

THE SMART CUHK CHALLENGE

Smart Campus Solutions Competition 2024


Application Guidelines




Introduction

1. The Smart Campus Solutions Competition is a platform for all full-time undergraduate students to develop smart campus solutions. The themes of the 2024 competition follow the practice in the last competition, which make use of the framework of the 17 Sustainable Development Goals (SDGs) adopted by the United Nations since 2015. It will encourage and enable students to develop projects that actively respond to the SDGs, fostering both innovation and action.
2. The competition will be organized and administered by the Task Force on Smart CUHK Campus Secretariat (the Task Force Secretariat) provided by the Social Responsibility and Sustainable Development Office (SRSDO).
3. An Assessment Panel consists of members from academic and research units and professional and administrative service units established by the Task Force on Smart CUHK Campus to review and assess the project proposals for the competition.

Themes for the 2024 Competition

4. The themes for the 2024 competition, addressing a balanced mix of the SDGs, are proposed as follows:

Description / Examples	Learning Targets and Intended Outcomes	Related SDGs
Theme 1 – Smart inclusive museums (a social impact project celebrating CUHK 60th Anniversary)		
<ul style="list-style-type: none"> • Application of technology to create solutions with a view to enhancing the total experience of visitors of all abilities and backgrounds • e.g. interactive exhibits via AR (augmented reality) and VR (virtual reality) technologies, accessible and intuitive interfaces, audio descriptions, sign language interpretation, speech recognition, text-to-speech applications 	To utilize innovation and technology in order to facilitate an inclusive museum experience for visitors	

Description / Examples	Learning Targets and Intended Outcomes	Related SDGs
Theme 2 – Smart inclusive classrooms		
<ul style="list-style-type: none"> Application of technology and provision of training to support inclusive teaching practices e.g., closed captioning for lectures, real-time transcription for engaging students with hearing impairments / dyslexia / special language needs, alternative input methods for students with mobility impairments 	<p>To utilize technology to create a smart classroom that caters for the needs of all students, including those with diverse learning requirements</p>	
Theme 3 – Smart inclusive sports		
<ul style="list-style-type: none"> Application of technology in design, engineering and human behaviour studies to assist students with visual and mobility impairments or special educational needs to participate in sports and other physical activities e.g., a table tennis system activated by sensors and audio feedback to provide audio cues to guide the players in a game, a smart wheelchair for use in basketball or table tennis games 	<p>To create applications that encourage inclusive physical activities, incorporating innovative technologies that cater for the needs of students with visual or mobility impairments, as well as those with special educational needs (SEN)</p>	
Theme 4 – Smart robotic applications in campus projects		
<ul style="list-style-type: none"> Application of technology to revolutionize the way CUHK implements and manages campus projects e.g., wall cleaning robots to reduce the need for manual labour and improve safety, service robots to perform a variety of service tasks such as package delivery, patrol robots to assist in security monitoring and patrolling for both safety (detecting and responding to potential security threats) and efficiency (optimizing the use of parking spaces) purposes 	<p>To advocate for the implementation of innovative technology in order to promote smarter, safer, and greener living at CUHK, with a focus on utilizing smart robotic applications in campus projects</p>	

Competition and Awards

5. The 2024 competition will consist of two rounds:

Round 1: Prototyping

- Applicants must submit a proposal for a smart project initiated and led by students for assessment by the Assessment Panel before the application deadline.
- Each shortlisted project team will receive seed funding capped at HK\$50,000 to develop a prototype, with guidelines from advisor(s), within the period specified in the seed funding agreement (at most five months from the date of this agreement) and submit their project at a project pitch in September 2024. The amount of the funding will be determined by the Assessment Panel.

Round 2: Full-fledged Project Development

- Each shortlisted team will receive project funding capped at HK\$100,000 for fully-fledged project development in Round 2. The amount of the funding will be determined by the Assessment Panel.
- The shortlisted teams are required to submit their project outcomes in April 2025 and present their completed projects in May 2025, within the period specified in the project funding agreement (which is at most seven months from the date of the agreement).
- Cash prizes will be awarded to the three winning teams. The champion will receive a cash prize of HK\$30,000, the first runner-up will receive HK\$20,000, and the second runner-up will receive HK\$10,000.

