

CALL FOR INTEREST

Quantum Computing Educational Activities

National Competence Board for
Quantum Computing (NCB-QC)

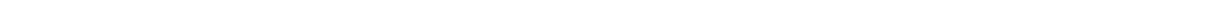
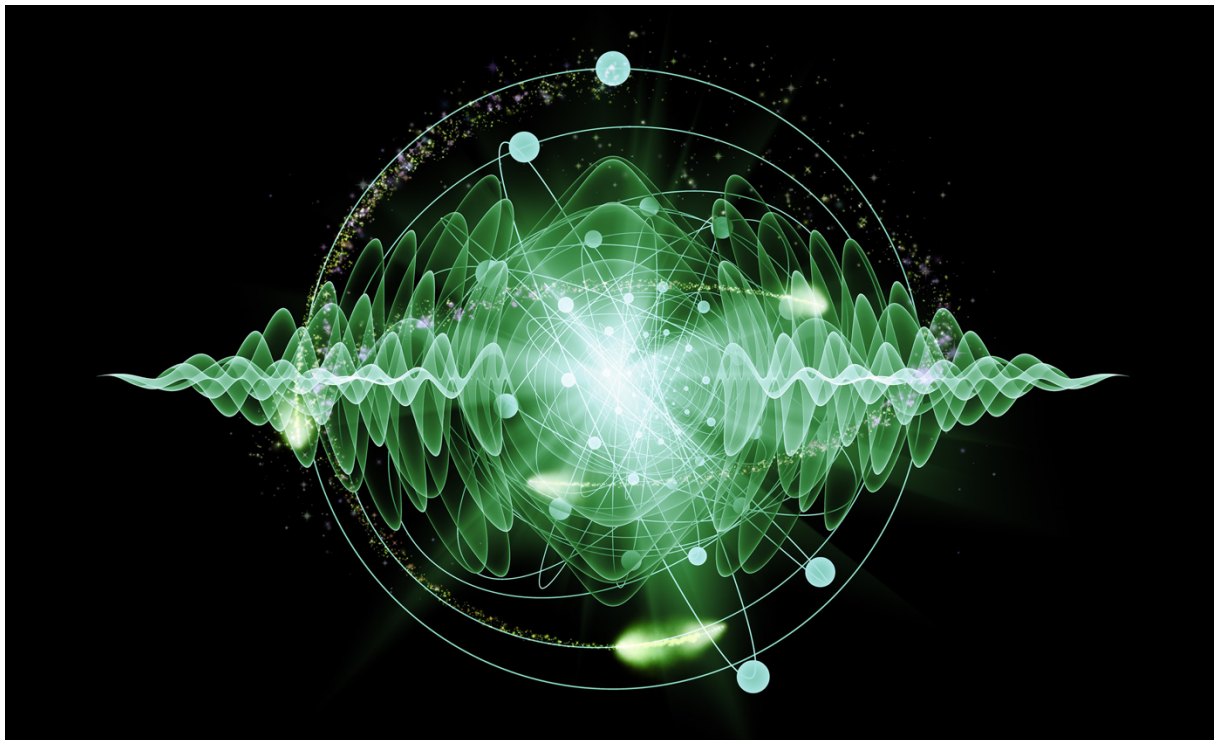


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1. Information about the call

Call opens and is published on <https://www.deic.dk>:

October 1, 2024

Call closes

November 1, 2024, at 12:00 PM

Bidder notification

December 22, 2024

Earliest activity start date

January 1, 2025

Latest activity start date

March 30, 2025

Evaluation committee

National Competence Board for Quantum Computing

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For more information about DeIC

<https://www.deic.dk>

<https://deic.dk/da/quantum-infrastructure>

Guideline version

2024.01

2. Background and implementation

The Danish National Strategy on Quantum Technology addresses the challenge of educating, retaining, and attracting quantum technology talent and skills in Denmark in an increased international competition for quantum technology development.

DeiC has been appointed to initiate activities supporting Part 1 of the Strategy regarding “a national skills-building effort” to address these shortcomings by supporting Denmark fully using access to quantum computers and supercomputers (HPC facilities) for the benefit of Danish research and innovation in the quantum field. The effort is to disseminate skills and increase understanding of quantum technology's opportunities and risks among researchers and other specialists who do not have quantum technology as their primary field of study, but for whom a better understanding of quantum technology would be relevant to society¹.

Therefore, DeiC has created “The National Competence Board for Quantum Computing” (NCB-QC). The board will invite bidders to prepare defined courses, other educational activities and related material.

This call for interest in preparing quantum computing educational activities for DeiC is done within the legal framework of DeiC stated in Ministerial Order (bekendtgørelse) no 615 of May 29, 2023.

