UK-Canada Quantum Communications and Networking Demonstrator assessor guidance for applicants

This document contains the guidance and scoring used by the Assessors when reviewing your application. Assessors will review your answers for each scored question and mark each of them between 1 and 10 (1 being the lowest and 10 being the highest).

Any questions that are not scored will not be reviewed by the Assessor.

Question 1: Applicant location (not scored)

You must state the name and full registered address of your organisation and any partners or subcontractors working on your project.

We are collecting this information to understand more about the geographical location of all applicants.

Question 2. Animal Testing (not scored)

Will your project involve any trials with animals or animal testing?

You must select one option:

- Yes
- No

We will only support innovation projects conducted to the highest standards of animal welfare.

Further information for proposals involving animal testing is available at the UKRI Good Research Hub and NC3R's animal welfare guidance.

Question 3. Permits and licences (not scored)

Will you have the correct permits and licences in place to carry out your project?
We are unable to fund projects which do not have the correct permits or licences in place by your project start date.

You must select one option:

- Yes
- No
- In process of being applied for
- Not applicable

Question 4. International Collaboration (not scored)

Does your proposed work involve any international collaboration or engagement?

You must provide details of any expected international collaboration or engagement. You must include a list of the names and the countries, any international project co-leads, project partners, visiting researchers, or other collaborators are based in. You must also include details of any subcontractors or service providers.

If your proposed work does not involve international collaboration or engagement, your answer must confirm this.

Question 5. Export licence (not scored)
You must indicate whether an export control license is required for this project under the academic export control guidance.

You must select one option:

- Yes
- No

Question 6. Trusted Research and Innovation (not scored)

You must explain if your proposed project work relates to UKRI's Trusted Research and Innovation (TR&I) Principles, including:

- a list of any dual-use (both military and non-military) applications to your research
- a list of the areas where your project is relevant to one or more of the 17 areas of the UK National Security and Investment (NSI) Act
- whether an export control license is required for this project under the academic export control guidance and the status of any applications
- a list of any items or substances on the UK Strategic Export Control List

If your proposed work does not relate to UKRI's TR&I Principles, your answer must confirm this.

We may ask you to provide additional TR&I information at a later date, in line with UKRI TR&I Principles and funding terms and conditions.

Question 7. Need or challenge

What is the business need, technological challenge, or market opportunity behind your innovation?

Explain:

- the main motivation for the project
- the business need, technological challenge or market opportunity
- whether you have identified any similar innovation and its current limitations, including those close to market or in development
- any work you have already done to respond to this need, for example, if the project focuses on developing an existing capability or building a new one
- the wider economic, social, environmental, cultural or political challenges which are influential in creating the opportunity, such as incoming regulations

Question 7. Need or challenge: Assessor guidance and scoring

Scores 9 - 10

There is a compelling business motivation for the project.

There is a clear understanding of any similar innovation identified and its current limitations.

The applicant has shown, if applicable, how the project will build on previous relevant work.

Any wider factors influencing this opportunity are clearly identified.

Scores 7 - 8

There is a good motivation for the project.

There is a good awareness of the nearest innovation identified and wider factors influencing the opportunity.

Scores 5 - 6

The project motivation is good, but there is a lack of understanding of the nearest innovation identified or wider factors influencing this opportunity.

Scores 3 - 4

Project motivation is poorly defined or not relevant to the applicant or team.

References to the similar innovations available or wider factors influencing this opportunity are not offered or are not relevant.

Scores 1 - 2

There is little or no business drive to the project.

References to any similar innovations available or wider factors influencing this opportunity are not offered or are not relevant.

Question 8. Approach and innovation

What approach will you take and where will the focus of the innovation be?

Explain:

- how you will respond to the need, challenge or opportunity identified
- how you will improve on any similar innovation that you have identified
- whether the innovation will focus on existing technologies in new areas, the development of new technologies for existing areas, or a totally disruptive approach
- the freedom you have to operate
- how this project fits with your current product, service lines or offerings
- how it will make you more competitive
- the nature of the outputs you expect from the project, for example reports, demonstrator, know-how, new process, product or service design, and how these will help you to target the need, challenge or opportunity identified

You can submit one appendix to support your answer. It can include diagrams and charts. It must be a PDF no larger than 10MB. It can be up to two A4 pages and must be legible at 100% zoom.

