Research Assessment Exercise 2026
Panel 4 – Electrical & Electronic Engineering
Panel-specific Guidelines on
Assessment Criteria and Working Methods

(October 2024)

Content:

Introduction

1. This document sets out the assessment criteria and working methods that the Electrical & Electronic Engineering Panel of the Research Assessment Exercise (RAE) 2026 will apply. It should be read alongside the General Panel Guidelines of the exercise. The provisions set out in this document serve as further elaboration and amplification on the assessment criteria and working methods as applied to the Electrical & Electronic Engineering Panel. In areas where no additional information has been specified, the provisions in the General Panel Guidelines will prevail and apply in the assessment process of the Panel. These guidelines do not replace or supersede the requirements for submissions that are set out in the Guidance Notes for RAE 2026.

2. This document describes the criteria and methods for assessing submissions in the Electrical & Electronic Engineering Panel. It provides guidance on the type of information required in the submissions. It also provides a single, consistent set of criteria that will be applied by the Panel and sub-group(s)/sub-panel(s), if any, when undertaking the assessment having regard to any differences in the nature of discipline of respective unit of assessment ("UoA") under purview. It also provides a common approach to the working methods applied within the Panel.

Section A: Submissions

UoA under the Panel

3. The Electrical & Electronic Engineering Panel will assess universities' submissions from UoA 12 electrical & electronic engineering.

4. The Panel expects to receive submissions whose primary research focus falls within the remit of the above UoA. The UoA under the Panel's remit covers the full spectrum of the basic and applied research related to Electrical & Electronic Engineering.

UoA descriptors and boundaries

UoA 12: electrical & electronic engineering

4.1 The electrical and electronic engineering UoA includes, but is not limited to, research in: analogue and digital systems and circuits including VLSI and more-than-Moore; antennas and radar; artificial intelligence and its applications; avionics; battery and energy storage technologies; bioelectronics; communications systems and communications networks of all types; computer and software engineering; computer vision; control and systems engineering; cryptography; data engineering; electrical energy and electrical power engineering; electrical power systems; electrical machines and drives; electrical systems; electromagnetics and its applications; electronic materials and devices; electrical materials and devices; electronic systems and circuits; energy harvesting and scavenging; information engineering; flexible electronics; instrumentation and measurement; intelligent and adaptive systems; machine learning and deep learning; materials for electrical energy applications; electrical materials characterisation, modelling and processing; electronic materials characterisation, modelling and processing; metrology; microelectronics; microelectromechanical systems (MEMS) and nanoelectromechanical systems (NEMS); modelling and simulation; multimedia; music technology; nanoelectronics; nanomaterials; nanotechnology; non-destructive testing and structural health assessment; optical fibre technology and applications; opto-electronics and applications; photonics and applications; polymer,

organic and large area electronics; power electronics; quantum photonics; quantum technologies; radio frequency (RF) techniques and propagation up to terahertz; renewable energy; robotics and automation; semiconductor modelling, processing and characterisation; sensors and actuators; signal and image processing; solar cells and photovoltaic systems; speech and language technology; systems modelling and identification; video and audio processing and coding; wind energy and engineering; wireless networks.

4.2 The Panel expects submissions in this UoA from all areas of electronic and electrical engineering as defined above, and expects that the majority of the research activity submitted will have made a direct contribution to the UoA as characterised in the UoA descriptor. It recognises and welcomes, however, the increasingly inter-disciplinary nature of research in this area, and expects that submissions may contain outputs that not only make contributions to this UoA and other cognate disciplines, but also to UoAs that extend beyond traditional cognate disciplines.

Inter-disciplinary Research

5. The Panel recognises that certain aspects of research are naturally inter-disciplinary or span the boundaries between individual UoAs, whether within the Panel or across panels. The Panel will adopt the arrangements for assessing inter-disciplinary submissions as set out in paragraphs 39-40 of the General Panel Guidelines.

