



Open Call #2: IMPLEMENT

Frequently Asked Questions

Project website	www.pqreact.eu
Opening date:	2 nd April 2025
Closing date:	2 nd June 2025, 17:00h Brussels time
Open call platform:	Application link

* The deadline for submission is as stated in this Guidelines document. Please note that the platform for submission's time depends on the user's configured time zone and may or may not coincide with the correct time (this depends on the user, not the platform for submission). Any discrepancies in system time will not be grounds for deadline extension.

TABLE OF CONTENT

1. Who can apply for PQ REACT Open Call #2 IMPLEMENT?.....	4
2. Are proposals only accepted from consortia?	4
3. What is considered as a Tech provider?	4
4. What countries are eligible?	5
5. Are Switzerland-established organisations eligible for this call?	5
6. Which language may I submit my application in?	5
7. What TRL level should be achieved in the pilots?	6
8. Is multi-participation allowed?	6
9. Evaluation	6
7.1 Who will assess my application?	6
7.2 Which are the evaluation criteria?	6
7.3 When will I receive the results of my application?	7
7.4 Budget allocation: Can I spend the grant received as I wish?	7
10. Use Case 1: Smart Grid Meters	8
10.0. What PQC Digital Signature Algorithms must be considered?.....	8
10.1. Can PQC KEMs (Key Encapsulation Mechanism) be also considered in the Pilot Scenario?	8
11. Use Case 2: 5G and 6G architectures	8
9.1 QKD will be available?	8
9.2 Which protocols are of interest?	8
12. Use Case 3: Context Agility Manager (PQC Benchmarking).....	9
10.1 What infrastructure will be available?	9
10.2 What PQC algorithms are considered?.....	9
10.3 What PQC protocols are meant? Testing the ML-DSA/ML-KEM schemes or a protocol such as TLS with ML-DSA signatures?	9
10.4 Can we have access to the test infrastructure before submitting the application?	9
10.5 Does it also stand for first state benchmark results? May you provide more results?	9
13. Use Case 4: Eclipse-Qrisp for PQC.....	9
11.1 What is Eclipse-Qrisp?.....	9
11.2 Where do I find information on Qrisp?.....	10
11.3 What PQC algorithms should be investigated?.....	10
	2





The NIST candidates proposed for standardization should be considered:	10
Additionally, any PQC algorithm from the NIST Round 3 Submissions may be considered.....	10
11.4 Is the Qrisp for PQC call focused on proposals studying/designing quantum algorithm attacks on PQC algorithm? Is it specifically focused on lattice-based algorithm?	10
11.5 For the context agility manager, does this need to be fully built on Qujata? Or can it be a separate application in a different language that interfaces somehow with Qujata?	10



1. Who can apply for PQ REACT Open Call #2 IMPLEMENT?

The eligible entities to form a consortium within the PQ-REACT second open call must be legally identified under the following categories of organisations:

- **Start-ups – SMEs:** Small and medium-sized enterprises that focus on developing innovative solutions related to PQ-REACT Use Cases. At least one SME must be part of the consortium. A SME will be considered as such if complying with the [European Commission Recommendation 2003/361/EC16](#) and, the [SME user guide](#). In a summary, the criteria which define an SME are:
 - Headcount in Annual Work Unit (AWU) less than 250.
 - Annual turnover less or equal to 50 million € OR annual balance sheet total less or equal to 43 million €.
- **Universities and Research centers:** One application is accepted per research group. It is important to note that within a department, multiple research groups exist, and while different groups from the same department can apply, it is crucial that individuals are not concurrently members of multiple research groups to ensure equitable allocation of resources and dedication to their respective research pursuits.
- **NGOs and foundations:** Non-profit organisations and foundations with experience in post-quantum cryptography.

Large enterprises are not eligible for this call.

2. Are proposals only accepted from consortia?

The proposals on this call can be submitted only by consortia (single applications are not allowed). The consortium must be composed of 2-3 partners and must include the participation of at least one [1] SME and at least one [1] tech provider. For this call, tech providers may include (but not limited to) Universities and RTOs. Additionally, NGOs and foundations can also participate in the call.

3. What is considered as a Tech provider?

A Tech provider is an organisation that brings the solution or technology to the project. Since this call focuses on implementation, the tech provider is responsible for the development and provision of the solution or technology, while the other partner(s) take on the implementation role.