Question 8. Approach and innovation: Assessor guidance and scoring

Scores 9 - 10

The approach addresses the need, challenge or opportunity identified in Question 7.

The main innovations are identified.

Evidence is presented to show how the innovations and project outputs will differentiate from those of competitors.

The project is significantly innovative either commercially or technically and will make a substantial contribution to the field.

Evidence is presented to substantiate the level of innovation and freedom to operate.

Scores 7 - 8

The approach addresses the need or challenge, and the main innovations are highlighted.

Evidence shows that the proposed development is innovative, and that the applicant has the freedom to operate.

It is demonstrated how the project outputs will differentiate from those of competitors.

Scores 5 - 6

The approach may address the need or challenge identified in Question 7 and the innovations are highlighted.

The level of innovation or freedom to operate is not strongly backed up with evidence.

Innovation focus is plausible and shows a link to improvements in competitiveness, productivity, or both.

Scores 3 - 4

The approach is poorly defined with an unclear link to the need or challenge identified in Question 7.

Improvement in competitiveness or productivity is not clear.

Scores 1 - 2

The approach is not well defined or inconsistent with the need or challenge identified in Question 7. There is no identification of how this will improve competitiveness.

Question 9. Team and resources

Who is in the project team and what are their roles?

Explain:

- the roles, skills and experience of all members of the project team that are relevant to the approach you will be taking
- the resources, equipment and facilities needed for the project and how you will access them
- the details of any vital external parties, including subcontractors, who you will need to work with to successfully carry out the project

- if your project is collaborative, the current relationships between project partners and how these will change as a result of the project
- any roles you will need to recruit for

You can submit one appendix, with a short summary of the main people working on the project to support your answer. It must be a PDF no larger than 10MB. It can be up to two A4 pages and must be legible at 100% zoom.

Question 9. Team and resources: Assessor guidance and scoring

Scores 9 - 10

The project team is well placed to carry out the project and exploit the results. There is a clear plan to obtain all the resources, equipment and facilities they will need. There is strong evidence that the project team will work well.

Scores 7 - 8

The project team makes sense given the approach described in Question 8. The applicant indicates how access will be obtained to all the resources, equipment and facilities they will need. The project team is likely to work well.

Scores 5 - 6

The project team has most, but not all, of the necessary skills and experience required. It is unclear whether or not the project team will work well together.

Scores 3 - 4

There are significant gaps in the project team, with little or no information about how these will be filled. There may be some members of the team with little relevance to the project activities.

Scores 1 - 2

The project team will not be capable of either carrying out the project or exploiting the results.

Question 10. Market awareness

What does the market or markets you are targeting look like?

Describe:

- the target markets for the project outcomes and any other potential markets, either domestic, international or both
- the size of the target markets for the project outcomes, backed up by references where available
- the structure and dynamics of the target markets, including customer segmentation, together with predicted growth rates within clear timeframes
- the target markets' main supply or value chains and business models, and any barriers to entry that exist
- the current UK position in targeting these markets
- the size and main features of any other markets not already listed

If your project is highly innovative, where the market may be unexplored, describe or explain:

- what the market's size might be
- how your project will try to explore the market's potential

Question 10. Market awareness: Assessor guidance and scoring

Scores 9 - 10

The target market size, drivers and dynamics are fully quantified and evidenced. Any barriers to entry are identified and addressed. Where the market is new or unexplored, possible routes are identified based on precedents. Any potential secondary markets are substantiated and described in brief.

Scores 7 - 8

There is a good awareness of the target market's drivers and dynamics. The market size is quantified with some evidence. For a new market, a good attempt is made at describing the possible routes to market and estimating the market size. Any barriers to entry are identified and considered. Any potential secondary markets are described showing good awareness.

Scores 5 - 6

The general market size and dynamics are understood but the addressable market is poorly quantified. Any barriers to entry are not clearly identified or considered. Potential secondary markets are mentioned but little information is offered.

Scores 3 - 4

Some information about the general market is offered but the extent of the addressable market for the project is not described. Any barriers to entry are not identified or addressed. Potential secondary markets are barely mentioned.

Scores 1 - 2

The market is poorly defined or is irrelevant to the motivations of the project.

Question 11. Outcomes and route to market

How are you going to grow your business and increase long term productivity as a result of the project?

