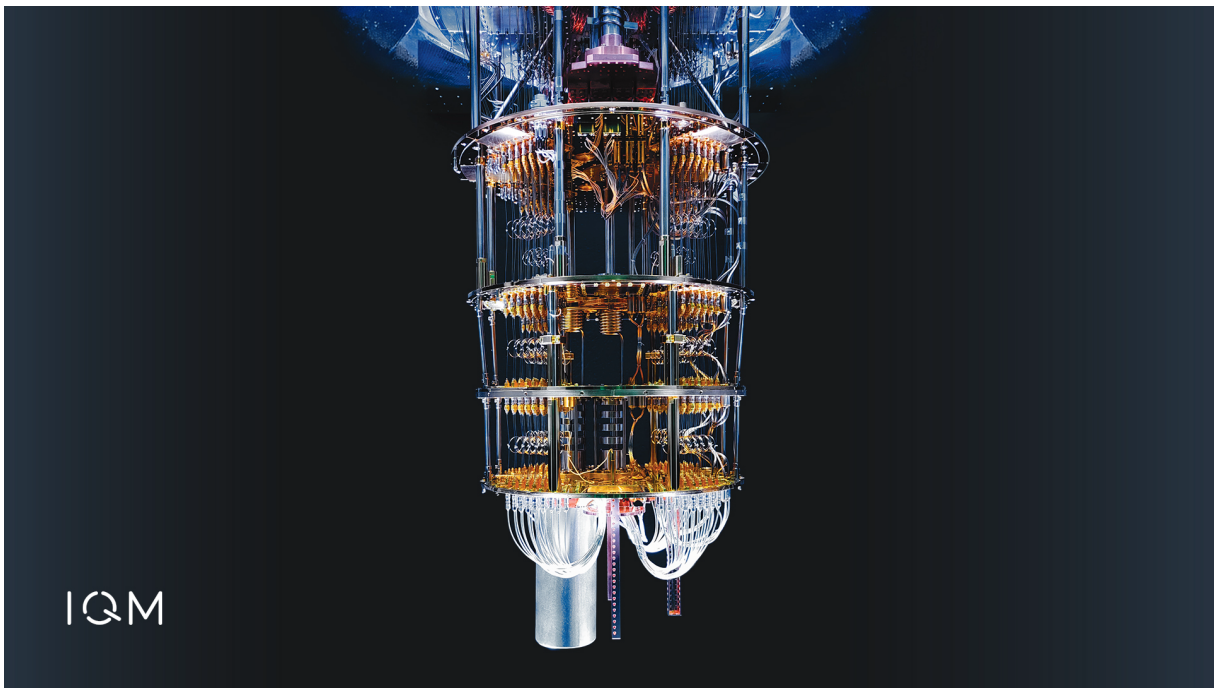
# CALL FOR APPLICATIONS

## Access to the VLQ Quantum Computer

For researchers at Danish universities and eligible Danish institutions

DeiC Q-Access Programme



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# 1. Key Information About the Call

**Call opens and is published on https://www.deic.dk/da/grants:**
31 August 2026

**Application deadline**
16 October 2026, 23:59 (CEST)

**Evaluation committee receives qualified applications**
26 October 2026

**Notification of access**
After 16 November 2026

**Earliest access start date**
Expected November - December 2026

**Duration of access**
Up to 12 months

**Evaluation committee**
Q-Access evaluation committee – international scientific peer reviewers

**Contact**
For general questions regarding the call, please contact DeiC's Project Manager of the Q-Access program, Nina Høgh-Bach, via the form for questions regarding calls on DeiC Quantum Back Office, or email to ninhb@dtu.dk.

For questions about technical and scientific quantum computational needs concerning the application, please contact DeiC's Quantum Computing Infrastructure Developers, Muyang Liu and Marina Moleti, via the form to consult with experts in quantum computing on DeiC Quantum Back Office.

**LUMI-Q hosting site questions**
IT4Innovations National Supercomputing Center: info@it4i.cz

**For more information about DeiC**
DeiC
DeiC quantum infrastructure
Quantum specialized access

**Document Version**
2026.08

# 2. Background, VLQ System and Resource Allocation

**Role of DeiC**

Under the National Strategy on Quantum Technology of Denmark[1], DeiC is appointed to increase Danish user access to quantum computers, including various test and technology platforms for a quantum computer.

Therefore, DeiC has created the Q-Access initiative to procure and distribute access to quantum computing hardware and software for Danish universities[2].