6. Areas of inter-disciplinary research that are relevant to the Panel include, but not restricted to, biomedical engineering; computational methods; electrochemical engineering; functional materials; healthcare technologies; materials engineering; risk, reliability and resilience; whole-energy systems.

Assignment of Eligible Academic Staff in Each UoA

7. Pursuant to paragraphs 7-11 of the General Panel Guidelines, the Electrical & Electronic Engineering Panel expects to receive information on the sub-discipline to which each research output belongs to.

List of Sub-disciplines

Research Areas (code and name)	Sub-disciplines	
12a electrical engineering	12a-01	electrical energy and electrical power engineering; electrical power systems; electrical systems
	12a-02	electrical machines and drives
	12a-03	power electronics
	12a-04	electrical materials and devices; electrical materials characterisation, modelling and processing; materials for electrical energy applications
	12a-05	battery and energy storage technologies; energy harvesting and scavenging; renewable energy; solar cells and photovoltaic systems; wind energy and engineering
	12a-06	other electrical engineering
12b electronic engineering	12b-01	communication systems and communication networks of all types; wireless networks
	12b-02	multimedia; music technology; signal and image processing; speech and language technology; video and audio processing and coding
	12b-03	control and systems engineering; intelligent and adaptive systems; modelling and simulation; robotics and automation; systems modelling and identification
	12b-04	analogue and digital systems and circuits including VLSI and more-than-Moore; avionics; bioelectronics; electronic materials and devices; electronic systems and circuits;

Research Areas (code and name)	Sub-disciplines	
		flexible electronics; electronic materials characterisation, modelling and processing; microelectronics; nanoelectronics; nanomaterials; nanotechnology; polymer, organic and large area electronics; quantum technologies; semiconductor modelling, processing and characterisation
	12b-05	computer and software engineering; cryptography; data engineering; information engineering
	12b-06	computer vision; instrumentation and measurement; metrology; non-destructive testing and structural health assessment; sensors and actuators; sensing systems
	12b-07	artificial intelligence and applications; machine learning and deep learning
	12b-08	microelectromechanical systems (MEMS) and nanoelectromechanical systems (NEMS)
	12b-09	antennas and radar; electromagnetics and its applications; radio frequency (RF) techniques and propagation up to terahertz
	12b-10	optical fibre technology and applications; opto-electronics and applications; photonics and applications; quantum photonics
	12b-11	other electronic engineering

8. It is critical that research outputs are assessed by the most appropriate panel. If the Panel suspects any anomaly regarding universities' assignment of eligible academic staff (and therefore their outputs) to research area(s) and UoA(s) under its remit, it will follow the procedures for re-assignment of eligible staff according to paragraphs 10-11 of the General Panel Guidelines. The Panel also recognises its responsibility to handle submissions arising from any re-assignment of eligible academic staff to the Panel.

Section B: Assessment Criteria: Research Outputs

Output Types

9. The Electrical & Electronic Engineering Panel will consider the eligibility of research outputs as described in paragraphs 15-17 of the General Panel Guidelines, paragraphs 5.7-5.11 and Appendix E of the Guidance Notes.

10. The Panel will assess the quality of each eligible output on its own merits and not in terms of its publication category, medium or language of publication. The Panel will examine each item in detail and will not assess outputs mechanistically according to the publication venue. The Panel recognises that there can be work of the highest quality in various output forms, and no distinction will be made between types of output submitted nor whether the output has been made available electronically or in a physical form.

11. (a) Forms of research outputs that are admissible and specifically relevant to the Electrical & Electronic Engineering Panel include the following examples. This should not be regarded as an exhaustive list. Equally, there is no implication of priority or importance in the ordering of examples in this list –

- published papers in peer-reviewed journals.
- peer-reviewed published conference papers.

