

3rd Joint Challenge Call by the Building and Construction Authority (BCA) and Enterprise Singapore (ESG)

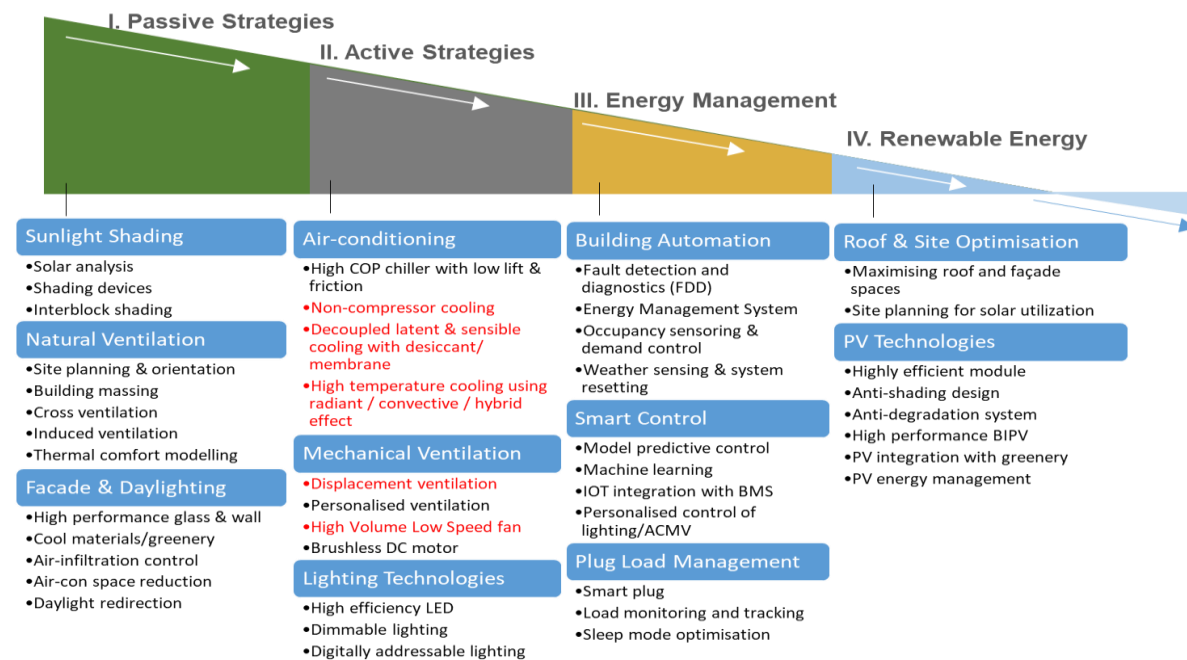
Background

Guided by the long-term goal of Super Low Energy (SLE) buildings for the tropics, the Green Buildings Innovation Cluster (GBIC)¹ was set up with funding support from National Research Foundation (NRF) to experiment, exhibit and exchange knowledge of promising building energy efficient solutions with industry stakeholders.

Following up from the successful inaugural Building and Construction Authority (BCA) and Keppel Land Ltd (KLL) Joint Challenge Call to test-bed sustainable technologies at the Keppel Bay Tower, and the recent BCA-DBS Joint Challenge Call, BCA is collaborating with Enterprise Singapore (ESG) to launch the 3rd Joint Challenge Call to demonstrate innovative energy efficient solutions for a selection of 3 building projects (Annex B).

Challenge Call Objectives

The Challenge Call provides building owners and developers with the opportunity to solicit proposals from technology suppliers with innovative energy efficient technologies (such as those outlined in the SLE technology roadmap – See figure 1) that can help them to achieve SLE building by meeting the energy savings targets through the deployment of innovative energy efficient technologies.



¹ GBIC is a one-stop integrated research, development and demonstration (RD&D) hub to experiment, exhibit and exchange knowledge of emerging energy-efficient building solutions with industry stakeholder. It is administered by Building and Construction Authority's Built Environment Research and Innovation Institute - Green Building Research Department.

As a progression from earlier challenge calls, and in greater alignment with the Construction Industry Transformation Map, the 3rd Joint Challenge Call will aim to increase the participation Singapore-owned small and medium enterprises (SMEs) in green building projects. The objective is to support the development of the local industry and enhance local value-capture of innovation. Technologies originated in Singapore or provided by Singapore-owned SMEs will be prioritised over similarly performing technologies from foreign sources. In addition, through ESG's participation in the challenge call, the scope of Singapore technologies that can be supported will be expanded to include areas such as water efficiency and indoor air quality.

