



Official Rules Document

2 August 2024

Revision Date	Modification
25 June 2024	Minor (non-substantive) text edits to improve clarity, reorder subsections 1.2 and 1.3, rename Phase 1 and 2 submissions to 'Concept Paper' and 'Progress Report' instead of 'Narrative', and update terms and conditions
2 Aug 2024	Updated the information required for cover page

The Competition Administrator reserves the right to modify this Official Rules document if necessary and will publicly post any such modifications as well as notify participants who have registered on HeroX.

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1 Summary

1.1 Background & definitions

[Mission Innovation \(MI\) Carbon Dioxide Removal \(CDR\)](#)

Mission's Student Monitoring and Reporting Technologies for Carbon Dioxide Removal (SMART-CDR) Competition promotes the advancement of monitoring, reporting, and verification technologies and approaches in CDR through the support of international teams of undergraduate and graduate students.

The high-level goal of MI CDR is to enable CDR technologies to achieve a net reduction of 100 million metric tons of CO₂ per year globally by 2030. MI CDR facilitates international cooperative efforts on research, analysis, and demonstrations in order to enhance confidence in CO₂ removals, understand and address potential environmental impacts, and improve performance while reducing the cost of CDR technologies. MI CDR recognizes the importance of robust monitoring, reporting, and verification of CO₂ removals as an essential enabler for responsible, rapid, and large-scale growth of the global CDR industry. And, with the need for a global CDR industry to grow by several orders of magnitude in the coming decades, the sector will require a commensurate workforce of creative, knowledgeable, and committed individuals eager to contribute to efforts for reaching net zero greenhouse gas emissions globally in line with [Paris Agreement goals](#).

It is with these motivations that MI CDR has established the SMART-CDR Competition, in partnership with generous [sponsors](#), to tap the creative power of university students throughout the world in helping solve some of the most complex and impactful challenges facing the CDR industry: monitoring, reporting, and verification (MRV).

For the purposes of this Competition, MRV is defined in a manner consistent with [The State of CDR Report](#). That is, *monitoring* refers to “all data and information that is measured, estimated or quantified for the purposes of tracking CDR and its related impacts”; *reporting* refers to “the process of reporting on the removals” through crediting or compliance mechanisms or other means of official disclosure; and *verification* refers to “receiving third-party verification of the removals that have been reported.”¹

Thorough MRV ensures that carbon dioxide removals are accurate and accounted for in a consistent and transparent manner. Robust, accurate, and precise MRV technologies and methodologies will:

MISSION INNOVATION

[Mission Innovation \(MI\)](#), a global initiative of 23 countries and the European Commission, was launched in 2015 at the United Nations Climate Conference in Paris. MI catalyzes action and investment in research, development, and demonstration to make clean energy affordable, attractive, and accessible for all. This will accelerate progress towards the Paris Agreement goals and pathways to net zero greenhouse gas emissions globally.

One of the Mission Innovation initiatives, called “Missions,” is the [Carbon Dioxide Removal Mission \(MI CDR\)](#), which includes participation by 14 governments: co-leads Canada, Saudi Arabia, United States, members Australia, European Commission, Japan, Norway, India, United Kingdom, and observers Bahrain, Germany, Iceland, Kenya, and Switzerland.

¹ [The State of Carbon Dioxide Removal](#), 2nd Edition. 2024, Chapter 10.

- Ensure that a CDR project will be credited for the portion that is net negative over its entire lifetime—removing more CO₂-equivalent than it emits²
- Help ensure that the entities performing the CDR projects are accurately compensated
- Provide confidence to buyers and to the public in the quantity and permanence of CO₂ being removed from the atmosphere
- Provide better data and methods to inform and improve analyses of CDR projects
- Enable deploying jurisdictions to take advantage of voluntary and compliance carbon markets

While MRV technologies and approaches exist today, significant challenges remain, which include but are not limited to, measuring carbon accurately with low-cost tools, quantifying net CO₂-equivalent removed on a life cycle basis, transparency and trust, and best practice protocols and processes.

For the SMART-CDR Competition, proposed MRV solutions should be relevant to net CO₂-equivalent removal and can be applicable to any one or more CDR removal pathways. CDR removal pathways include novel methods such as direct air capture and storage, biomass carbon removal and storage, enhanced mineralization, and ocean removal approaches, as well as conventional methods such as enhanced soil carbon sequestration and forestry.³ The SMART-CDR Competition adheres to the Intergovernmental Panel on Climate Change definition for CDR: human-caused activities that remove carbon dioxide from the atmosphere and durably store it in geological, terrestrial, or ocean reservoirs, or in products. CDR includes existing and potential anthropogenic enhancement of biological or geochemical CO₂ sinks and direct air capture and storage but excludes natural CO₂ uptake not directly caused by human activities.⁴

SMART-CDR proposed project solutions may address any one or multiple aspects of CDR MRV; projects do not need to address all components across monitoring, reporting, and verification. For example, projects could focus on an improved measurement tool, an enhanced reporting standard, or a unique verification system.