(b) Other forms of research output are also encouraged for which additional information of 300 words must be provided, in accordance with paragraph 35 of the General Panel Guidelines. This should not be regarded

as an exhaustive list. Equally, there is no implication of priority or importance in the ordering of examples in this list –

- books, book chapters and research monographs.
- new materials, devices, products and processes.
- awarded patents or published patent applications.
- review articles where these incorporate a significant amount of new research or new hypothesis.
- software, computer code and algorithms.
- standards documents.
- technical reports.
- articles posted on open access pre-print repositories.

Please note the requirements for an abstract that includes a clear indication of what new insights or innovation are presented in outputs, as at paragraph 18 (a) of the General Panel Guidelines.

12. Research outputs will be assessed for the quality of original research they include. Accordingly, the Panel will expect submitted review articles to contain a significant component of unpublished research or new insight. Such outputs will be judged only on their original research or novelty of insight.

13. *(Template paragraph deleted)*

14. The Panel requires that a brief statement of no more than 100 words must be submitted for each output item to indicate the significance of the output. Please do not include the summary of abstract, summary of research findings or summary of conclusions, or any metrics or citation data, within the 100 words.

Double-weighting of Research Outputs

15. Paragraphs 29-31 of the General Panel Guidelines indicate that in exceptional cases a submitting university may request that outputs of extended scale and scope be double-weighted in the assessment. However,

given the publication patterns in Electrical & Electronic Engineering, this Panel does not expect to receive any items proposed for double-weighting.

16. *(Template paragraph deleted)*

Co-authored/Co-produced Outputs

17. The Panel affirms the principles and arrangements on assessing co-authored/co-produced research outputs as set out in paragraphs 32-34 of the General Panel Guidelines.

18. The Panel considers co-authorship to be a normal element of research activity in Electrical & Electronic Engineering and expects all named co-authors to have made a significant contribution to the research process leading to the output concerned. In judging the quality of an output, the Panel will not give any weighting to the position of the author in the authorship list. In assessing outputs where there are more than ten co-authors, the Panel requires a brief submission of no more than 100 words describing the specific contribution of the submitting co-author. The Panel will assess the information provided, and if it considers that the co-author has made a significant contribution to the output then the output will be scored in the normal way. If, however, the Panel considers the individual co-author contribution to be very limited then the paper will be graded as unclassified.

Non-traditional Outputs

19. The Panel will handle other forms of research outputs of the types listed in paragraph 11 (b) above according to paragraphs 35-37 of the General Panel Guidelines. The Panel expects to receive additional information for each output of the type in paragraph 11 (b) above in terms of its novelty, significance, method used to ensure academic rigour in the production of the output, deliverables, and dissemination method.

Criteria and Quality Levels for Assessing Research Outputs

20. Panel members will use their professional judgement with reference to international standards in assessing research outputs.

21. In assessing outputs, the Panel will look for evidence of originality, significance and rigour, and will grade each output into one of the five categories of quality level as set out in paragraph 19 of the General Panel Guidelines. The generic description of the quality levels as set out in paragraph 20 of the General Panel Guidelines will be applied in the Panel's assessment.

22. The Electrical & Electronic Engineering Panel provides the following amplifications on the criteria of assessing research outputs –

- originality will be understood as the extent to which the output makes an important and innovative contribution to understanding and knowledge in the field. Research outputs that demonstrate originality may do one or more of the following: produce and interpret new empirical findings or new material; propose paradigm shift; engage with new and/or complex problems; develop innovative research methods, methodologies and analytical techniques; show imaginative and creative scope; provide new arguments and/or new forms of expression, formal innovations, interpretations and/or insights; collect and engage with novel types of data; and/or advance theory or the analysis of doctrine, policy or practice, and new forms of expression.
- significance will be understood as the extent to which the work has influenced, or has the capacity to influence, knowledge and scholarly thought, or the development and understanding of policy and/or practice.
- rigour will be understood as the extent to which the work demonstrates intellectual coherence and integrity, and adopts robust and appropriate concepts, analyses, sources, theories and/or methodologies.

