor**	**Important Research but no Interaction with Non-academics**. Research of the unit is important for the economy /society. The interaction by the unit with the private /public sectors / the public is yet to be established.

Table 9 Criterion D: Research Environment and Infrastructure

D: RESEARCH ENVIRONMENT AND INFRASTRUCTURE		
Particular factors to take into account		• Organisation of the management of research at the unit • The long-term strategic and financial resource planning, including the human resource development strategy • The goal orientation of the research work • The availability and quality of support services, research infrastructure, databases, technical staff, staff teaching and training workload, the ratio of students involved in research to the overall number of staff members, etc. • Ability to ensure Open Access to research results
SCORE	**DEFINTION**	**DESCRIPTION**
5	**Outstanding**	**The unit is a global leader**. The units research environment is fully comparable to the best international institutions in the discipline, in terms of the organisation, strategy and infrastructure of research work. It can attract the highest quality international researchers.
4	**Very good**	**The unit is a strong international player.** The unit is able to provide an internationally comparable excellent research environment to high-level international scientists in the given discipline.
3	**Good**	**The unit is strong national player**. The unit is able to provide a research environment that is comparable with globally recognised academic institutions in its discipline.
2	**Adequate**	**The unit is satisfactory national player**. The units research environment is still evolving to achieve a level that is expected in the international scientific community of a respected institution in the given discipline.
1	**Poor**	**The unit is poor national player.** The unit is still only in the process of creating an internationally comparable research environment.

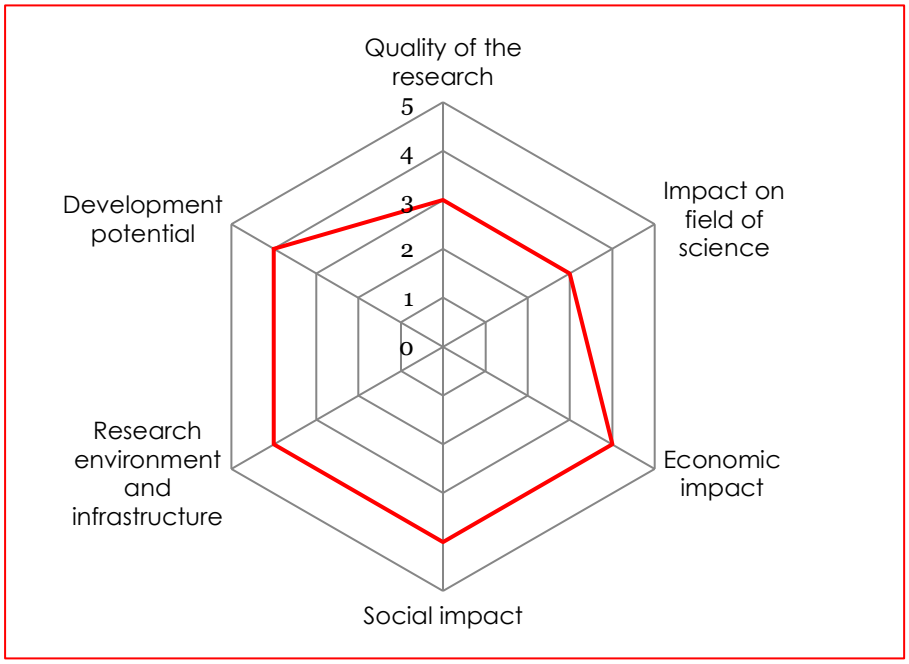
Table 10 Criterion E: Development Potential

E: DEVELOPMENT POTENTIAL		
Particular factors to take into account		The development potential comprises: • The ability of researchers to participate in international competition • The capability of the scientific environment to support the chosen research • The capability of the selected scientific objectives and research themes to impact the international scientific community and society at large • The ability to initiate new research directions The assessment will take into account: • How the unit has addressed the recommendations of previous evaluation • The units' future vision and plans • How realistically the unit assesses its strengths and weaknesses, opportunities and threat, and whether the unit has a carefully considered plan to manage such factors • The future vision of the unit, including to what extent the evaluation of the strengths, weaknesses, opportunities and threats of the unit is justified • The age and career progression of the active scientific staff • The ability to attract students, doctoral candidates, and foreign researchers • Ability to raise funding that is awarded competitively • Orientation towards topical issues in the selection of research themes • Involvement in promising international collaboration projects and networks, etc.
SCORE	**DEFINTION**	**DESCRIPTION**
5	**Outstanding**	**High potential to become global leader.** The unit is able to assume scientific leadership in the given scientific discipline. It is expected that over the next 5-10 years it will achieve a significant international breakthrough in the particular scientific discipline, and it will attract leading researchers and promising doctoral students. Within the foreseeable future, the unit is able to achieve a level of excellence that is comparable with the most outstanding institutions in the world within their discipline.
4	**Very good**	**Potential to become strong international player.** The unit is able to establish itself as a recognized and respected player in the international scientific community within the given scientific discipline. It is expected that over the next 5-10 years it will achieve an excellent level of scientific quality and influence and will become a highly regarded partner in international collaboration projects and networks.
3	**Good**	**Potential to become international player.** Over the next 5-10 years the unit will be able to strengthen its position in the international scientific community as a convincing actor and a trustworthy partner within international collaboration networks.
2	**Adequate**	**Potential to become strong national player**. The unit is capable of being a visible local player in its area of research, which from time to time can be expected to contribute to the activities of the international scientific community.

E: DEVELOPMENT POTENTIAL		
1	**Poor**	**Very limited scope for developing its research quality and reputation**. The unit has to work hard to establish itself as an internationally notable unit in its discipline within the foreseeable future.

Appendix A Unit assessment output overview

Unit A (example scores)



Criteria	Scores
Quality of the Research	3
Impact on Field of Science	3
Economic Impact	4
Social Impact	4
Research Environment and Infrastructure	4
Development Potential	4
Overall Score[6]	**4**

Qualitative description of the overall score of the unit

The over-arching assessment of each unit based on:

- Documentary review
- Bibliometric analysis
- Unit visit
- Final scores / Final overall score

Descriptive text for each of the six criteria

[6] No weighting is applied to the individual scores for the overall score. The Expert Group will provide the final overall score based on its overall view, rather than a mathematical average.

A: Quality of the research
B: Impact on field of science
C1: Economic impact
C2: Social impact
D: Research environment and infrastructure of the institution
E: Development potential
Potential to offer doctoral studies
Alignment with Smart Specialisation Strategy
Conformity with national scientific and technology development objectives
Recommendations
Conclusions and recommendations for improvement of scientific performance and development in next period. Recommendations will focus on improvement of the quality and impact of the research undertaken (where necessary), and on the research environment and infrastructure needed to support improved quality and impact.