In addition, while SMART-CDR projects should consider the life cycle net CO₂-equivalent removed, proposed project solutions do not need to address challenges associated with each component of a CDR system. For example, MRV is relevant for the separation of CO₂ from the atmosphere at a direct air capture facility, and MRV is relevant for the durable storage component, whether CO₂ is stored geologically or in products. Projects may focus on a single MRV component, such as the quantification of CO₂ removed at the separation stage, or techniques for monitoring over time the carbon stored in durable products.

Examples of potential SMART-CDR projects may include (non-exhaustive, for illustrative purposes):

- Developing a novel sensing or data analysis technology for quantification of CO₂ removal.
- Designing a new sampling mechanism to improve the speed and/or scale at which CO₂ removal can be accurately quantified under representative environmental conditions.
- Developing a sampling algorithm to identify optimal and representative MRV sampling locations based on a specified set of parameters.
- Constructing a model to assess the permanence of a CO₂ removal pathway under various environmental conditions.

² CO₂-equivalent refers to emissions from other greenhouse gases, such as methane and nitrous oxide, comparing them to CO₂ based on global warming potentials. Although CDR refers to CO₂ removal only (not removal of other greenhouse gases), CO₂-equivalent is relevant to CDR MRV because CDR projects may affect life cycle emissions of non-CO₂ greenhouse gases, which should be accounted for in robust MRV.

³ CDR Pathways and methods are outlined in an [IPCC factsheet, The State of CDR Report](#), and the [CDR Primer](#), among other sources

⁴ [IPCC Working Group 1 Sixth Assessment Report, Annex VII \(Glossary\)](#)

- Integrating artificial intelligence techniques with geospatial data to estimate changes in carbon flux to improve measurements of removals for certain CDR approaches.
- Developing a process to use data from lifecycle analysis (LCA) and/or technoeconomic analysis (TEA) as input for MRV procedures, and vice versa (MRV providing input for LCA and/or TEA).
- Conducting a controlled laboratory investigation to measure and quantify the uncertainty associated with MRV tools and practices that are being used today.
- Harmonizing removal reporting protocols to improve transparency and consistency globally and help enable cross-border markets.
- Developing a business solution to attract different verification bodies to apply consistent standard processes among approaches and geographies for certifying high quality removals.

1.2 Competition

The SMART-CDR Competition consists of three phases.

In Phase 1, students form diverse teams (as described in section 1.5) of two to six individuals and come up with ideas for addressing an CDR MRV challenge. Teams then create a short concept paper which includes an outline of the CDR MRV challenge they are attempting to solve, the scope of their work including proposed work activities, how the project differs and/or improves existing methods, and the potential impact of their proposed project. Based on their submitted concept paper, up to 24 semi-finalist teams will be selected to advance to Phase 2. The semi-finalist teams will be recognized on Mission Innovation media and receive the opportunity to meet virtually with global CDR and MRV specialists to assist with their projects.

In Phase 2, semi-finalist teams will develop their project. After about two months, semi-finalist teams will submit a brief report on the progress of their project, including sections on background, theory, and methods; findings; and next steps. Up to six winners of this phase will be invited to proceed to Phase 3 and present their projects at the CDR Conference at the CLIMIT Summit in Norway on 25 February 2025. A travel stipend for at least one person per team will be provided to attend the conference from 25-27 February 2025. Additional team members are welcome and encouraged to participate. Virtual participation is also an option if team members are not able to travel. Teams selected to proceed to Phase 3 are considered finalists and will be recognized on Mission Innovation media. Each finalist team will receive mentorship opportunities from CDR experts to assist teams with their projects and final presentations.

Winning teams for Phase 3 will be selected based on presentations at the CLIMIT Summit. Teams will be recognized in an awards ceremony, which will include an announcement of cash prizes provided directly by SMART-CDR Competition [sponsors](#).

Competition Phase	Winners	Awards and Incentives
Phase 1: Design	Up to 24 semi-finalist teams	Guidance from global CDR and MRV specialists International recognition on MI media
Phase 2: Develop	Up to 6 finalist teams	Mentorship from CDR experts Attend and present their project at the CLIMIT Summit in Norway Travel stipend for at least 1 member per team International recognition on MI media
Phase 3: Present	Up to 3 winning teams	USD\$10,000 Cash prizes to each winning team International recognition on MI media

1.3 Prizes

Prizes and incentives will be offered to teams that are selected for each of the three phases.