The tech provider is not limited to a specific type of organisation, but rather refers to the entity responsible for the technological solution or innovation that will be implemented in the project. The tech provider can be an SME, university, or RTO.

4. What countries are eligible?

Only applicants legally established in any of the following countries (hereafter collectively identified as the “Eligible Countries”) are eligible for funding:

- The Member States (MS) of the European Union (EU), including their outermost regions.
- Horizon Europe associated countries: according to the [updated list published by the EC](#) as of the call launch date.

5. Are Switzerland-established organisations eligible for this call?

Yes, Switzerland-established organisations are eligible to apply in this call. However, they will only be eligible to receive funding if the Agreement of Association to Horizon Europe is signed before the grant is awarded.

As of 20 December 2024, successful negotiations concluded on Switzerland’s participation in Union programmes, including Horizon Europe. Switzerland will become an associated country to Horizon Europe and the Euratom Research & Training Programme, with retroactive effect from 1 January 2025, once the agreement is signed.

Until the agreement is signed, Swiss applicants will benefit from transitional arrangements. This applies to all pillars of Horizon Europe and the Euratom Research & Training Programme for award procedures implementing the 2025 budget (i.e., 2025 Calls for Proposals) and onwards. Consequently, Swiss organisations can apply for the call as if Switzerland was already an associated country, but **funding will only be granted if the Association Agreement is signed before the awards are made.**

More information in the [official source of the European Commission](#).

6. Which language may I submit my application in?

All information and documents must be in English. English is the only language permitted for the applications. Applications in any other language will be considered non-eligible. For formal

documents provided by national institutions, these can be in the national language, although an English translation will need to be provided.

7. What TRL level should be achieved in the pilots?

No specific Technology Readiness Levels are requested for the proposals, however, given the nature of the pilots, low TRL levels (1-3) are expected.

8. Is multi-participation allowed?

In this Open Call, only one application per SME, NGO or Foundation is allowed. For Universities and Research Centers, only one application per research group is allowed.

9. Evaluation

7.1 Who will assess my application?

Your application will be assessed by independent external experts evaluators with a technological and entrepreneurial background.

7.2 Which are the evaluation criteria?

There are four evaluation criteria: Alignment, Excellence, Impact and Implementation. Each criterion comprises several sub-questions, which mirror the application form. I

Alignment

In the criterion Alignment, experts will assess: Alignment of the application with the general call objectives as well as with the selected Use case. Technical partners of PQ-REACT will evaluate the feasibility of implementing the proposals for their specified Open Call Project.

Technical excellence

In the criterion Technical excellence, experts will assess that the application meet the highest standards of innovation aligned with the PQ-REACT vision and with the selected Use Case according to the following criteria:

- Clarity of objectives
- Soundness of methodology
- Gender dimension
- Quality in open science practices

- Clarity regarding participation of end users when appropriate

Impact

In the criterion Impact, experts will assess:

- Relevance to PQ-REACT Objectives
- Innovative Approach
- Scalability and Practicality

Implementation

In the criterion Implementation, experts will assess that the application states a realistic and clear plan to implement the proposed Use Case challenge within the given time framework which should be aligned with PQ-REACT planning:

- Expertise and Collaborative Potential
- Clear and detailed plan of proposed activities, ensuring that the activities are aligned with the project objectives and developed within realistic timeframes.
- The suitability of resources, both in terms of human and technological resources, emphasizing the team's commitment and ability to execute the project.
- Realistic timeframes, demonstrating a practical understanding of the project's scope and complexity.
- Risk Assessment
- KPIs – A list of Key performance indicators, which include a balanced mix of operational, Exploitation Communication and Dissemination KPIs. Exploitation, Communication and Dissemination KPIs should account for at least for 25% of the KPIs while the operational ones the remaining 75%.

7.3 When will I receive the results of my application?

The results of the Open Call will be communicated no sooner than 04/07/2025. There will not be any prior disclosure of information about the evaluation process before that date. Applicants will receive via email: a letter informing them of the decision and the following steps (if applicable) and an Evaluation Summary Report (ESR) in case of successful and evaluated but not successful proposals.