23. In addition, the Panel provides the following advice on their understanding of the quality definitions adopted for assessing research outputs. The Panel will take into consideration the following characteristics in particular –

- scientific rigour and excellence with regard to the design, research method, execution and analysis of the work.

- whether or not the output has been subject to peer-review.
- significant addition to knowledge and to the conceptual framework of the field.
- potential and actual significance of the research, both within and beyond the field concerned.
- the scale, challenge and intellectual difficulty posed by the research.
- the logical coherence of argument.
- contribution to theory-building.
- significance of the work to advance knowledge, skills, understanding and scholarship in theory, practice, education, management and/or policy.

Metrics/Citation Data

24. Pursuant to paragraph 24 of the General Panel Guidelines, the Panel acknowledges that metrics and citation data may serve as advisory or secondary information, and that they should not be used in any algorithmic or deterministic way for the evaluation of research quality.

25. The Electrical & Electronic Engineering Panel will examine each output in detail for the assessment. The Panel will use citation data only as an additional factor to inform its assessment of individual items. The data will not be used in any algorithmic or deterministic way for the evaluation of research quality. The Panel is aware of the limitations of citation data, their variability within and between disciplines, and that some excellent work takes time to demonstrate its full achievements. The Panel will not use journal impact factor during quality assessment of a research output.

Additional Information on Research Outputs

26. Other than the information required on research outputs as specified in the Guidance Notes, and unless specifically required by the Panel during the assessment process, no other information should be provided, and the Panel will take no account of any such information if submitted.

Section C: Assessment Criteria: Research Impact

Range of Impacts

27. The Electrical & Electronic Engineering Panel will accept submissions on research impacts that meet the generic definition and criteria as set out in paragraphs 47-49 of the General Panel Guidelines.

28. The Panel will assess the quality of all eligible impact submissions based on their merits on equal footing with no consideration given to the differences among submitting universities/units in terms of staff size, resources and histories. The Panel recognises that impacts within its remit can be manifested in various ways and may occur in a wide range of spheres whether locally, regionally or internationally.

29. Examples are provided to illustrate the range of potential impacts from research across the Electrical & Electronic Engineering Panel in Table A. These examples are indicative only, and are not exhaustive or exclusive. Equally, there is no implication of priority or importance in the ordering of examples in the list.

30. Universities are expected to submit their strongest impact cases and not to align submitted cases specifically with the particular types of impact listed in Table A, as an impact case may describe more than one type of impact.

Table A: Examples of Impact[1]

Impacts on the economy	• Gains in productivity have been realised as a result of research-led practices.

[1] Examples of impact case studies in RAE 2020 may be accessed online at <https://impact.ugc.edu.hk/> and <https://www.ugc.edu.hk/eng/ugc/activity/research/rae/2020/impactsubmissions.html>. Other examples of research impact as assessed in other jurisdictions may be accessible online such as <https://results2021.ref.ac.uk/impact> from the United Kingdom.

Universities may also refer to examples of impacts and indicators detailed in Annex A of <https://2021.ref.ac.uk/media/1450/ref-2019_02-panel-criteria-and-working-methods.pdf> of the United Kingdom Research Excellence Framework 2021.

	• A spin-out or new business has been created, established its viability, or generated revenue or profits. • Contributing to economic prosperity, innovation and entrepreneurial activities. • The introduction of new products or processes.
Impacts on the environment	• The management of an environment risk or hazard has changed. • The management or conservation of natural resources (e.g. water) has been influenced or changed. • Changes in practices or policies affecting biodiversity.
Impacts on health	• A new device, diagnostic or medical technology has been adopted. • Decisions by health service or regulatory authority have been informed by research. • Development or adoption of new indicators of health or well-being.
Impacts on public policy and services *Impact on UN Sustainable Development Goals (SDGs)*	• Policy decisions or changes to legislation, regulations or guidelines have been informed by research. • Policy or public debate has been stimulated or informed by research evidence. • Influencing the work of public or non-governmental organisations. • Delivering on the other UN SDGs not already addressed above.