- Based on Phase 1 submissions, up to 24 teams will be selected to advance to Phase 2 (“semi-finalists”).
- Based on Phase 2 submissions, up to six teams will be selected to advance to Phase 3 (“finalists”).
- Based on presentations at the international CLIMIT Summit, up to three winners will be selected (“winners”).

Semi-finalist teams will have the opportunity to receive **guidance from CDR experts** through interactive question and answer sessions geared toward helping teams advance their projects beyond the concept stage.

Finalist teams will be offered **mentorship** opportunities from CDR experts. The Competition Administrator will pair each finalist team with one or two expert mentors during the final phase of the Competition, to assist the teams in further developing their projects and preparing their final presentations.

Finalist teams will be invited to participate and **present at the international CDR Conference at the CLIMIT Summit** in Norway on 25 February 2025. **Travel stipends** for at least one member of each finalist team will be provided by SMART-CDR Competition sponsors. The CLIMIT Summit will also offer students the opportunity to **professionally network** with international CDR experts, join exclusive site visits, and participate in the rest of the CLIMIT Summit (including side events and workshops) from 25-27 February 2025. The Competition Administrator will contact the finalist teams with more information once finalist teams have been determined following the completion of Phase 2.

Winning teams from Phase 3 will be eligible for a **USD \$10,000 cash award** provided by our sponsors. Cash awards will be granted to winning teams directly from SMART-CDR Competition [sponsors](#), not by Mission Innovation members. More information will be provided to the winning teams at the conclusion of Phase 3.

The winning teams, finalist teams, and semi-finalist teams will be **recognized through Mission Innovation** media.

1.4 Key Dates

- Wednesday, 19 June 2024, Competition Launch
- Monday, 9 Sept 2024, Phase 1 Submissions Close (23:59 UTC)
- Monday, 30 Sept 2024, Phase 1 Winners Announced (anticipated)
- Thursday, 5 Dec 2024 Phase 2 Submissions Close (23:59 UTC)
- Thursday, 19 Dec 2024 Phase 2 Winners Announced (anticipated)
- Tuesday, 25 Feb 2025 Phase 3 Final Presentation and Winners Announced (anticipated)

Also refer to the timeline on [HeroX](#) for relevant dates and deadlines.

1.5 Eligibility

The competition is open exclusively to teams of undergraduate and graduate students enrolled, full-time or part-time, at any accredited university globally.⁵ All members of the team must be university students enrolled during any term of 2024 (e.g., students beginning enrollment after the Competition launch but in the calendar year 2024 are eligible, and students who were enrolled during a 2024 term but are not currently enrolled are also eligible.) The Competition Administrator may seek additional information from individuals regarding 2024 enrollment status to confirm eligibility. Each team member must meet the eligibility requirements.

Teams must be composed of at least two and no more than six students.

Teams are encouraged to form multidisciplinary and multinational teams. Team diversity, including disciplines (e.g, university concentration/major) and geographic diversity – including representation from low- and middle-income countries – is one of the evaluation criteria. To assist with matchmaking and forming diverse teams, the HeroX platform provides a space where parties interested in [teaming](#) together can post information about themselves and learn about others who are also interested in competing.

Individual students cannot be members of more than one competing team.

Submissions must be in English.

Only winners of Phase 1 (“semi-finalists”) are eligible to compete in Phase 2, and only winners of Phase 2 (“finalists”) are eligible to compete in Phase 3.

If more than one submission is received from a team in each phase, the most recently submitted submission prior to the deadline will be considered.

See Appendix A for additional eligibility requirements.

⁵ Accredited universities are based on the [World Higher Education Database](#) of Higher Education Institutions (HEIs). If your university is not listed please contact the Competition Administrator via the chat function after logging into the [HeroX](#) site. Universities do not need to be members of the International Association of Universities (IAU) to be considered accredited.

2. Competition Phases

The SMART-CDR Competition consists of three phases:

Phase 1 – Design – Students form teams of two to six students and use their creative skills to identify and conceptually design an innovative solution to a CDR MRV challenge. Teams submit a short concept paper which includes an outline of the CDR MRV challenge they are attempting to solve, the scope of their MRV solution including proposed work activities, how their project differs and/or improves existing methods, and the potential impact of their proposed project.

Up to 24 teams will be selected as semi-finalists and invited to move on to Phase 2 of the competition.