Explain:

- your current position in the markets and supply or value chains outlined, and whether you will be extending or establishing your market position
- your target customers or end users, and the value to them, for example, why they would use or buy your product
- your route to market
- how you are going to profit from the innovation, including increased revenues or cost reduction
- how the innovation will affect your productivity and growth, in both the short and the long term
- how you will protect and exploit the outputs of the project, for example through know-how, patenting, designs or changes to your business model
- your strategy for targeting the other markets you have identified during or after the project

If there is any research organisation activity in the project, describe:

- your plans to spread the project’s research outputs over a reasonable timescale
- how you expect to use the results generated from the project in further research activities

Question 11. Outcomes and route to market: Assessor guidance and scoring

Scores 9 - 10

Target customers are identified along with the value proposition to them. The routes to market and how profit, productivity and growth will increase is identified and evidenced. The exploitation or dissemination of the main project outputs is clearly outlined.

Scores 7 - 8

Target customers are identified along with the value proposition to them. The routes to market and how profit, productivity and growth will increase is outlined with some evidence. The exploitation or dissemination of the main project outputs is outlined.

Scores 5 - 6

Target customer types are described but the value proposition to them is less clear. There is some information about how profit, productivity or growth increases may be achieved at some point.

Scores 3 - 4

There is some information about the target customer types but there is little about the value proposition or how profit, productivity or growth will be affected.

Scores 1 - 2

The applicant provides little or no information about the target customers.

Question 12. Wider impacts

What impact might this project have outside the project team?

Describe and where possible, measure the economic benefits from the project such as productivity increases and import substitution, to:

- external parties
- customers
- others in the supply chain
- broader industry
- the UK economy

Describe and where possible, measure:

- any expected impact on government priorities
- any expected environmental impacts, either positive or negative
- any expected regional impacts of the project

Describe any expected social impacts, either positive or negative on, for example:

- quality of life
- social inclusion or exclusion
- jobs, such as safeguarding, creating, changing or displacing them
- education
- public empowerment
- health and safety
- regulations
- diversity

Question 12. Wider impacts: Assessor guidance and scoring

Scores 9 - 10

The positive impact on others outside of the team is understood, for example, supply chain partners, customers, the broader industry. Social, economic and environmental impacts are considered. Expected regional impacts are described with compelling evidence to justify claims. Any possible negative impacts are fully mitigated where appropriate.

Scores 7 - 8

There is good awareness of how the project may impact others outside of the team. Some evidence of social, economic and environmental impacts is considered. Expected regional impacts are described. Any possible negative impacts are partially mitigated where appropriate.

Scores 5 - 6

There is basic awareness of how the project could impact some others outside the project. Some relevant stakeholders are not considered. Little mitigation is offered where there may be negative impacts.

Scores 3 - 4

The applicant provides some information about possible impacts to others outside of the project, but significant gaps remain.

Scores 1 - 2

There is no information about how the project might impact others outside of the project or any expected social impacts.

Question 13. Project management

How will you manage the project effectively?

Explain:

- the main work packages of the project, indicating the lead partner assigned to each and the total cost of each one
- your approach to project management, identifying any major tools and mechanisms you will use to get a successful and innovative project outcome
- the management reporting lines
- your project plan in enough detail to identify any links or dependencies between work packages or milestones

You must submit a project plan or Gantt chart as an appendix to support your answer. It must be a PDF no larger than 10MB. It can be up to two A4 pages and must be legible at 100% zoom.

Question 13. Project management: Assessor guidance and scoring

Scores 9 - 10

The project work packages are outlined with the research category, lead partner and total cost provided for each one. The approach to project management is described. The plan is designed to meet the objectives of the project in a realistic and efficient way. Any links or dependencies between work packages or milestones are identified.

Scores 7 - 8

The project work packages are outlined with the research category, lead partner and total cost provided for each one. The approach to project management is stated. The plan seems appropriate to the project objectives. Any links or dependencies between work packages or milestones are identified.

Scores 5 - 6

The project work packages are outlined but there are some details missing. The plan seems reasonable but is not tailored to the objectives of the project.

Scores 3 - 4

The plan has serious deficiencies or major missing aspects. The plan has little chance of meeting the objectives of the project.

Scores 1 - 2

The plan is unrealistic or fails to meet the objectives of the project.

Question 14. Risks

What are the main risks for this project?