Impact Strategy

31. Universities are reminded to set out their impact strategy in the University-level and UoA-level Environment Overview Statements.

Impact Case Study(ies)

32. Following paragraphs 7.7 (a) and (b), 7.9-7.10 and Appendix F of the Guidance Notes and also paragraph 51 of the General Panel Guidelines, submitting units are required to provide a narrative account in each case study that should be coherent, clearly explaining the relationship between the research and impact(s), and the nature of the changes or benefits arising.

33. Each impact case study should include appropriate evidence and indicators that support the claims for the impact achieved, including who and what has/have benefitted, when the impact occurs/occurred, and the relationship between the case study and how it has/had sustained further innovation and impact. Individual case studies may draw on various evidence and indicators, which may take different forms depending on the type of impact. Continued impact case studies, if submitted, should follow the guidance provided in paragraph 48 of the General Panel Guidelines. The impact described in all case studies submitted must have already occurred, and case studies based on potential future impact (i.e. impact which has not occurred) will be graded as unclassified.

34. Examples are provided in Table B to illustrate potential evidence or indicators that may be mostly relevant to the Electrical & Electronic Engineering Panel. These examples are not intended to be exhaustive. Equally, there is no implication of priority or importance in the ordering of examples in the list.

Table B: Examples of Evidence or Indicators for Impact[2]

Quantitative indicators	• Quantitative data relating to cost-effectiveness. • Performance measures (e.g. sales, turnover, profits associated). • Audience or attendance figures.
Documentary evidence	• Documented changes to public policy / legislation / regulations / guidelines. • New professional codes and standards.

[2] See footnote 1.

	• Licences awarded and brought to market.
Engagements	• Commercial adoption of new technology, process, knowledge or concept. • Evidence of policy or public debate.
Independent testimony	• Formal acknowledgements of and/or evaluations by relevant beneficiaries, bodies and organisations.
Reviews and citations	• Citations and reviews outside the academic literature, e.g. in policy, regulatory, practice documents.

35. The Panel provides the following advice on particular aspects of impact case studies –

- Impact case studies should be interpreted as illustrating the impact that has arisen from a well-defined piece of research. In some circumstances a particular piece of research has had impact in several distinct areas, for example with different companies or products. Submitting units are encouraged to illustrate the breadth of the impact by including more than one example.

Underpinning Research

36. The Panel acknowledges the level of quality required for research underpinning impact cases, i.e. equivalent to at least 2 star (2*) or international standing, as stipulated in the General Panel Guidelines. Where necessary, the Panel will review the outputs concerned in order to ensure the quality of the research is of at least 2 star (2*).

37. Provided that the Panel is satisfied that the 2 star (2*) quality threshold has been met, the quality of the underpinning research will not be taken into account in the assessment of the quality of impact. Underpinning research referenced in a case study may also be submitted for assessment under the research output element. The evaluation of the outputs concerned under the impact element is a separate assessment only for assuring the threshold of underpinning research. In this case, the

guidance on output types and criteria for assessing research outputs as stipulated in paragraphs 9-14, 20-23 above would apply.

Criteria and Quality Levels for Assessing Research Impact

38. Panels will exercise their expert judgement in assessing the quality of each impact submission, and will not judge in terms of the type of research underpinning the impact cases.