Phase 2 – Develop – Semi-finalist teams advance their proposed projects, building on and beginning to execute the work activities outlined in Phase 1. Semi-finalist teams will submit a report on the progress of their project, including sections on background, theory, and methods; findings; and next steps. It is not expected that the projects will be completed at this point, but teams should have demonstrated significant progress.

Up to six teams will be selected as finalists and move on to Phase 3 of the competition.

Phase 3 – Present – Finalist teams further advance their projects and present their work at the international CDR Conference at the CLIMIT Summit on 25 February 2025. Teams will have the opportunity to work with CDR expert mentors, who will be matched to each of the finalist teams, to provide guidance for their projects and hone their presentations in preparation for the Summit.

Up to three teams will be selected as winners and awarded cash prizes from our [sponsors](#).

2.1 Phase One: Design

Advancing widespread global deployment of CDR will require rigorous approaches to MRV, as well as consensus-based international standards for quantifying removals. However, the processes of monitoring, reporting, and verifying net removals from the atmosphere are intricate and at various stages of advancement across different CDR approaches, making the science and technology surrounding them complex. There are currently no globally accepted approaches, boundaries, or baselines for monitoring, reporting, and verifying CO₂ removals attributable to CDR processes.

In Phase 1, students form teams of two to six individuals and create a short concept paper of up to 2,000-words (approximately four pages) describing a CDR MRV challenge they are attempting to solve, the scope of their work including proposed work activities, how the project differs and/or improves existing methods, and the potential impact of their proposed project.

Project concepts should propose innovative technologies, models, techniques and/or methodologies that will aid in quantifying, reporting, and/or verifying the amount of net CO₂-equivalent that has been removed from the atmosphere and durably stored, with little to no risk of reversal, by one or more CDR approaches.

2.1.1 Phase 1 Winners

Up to 24 teams will be selected as semi-finalists and invited to proceed onto Phase 2.

Semi-finalist teams will have the opportunity to receive guidance from CDR experts through interactive question and answer sessions, geared toward helping teams advance their projects beyond the concept stage. Semi-finalist teams will also be recognized through Mission Innovation media.

2.1.2 How To Enter

Go to [HeroX](#) and follow the instructions for registering and submitting all required materials before the phase deadline.

2.1.3 What to Submit

Phase 1 submissions include the following items:

- Cover page
- Concept Paper

Cover Page

The cover page must include the following information:

- Project title
- Team name
- Name of team captain
- Short description of project (150 words or fewer)
- List of each team member:
 - Full name
 - Student email address preferably from a university domain account
 - Citizenship
 - University attending, including physical campus location or online campus
 - Academic concentration/major

The cover page may include additional information such as links to team member bios, cover graphics, and images, but it is not required.

Phase 1 Concept Paper

The narrative for Phase 1 should provide responses for each of the following four sections. The bullets below are only suggestions to guide the responses. Teams may decide which sections to focus responses. The individual sections do not have a word limit; however, the aggregate response to these four sections **must not exceed 2,000 words**, excluding captions, figures/graphs, or references. Teams may also include **up to three supporting images, figures, or graphs**, which are not included in the word count. Submissions can be in bullet or paragraph form, phrases, or complete sentences. Please include a word count at the end of the narrative.

Section 1. Outline the CDR MRV challenge your team is attempting to solve.
<ul style="list-style-type: none"> ● Identify which CDR approach(es) are relevant for your MRV project.⁶ ● What are the key MRV challenges addressed by your MRV project? Consider including a brief literature review summary to support your response.
Section 2. Outline your MRV project and proposed work activities.
<ul style="list-style-type: none"> ● Describe your team’s solution for addressing the challenge(s) outlined in Section 1. ● What are the objectives of your project? ● What are the project boundaries (i.e., what will be included and what is outside of scope)? ● What are the methods and major activities that will be performed, and the timeline for performing them?
Section 3. Describe how your MRV solution differs from and/or improves upon existing methods.
<ul style="list-style-type: none"> ● What, if anything, currently exists that is similar to your proposed MRV solution but is insufficient? ● How does your team’s solution build upon or improve existing MRV technologies or methods? ● What needs or gap(s) does your team’s solution fill? How is your team’s MRV solution novel and/or innovative?
Section 4. Discuss your predictions for the project and the potential impacts.
<ul style="list-style-type: none"> ● What do you anticipate the results of your MRV project will reveal? ● Who are the end users (e.g., companies, governments, researchers, standards organizations, general public) of this project’s findings? ● Can your project be scaled-up? What are the local, regional, and/or global impacts of the proposed solution? Is the project applicable globally, or does it have geographic dependencies? ● What are the technological, societal, and/or other benefits from successful development and implementation of your solution? ● Are there risks or unintended consequences to consider in your proposed MRV solution? If so, what are the corresponding mitigation strategies?

