

UK Track Application Form

This downloadable application form is made available to support you in drafting your application. Please note all entries must be submitted using the online form ([**https://challenges.submittable.com/submit/**](https://challenges.submittable.com/submit/)) no later than 15:00 (BST) on 8 April 2024.

With humankind returning to the Moon later this decade, purifying the water that exists in lunar regolith (soil) is critical to enabling more ambitious space missions. Using lunar water - as drinking water, to grow food, to create oxygen and to split into hydrogen and oxygen for rocket fuel - is a key enabler for supporting future deep space exploration.

Data suggests that large quantities of water may exist in permanently shadowed regions near the lunar south pole. But this water is not pure, with a number of contaminants preventing its use unless it is purified.

The Aqualunar Challenge is calling innovators to create innovative technologies for use on the Moon to remove contaminants found in lunar water.

These technologies may also contribute to novel water purification technologies here on Earth.

Before completing your application to the UK track of the Aqualunar Challenge, please make sure that you have:

* Read the [**applicant guide**](https://aqualunarchallenge.org.uk/how-to-apply/) or [**website**](https://aqualunarchallenge.org.uk/)**,** including the [**mission scenario**](https://aqualunarchallenge.org.uk/the-challenge/#mission), [**judging criteria**](https://aqualunarchallenge.org.uk/judging-criteria/) and [**terms and conditions**](https://aqualunarchallenge.org.uk/terms-conditions/)**.**
* Verified that you meet the [**eligibility criteria**](https://aqualunarchallenge.org.uk/eligibility/)

If you have any questions, please review the [**frequently asked questions**](https://aqualunarchallenge.org.uk/faqs/) or email us at [**aqualunar@challenges.org**](mailto:aqualunar@challenges.org)**.**

Good luck. The closing date for submissions is **15:00** British Summer Time (**BST**) on **8 April 2024**.

The application form is made up of 4 sections – jump to each of them here:

* [**Section 1: Your Details**](#_Section_1:_Your)
* [**Section 2: Your Solution**](#_Section_2:_Your)
* [**Section 3: Additional information**](#_Section_3:_Additional)
* [**Section 4: Declaration**](#_Section_4:_Declaration)

# Section 1: Your Details

We will use this information to determine your eligibility, to contact you about your application, and for evaluation. This information will not be assessed and will be concealed from assessors and judges during their review.

## 1.1 Eligibility Information

### 1.1.1 What entity are you applying to the Aqualunar Challenge as? \*

* An individual (Unincorporated)
* A group of individuals, with a lead applicant (Unincorporated)
* A group of individuals, without a lead applicant (Unincorporated)
* A single organisation
* An organisation leading a consortium
* A consortium, without a lead applicant

If you are unsure, please email us at [**aqualunar@challenges.org**](mailto:aqualunarchallenge@challengeworks.org). Please note this submission must be completed by the person or organisation leading the application.

### 1.1.1.2 How old is the individual leading the entry?\* *(For those that answer individual(s))*

### 1.1.2 Where is the individual or organisation leading the application based? \*

* England
* Scotland
* Wales
* Northern Ireland
* Anywhere other than the United Kingdom

### 1.1.2.2 What region of England is your team predominantly based? \* *(For those that answer England)*

* East Midlands
* East of England
* London
* North East England
* North West England
* South East England
* South West England
* West Midlands
* Yorkshire and The Humber
* Across multiple regions / Other / I'm not sure

Please note this will not affect your eligibility and is for evaluation and statistics reasons only.

### 1.1.3 By ticking this box, I confirm that I have read the Aqualunar Challenge terms and conditions and privacy policy and agree to these. \*

## 1.2 Lead Applicant Details

### 1.2.1 Full legal name of lead applicant \*

This could be an individual or organisation.

### 1.2.2 What type of legal entity is the lead applicant organisation? \* *(For those who answer Organisation(s))*

* A public limited company
* A limited company
* A limited liability partnership
* Sole trader
* A community interest company (CIC)
* A charity governed by royal charter
* Other (Please specify)

### 1.2.2.2 If other, please specify the legal entity \* *(For those that answer Other)*

### 1.2.2 By ticking this box, I confirm that I acknowledge that I will need to register a legal entity and have a UK business bank account in place prior to winning the final first, second or third place prize. \* *(For those that answer individual)*

### 1.2.3 What is your address? \*

For an organisation, please provide your registered office address.