In addition to providing access to quantum computing resources, DeiC offers free expert counselling to Danish universities, industry and the public sector, supporting users in identifying suitable quantum computing resources and in developing relevant quantum computing activities and projects.[3]

To accommodate differentiated access demands to different platforms and varying levels of how close to the actual quantum computing hardware this access should be, DeiC has implemented a multi-tier model of providing access to quantum computing resources to researchers at Danish universities:

1) Access to specific quantum computing hardware and software for specific high-level research needs:[4]
    a) The quantum specialised access call is aimed for expression of interest to map and validate the specific quantum computing user demands and needs, before entering procurement contracts with specialised quantum computing suppliers and allocating dedicated access to applicants.
    b) As the large cloud computing service providers also feature quantum computing-specific hardware from quantum suppliers, DeiC will decide, in close dialogue with the applicant, through which vendor to provide access to the selected applications.

2) Sandbox access to cloud-based multi-user quantum computing resources is provided through the European OCRE[5] framework agreement for testing and exploratory work. It is now available through two separate access routes:
    a) **Microsoft Azure Quantum sandbox access**
    The access is available through a simple online request form.[6]
    Currently, the Q-Access Azure Quantum sandbox includes access to Microsoft's quantum simulator and quantum computers from Quantinuum, IonQ, Quantum Circuits Inc., Rigetti, and Pasqal.
    b) **VLQ sandbox access**
    Sandbox access to VLQ is provided separately but opens together with the publication of this competitive VLQ call and remains open on a continuous basis after the competitive call closes. Access is available through a simple online request form.[7]
    Applications are reviewed internally by the DeiC Quantum Department.

3) Access to the VLQ quantum computer for specific high-level research needs[8]
    a) This call provides access to the VLQ quantum computer for research projects requiring dedicated QPU resources. DeiC acts as the Danish broker responsible for allocating Denmark's national share of QPU time on VLQ.

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

[2]Read more about the Q-Access initiative here: https://www.deic.dk/da/node/266

[3]Consult DeiC's quantum computing experts via the DeiC Quantum Back Office - Consult with Experts in Quantum Computing.

[4]Read more about DeiC's specialised quantum access here: Quantum specialised access.

[5]Open Clouds for Research Environments – an EU-compliant procurement framework for cloud Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and associated Software as a Service (SaaS).

[6]Apply sandbox access for Microsoft Azure Quantum through the Request Sandbox Access to Microsoft Azure Quantum form.

[7]Apply sandbox access for VLQ through the Request Sandbox Access to VLQ form.

[8]Read more about VLQ and the LUMI-Q collaboration here: DeiC LUMI-Q webpage.

b) Applicants are expected to provide a clear technical justification for using VLQ, including the intended quantum workload, estimated QPU consumption, expected project duration and a quarterly resource plan aligned with the Danish VLQ allocation model.

**Scope of this call**

This call provides access exclusively to the VLQ quantum computer through the LUMI-Q consortium.

Access requiring CPU or GPU resources for quantum simulation on classical supercomputers (HPC facilities) on DeiC's national HPC resources is outside the scope of this call. Applicants seeking such resources are referred to relevant DeiC's HPC sandbox resources and annual calls. Access can also be gained through local resources at each university and through the EuroHPC collaboration. [9].

**About VLQ**

VLQ is a superconducting quantum computer developed by IQM and operated within the LUMI-Q consortium. The system is hosted at the IT4Innovations National Supercomputing Center in Ostrava, Czechia, and is featured by:

- 24 superconducting transmon qubits
- A star-shaped qubit topology
- Gate-based quantum computing
- Pulse-level access capabilities
- Integration with connected HPC resources

The platform supports several quantum software frameworks, including Qiskit, Cirq, CUDA-Q, Qrisp and IQM Pulla for pulse-level control. VLQ may be accessed through a batch-job scheduler on a connected HPC system or through an approved web interface or API, depending on the access mode made available to the project.

**Resource allocation model**

The use of VLQ is accounted by QPU seconds, which are defined as the total time the device is occupied for tasks dedicated to a specific user and thus unavailable to other users. This includes, but is not limited to, initialization of the QPU for the task, execution of the defined task on the QPU, and readout of the results. QPU seconds are accounted as precisely as made possible by the accounting software stack.