39. In assessing impacts, the Panel will look for evidence of reach and significance, and will grade each impact submission as a whole and give a rating using one or more of the five categories of quality level following paragraphs 53-55 of the General Panel Guidelines. In respect of the Electrical & Electronic Engineering Panel, the criteria of reach and significance will be understood as follows –

- reach: the extent and/or diversity of the beneficiaries of the impact, as relevant to the nature of the impact. Reach will be assessed in terms of the extent to which the potential constituencies, number or groups of beneficiaries have been reached; it will not be assessed in purely geographic terms, nor in terms of absolute numbers of beneficiaries. The criteria will be applied wherever the impact occurred, regardless of geography or location, and whether in Hong Kong or elsewhere. For example, the Panel will evaluate the extent to which society as a whole, communities or individuals have been benefitted from the introduction of a new product.
- significance: the degree of beneficial effects to the economy, the environment, or society as a whole or in part, both locally and internationally.

40. The Panel will make an overall judgement about the reach and significance of impacts, rather than assessing each criterion separately. The criteria will be applied in the assessment of the research impact regardless of the domain to which the impact relates. In addition, the Panel understands the quality standards for assessing research impact as defined in paragraph 55 of the General Panel Guidelines.

Section D: Assessment Criteria: Research Environment

Research Environment

41. The Electrical & Electronic Engineering Panel will accept submissions on research environment according to paragraphs 57-58 of the General Panel Guidelines. The Panel recognises that excellent research can be undertaken in a wide variety of research structures and environments. The Panel has no pre-formed view of the ideal size or organisational structure for a research environment. The Panel will assess each submission based on what has been presented in relation to the efforts of the submitting unit in providing and sustaining a healthy environment.

42. A research environment submission includes one University-level Environment Overview Statement across the same university, and one UoA-level Environment Overview Statement and environment data for each UoA.

Environment Overview Statements (One University-level Environment Overview Statement across the University and One UoA-level Environment Overview Statement for Each UoA)

43. Following paragraphs 9.6 (a) and (b), 9.7, 9.8 and Appendix G of the Guidance Notes, and also paragraphs 59 & 60 of the General Panel Guidelines, the Panel will use the information provided in the University-level Environment Overview Statement to inform and contextualise their assessment of relevant sections of the UoA-level Environment Overview Statement. Submitting units are required to describe how they have supported the conduct and production of research, in the context of the university's policies as set out in the University-level Environment Overview Statement.

44. Within the terms of the Guidance Notes, the Electrical & Electronic Engineering Panel will expect in particular to see the following in the –

44.1 University-level Environment Overview Statement

- context and mission: an overview describing the submitting university's size, structure, mission and stage of development

in view of its role statement so as to provide a context for the submission.

- research policy and strategy: describing the institutional strategy for research (including research strengths, research focus areas, distribution of research activities across research areas), enabling impact (including stakeholder engagement and knowledge transfer), developing a sustainable research culture (including open access and open data policies, approach to contributing to the Sustainable Development Goals, how inter-disciplinary and collaborative research has been supported, how research integrity and research ethics are embedded in the institution), and how the overall institutional policy and strategy contribute to government priorities.
- people: institutional staffing strategy, staff development and training (e.g. recruitment, leave policies, equality and diversity agenda, measures/facilities for early career researchers/research students, etc.), and development, training and supervision of research students.
- research funding sources: breakdown by funding source as a percentage total of overall funding; and university-level resources, infrastructure, and facilities available to support research and impact.

In the context of research environment, the university is encouraged to comment on the extent to which generative AI technologies have been addressed, applied or used within any of the above elements.

44.2 UoA-level Environment Overview Statement

In the context of the university's policies as stipulated in the University-level Environment Overview Statement –

- UoA context and structure: submission in this part is expected to briefly describe the organisation and structure of the unit, which research groups are covered in the submission and how research is structured across the submitting unit.