### 1.2.4 Lead applicant company or charity registration number \* *(For those who answer Organisation(s))*

If your organisation does not have a company or charity registration number, please provide details.

### 1.2.5 Lead applicant date of registration *(For those who answer Organisation(s))*

**1.2.6 Is your organisation, and any subsidiary organisations, wholly owned and based in the UK? *(For those who answer Organisation(s))***

Please note that this will not affect your eligibility.

## 1.3 Contact Details

Please provide the details of individuals to act as contacts for the Aqualunar Challenge team.

Where an organisation is leading the application, both the main and alternate contact should be from the lead applicant. Where an individual is leading the application, a partner can be specified as an alternate contact. If you are applying alone, please provide details of whom we should contact if for any reason we can't get hold of you. If we are unable to contact you in a reasonable time frame, your application may be withdrawn from the Aqualunar Challenge.

### 1.3.1 Main contact name \*

### 1.3.2 Main contact job title \*

If you are an individual, please feel free to respond N/A.

### 1.3.3 What is the main contact email address? \*

### 1.3.4 What is the main contact phone number? \*

Please include the country code.

### 1.3.5 Name of an alternative contact \*

### 1.3.6 Alternative contact's job title \*

If you are an individual, please feel free to respond N/A.

### 1.3.7 Email address of alternative contact \*

### 1.3.8 Alternative contact phone number \*

Please include the country code.

## 1.4 Partner Details

Please provide details of any partners you are working with on your application.

### 1.4.1 Do you have any partners? \*

Yes/No

### 1.4.2 Full legal name of partner \*

Please ensure you have consent to share this information.

### 1.4.3 Partner details

For individuals, please provide their **address and countries of tax residence.** Please ensure you have consent to share this information.

For organisations, please provide the **company or charity registration number, registered address, legal entity and country of registration.**

### 1.4.4 First partner email contact

Please provide an email address of a contact for this partner. Please ensure you have consent to share this contact.

### 1.4.5 Do you have any additional partners? [Repeats above questions for up to 5 partners]

Yes/No

### 1.4.18 Please provide details of all additional partners

For individuals, please provide their **full legal name, address, contact details and countries of tax residence.**

Please provide the **full legal name, company or charity registration number, registered address, legal entity, country of registration and email contact.**

# Section 2: Your Solution

This section is the main section that will be used in assessing your application against the judging criteria.

Below are detailed instructions to help you submit a good-quality application based on each of the judging criteria you will be assessed against.

### 2.0.1 Please provide a short name for your solution

### 2.0.2 Design Summary - Please provide a summary description of your technology and explain how it will operate to purify lunar water. Focus on how the proposed solution will directly address the Challenge Statement. (Limit: 500 words)

*This question is intended to provide basic information about your solution to support assessors and judges to understand your solution. It will not be used directly against any particular judging criteria.*

Teams are welcome to attach a picture or diagram to aid in explaining your solution below. If you wish to upload a picture or diagram, please attach it here. Please note any text outside of that directly required for a diagram will not be used in assessing your application.

### 2.0.3 Please briefly outline whether you are making any assumptions in your interpretation of the mission scenario which are critically important to the design of your solution, for example about the location of your technology in a PSR or the rim of the crater, or about how your technology has been ferried to the lunar surface? (Limit: 100 words)

*This question is intended to provide basic information about your solution to support assessors and judges to understand your solution. It will not be used directly against any particular judging criteria.*

### 2.1 Contaminant Removal - Please explain how your solution will remove contaminants listed in the mission scenario. To what extent will your solution remove these contaminants? (Limit: 1000 words)

*This question primarily focuses on the judging criteria* ***contaminant removal****, with a* ***20% weighting****. Assessors and judges will be seeking to understand* ***to what extent does the technology remove contaminants thought to be present in lunar water?***

Please outline how your proposed solution will remove the following listed contaminants:

* Hydrogen Sulfide (H2S)
* Ammonia (NH3)
* Carbon Monoxide (CO)
* Ethylene (C2H4)
* Sulfur Dioxide (SO2)
* Methanol (CH3OH)
* Methane (CH4)
* Traces of solid regolith particles.

Please format your answer into sub-sections covering these contaminants, with a clear title stating each contaminant. If your solution does not remove a contaminant, you are welcome to state N/A in that section.

