Project description   
for proposals to Quantum Austria, 1st call 2022

Version: November 2021

Table 1: Key data of the project

|  |  |
| --- | --- |
| RTI Initiative: | *Quantum Austria* |
| Full title of the project: | *Project title (max.* *120 characters)* |
| Short title of the project: | *Acronym (max. 20 characters)* |
| Applicant: | *Name of company or institution* |
| Project partner(s): | *Name(s) of company and/or institution* |
| Priority topic: | Call topic 1 (R&D co-operation and R&D infrastructure)  R&D project  Interface quantum computer and HPC-infrastructure |
| Research category or categories | Industrial Research (IR)  Experimental Development (ED)  Industrial Research and Experimental Development (IR/ED) |
| Flagship Project duration: | * Start date: * End date: (before 31/12/2025) * Duration in months (max. 36): |
| Costs: | * Total costs in Euro: * Total funding in Euro: |
| PROJECT GOALS: | *Please present the goals and innovative contents of the flagship project with a maximum of 5 sentences.* |

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# In General

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## Checklist for Submission

The information provided in Chapter 1 is designed to help you in your submission and can be deleted in the final Project Description to be uploaded as an attachment via eCall.

### Checklist for formal check

The formal check serves to check the application for formal correctness and completeness. Please note: **If the formal requirements are not met and the deficiencies cannot be rectified, the application will be excluded from the further procedure and will be formally rejected without exception in accordance with the principle of equal treatment of applications.**

Table 2: Checklist for formal check

| *Criterion* | *Requirements checked* | *Correctable?* | *Consequence* |
| --- | --- | --- | --- |
| Compulsory preliminary meeting with FFG | The compulsory preliminary meeting was held until May 10th, 2022 | *No* | Rejection as result of formal check |
| Completeness of the application | Project Description: descriptive part of proposal (upload as .pdf file)  *The Project Description form must be completed in full; alteration and addition of chapters or headings are not permitted!* | *No* | Rejection as result of formal check |
| Use of correct forms | *Project Description (see* [*Downloadcenter*](https://www.ffg.at/quantum-austria/1-ausschreibung-leitprojekt)) | *No* | Rejection as result of formal check |
| Duration | Min. 24 months  Max. 36 months | *No* | Rejection as result of formal check |
| Language | English | *No* | Rejection as result of formal check |
| Minimum requirements for consortium | * 3 partners that are independent of each other * At least 2 companies based in Austria, of which at least 1 must be a small or medium-sized enterprise (SME) and * 1 research institution based in Austria * Individual companies account for a maximum of 70% of eligible project costs; shares of affiliated companies will be added up and count as one company   Research institutions account for a total of at least 10% and a maximum of 50% of eligible project costs | *No* | Rejection as result of formal check |
| Funding amount | Total funding amount requested is at least EUR 2 million | *No* | Rejection as result of formal check |
| Annexes to eCall project data  (upload as .pdf file) | * Declaration of SME Status for associations, start-ups, sole traders and non-Austrian companies | *Yes* | Rectification via eCall is possible |
| Uploads to eCall master data  (upload as .pdf file) | Annual accounts (balance sheet, profit and loss account) of the last 2 financial years have been submitted | *Yes* | Rectification via eCall is possible |

### General points

* Adhere to the questions. Questions, comments and notes marked in blue in the form may be overwritten (deleted).
* Describe your flagship project in sufficient detail for reviewers to form an accurate impression of your planned project. Try to keep your text precise and to the point.
* The maximum number of pages is NOT a request to reach this limit. Applications should enable the reviewers to understand the topic and the benefits resulting from the proposed flagship project. Quality is more important than quantity.
* In the event of any questions please refer to your contact person at the FFG (contact information is available in the Guide for Proposers).

## Submission

Project proposals may **only** be submitted **electronically via** [**eCall**](https://ecall.ffg.at) **within the submission deadline**.

**Please see the detailed** [**eCall tutorial**](https://ecall.ffg.at/Cockpit/Tutorial-Hilfe)**.**

The main proposal may only be submitted if **all partners** have previously **completed and submitted** their partner proposals via eCall.

A project proposal is considered to have been submitted if the **eCall application has been finalised** by clicking the “Submit“ (*Einreichung abschicken*) button. On successful submission a **confirmation** will be sent by e-mail. It is not possible to resubmit the proposal or parts of it or to revise the proposal after the submission deadline.

In the event of any questions about eCall please refer to your contact person at the FFG (contact information is available in the Guide for Proposers)

It is **NOT required** to send a **duly signed copy of the proposal** submitted online.

All applications for flagship projects submitted will only be made available to the persons involved in the administration of the call. All these persons are **subject to strict confidentiality**. In particular, the national and international experts who take part in the evaluation procedure must sign a declaration of confidentiality before they start their work.