- research and impact strategy: evidence of the achievement of strategic aims for research and impact during the assessment period, details of current/future strategic aims and goals for research and impact; how these relate to the structure described above; and how they will be taken forward; methods for monitoring attainment of targets; new and developing initiatives not yet producing visible outcomes but of strategic importance; identification of priority developmental areas for the unit, including research topics, funding streams, postgraduate research activity, facilities, administration and management.
- research integrity and research ethics: give evidence of the steps taken to ensure that the research is undertaken in an ethical manner with rigour, honesty and care and respect for those involved in the process. Research conducted with integrity leads to findings people can trust and have confidence in. Disciplinary best practice may consider, but is not limited to, issues ranging from approaches to training, ensuring dissemination and accessibility of results, data availability, registration of protocols, ethical compliance, authorship policies, reproducibility, open research, participatory research, the handling of conflicts of interest and intellectual property, and approaches to dealing with allegations of research misconduct and questionable research practices.
- people: evidence of staffing strategy, staff development and training (e.g. leave policies, equality and diversity agenda, measures for early career researchers, etc.) and evidence of their effectiveness; how individuals at the beginning of their research careers are being supported and integrated into the research culture of the submitting unit; information on postgraduate recruitment, training and support mechanisms; measures/facilities for development and supervision of research students. Evidence of attention to achieving a suitable level of diversity in the make-up of a research environment will be regarded positively.
- income (e.g. grants received), infrastructure and facilities: information on research funding portfolio; evidence of successful generation of research income; major and

prestigious grant awards made by external bodies on a competitive basis; provision and operation of research infrastructure and facilities, including special equipment, library, technical support, space and facilities for research groups and research students; information on joint-university or cross-institution shared or collaborative use of research infrastructure.

- collaborations: information on support for and exemplars of research collaborations; mechanisms to promote collaborative research at local and international level; support for inter-disciplinary research collaborations; research collaboration with research users.
- esteem: prestigious/competitive research fellowships held by individual researchers; external prizes and awards in recognition of research achievement; membership/fellowship of relevant national academies.
- contribution to the discipline or research base: exemplars of leadership in the academic community such as advisory board membership; participation in the peer-review process for grants committees or editorial boards.

The Panel notes that the exemplars provided in the list given above are non-exhaustive, and submitting units may include other relevant examples.

In the context of research environment, the submitting UoA is encouraged to comment on the extent to which generative AI technologies have been addressed, applied or used within any of the above elements.

Environment Data

45. Following paragraphs 9.6 (d) and (e), 9.9 and Appendix H of the Guidance Notes, and also paragraph 61 of the General Panel Guidelines, submitting units are required to provide environment data in conjunction with the UoA-level Environment Overview Statement. The Panel will consider the environment data within the context of the information provided in the Environment Overview Statement, and within the context of the disciplines concerned.

46. Data on "staff employed by the university proper" and "graduates of research postgraduate programmes" will be used to inform the Panel's assessment in relation to "people" (section (4) of the UoA-level Environment Overview Statement). Data on "on-going research grants/contracts" will be used to inform the Panel's assessment on "income (e.g. grants received)" (part of section (5) of the UoA-level Environment Overview Statement). All types of research income will be treated equally by the Panel. Additional quantitative data or indicators that are particularly relevant to the Panel are indicated in paragraph 44 above. Such additional information should be submitted within the appropriate section(s) of the UoA-level Environment Overview Statement.

Criteria and Quality Levels for Assessing Research Environment

47. Panels will exercise their expert judgement in assessing the merits of each environment submission, and will not judge automatically in terms of the scale of research environment concerned.

48. In assessing environment, the Panel will consider research environment in terms of vitality and sustainability, including its contribution to the vitality and sustainability of the wider discipline or research base. The Panel will grade each environment submission with weighting attached to individual aspects as follows –

- research and impact strategy – 10%
- research integrity and research ethics – 5%
- people – 30%
- income (e.g. grants received), infrastructure and facilities – 20%
- collaboration – 15%
- esteem – 10%
- contribution to the discipline or research base – 10%

The Panel will use one or more of the five categories of quality level as specified in paragraphs 63-65 of the General Panel Guidelines for assessing each aspect within the environment element and by aggregating assessments of individual aspects to form an overall assessment for each UoA-level environment submission.