Process

The 3rd Joint Challenge Call is open from **1 August 2020** and will close on **15 September 2020**. Information on the Joint Challenge Call is available at the SLEB Smart Hub (<https://www.sleb.sg/News/NewsDetails/1223>). Interested participants should submit their proposals to BCA_Challenge_Call@bca.gov.sg by 15 September 2020 1700hrs Singapore time. Late entries will not be entertained.

The proposals should be submitted using the prescribed Annex A template available in the SLEB Smart Hub. Information pertaining to the building project is listed in Annex B. Please indicate clearly which building project the proposal applies to. Participation may choose to submit proposals for all 3 building projects if feasible.

The proposals should include technologies arising from completed R&D projects and/or proven technologies that has not been widely implemented either locally or overseas.

Upon receipt of the proposals, the evaluation panel comprising BCA, ESG and the building owners will assess the proposals jointly. Interviews will be scheduled with the technology providers in the month of September 2020.

Eligibility

The 3rd challenge call is open to all research institutions and institutes of higher learning, technology suppliers, system integrators and consultants.

Both local and foreign enterprises (registered in Singapore) and research institutions, including start-ups and incubators registered with the local authorities in the respective countries are welcome to participate. Priority of consideration will be granted to technologies owned by Singapore-owned SMEs, and for technologies with the most Singapore-owned SME involvement.

The technologies proposed shall achieve energy savings of at least 20% better than the best in-class technology (best-in-class refers to technology that is commercially available in the market that is pegged to Green Mark Platinum ratings). All selected technologies will be considered for implementation by the project owner under BCA's GBIC-Demo funding. Support for water efficient and indoor air quality enhancing technologies will be made available only to SMEs with at least 30% of ordinary shares held by individual Singapore citizens or permanent residents.

Evaluation Criteria

The following criteria will be used by evaluation panel to evaluate the proposals:

a) **Technological innovativeness**

Technologies and/or solutions must be innovative and have not been deployed in large scale projects. They should preferably be able to address the challenges for the tropical urban environment as in the case of Singapore's hot and humid climate and the need for greater energy efficiency by achieving at least 20% energy savings over the best in class technology.

The applicant should be able to provide a technical comparison of the solution's features against alternative solutions and articulate the value-proposition of the technology in the new application type (if any).

b) **Cost Effectiveness**

While new technologies and/or solutions may have a cost premium, the energy and manpower savings from operational costs should be able to offset the upfront costs involved. A payback period of not more than 5 years would be considered cost effective.

c) **Ease of Implementation and Integration**

Technologies and/or solutions should not require additional infrastructure to support its implementation. It should be easily "plug and play" with less resources required.

d) **Ease of Maintenance**

Technologies and/or solutions demonstrated should result in savings in terms of frequency of maintenance and lower maintenance cost. In addition, it should also consider ease of access and the scope of maintenance should be less complex.

e) **Scalability**

Feasibility of commercializing this technology on a large-scale basis shall be taken into consideration. This shall include plans to replicate the technologies and/or solutions to existing building portfolio and/or partnership for overseas projects.

Where Singapore-owned technologies are involved, letters of intent between the building owner or developer and technology provider and partnership agreements with commercial milestones will be strongly considered.

Rights of Selection

The project owners reserve the right to select proposals that meet the evaluation criteria. For the avoidance of doubt, the project owners reserve the right not to select any proposal.

Timeline

Launch of 3rd Challenge Call – 1 August 2020

A webinar is planned for **12 August 2020 (Wednesday) 1500-1700hrs** Singapore time. Hosted by BCA, ESG and the respective project owners, this webinar aims to provide a background on the building projects, what is expected of the challenge call and to address questions from participants. Interested participants may register for the webinar at <https://gems.gevme.com/bca-esg-challenge-call-launch>. The link will be provided to you upon registration.

Interested applicants are required to:

- (i) Complete the Challenge Call application form (Annex A), and
- (ii) Attach the required supporting documents such as design and technical specification, product brochures, past/on-going project references, etc,

Submit (i) and (ii) via email to BCA_Challenge_Call@bca.gov.sg by 15 September 2020 at 1700 hours Singapore time.

Shortlisted proposals will be invited to present their proposals to the evaluation panel in October 2020.

Contact Persons

For further enquiries on this challenge call, please contact us at
noel_chin@bca.gov.sg
majid_sapar@bca.gov.sg
gina_wang@enterprisesg.gov.sg

Annexes

Annex A – Challenge Call Application Form

Annex B – Challenge Statements from project owners:

- Project A – Alkaf Kampung Melayu Mosque “Smart and Energy Efficient Mosque Leveraging on Artificial Intelligence and Blockchain”
- Project B – St James Power Station “Advanced Technological Solutions for Monument Building”
- Project C – JTC Summit “Super Low Energy Office Building”