In each section, please explain what treatment methods your system will integrate to remove the contaminant and explain the extent to which your solution will remove the contaminant. Where possible, please support your reasoning by referencing the best possible evidence for the effectiveness of your chosen technologies.

### 2.2 Appropriateness for Mission Scenario (20%) - Please explain how your technology is adapted to the challenging lunar environment, addressing the factors listed in the Mission Scenario, such as temperature, pressure, gravity and abrasive regolith particles. (Limit: 500 words)

*This question primarily focuses on the judging criteria* ***appropriateness for mission scenario,*** *with a* ***20% weighting.*** *Assessors and judges will be seeking to understand* ***to what extent is the technology appropriate for operation on the lunar surface, as specified in the mission scenario?*** *You can find the*[***mission scenario here.***](https://aqualunarchallenge.org.uk/the-challenge/#mission)

In your answer, please provide the planned technical specifications of your solution, including power, dimensions, and mass. Outline the solution's planned robustness to g-forces during launch and landing and its resilience against radiation and solar wind.

Please ensure you’re explaining to what extent you will deliver on the Mission scenario. The Mission Scenario should be considered a long-term aspiration that teams aim to meet (beyond the timeline of the Challenge).

Where possible, please support your reasoning by referencing the best possible evidence for the effectiveness of your chosen technologies.

### 2.3 Innovation – Please describe what is innovative (novel, combined or adapted) in your solution compared to current state-of-the-art technologies. (Limit: 250 words)

*This question primarily focuses on the judging criteria* ***innovation,*** *with a* ***12% weighting****. Assessors and judges will be seeking to understand* ***to what extent is the technology innovative compared to the current state of the art?***

In your answer, please set out how your technology is different from other technologies that currently exist. Please use clear and simple language when detailing how you have adapted, combined and/or created novel technologies to achieve innovation.

### 2.4 Reliability - Please explain what is the optimal level that your solution will be designed to operate at? How long will it consistently operate at this level? (Limit: 250 words)

*This question primarily focuses on the judging criteria* ***reliability,*** *with a* ***12% weighting****. Assessors and judges will be seeking to understand* ***to what extent does the technology operate reliably?***

Please include in your answer how you are designing your solution to achieve reliability.

Where possible, please support your reasoning by referencing the best possible evidence for the reliability of your chosen technologies.

### 2.5 Solution Adoption Potential - Please provide possible use cases for the technologies you will be developing and why you have chosen these use cases. We are interested in both space and terrestrial applications of your technology. (Limit: 250 words)

*This question primarily focuses on the judging criteria* ***solution adoption potential,*** *with a* ***12% weighting.*** *Assessors and judges will be* ***seeking to understand to what extent has the team demonstrated a post-Challenge route to market, adoption and scale for their technology?***

### 2.6 Efficiency – Please explain to what extent your solution will maximise purified water output and minimise inputs of the purification process. (Limit: 250 words)

*This question primarily focuses on the judging criteria* ***efficiency,*** *with a* ***6% weighting****. Assessors and judges will be seeking to understand* ***to what extent does the technology maximise outputs and minimise inputs?***

In your answer, please describe the inputs needed to run your water purification technology. Inputs can include electricity, reagents, equipment and labour, and others, for example.

### 2.7 Resource Recovery - Please outline how your solution will both reduce the amount of waste it produces and will recover any by-products created in the water purification process. (Limit: 250 words)

*This question primarily focuses on the judging criteria* ***resource recovery,*** *with a* ***6% weighting.*** *Assessors and judges will be seeking to understand* ***to what extent does the technology recover the contaminants from the lunar water?***

In your answer, please outline any by-products you expect your solution will produce. How and to what extent do you intend to re-use them**.**

### 2.8 Autonomy and Remote Monitoring - Please explain how your solution will employ remote monitoring and autonomous systems. (Limit: 250 words)

*This question primarily focuses on the judging criteria* ***autonomy and monitoring****, with a* ***6% weighting.*** *Assessors and judges will be seeking to understand* ***to what extent can the technology operate autonomously, without human intervention (including the extent to which it can provide telemetry)?***

### 2.9 Capacity to Deliver - Please explain the expertise that your team would need to develop your solution and outline the relevant expertise that your team has and/or your strategy for acquiring this expertise. (Limit: 250 words)

*This question primarily focuses on the judging criteria* ***capacity to deliver,*** *with a* ***6% weighting.*** *Assessors and judges will be seeking to understand* ***to what extent does the team have the technical and commercial expertise to bring the technology forward?***

In your answer, please outline whether there are gaps in expertise and how you will address those gaps.