The call focuses on the preparation of courses on quantum computing and related educational activities, which can create more visibility and awareness and clarify how quantum computing can be used in certain areas. The activities and material should match first- and second-year university student competencies, e.g. users should be familiar with linear algebra.

In particular, DeiC seeks to support the expansion of the existing courses to more comprehensive courses specialised in the application fields of quantum computing. There is a gap in the interdisciplinary courses that bridge different strongholds and existing activities. Further, the interdisciplinary courses should build on more specialised prerequisite courses on quantum computing.

Further, DeiC encourages the preparation of educational activities and materials that can also be used by the Danish industry at large with a focus on creating competencies in Danish companies that enable them to better utilize quantum computing at pace with the development of the technology.

The DeiC NCB-QC will announce one annual call in 2024. The next call is expected to be published as a thematic programme in 2025 before the summer holiday.

¹ The Danish National Strategy on Quantum Technology, Part 1, page 22.

3. Quantum computing educational activities

This call is for developing, expanding, and improving quantum computing-related courses, educational activities and materials targeting the level of first and second year students at Danish universities. The courses should aim to improve the general understanding and use of quantum computing.

Who can bid?

DeiC invites bid proposals from public and private entities with a Danish CVR. DeiC will reserve the right to consult the Danish National Security and Intelligence Service regarding potential espionage, threat assessment, etc.

Consortiums are encouraged and private bidders are encouraged to include a university partner in the activity.

The educational activity is expected to include:

- Focus on the development of university-level interdisciplinary or inter-university quantum computing courses, educational activities and material
- Focus on the establishment of new courses covering aspects of quantum computing and its potential applications
- For extension or improvement of existing activities, the bidder should specify and justify the new elements and what materials will be made available for other parties to use for course materials
- The educational material produced in the project should be made open access, have a lasting effect and a high degree of usability, meaning that the results of the work should be usable after the conclusion of the activity

Educational activities that aim to be applied in the private sector are also welcomed. These activities are expected to increase the awareness and understanding of the current and future possibilities of quantum computing and its potential applications in industry. The scientific requirements to enter the educational activities should also be at the university introductory level.

This could be in the form of continuing education courses at Danish universities aimed at employees/leaders in the private sector or other interdisciplinary activities for the same target group to enhance their knowledge and readiness for quantum computing to be a part of their workplace.

Suggestions for seasonal schools (summer/winter university) are also welcome.

MOOC (Massive Open Online Courses) are also eligible for support.

Bidders should preferably describe the relevance of their proposed activity concerning innovation level and market demand.

Access to HPC or quantum computing resources as part of the course

If the suggested course requires access to HPC and quantum computing resources these will be available through the DeiC Q-Access program. The application should in these cases contain a description of which resources the course expects to use.

4. Guidelines and requirements

These guidelines are intended to assist you in the proposal process when bidding for this call. It is important that you carefully read these guidelines before initiating the bidding process, as the guidelines contain instructions regarding the call.

The bid consists of a filled-out proposal template attached to this call along with appendix files that are listed in the bid proposal template.

The following provisions apply to all bid proposals:

- Language: All text must be written in English
- Size limit: Please see the attached proposal template
- Budget amount: Between 0,5-4 mio. DKK
- Financing model: Eligible costs are all direct activity costs (no overhead)
- Financing rate: Up to 100%
- Duration of activity period: 12 to 24 months

Further formal requirements and guidelines are included in the bid proposal template.

DeiC invites bids sent by e-mail to qcompetence@deic.dk. Bidders will receive an e-mail confirming the receipt immediately after submission. If you do not receive an e-mail receipt, please contact Maria Gleerup, maria.gleerup@deic.dk as soon as possible.

The deadline for this call is 01/11/2024 at 12:00 PM.

Bids received after the deadline will not be considered. If the required material is incomplete, the proposal may be rejected administratively without substantive consideration.

For questions regarding the call please contact Maria Tammelin Gleerup, maria.gleerup@deic.dk.

5. Evaluation procedure and selection process

Bid proposals will be evaluated according to the following criteria:

- The experience of the bidder(s), demonstrating the ability to implement the activity
- The scientific and educational value of the activity
- Relevance to the scope of the call
- Anchoring in the Danish quantum ecosystem
- Short and long-term impact
- Lasting effect and degree of usability after the end of the activity
- Timeliness and originality
- Cost-effectiveness

Evaluation committee

The evaluation committee consist of the members of the NCB-QC and one international didactic profile from a non-Danish institution.

The rules for competence to act/incapacity follow the rules of the Public Administration Act and applicable principles of administrative law in the area.

Evaluation process

DeiC's quantum secretariat will screen all bid proposals for compliance with formal requirements. In special cases, DeiC can request additional information from bidders during the screening.

All received bid proposals that fulfil the formal requirements and contain all the required information as stated in section 4 above and the proposal template will be assessed by the evaluation committee.