49. The Electrical & Electronic Engineering Panel provides the following amplifications to supplement the generic criteria for assessing research environment –

- vitality: the extent to which a unit supports a thriving and inclusive research culture for all staff and research students, that is based on a clearly articulated strategy for research and enabling its impact, is engaged with the local and international research and user communities and is able to attract excellent postgraduate and postdoctoral researchers through a worldwide reputation.
- sustainability: the extent to which the research environment ensures the future health, diversity, wellbeing and wider contribution of the unit and the discipline(s), including investment in people and in infrastructure, and where appropriate for the subject area, the extent to which activity is supported by a portfolio of research funding.

50. The Panel will make an overall judgement about the vitality and sustainability of research environments, rather than assessing each criterion separately.

Section E: Working Methods

Use of Sub-Group(s)/Sub-Panel(s)

51. To facilitate assessment, the Electrical & Electronic Engineering Panel may use sub-groups. The final assessment and grading will be decided by the Panel as a whole.

Allocation of Work in the Assessment Process

52. The Convenor, consulting the Deputy Convenor and other panel members, as appropriate, will allocate work to members and, if necessary, lay members, impact assessors and/or external reviewers in light of their expertise and workload. In allocating the work, the Convenor will also take into account any potential conflicts of interest of respective panel members and assessors. All panel members will take account of the requirements of

the General Panel Guidelines to ensure that the exercise is conducted fairly and equitably.

53. Panel members will examine the submitted outputs in detail, and put forward a recommendation to the Panel for a collective decision on the final grading. To ensure fairness and consistency, each research output will be assessed in detail by at least two members, one of whom should be a non-local member to the extent possible. Final grading on research outputs will be decided by the Panel as a whole.

54. Subject to conflicts of interest of individual panel members, and to the extent possible, the impact and/or environment submissions will be assessed by members of the whole Panel and the final grading of individual submissions will be a collective decision of the Panel.

55. Where appropriate, the Panel will decide, by exercising their professional judgement, whether lay members (local "research end-users" or professionals in respective fields from business, government, industry and the arts, who need not be academics) with suitable expertise will be invited to take part in the assessment. Lay members who are academically qualified may also be invited for assessment of research outputs and research environment. The engagement of lay members will be by invitation from the Panel Convenor, after consulting with the Deputy Convenor and panel members.

Cross-Panel Referrals

56. This Panel will follow the procedures in paragraphs 41-43 of the General Panel Guidelines when initiating referrals to other panels and assessing submissions cross-referred by another panel.

57. *(Template paragraph deleted)*

58. *(Template paragraph deleted)*

External Advice

59. This Panel will follow the procedure in paragraph 67 of the General Panel Guidelines if referral to external reviewers for expert advice becomes necessary for panel assessment.

Trial Assessment

60. With reference to paragraphs 91-93 of the General Panel Guidelines, the Panel will conduct a trial assessment using a sample of submissions selected from universities' submissions. These sample submissions will be assessed by all members of the Panel. Members will share among themselves any important observations in the assessment to ensure fairness and consistency in the actual assessment. Submissions used for the trial assessment will be assessed afresh during the main assessment period regardless of their assessment results during the trial. The Panel will decide on the sample size after the submissions are received.

Panel Feedback Report

61. With reference to paragraph 73 and Appendices E and F of the General Panel Guidelines, the Panel will provide feedback to the University Grants Committee (UGC) after the assessment process. Non-local panel members will be involved in offering comments for an impressionistic international comparison. The Convenor on behalf of the whole panel will submit the panel feedback report to the UGC by November 2026. Sector-wide comments in the panel feedback report will be released for public information after announcement of the RAE results. Comments on individual universities will be provided to the respective universities under confidential cover in accordance with paragraph 11.3 of the Guidance Notes.