- DeiC acts as the Danish broker for VLQ and is responsible for the management and allocation of Denmark's national share of QPU resources.
- Each broker receives 25% of its annual share in each quarter for allocation to projects.
- Unallocated resources are lost at the end of each quarter and added to the total pool of allocatable resources for the next quarter.
- QPU seconds do not include system calibrations, warm-up cycles, tuning, or maintenance that is not tied to a specific job. Jobs that are rejected before execution are not billed for QP seconds, although other resources such as CPU, GPU or storage may be billed.
- QPU resources are billed equally regardless of the operational performance of the system during execution. If the system detects that a specific VLQ job did not finish properly, for example because of a mid-job hardware error or system reset, the individual job will not be billed for QPU resources.

**Danish allocation amount**

Through the LUMI-Q project, Denmark receives an indicative allocation of **531,518 QPU seconds per year**. The Danish share is distributed through the Q-Access programme. Any changes adopted by the LUMI-Q Management Board or another competent governance body will be implemented without undue delay and communicated to affected users.

[9] Read more about HPC resources here: https://www.deic.dk/en/supercomputing/Apply-for-HPC-resources

To promote the use of quantum resources in all scientific fields, DeiC has pre-reserved 10% of the offered resources for possible applications from the area of social sciences and humanities (SSH). If no qualified applications are received, the resources will be transferred to the overall pool.

**Remark**

The calls will be posted on DeiC's website and through direct emails to the Danish universities' front offices and quantum hubs.

This call is done within the legal framework of DeiC stated in Ministerial Order (bekendtgørelse) no 615 of May 29, 2023.

# 3. Eligibility and Applicant Requirements

**Eligibility of Principal Investigator**

DeiC invites proposals from scientific staff employed at Danish universities. DeiC reserves the right to consult the Danish Security and Intelligence Service regarding potential espionage, threat assessment, or other relevant security considerations.

The PI of the research project must hold a PhD and be employed at a Danish university. A researcher may serve as PI or co-PI on more than one proposal. Professors, associate professors, and assistant professors may apply either for their own projects or on behalf of postdoctoral researchers, PhD students, and master's thesis students under their supervision.

Quantum experts must be part of the consortium, and one PI must be a quantum expert.

**Eligibility of project users**

All individuals who will receive direct access to VLQ resources under an approved project must be employed by, enrolled at, or otherwise formally affiliated with an eligible Danish university or institution.

All users expected to receive access must be identified in the application together with their institutional affiliation.

**Changes to project users**

During the approved project period, the PI may request the addition or replacement of users by submitting an updated user list to DeiC.

Any new user must also be employed by, enrolled at, or otherwise formally affiliated with an eligible Danish university or institution. A new user may receive access only after the required review and approval by DeiC.

The PI is responsible for ensuring that the list of users and their institutional affiliations remains accurate throughout the access period.

**Participation of students**

Students may participate in projects and receive access to VLQ provided that they are enrolled at, or otherwise formally affiliated with, an eligible Danish university or institution. The participation must be accompanied by a letter from the supervisor, confirming the student's need for quantum computing resources for research purposes

**Participation of public and private sector**

Private and public sector entities with a Danish CVR number are welcomed as co-applicants. The Principal Investigator must, however, be employed by or formally affiliated with an eligible Danish university or institution.

Participation as a collaborating organisation does not in itself provide eligibility for direct access to VLQ. Any individual receiving direct user access must satisfy the user eligibility requirements stated above.

**Research conduct**

By applying, the applicant declares in good faith, not within the last two years at the time of application, to have been found guilty of research misconduct or questionable research practice by The Danish Board on Research Misconduct, cf. Act No. 383 of April 26, 2017, on research misconduct etc.

# 4. Application Preparation and Submission

These guidelines are intended to assist applicants in the proposal process. Applicants should carefully read the guidelines before initiating the application process, as they contain important instructions regarding the call.

Further formal requirements and guidelines are included in the application template. The application consists of a completed template attached to this call together with the appendix files listed in the application template.

**The following provisions apply to all applications:**

- **Format:** All application documents must be submitted in PDF format.
- **Language:** All text must be written in English.
- **Size limit:** Please see the attached application template.
- **Duration of access period:** Up to 12 months. If access is needed for a longer period, for example during a PhD scholarship, prolonged access may be applied for in the next call opening in 2027.

**Guidance for estimating requested QPU resources**

Applicants should carefully estimate the total amount of QPU resources required for the proposed project. As a reference, the hosting site recommends using 400 µs (0.4 ms) per shot as a conservative worst-case estimate. Based on this assumption, executing a single circuit with 10,000 shots would consume approximately 4 QPU seconds.