2.1.4 How We Determine Winners

The Competition Administrator screens all completed submissions and ensures that the teams are eligible. Then the Competition Administrator assigns subject matter expert reviewers who independently score the content of each submission based on the evaluation criteria outlined below. The reviewers will be composed of government, industry, and academic CDR experts from participating countries. Interviews may be conducted with participating teams at the discretion of the Competition Administrator.

Reviewer Panel Scoring for Phase 1

Reviewers will assess Phase 1 submissions against the following criteria:

⁶ CDR approaches are outlined in an [IPCC factsheet](#), [The State of CDR Report](#), and the [CDR Primer](#), among other sources

Criterion 1: Description and applicability of challenge being addressed (20% weight)

- Demonstrates understanding of the CDR MRV challenge(s) being addressed by the proposed project
- Connects the MRV challenge being addressed with applicable CDR approaches
- Claims are well supported

Criterion 2: Proposed MRV solution, scope, objectives, and work activities (20% weight)

- Clearly describes proposed project / MRV solution, including project scope and boundaries
- Objectives are aligned to achieving project goals and are reasonably ambitious
- Work activities support objectives and, if achieved, would enable team to meet objectives in realistic timeframe

Criterion 3: Additionality (20% weight)

- Demonstrates knowledge of similar or analogous MRV efforts, or demonstrates the uniqueness of the proposed solution if no similar efforts
- Demonstrates understanding of how the proposed MRV solution fills a need/gap

Criterion 4: Impact (20% weight)

- Presents a clear hypothesis of the results
- Analytical argument for anticipated results and potential impact is credible and convincing
- Magnitude and reach of project, if successful, will make a meaningful difference
- Demonstrated understanding of co-benefits and risks

Criterion 5: Structure (10% weight)

- Submission is well organized and presented, with supporting figures if needed
- Contains minimal errors

Criterion 6: Team (10% weight)

- Team makeup demonstrates disciplinary diversity, such as through a range of skillsets, interests, and concentrations/majors
- Team consists of geographic diversity with representation from different regions and/or countries
- Team includes individual(s) from low- or middle- income countries as defined by [World Bank](#)

2.1.5 Interviews

Reviewers may decide to interview a subset of teams. The interviews would be held prior to the announcement of the winners and would serve to help clarify questions the reviewers may have. Participating in interviews is not required, and interviews are not an indication of a team's likelihood to win.

2.1.6 Announcement

The Competition Administrator will notify the teams selected as semi-finalists (Phase 1 winners) and will then publicly announce the semi-finalists.

2.2 Phase Two: Develop

Only Phase 1 semi-finalists will be able to move on to Phase 2.

In Phase 2, each semi-finalist team develops and advances the project as conceptualized and outlined in Phase 1. Teams may adjust their Phase 1 project proposal during Phase 2 and, if so, should explain the differences and reasons for any meaningful changes as part of the Phase 2 submission. Teams will submit a report up to 5,000 words (about 10 pages) on the progress of their project, including a section on background, theory, and methods; a section on findings; and a section on next steps. It is not expected that the projects will be completed at this point, but teams should have demonstrated significant progress.

2.2.1 Phase 2 Winners

Up to six teams will be selected as finalists and invited to proceed on to Phase 3.

Finalist teams will receive **international recognition** through Mission Innovation and be invited to **present their project at the international CDR Conference at the CLIMIT Summit** on 25 February 2025. **Travel stipends** will be offered for at least one member of each team. The Competition Administrator will contact the finalist teams with more information about travel once finalist teams have been determined.

In-person participation at the CLIMIT Summit will also offer students the opportunity to **professionally network** with international CDR experts, participate in site visits, and participate in the Summit program from 25-27 February 2025. Note while in-person participation in the conference is encouraged, it is not required. The presentation can be delivered virtually if necessary.

Finalist teams will also be offered **mentorship opportunities** from CDR experts. The Competition Administrator will pair each finalist team with one or two expert mentors to assist the teams in further developing their projects and preparing their final presentations.

2.2.2 How To Enter

Teams eligible for Phase 2 should go to [HeroX](#) and follow the instructions for submitting all required materials before the phase deadline.

2.2.3 What to Submit

A complete submission package for Phase 2 should include the following items:

- Cover page
- Summary Slide (will be made public)
- Progress Report

Cover Page

Teams may use the same cover page as the Phase 1 submission or create an updated version.