Application Period

6. Applications will be accepted from 1 November 2023 to 31 December 2023.

Application Details

7. Eligibility and Teams

- (a) The competition is open solely to CUHK full-time undergraduate students. Each student may only join one project team to ensure full commitment to the project.
- (b) Interdisciplinary project teams are encouraged, but not mandatory.
- (c) Each project team must consist of a minimum of two student members. Project teams may include student members from different colleges.
- (d) Each project team must appoint a student member as its project team leader. The project team leader will be the contact point with the Task Force Secretariat for all matters related to the competition.

- (e) Each project team must include at least one CUHK staff member as an advisor.
- (f) Project teams may not add or replace team members after the submission of an application, except with the agreement of the Assessment Panel. Prior approval from the Assessment Panel must be sought in writing.

8. Intellectual Property and Originality

- (a) The proposed project must be conducted in Hong Kong and must be self-initiated. It must constitute original work by the applicants and must not infringe the rights of others, including copyright. The Task Force Secretariat will not be held responsible for any consequences of such infringement.
- (b) Any form of plagiarism will result in disqualification.
- (c) Applicants must not have applied for funding for their proposed project under any other funding scheme, nor have publicly displayed or circulated details of the proposed project on the Internet or other platforms.
- (d) Intellectual property rights will be addressed in the funding agreement (see paragraph 11 below), which will be mutually agreed between the University and the project team.
- (e) All Intellectual Property of the project is owned by the University unless otherwise approved by the University.

9. Application Process

- (a) Applicants must submit a completed application form (available [here](#) and any supporting document(s) to the Task Force Secretariat by email (thesmartcuhkchallenge@cuhk.edu.hk) by the application deadline. Late submissions will not be considered.
- (b) Eligible applications will be reviewed by the Assessment Panel. Applicants may be invited for an interview to present their proposed projects in detail and may be required to refine the proposal and provide supplementary information.
- (c) Applicants will be informed by the Task Force Secretariat whether their application has been successful within three months after the application deadline. The decision of the Assessment Panel will be final.

Assessment Criteria

10. The Assessment Panel will consider the following criteria during the assessment:

Round 1: Prototyping

- Project objective: 30%

- Proof of concept: 30%
- Project scope: 40%

Round 2: Full-Fledged Project Development

- Innovation: 30%
- Feasibility and sustainability: 30%
- Project impact: 40%

Implementation (Applicable to the shortlisted/winning project teams)

11. Implementation

- (a) A funding agreement will be made between the project team and the Task Force Secretariat after the announcement of the results of each round of the competition.
- (b) The prototype/project development must be completed by the dates stipulated in the funding agreement, or the project team will forfeit the approved funding.
- (c) As the project is funded by the University to promote the smart campus initiative at CUHK and SDGs, the logo of 'The Smart CUHK Challenge' must be displayed on all project deliverables (e.g., promotional materials and project websites).
- (d) Projects funded under this competition must be conducted in accordance with the University's regulations on safety and research ethics. Project teams are particularly reminded that they must preserve confidentiality and respect the privacy of participants and beneficiaries.
- (e) Project teams will be responsible for the overall control and management of project assets, including any movements or transfers of these items among users.
- (f) Project teams will be required to submit interim and final reports to the Task Force Secretariat. The deadlines for these reports and the format to be followed will be stipulated in the funding agreement.

12. Financial Arrangements

- (a) Staffing costs will NOT be funded.
- (b) The project teams must use the funds exclusively for the approved project scope and must strictly adhere to the approved budget. No variation in the approved budget or virement between budget items will be permitted, except with the agreement of the Assessment Panel. Prior approval from the Assessment Panel must be sought in writing.

- (c) The project teams may apply for reimbursement for project expenses, in accordance with the University's reimbursement procedures. All claims for reimbursement must be supported by original official receipts, not invoices.
- (d) The Task Force Secretariat will determine if claims by project teams qualify for reimbursement, and its decision will be final.

Withdrawal

- 13. Applicants may withdraw an application by informing the Task Force Secretariat with written justifications by email (thesmartcuhkchallenge@cuhk.edu.hk) at any time before a funding agreement is signed.

Publicity

- 14. Project teams may be required to make public presentations on their projects and may be asked to give interviews and participate in press conferences or smart-campus related activities.
- 15. The information presented, including photographs and videos captured in the publicity events mentioned in paragraph 14, may be used by the University for its own publicity purposes, and no royalty shall be payable to the project teams.

Enquiries

- 16. Enquiries may be made to the Task Force Secretariat either by email (thesmartcuhkchallenge@cuhk.edu.hk) or by telephone (3943 4444).

(September 2023)