Every job submission carries an overhead of 3 to 15 seconds of latency — covering queuing, job scheduling, and result retrieval. This is wall-clock time you will observe, but it does not appear in your consumption bill.

IT4Innovations National Supercomputing Center, as the VLQ hosting site, has provided guidance to support estimation of the required QPU resources.[10]

**Required budget format (max 10 words for each entry)**

DeiC requires a quarterly format for the budget plan. This is aligned with the LUMI-Q allocation model, under which each broker receives its annual resource share in quarterly portions.

- Divide the full annual request across Quarter 1, Quarter 2, Quarter 3 and Quarter 4.
- State the requested QPU seconds and the main activities or milestones for each quarter.
- Ensure that the four quarterly amounts equal the total annual request.

| Period | QPU-seconds | Main activities | Expected milestone |
|---|---|---|---|
| Quarter 1 | [insert amount] | [development, testing or production work] | [deliverable or decision point] |
| Quarter 2 | [insert amount] | [development, testing or production work] | [deliverable or decision point] |
| Quarter 3 | [insert amount] | [development, testing or production work] | [deliverable or decision point] |
| Quarter 4 | [insert amount] | [development, testing or production work] | [deliverable or decision point] |
| Annual total | [sum of Q1–Q4] | – | – |

By applying for this call, applicants accept the possibility of being granted an alternative amount of resources if DeiC's evaluation committee assess that there is a deviation between the needed amount and the requested amount.

[10] See the IT4Innovations VLQ consumption guide.

Furthermore, DeiC can cut your application budget if it is assessed that certain parts of the budget are not sufficiently justified or are not necessary to complete the project.

If the entire applied amount cannot be granted, the applicant can, in the application, state their willingness to receive support for part of the project if the applicant assesses that it would be meaningful to implement parts of the project.

**Submission**

Applications must be submitted by email to qaccess@deic.dk. Applicants will receive an email confirming receipt immediately after submission. If no email receipt is received, applicants should contact DeiC as soon as possible using the contact information in the Key Information section.

**The deadline for this call is 28 September 2026, 23:59 (CEST).**

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

# 5. Evaluation procedure and selection process

**Key criteria for assessment of applications**

- Experience and qualifications of the applicant(s) incl.:
  - Necessary scientific qualifications for implementing the project
  - Adequate plan for division of labour and task management
- The scientific/industrial/societal value creation of the project incl.:
  - Short and long-term impact in terms of theoretical, methodological and empirical progress
  - Cost-effectiveness
  - Explanation of ethical aspects, if relevant
- Technical feasibility:
  - Sufficient allocation of internal organizational resources for the activity
  - Proportionality between requested QC resources and expected outcome
  - Proportionality between proposed activities and requested QC resources
- Quality of the proposal, incl. credible descriptions of:
  - Desired results and the means to achieve them
  - Justification and technical specifications of resources
- Dissemination of results:
  - Satisfactory reflections on open-access publications and IP, according to relevance

**Review model according to requested QPU resources**

Through the LUMI-Q project, Denmark receives an indicative allocation of **531,518 QPU seconds per year**. Applications are assigned to an access channel according to the amount of QPU resources requested.

- **Sandbox access – up to and including 10% of the total Danish QPU allocation:**
  These requests are reviewed internally by the DeiC Quantum Department. The normal review period is **1–2 weeks**. Sandbox access is intended primarily for exploratory, testing, pilot and preparatory activities.
- **Competitive access call – more than 10% and up to 70% of the total Danish QPU allocation:**
  These applications are subject to competitive evaluation by the Q-Access evaluation committee – international scientific peer reviewers, which is also used for the DeiC specialized calls.
  DeiC is expected to inform the applicants regarding the outcome of the application (rejection or grant award) after 16 November 2026.
- **Requests exceeding 70% of the total Danish QPU allocation:**
  Such requests will not be considered under the DeiC call. Applicants requiring substantially larger allocations are encouraged to seek access through EuroHPC JU.[11]

**Evaluation process**

Following the application deadline, the DeiC Quantum Department will screen all applications received under the competitive call for compliance with the formal requirements, eligibility conditions and completeness of the required documentation. DeiC may request additional information from applicants where necessary to complete the screening.

Applications that fulfill the applicable requirements will be forwarded to the Q-Access evaluation committee – international scientific peer reviewers for scientific and technical assessment, which is also used for the DeiC specialized calls.

DeiC is expected to inform the applicants regarding the outcome of the application (rejection or grant award) after 16 November 2026.

Applications will be evaluated in open competition according to the evaluation criteria described in this call.