The cover page must include the following information:

- Project title
- Team name
- Name of team captain

- Short description of project (150 words or fewer)
- List of each team member:
 - Full name
 - Student email address preferably from a university domain account
 - Citizenship
 - University attending, including physical campus location or online campus
 - Academic concentration/major

The cover page may include additional information such as links to team member bios, cover graphics, and images, but it is not required.

Summary Slide

Create a public-facing, one-slide submission summary that introduces your team and your project. There is no template; competitors are free to present the information in any format. Any text must be readable in a standard printed page and a conference room projection and should be in at least 14-point font. **This slide will be made public at the international CLIMIT Summit.**

Phase 2 Progress Report

For Phase 2, teams should provide a written report with responses for the following three sections. The bullets below are only suggestions to guide the responses. The aggregate response to these three sections **must not exceed 5,000 words** (about 10 pages), excluding captions, figures/graphs, or references. Teams may include **up to five supporting images, figures, or graphs**, which are not included in the word count. Please include a word count at the end of the report.

Section 1: Background, Theory, and Method
<ul style="list-style-type: none"> ● Background: What context is important to know about your innovative project? What are your major sources of information? Define any terms that need working definitions for your project. Consider providing key references. ● Theory: Explain how and why your project is expected to achieve desired outcomes? ● Methodology: How did you collect data? What methods, equipment, technology, approaches, interviews, etc. were used? <p>You may refer to your Phase 1 responses and/or expand/modify them.</p>
Section 2: Progress and Preliminary Findings
<ul style="list-style-type: none"> ● What activities have been performed and what were the results/outcomes? ● What key data or other information have been collected? How have you used that data? ● What challenges has your team faced and how were they addressed? ● What key information or scientific gaps exist? ● How could stakeholders and end-users best use the results/outcomes?
Section 3: Next Steps
<ul style="list-style-type: none"> ● Do you need to make any adjustments to your project scope and goals based on preliminary findings or other factors? ● What are the next steps for your project between now and a possible final presentation in February?

- Going forward, what are the project milestones you will use to track progress toward your objectives?
- What recommendations do you have for future work in this project area?
- Why is it important for this project to proceed and be presented at an international CDR conference?

2.2.4 How We Determine Winners

The Competition Administrator screens all completed submissions and assigns subject matter expert reviewers who independently score the content of each submission based on the evaluation criteria outlined below. The reviewers will be composed of government, industry, and academic CDR experts from participating countries. Interviews may be conducted with participating teams at the discretion of the Competition Administrator.

Reviewer Panel Scoring for Phase 2

Reviewers will assess Phase 2 submissions against the following criteria:

Criterion 1: Context (20% weight)

- Clear description of the project and what problems it is aiming to solve
- Convincing rationale for how the project is innovative and will lead to improved outcomes
- Project methods are appropriate
- Demonstrated sufficient research in literature and adequate references

Criterion 2: Progress (20% weight)

- Significant progress demonstrated between Phase 1 submission and Phase 2 submission
- Executed activities align with work scope and objectives
- Demonstrated problem solving

Criterion 3: Results (20% weight)

- Logical interpretation of information/data/evidence gathered/analyzed for the project
- Potential for meaningful project impact based on findings, including end-uses and possible co-benefits
- Demonstrated understanding of project risks and limitations

Criterion 4: Plans (20% weight)

- Clearly defined and well-reasoned next steps and further work
- Description of tests and measures necessary for future progress on the solution
- Convincing argument for project to be presented at international CDR conference

Criterion 5: Structure (10% weight)

- Submission is well organized and presented, with supporting figures if needed
- Contains minimal errors

Criterion 6: Team (10% weight)

- Team makeup demonstrates disciplinary diversity, such as through a range of skillsets, interests, and concentrations/majors
- Team consists of geographic diversity with representation from different regions and/or countries
- Teams includes individual(s) from low- or middle- income countries as defined by [World Bank](#)

2.2.5 Interviews

Reviewers may decide to interview a subset of teams. The interviews would be held prior to the announcement of the winners and would serve to help clarify questions the reviewers may have. Participating in interviews is not required, and interviews are not an indication of a team's likelihood to win.

2.2.6 Announcement

The Competition Administrator will notify the teams selected as finalists (Phase 2 winners) and will then publicly announce the finalists.

2.3 Phase Three: Present

Only finalists will move on to Phase 3.

In Phase 3, finalist teams further advance their projects and present their work at the international CDR Conference at the CLIMIT Summit on 25 February 2025. Teams will have the opportunity to work with CDR expert mentors, who will be matched to each of the finalist teams by the Competition Administrator, to provide project guidance and hone their presentations in preparation for the Summit.