**Submission deadline:**

**Proposals for funding must be received via eCall  
by 12:00:00 noon on 31.05.2022!**

Kurzfassung

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Kurzfassung auf **Deutsch** (max. 1 Seite), entspricht der deutschen Kurzfassung aus den Projektdaten im eCall

Die aussagekräftige Kurzfassung muss folgende Punkte beinhalten:

* Ausgangssituation, Problematik und Motivation zur Durchführung des Leitprojekts
* Ziele und Innovationsgehalt gegenüber dem Stand der Technik / Stand des Wissens
* Angestrebte Ergebnisse und Erkenntnisse

Abstract

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Summary in English (max. 1 page), corresponds to English summary from eCall project data

The concise summary should include the following points:

* initial situation, problem to solve and motivation to carry out the flagship project
* goals and level of innovation compared to the state of the art (level of technology/knowledge)
* expected results and findings

# Quality of the Project

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## State of the art – current level of technology/knowledge

(max. 12 pages)

Describe the current state of the art, i.e. current level of technology/knowledge, relevant to the project based on the following criteria:

* State of the art – current level of technology/knowledge
  + in the company or research institution itself
  + in the national innovation system
  + in Europe (including EU projects) and internationally
  + results of patent searches
* Relevant products, procedures or services that are already on the market
  + of the company/company group
  + of competitors
* Relevant alternative technologies, methods and approaches that are in competition with the proposed approach

### Results from other projects

Please explain the differences to other projects carried out by the consortium partners in the past three years. Include in particular all, ongoing and completed projects of thematic relevance. Special focus should be placed on the results you intend to use for your project and potential synergies. Use the description to underline that you have the expertise and experience to carry out the proposed project (supplementary to Chapter 2, Suitability of Applicant / Project Partners).

If these projects were funded by the FFG, please indicate the FFG project number and the project title.

If required: Please explain the differences between other relevant projects and the actual proposed project in detail in the Annex in order to exclude multiple funding of research activities. The information provided will be verified, if required, by contacting the relevant funding agencies. Incorrect or incomplete information may lead to the rejection of the funding application.

Use the following table to provide the relevant information:

**Existing results and deliverables obtained from publicly funded projects which provide the basis of or feed into the proposed flagship project**

Table 3: Results and deliverables from other projects

| Funding provider | Project number | Title | Description of results already obtained and relevant deliverables  (verifiable results / products of R&D work) in terms of the basis for / differentiation from the proposed flagship project | Location and type of documentation (e.g. link to homepage, publication, conference proceedings, interim report, final report, …) |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Degree of innovation

(max. 15 pages)

### Problem and research need

Clearly point out the problem and/or unsolved scientific/technical questions giving rise to the need for a funded flagship project.

### Goals

Describe briefly and concisely the key qualitative and quantitative goals and results of the project. These goals should be clear, measurable, realistic and achievable within the project duration. They should also be consistent with the benefit and exploitation of the results.

### Degree of innovation and associated risk

Describe the degree of innovation with reference to the state of the art (current level of technology / knowledge) as well as relevant products, procedures and services presented in Section 2.1.

* To what extent do the goals of the flagship project go beyond the state of the art (current level of technology / knowledge):
  + in the company or research institution itself
  + at national level
  + at international level
* To what extent does the project improve existing solutions, cause a technological leap or create the basis for the registration of IPRs?
* Please quantify the improvements to be achieved (e.g. higher efficiency, lower cost, faster throughput, enhanced functions, etc.), or explain why the degree of innovation can only be described qualitatively.
* Describe the technical and economic risk involved at project and/or partner level. Describe the provisions made to ensure that the funding has a high impact despite the high risk involved (risk management, risk and contingency plan). However, you should not limit yourself to describing the risk in terms of project management.

## Integration of gender-specific aspects

(max. 1 page)

If the project is gender specific, please explain how and in what work packages gender-specific aspects have been taken into account in the methodological approach.

## Consideration of sustainability effects

(max. 1 page)

Please describe what contribution the planned project will make to the ecological/social/economic sustainability goals that you think are relevant, indicating the key relevant Sustainable Development Goals of the United Nations (UN SDGs) and, if applicable, the EU Green Deal. Sustainability goals from other strategy documents may also be included.

Please refer to the Call Guidelines for further information about the topic of sustainability.

* Please provide the following information with regard to the above sustainability goals:
  + Description of the positive effects (ecological, social or economic effects)
  + Qualitative and quantitative assessment of the positive effects, if sufficient data are available; describe the effects as compared to the state of the art (e.g. sectoral average, alternative processes…)
  + Description and consideration of system boundaries / system relevant issues (e.g. effects within value networks,…)

Please note: Negative displacement effects should also be taken into account.