The committee makes recommendations to DeiC's board which makes the final decision.

Bid proposals will be evaluated in open competition according to the procedure and evaluation criteria described in this call.

In case of disagreement, this is decided by a simple majority in the committee. In the event of a tie, the committee chairperson's vote is decisive.

We expect the evaluation process to be finished and all bidders to be notified on December 22, 2024.

Appeals

According to Ministerial Order no. 615 of 29 May 2023 (Ministerial Order on Danish e-Infrastructure Consortium's Tasks and Organization, etc.) paragraph 18, decisions on the management and allocation of funds for digital research infrastructures and on the research network, including the allocation of computation time, cannot be appealed to another administrative authority.

6. Activity management and requirements

DeiC will use a standard delivery contract as a base for the contract structure.

Payment structure

Payment terms will be agreed upon during the contract negotiation.

Double financing

The bidder is obliged to notify DeiC immediately in the event of any changes affecting the information submitted, including the budget amount for the activities or parts thereof received from other sources. If substantial parts of the proposed educational activity have received or will receive financing from another public body, the activity will not be eligible for support from DeiC.

Reporting

Supported activities are required to submit a short final report describing:

- The progress and outcome of the educational activities
- Learnings of the development and implementation of the activity
- Expenditure
- Dissemination

DeiC will provide more information about the activity review including the reporting template upon bidder notification.

DeiC may require that the activity undertakes additional progress reviews within the activity period. In addition, DeiC reserves the right to terminate the educational activity and demand reimbursement of the financial support or part of the financial support if:

- The agreed conditions for the support are not complied with including if the activity has made insufficient progress or the participants are unable to meet the goals on which DeiC based its decision to support the project
- The participants have provided incorrect or misleading information or have concealed information of significance during the project

Duration of the activity

The educational activities incl. preparation can start between 1/1 to 31/3 2025. The financing must be spent before the end of 2027.

Changes to the activity

All significant changes to the proposed educational activity, period, project manager/administrator/leader and team as well as budget must be requested for approval by DeiC, by e-mailing a description and justification of the suggested change(s) to Maria Tammelin Gleerup, maria.gleerup@deic.dk.

The activity payment cannot be transferred to another CVR-registered entity.

7. Data management

According to Article 13 of the EU's General Data Protection Regulation (GDPR), we are obliged to provide you with some information about how your data is processed in connection with DeIC receiving your bid.

The data you have provided in your bid proposal is used to assess whether the quantum computing educational activities can receive financial support from DeIC.

All responses will be treated confidentially and in accordance with the rules of relevant legislation.

The activity's data will be stored for as long as it is assessed that there will be an administrative need for this data. After which data may be covered by DeIC's obligation to submit to the Danish National Archives.

You can withdraw your bid at any time before the submission deadline. After that, your data will be processed according to the rules of administrative law. DeIC has the right to reject a bid proposal if the required/necessary documentation is not available.

When the call closes, your bid proposal will be processed by the Evaluation Committee consisting of the members of the NCB-QC and one international didactic profile from a non-Danish institution.

DeIC publishes basic information (activity title, organization and responsible person(s)) about the bids that have received support on their website. In principle, DeIC does not pass on any other information about the activities.

DeIC may share your information with the Danish National Security and Intelligence Service if deemed relevant.

As a registered bidder, you have the right to exercise your rights as a registered bidder, cf. the GDPR:

- the right to have incorrect information about yourself corrected,
- the right to have information about you deleted before the time for general deletion occurs,
- the right to have the processing of your personal data restricted,
- the right to object to the otherwise lawful processing of your personal data,
- the right to receive your personal data in a structured, commonly used and machine-readable format and to have this personal data transferred from one data processor to another without hindrance.

If you have questions about this call, you can contact Maria Tammelin Gleerup, maria.gleerup@deic.dk

If you have questions about data processing, you are welcome to contact DeIC's personal data consultant Susanne Groth, susanne.groth@deic.dk.

If you wish to complain about the processing of your data, you can contact the Danish Data Protection Agency, Borgergade 28, 5, 1300 København K, telephone number: 33 19 32 00 or via e-mail: dt@datatilsynet.dk.

8. About Danish e-Infrastructure Consortium (DeiC)

The Danish e-infrastructure Consortium (DeiC) is tasked with the mandate to develop and coordinate cooperation on digital research infrastructure between universities covered by the Danish University Act.

DeiC's vision is that researchers at the Danish universities must have access to a digital infrastructure that enables research and education at a high international level.

Other relevant institutions with educational and research activities can participate in the collaboration after approval by DeiC's board.

DeiC's board consists of members at management level from the eight Danish universities, who all have a mandate from their own university. In addition, the Rectors College appoints a board chairman for DeiC.

DeiC's legal basis is described in executive order BEK 615 of 26/05/2023.