[11] For information about EuroHPC JU quantum access opportunities, see the EuroHPC JU Quantum Access call.

The Evaluation Committee, or the appointed subcommittee where applicable, will provide recommendations to DeiC's board, which makes the final allocation decision.

In case of disagreement within the evaluating committee, the decision is made by simple majority. In the event of a tie, the committee chairperson's vote is decisive.

**Sandbox review process**

The sandbox access channel will open on **31 August 2026**, together with the competitive VLQ call, and will remain continuously open after the competitive call closes.

To coordinate the initial allocation of the Danish VLQ resource pool, DeiC will begin reviewing the first sandbox applications after the competitive call deadline on **16 October 2026**.

Sandbox applications will be assessed internally by the DeiC Quantum Department. The assessment will consider eligibility, technical feasibility, the requested QPU resources and the suitability of the proposed activity for sandbox access.

The normal evaluation period is **1–2 weeks**, after which applicants will be informed of the outcome.

Following the allocation of resources to approved competitive call projects, DeiC may increase the QPU resources available through the sandbox channel if part of the competitive-call allocation remains unallocated.

Applications submitted to the sandbox after the initial review period will continue to be considered on a rolling basis, subject to available resources.

**Indicative timeline**

| Competitive VLQ Call | | Sandbox Access | |
|---|---|---|---|
| **Date** | **Activity** | **Date** | **Activity** |
| **31 Aug** | Call opens | **31 Aug** | Sandbox opens |
| **16 Oct** | Application deadline | **Ongoing** | Sandbox remains open after call closure |
| **26 Oct** | Evaluation committee receives qualified applications | **After 28 Sep** | Review of the sandbox applications begins |
| **After 16 Nov** | Applicants will be informed of the outcome | **1–2 weeks** | Internal DeiC review and applicant notification |
| **After evaluation** | Committee recommendation, DeiC board decision and applicant notification | **After call allocation** | Sandbox allocation may be increased if QPU resources remain unallocated |

**Appeals**

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

# 6. Access management and requirements

**Access notification letter**

Selected applicants will receive an access notification letter that will serve as terms of reference, together with this call text and the referred legal documents.

**Changes to the activity**

You are obliged to inform DeiC by email to qaccess@deic.dk immediately if the essential prerequisites for implementation of the project are no longer fulfilled.

The resources must be used in the allocated period. If the applicant does not have the opportunity to use resources in the allocated period, DeiC must be informed by email to qaccess@deic.dk. If possible, the applicant may, on request, postpone use of the allocated resources.

The allocated access cannot be transferred to another CVR-registered entity.

**Reporting and communication**

Users are required to submit a short self-assessment report (estimated 1–2 pages) at the middle and end of the access period to keep DeiC updated on implementation of the project.

DeiC will provide the reporting template upon access notification.

Users are required to provide input to use-case stories for DeiC's external communication when the project ends.

**Acknowledgements**

If your project has been allocated access to quantum computing resources, you are required to acknowledge and/or quote DeiC in any publications of results from calculations performed on the quantum computing facilities.

**FAIR principles**

DeiC would like project-generated data to be managed in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable) as described in the EU's "Guidelines on FAIR Data Management in Horizon 2020" (Version 3.0, 26 July 2016)[20].

Thereby, it is possible to build on former research results, verify results by other scientists, avoid duplication of work, accelerate innovation and create transparency and credibility of the results.

# 7. Data management

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

The data provided in the application is used to assess whether you can receive access to quantum computing resources 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 that, data may be covered by DeiC's obligation to submit records to the Danish National Archives.

You can withdraw your application 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 an application if the required or necessary documentation is not available.

When the call closes, qualified competitive applications will be processed by the relevant Evaluation Committee.

DeiC publishes basic information, including activity title, organisation and responsible person or persons, about activities that have received support on its website. In principle, DeiC does not pass on other information about the activities.

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

As a registered applicant, you have the right to exercise your rights under 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 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 DeiC's Q-Access programme via the form for questions regarding calls on Quantum Back Office.

If you have questions about data processing, you are welcome to contact DeiC's personal data consultant, Susanne Groth, at 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 Copenhagen K, telephone number 33 19 32 00 or via email at 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 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 chairperson for DeiC.

DeiC's legal basis is described in Executive Order BEK 615 of 26 May 2023.

**Interpretation note**

Applicable legal, security and access requirements may change. DeiC will apply the requirements and official programme conditions in force when applications and individual users are assessed.