7.4 Budget allocation: Can I spend the grant received as I wish?

The budget of the proposal should follow the guidelines of [Horizon Europe](#):

Please, briefly explain how the up to €162.500 (per project and consortium) are planned to be used. Remember that being a lump-sum funding structure, PQ-REACT Coordination Team will not require

you to provide any timesheets nor any other justification of the costs; the analysis of appropriateness of resources consumption will be done based on the accomplishment of the objectives set. There is no finance report required. The funding will be provided in form of a lump-sum.

Overheads are allowed, but we don't use the 25% flatrate. You can add your standard organisational rate for indirect costs. There is no standard formula to be followed for the distribution of the budget.

10. Use Case 1: Smart Grid Meters

10.0. What PQC Digital Signature Algorithms must be considered?

At least one of the NIST candidates proposed for standardization must be considered:

- Crystals-Dilithium (Draft Standard: NIST FIPS 204 ML-DSA)
- SPHINCS+ (Draft Standard: NIST FIPS 205 SLH-DSA)
- Falcon (Draft standard expected to be available during 2024, so Falcon implementation based in the Falcon NIST Round 3 specification is considered as reference)

Please note that additionally, candidates from NIST “Additional Digital Signature Schemes” (currently in Round 1) can also be considered because of specific interests (e.g. bigger/smaller key sizes, better/worst CPU consumption, ...).

10.1. Can PQC KEMs (Key Encapsulation Mechanism) be also considered in the Pilot Scenario?

No. The Pilot must be focused on Digital Signature Algorithms.

11. Use Case 2: 5G and 6G architectures

9.1 QKD will be available?

QKD deployments will be considered but not guaranteed. In case of lack of equipment availability some emulated interfaces will be provided.

9.2 Which protocols are of interest?

Any protocol used on 5G scenarios proposed for data and control plane communications whose security depends on algorithms affected by Cryptographically Relevant Quantum Computers can be considered. Some reference examples are: TLSv1.2 and v1.3, IKEv2, MacSec, CMP, N32, GTP, etc.

12. Use Case 3: Context Agility Manager (PQC Benchmarking)

10.1 What infrastructure will be available?

Access to a virtualized infrastructure where the Context Agility Manager is deployed will be provided through VPN for the awarded projects, in order to evaluate and assess their proposed solutions.

10.2 What PQC algorithms are considered?

PQC mechanisms that are proposed by NIST and have implemented in various applications by liboqs are considered but are not limited to.

10.3 What PQC protocols are meant? Testing the ML-DSA/ML-KEM schemes or a protocol such as TLS with ML-DSA signatures?

By PQC protocols we mean mainly a protocol, TLS, for different apps of the shelf, nginx, curl, http with ML-DSA.

10.4 Can we have access to the test infrastructure before submitting the application?

No, the access will be granted after an application is selected.

10.5 Does it also stand for first state benchmark results? May you provide more results?

Results will be produced from the Open call applications that will be executed.

13. Use Case 4: Eclipse-Qrisp for PQC

11.1 What is Eclipse-Qrisp?

Eclipse-Qrisp is a high-level programming framework for creating and compiling quantum algorithms. Qrisp is open-source and available in <https://github.com/eclipse-qrisp/Qrisp>. The easiest way to install Qrisp is: `pip install qrisp`



11.2 Where do I find information on Qrisp?

Detailed information, references and tutorials can be found on the webpage: qrisp.eu

11.3 What PQC algorithms should be investigated?

The NIST candidates proposed for standardization should be considered:

Draft FIPS 203, [*Module-Lattice-Based Key-Encapsulation Mechanism Standard*](#)

Draft FIPS 204, [*Module-Lattice-Based Digital Signature Standard*](#)

Draft FIPS 205, [*Stateless Hash-Based Digital Signature Standard*](#)

Additionally, any PQC algorithm from the NIST Round 3 Submissions may be considered.

11.4 Is the Qrisp for PQC call focused on proposals studying/designing quantum algorithm attacks on PQC algorithm? Is it specifically focused on lattice-based algorithm?

No, it is not. Using Qrisp you can implement various quantum algorithms i.e. also attackers for other cryptosystems.

11.5 For the context agility manager, does this need to be fully built on Qujata? Or can it be a separate application in a different language that interfaces somehow with Qujata?

No, it does not need to be fully built on Qujata, we are flexible on that.

Are your questions answered?

For any further questions, we advise you to consult the Guidelines and the application form (Annex 1) of this call. If any question persists, contact us at applications@pgreact.eu