Explain:

- the main risks and uncertainties of the project, including the technical, commercial, managerial and environmental risks

- how you will mitigate these risks
- any project inputs that are critical to completion, such as resources, expertise and data sets
- any output likely to be subject to regulatory requirements, certification, ethical issues and other requirements identified, and how you will manage this

You must submit a risk register as an appendix to support your answer. It must be a PDF no larger than 10MB. It can be up to two A4 pages and must be legible at 100% zoom.

Question 14. Risks: Assessor guidance and scoring

Scores 9 - 10

The key risks and uncertainties of the project are fully considered and mitigated. Critical inputs to the project are identified. Relevant constraints or conditions on the project outputs, for example, regulatory requirements, certification or ethical issues, are identified. The risk analysis is appropriate and professional.

Scores 7 - 8

The key risks and uncertainties of the project are considered with appropriate mitigations. Relevant constraints or conditions on the project outputs are identified.

Scores 5 - 6

Most major risks have been identified, but there are some gaps, or the mitigation and management are insufficient to properly control the risks.

Scores 3 - 4

The risk analysis is poor or misses major areas of risk. The mitigation and management are poor.

Scores 1 - 2

The risk analysis is superficial with minimal mitigation or management suggested.

Question 15. Added value

How will this public funding help you to accelerate or enhance your approach to developing your project towards commercialisation? What impact would this award have on the organisations involved?

Explain:

- what advantages public funding would offer your project, for example: appeal to investors, more partners, reduced risk or a faster route to market
- the likely impact of the project outcomes on the organisations involved
- what other routes of investment or means of support you have already engaged with and why they were not suitable
- how any existing or potential investment or support will be used in conjunction with the grant funding
- what your project would look like without public funding
- how this project would change the R&D activities of all the organisations involved

Question 15. Added value: Assessor guidance and scoring

Scores 9 - 10

There is a compelling case for the positive difference funding will make. Alternative sources of support are described with an explanation of why they are discounted or used in conjunction with the grant funding. The project will significantly increase the R&D activities of the organisations involved during the project and afterwards.

Scores 7 - 8

The arguments for public funding are good and justified. Alternative sources of support are described, with an indication of why they are discounted. The project will significantly increase the R&D activities of the organisations involved.

Scores 5 - 6

The public funding arguments are acceptable, but the difference made by the grant will be modest. Any alternative sources of support are not fully described or discounted. The project will improve the R&D activities of the organisations involved.

Scores 3 - 4

The funding arguments are poor or not sufficiently justified. Alternative sources of support are not described, or no reason is given why they are discounted. There is not likely to be any improvement to the R&D activities of the organisations involved.

Scores 1 - 2

There is no justification for public funding and no reason why the applicant should not fund the work.

Question 16. Costs and value for money

How much will the project cost and how does it represent value for money for the team and the taxpayer?

In terms of your project goals, explain:

- your total eligible project costs
- the grant you are requesting
- how each partner will finance their contributions to your project
- how this project represents value for money for you and the taxpayer
- how it compares to what you would spend your money on otherwise
- the balance of costs and grant across the project partners
- any subcontractor costs and why they are critical to your project

Question 16. Costs and value for money: Assessor guidance and scoring

Scores 9 – 10

The project costs are entirely appropriate and represent excellent value for money for the team and the taxpayer. The partners have a clear idea of how they will finance their contribution. The balance of costs and grant between partners, and use of subcontractors, is justified and reasonable for the proposed project.

Scores 7 - 8

The project costs are appropriate and should be sufficient to successfully complete the project. The partners have explained how they will finance their contribution. The balance of costs and grant between partners, and use of subcontractors, seems reasonable. The project represents good value for money for the organisation and the taxpayer.

Scores 5 - 6

The project costs seem to be acceptable, but the justifications are not clear. The partners have indicated how they will finance their contribution. The balance of costs and grants between partners is not entirely satisfactory and use of subcontractors not completely appropriate. Little information is offered about the value for money this project offers.

Scores 3 - 4

The project costs appear to be too high or too low given the proposed project. The partners have not been clear on how they will finance their contribution. The split of costs and grant between partners is unbalanced. There is inappropriate use being made of subcontractors.

Scores 1 - 2

The costs are not appropriate or justified. The partners have not indicated how they will finance their contribution. The balance of costs and grant between partners and use of subcontractors is not justified.