If the planned project is not expected to achieve explicitly positive effects / contributions to sustainability goals at any time (research, benefit and exploitation, ex-post impact monitoring and beyond), we would ask you to explain and justify this neutral status / effect.

Please note that projects producing overall (net) negative effects will score 0 points in this criterion.

## Quality of planning

### Overview and description of work packages

The Work Package (WP1) **Project Management** is mandatory. A maximum of 10 work packages are permitted. Please ensure consistency with the eCall data.

Please insert additional rows if necessary: place cursor in last row and select “Table 🡪 insert 🡪 row below” from the menu bar.

**Overview of work packages**

Table 4: Overview of work packages

| WP Nr. | Work package title | Duration (months) | Start MM/YY | End MM/YY | Planned result |
| --- | --- | --- | --- | --- | --- |
| 1 | Project Management |  |  |  |  |
| 2 |  |  |  |  |  |
| n |  |  |  |  |  |

**Overview of milestones**

Table : Overview of milestones

| Milestone No. | Milestone title | Work packages involved | Expected date | Milestone is achieved when: |
| --- | --- | --- | --- | --- |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| n |  |  |  |  |

### Detailed description of the work packages

Describe the contents of the individual work packages, the results expected within the duration of the project and the milestones. The individual **methods** and steps must be clearly and consistently defined and/or described (about 1 page per work package).

The table should be copied and completed separately for each work package (WP).

**Description of work packages**

Table 6: Description of work package - WP number and title

|  |  |
| --- | --- |
| WP No. |  |
| Title of WP: |  |

Table 7: Description of work package - Participating organisation and person months per organisation

| Participating organisation (A/Pn) and person-months per organisation: |
| --- |
|  |

Table 8: Description of work package - Goals

| Goals: |
| --- |
|  |

Table 9: Description of work package - Description of contents

| Description of contents: |
| --- |
|  |

Table 10: Description of work package - Method

| Method: |
| --- |
|  |

Table 11: Description of work package - Milestones, planned results, deloverables

| Milestones (to measure project progress), planned results and deliverables (verifiable results / products of R&D work): |
| --- |
|  |

### Work and time schedule (Gantt chart)

Insert a detailed work and time schedule. Please pay attention to readability.

### Description of cost plan

(max. 1 page)

Please explain the relevance of the items listed in the cost plan for the flagship project: personnel costs, costs of infrastructure use, costs of materials, third-party costs and travel costs (especially purpose of travel).

**Please observe the regulations in the** [**guideline for cost eligibility in FFG projects**](https://fdoc.ffg.at/s/vdb/public/node/content/R2lbxEeBTQGa0zYaBN22Cg/2.1?a=true)**.**

### Third-party costs (if exceeding 20% of total costs per partner)

(max.1/4 page)

Third-party costs should not exceed 20% of the total project costs per partner. Please justify any excess.

# Suitability of Applicant / Project Partners

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## Expertise of project partners

(max. 1 page per partner)

### Applicant (A)

* Company name / name of institution
* Relevant expertise of organisation and staff involved in the flagship project  
  Provide evidence of relevant expertise by enclosing CVs of senior scientific and technical project staff and a list of the major (max. 5) publications relevant to the project. Please observe the relevant instructions on attachments.
* Description of know-how relevant to the project, e.g. market success, patents
* Description of existing relevant infrastructure and other aspects indicating the applicant’s ability to perform the project.

### Project partners (Pn)

This page is to be completed individually and separately for each project partner.

* Company name / name of institution
* Relevant expertise of organisation and staff involved in the flagship project  
  Provide evidence of relevant expertise by enclosing CVs of senior scientific and technical project staff and a list of the major (max. 5) publications relevant to the project. Please observe the relevant instructions on attachments.
* Description of know-how relevant to the project, e.g. market success, patents
* Description of existing relevant infrastructure and other aspects indicating the project partner’s ability to perform the project.

## Capacity of the consortium to achieve the goals of the flagship project

(max. 3 pages)

### Completeness and coordination of required expertise

Please use the following table and additional descriptions to illustrate that the chosen consortium structure is able to achieve the qualitative and quantitative goals and expected results of the project within the planned project period. Show that the consortium has the scientific, technical and economic expertise required for the project.

**Main tasks of all project partners**

Table 12: Main tasks of all project partners

|  |  |  |
| --- | --- | --- |
| Work package | Key expertise required for the work package | Name of partner contributing key expertise |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| X |  |  |

If the consortium includes partners from outside Austria: explain why the partners are essential for the project and what advantage the participation of the non-Austrian partner/s brings as compared to an Austrian organisation. Describe the benefits for Austria as a business and research location. Describe the IPR regulations to be agreed with the partner/s from outside Austria.