Travel stipends to attend the Summit for at least one member of each finalist team to participate in the Summit in-person from 25-27 February 2025 will be provided by [sponsors](#). The Competition Administrator will be in contact with the team captain from each of the finalist teams to provide more information about travel stipends. If a finalist team is unable to send a team member in-person to present at the Summit, a virtual presentation may be delivered instead.

Additional team members are welcome and encouraged to participate in the CLIMIT Summit. Organizers of the Summit have agreed to reserve spots for all members of finalist teams. In-person participation at the Summit will also offer students the opportunity to professionally network with international CDR experts, join site visits, and participate in the rest of the Summit program.

Details are subject to change, please check back for updates to this document and to the [MI CDR website](#).

2.3.1 Phase 3 Winners

Up to three winning teams for Phase 3 will receive **USD\$10,000 cash awards** for each team, provided directly by our [sponsors](#) (not by Mission Innovation). The Competition Administrator will provide more details to winning teams.

Winning teams will also receive **international recognition** through Mission Innovation media and through an award ceremony at the CLIMIT Summit.

2.3.2 How To Enter

Teams eligible for Phase 3 should go to [HeroX](#) and follow the instructions for submitting all required materials before the phase deadline.

2.3.3 What to Submit

A complete submission package for Phase 3 should include the following items:

- Cover page
- Updated Summary Slide (will be made public)
- Presentation Slide Deck (will be made public)

Cover Page

Teams may use the same cover page as the Phase 2 submission or create an updated version.

The cover page must include the following information:

- Project title
- Team name
- Name of team captain
- Short description of project (150 words or fewer)
- List of each team member:
 - Full name
 - Student email address preferably from a university domain account
 - University attending, including physical campus location or online campus
 - Academic concentration/major

The cover page may include additional information such as links to team member bios, cover graphics, and images, but it is not required.

Updated Summary Slide

Create an updated version of the public-facing, one-slide submission summary that introduces your team and your project. There is no template; competitors are free to present the information in any format. Any text must be readable in a standard printed page and a conference room projection and should be in at least 14-point font. This updated slide will be made public at the CLIMIT Summit.

Presentation Slide Deck

Details forthcoming. The Competition Administrator will provide details to finalists. Please check back for updates to this document.

2.3.4 Final Presentation

Each finalist team will have 15 minutes (to be confirmed) to deliver a presentation to an international audience of CDR stakeholders. The presentation will be at the CDR Conference at the CLIMIT Summit in Norway on 25 February 2025. Expert mentors will be available to assist the teams in further developing their projects and preparing their final presentations. Presentations must be delivered by one or more members of the team only.

Teams should prepare and deliver a verbal presentation that consists of the following sections. Teams may decide how much time and the number of slides to devote for each section. The time limit overall is 15 minutes (to be confirmed).

1. **Team overview**, such as affiliated universities, locations, specialties, and/or other interesting facts about the team
2. **Problem definition**, including the challenge(s) the project is aiming to solve
3. **Proposed solution**, such as a description of the project and how it might be used and by whom
4. Summary of **key methods and assumptions**

5. **Results** and potential impacts, such as benefits and risks
6. **Recommendations**, such as further opportunities, limitations/challenges to consider, and areas for future research

2.3.5 How We Determine Winners

Winners will be selected during the Summit by in-person audience vote and/or by a judges panel. Evaluation criteria include creativity, potential benefits, and presentation delivery. Details forthcoming.

Appendix A: Additional Terms and Conditions

A.1 Requirements

Submissions for the SMART-CDR Competition are subject to the following terms and conditions:

- You must post the final content of your submission or upload the submission form online by dates specified on [HeroX](#), before the Competition phase submission periods close. Late submissions or any other form of submission may be rejected.
- All submissions are considered public disclosure. Email addresses will not be publicized without prior consent of the individuals.
- You must include all the required elements in your submission. The Competition Administrator may disqualify your submission after an initial screening if you fail to provide all required submission elements.
- The Competition Administrator, when feasible, may give teams an opportunity to fix nonsubstantive mistakes or errors in their submission packages.
- As part of your submission to this Competition, you will be required to sign the following statement:

I am providing this submission package as part of my team's participation in the SMART-CDR Competition. I certify that the named competitors meet the eligibility requirements for this competition and the submission complies with all other rules contained in the Official Rules document. I further represent that the information contained in the submission is true to the best of my knowledge and contains no misrepresentations.