# Section 3: Additional Information

We will use this information to help shape the Aqualunar Challenge and to support impact amd evaluation. This information will not be assessed and will be concealed from assessors and judges during their review.

### 3.1 Has the team working on developing your solution been exclusively created to participate in the Aqualunar Challenge? \*

* Yes
* No
* I don't know
* Not applicable - I am an individual

### 3.2. Approximately how many people currently work on the team developing the solution in your submission? \*

Please specify the number of people in **full-time equivalent individuals** currently working on the solution team. This is commonly referred to as "FTE" and should refer to the number of individuals working in proportion to their time. One full-time individual is 1 full-time equivalent, and one part-time individual that spends half of their working week is 0.5 full-time equivalents. If one person works more than a 37.5 hour working week on the initiative, they still count as a maximum of 1 full-time equivalent.

### 3.3 Approximately how long have you and/or your team been working together on any topic (in months)? \*

Please specify in **approximate number of months.** If you are unsure, please enter your best guess.

### 3.4. Approximately how long have you and/or your team been working on the solution in your submission (in months)? \*

Please specify **in approximate number of months.** If you are unsure, please enter your best guess.

### 3.5 Have you or your team previously worked on a problem that required expertise in the same area or domain as the Aqualunar Challenge? \*

* Yes
* No

### 3.5.2. Please provide a brief explanation of the problem(s) that required similar expertise to solve and any solution(s) you developed in relation to it. *(For those that answer yes to 3.5)*

### 3.6. What kind of support would you like to receive from the Challenge? \*

This information will be used to help us tailor the non-financial support offered to finalists (Please select all that apply)

* Information about lunar conditions
* Support for designing for the lunar environment
* Technical support (please describe the nature of technical support in the box below)
* Technology road mapping support
* Information about the space ecosystem and routes to market
* Information about international trade considerations and regulations for space tech
* Support to develop a business case
* Pitch support
* Investor introductions
* Mentoring
* Project management advice
* Networking opportunities to meet (please tick all that apply):
  + Other innovators
  + Specialist experts
  + Space agency representatives
  + Other (please specify)
* Other (please expand in the box below)

### 3.6.2 Please provide any further information on what would support you to develop your solution. *(If Other Selected in 3.6)*

### 3.7 What types of expertise do you currently have within your team?

* Expertise about the lunar environment
* Experience or expertise in designing for space
* Water purification expertise
* Other relevant expertise - please describe

### 3.7.2 Please describe the other relevant expertise that you currently have within your team *(If other selected in 3.7)*

### 3.8. What is your approach to building a diverse, equitable, and inclusive team? \*

### 3.9 At the point of submission, have you registered any intellectual property (IP) relating to your solution? \*

* Yes
* No
* I don't know

### 3.10 At the point of submission, approximately how much money has been invested in developing the solution forming the focus of your application? \*

Please provide your answer in GBP.

### 3.11 Which Subsidy Control status are you applying to your project? \*

Please see the application guidance.

* Minimum Financial Assistance - I have not received over £315,000 in grant funding from the UK Government over the last three financial years (23/24, 22/23, 21/22).
* Streamlined Scheme - I have received £315,000 or more in grant funding over the last three financial years or do not wish to apply for MFA. My project will include the relevant match funding contribution detailed in the application guidance.

# Section 4: Declaration

In this section, you must review and accept the terms and conditions for the Aqualunar Challenge, and review and accept the Consent for Use, Disclosure and Copyright requirements. At any point during the Challenge, CSA may request that consent be given in writing or in a form at its satisfaction.

|  |  |
| --- | --- |
|  | 4.1 I confirm that I and any of my partners have read the Terms and Conditions and Privacy Policy and agree to these. |
|  | 4.2 I confirm that I and any of my partners have read the Eligibility Criteria, are eligible for the Challenge now and that, should we cease to comply with the Eligibility Criteria, we will immediately inform Challenge Works. |
|  | 4.3 I confirm that I have read the Subsidy Control Act 2022 and agree to comply with it. |
|  | 4.4 I confirm that all the information in this application is correct to the best of my knowledge. |