### Third-party expertise required

Please describe the fields of expertise that are not covered by the consortium and must therefore be contributed by a third party (e.g. via subcontracts). Name the subcontractors and describe in what form they will contribute the relevant expertise.

The content of **every subcontract exceeding EUR 20,000** must be described individually and in detail. If the subcontractor is not known yet, describe the aim of the work to be subcontracted and the qualifications to be met by the subcontractor.

**General information about subcontractor**

Table 13: General information about subcontractor

| Relevant WP(s) |  |
| --- | --- |
| Subcontractor of A/Pn |  |
| Name of subcontractor |  |
| Content of subcontract |  |

## Composition of project team with regard to gender balance (gender mainstreaming)

(max. 1/2 page)

Please describe why the gender balance in the project team is an improvement over current conditions in the sector. Alternatively, justify why it is not possible to achieve a better gender balance.

# Benefit and Exploitation

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(max. 7 pages)

## User benefit and exploitation potential

Describe the benefits of the project results and/or new technologies and planned innovations for users from the perspective of the partners involved in the project in both qualitative and quantitative terms (external benefit).

* What new knowledge can be gained from the project in the relevant scientific/technical target group?
* For whom are the results relevant?
* What are the USPs of the planned project results?
* What economic or other benefits will your planned solution, product, procedure or service bring to your customers?
* How large is the expected target market for the project results
  + in Austria
  + in neighbouring countries
  + worldwide?
* How do you define this target market?
* On what facts are your estimates based?

## Impact and significance of the project results for the organisations involved in the project

Describe the strategic significance of the project results and/or new technologies and planned innovations for the organisations involved in the project in both qualitative and quantitative terms (internal benefit):

* Long-term increase in R&D capacities
* Securing or extending the organisation‘s R&D position
* Expansion of existing R&D activities to include new fields of application
* Development of R&D platforms
* Opening up of new business fields etc.

## Exploitation strategy

Describe the exploitation strategy for the project results for each individual partner involved in the project in qualitative and quantitative terms. Please also indicate any specific exploitation expertise the relevant organisation has. If the exploitation of the results has a significant impact on people, please also indicate how gender-specific issues have been taken into account in the exploitation of the economic potential.

Research-oriented organisations

[Planned number of]: diploma and doctoral theses, publications in national and international journals (with or without review process), national and international conference papers, national, European and international patent applications, workshops, events and conferences, expert advisory boards, etc…

Companies and application-oriented organisations

* [Planned number of]: industrial property rights, licences, national, European and international patent applications (in selected countries)
* Exploitation via subsidiaries, distribution partners based on
  + competitive edge in the fields of production, expertise, trade secrets, market presence, etc.
  + collaborations with third parties aimed at development and exploitation
* Marketing strategy
* Sales strategy
* Business plans
* Investment plans

# Relevance to the Call

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(max. 4 pages)

## Relevance to the Call

Please list the **call topic** (or **call topics in descending order**) primarily addressed by your project.

Please list the **goal of the programme or call** (or **goals of the programme or call in descending order**) primarily addressed by your project.

Further explanation is not necessary.

## Relevance in terms of funding effect

Please explain how funding changes the project in terms of:

* **Enabling**: The project could not be carried out without funding.  
  Please explain why funding is necessary to enable the project.
* **Duration**: The project can be completed within a shorter period of time than possible without funding  
  Explain to what extent and why funding helps to speed up the completion of the project.
* **Size**: Size of the project can be increased compared to the project being carried out without funding  
  Give reasons why the size of the project can be increased compared to the project being carried out without funding.
* **Scope**: The scope of the project can be increased.   
  Give reasons why the funding makes the project more ambitious. A higher level of ambition can mean that the project
  + is focused on more radical leaps in innovation
  + follows a more long-term and research-intensive [as opposed to market oriented and development intensive] approach
  + involves a higher technical risk
  + involves a higher market risk
  + leads to new or more extensive collaborations

Please demonstrate the incentive effect of the funding in accordance with the criteria applicable to the project.

## Flagship project character

Please explain briefly and concisely why your project fulfils the requirements of a flagship project, referring to the respective sections in the Project Description. Please avoid repeating sections from the Project Description.

* Why does the project develop model solutions to important social challenges?
* What system or what system level is addressed from an integrative perspective?
* In what way does the flagship project strengthen the competitiveness of one or more industrial sectors taking into account horizontal and/or vertical integration of the value chain?
* In what way does the project contribute to a long-term growth perspective for technologies, products, procedures and services?
* In what way does the project increase the visibility of Austrian technologies, products, procedures and services at a national and international level?
* In what way does the project increase awareness among the general public of the benefits the planned solutions bring?