A.2 Modifications to Rules Document

The SMART-CDR Competition is governed by this Official Rules document. The Competition Administrator reserves the right to modify this Official Rules document if necessary and will publicly post any such modifications as well as notify registered Competition participants. This is not a procurement and will not result in a grant or cooperative agreement.

A.3 Submission Rights

By making a submission and consenting to the rules of the contest, a competitor is granting Mission Innovation, the Competition Administrator, and any other third parties supporting the SMART-CDR Competition, a license to display publicly and use the submission for promotional purposes. This includes posting or linking to the public portions of the submission on HeroX applications, including the contest website, and partner websites, and the inclusion of the submission in any other media worldwide. The submission may be viewed by Mission Innovation countries, the Competition Administrator, and judges and reviewers for purposes of the contests, including but not limited to screening and evaluation purposes. The Competition Administrator and any third parties acting on their behalf will also have the

right to publicize competitors' names and, as applicable, the names of competitors' team members and organization, who participated in the submission on the contest website indefinitely. Email addresses will not be publicized without prior consent of the individuals.

By entering, the competitor (submitting team) represents and warrants that:

1. The competitor's entire submission is an original work by the competitor and the competitor has not included third-party content (such as generative artificial intelligence content, writing, graphics, artwork, logos, photographs, likenesses of any third party, musical recordings, clips of videos, television programs or motion pictures) in or in connection with the submission, unless the competitor has either obtained the rights to use such third-party content or the content of the submission is considered to be in the public domain without any limitations on use.
2. Unless otherwise disclosed in the submission, the use thereof by the Competition Administrator, or the exercise by the Competition Administrator of any of the rights granted by the competitor under these rules, does not and will not infringe or violate any rights of any third party or entity, including, without limitation, patent, copyright, trademark, trade secret, defamation, privacy, publicity, false light, misappropriation, intentional or negligent infliction of emotional distress, confidentiality, or any contractual or other rights.

A.4 Copyright

Each competitor represents and warrants that the competitor (submitting team) is the sole author of the submission; that the submission is an original work of the competitor or that the competitor has acquired sufficient rights to use and to authorize others to use the submission, as specified throughout the rules; that the submission does not infringe upon any copyright or any other third-party rights of which the competitor is aware; and that the submission is free of malware.

A.5 Resolution of Disputes

The Competition Administrator is solely responsible for administrative decisions, which are final and binding in all matters related to the contest. Neither Mission Innovation countries nor the Competition Administrator will arbitrate, intervene, advise on, or resolve any matters between team members or among competitors.

A.6 Publicity

Except where prohibited, participation in the contest constitutes each participant's consent to Mission Innovation's use of each participant's name, likeness, photograph, voice, opinions, and/or home country and university information for promotional purposes through any form of media worldwide, without further permission, payment, or consideration.

A.7 Additional Eligibility Rules

- Government employees of any country are not eligible to participate in any portion of the Competition, other than by administering the Competition, providing mentorship, and judging entries.
- Entities and individuals publicly banned from doing business with the U.S government such as entities and individuals debarred, suspended, or otherwise excluded from or ineligible for participating in Federal programs are not eligible to compete. Entities and individuals identified as a restricted party on one or more screening lists of the U.S. Government are not eligible to compete.
- Mission Innovation may conduct a risk review that may result in the submission being deemed ineligible.

A.8 Privacy

If you choose to provide HeroX with personal information by registering or completing the submission package through the contest website, you understand that such information will be transmitted to the Competition Administrator and Mission Innovation countries and may be kept in a system of records. Such information will be used only to respond to you in matters regarding your submission and/or the contest unless you choose to receive updates or notifications about other contests or programs. The Competition Administrator and Mission Innovation countries are not collecting any information for commercial marketing.

A.9 General Conditions

Mission Innovation and the Competition Administrator reserve the right to cancel, suspend, and/or modify the Competition, any part of it, at any time if any fraud, technical failures, or any other factors beyond reasonable control impairs the integrity or proper functioning of the Competition. Any performance toward Competition goals is conducted entirely at the risk of the competitor. Mission Innovation countries, Competition sponsors, or the Competition Administrator shall not compensate any competitors for any activities performed in furtherance of this Competition. This notice is not an obligation of funds; the final cash awards and travel stipends are provided solely by the SMART-CDR Competition sponsors and do not obligate Mission Innovation countries, Competition Administrator, or any other party.

Although the Rules document may indicate that it will select up to several winners for each phase, Mission Innovation and the Competition Administrator reserves the right to only select competitors that are likely to achieve the goals of the Competition. If, in Mission Innovation and the Competition Administrator's determination, no competitors are likely to achieve the goals of the competition, no competitors will be selected as winners.