

Reducing water wastage when cleaning water storage tanks of residential estates

| | |
|---|---|
| Challenge Owner | EM Services Pte Ltd |
| Opening date for proposal submission | 12 November 2019 |
| Closing date for proposal submission | 14 February 2020, 12 pm (UTC+8) Proposals and all accompanying attachments must be submitted through the Sustainability Open Innovation Challenge portal. |

BACKGROUND

It is mandatory that all potable water storage tanks are cleaned and disinfected once a year.

The main objectives are to ensure that:

- the water storage tank is fit and safe for the storage of water for human consumption
- the water contained in the water storage tank is free from contamination or pollution
- water samples taken from the water storage tanks pass the appropriate chemical and bacteriological examinations
- the water storage tank is properly maintained
- there is no leakage and no likelihood of leakage in the water service installation, including the water storage tank

Currently, all the potable water stored in the tank is drained off and wasted before cleaning can take place. Cleaning of the water tank is done manually and in a confined space. After the cleaning, water samples from the tank are sent to independent test lab to verify the water quality.

There are about 10,000 HDB blocks and each block has two to five tanks ranging from sizes of 11 cubic-meter to 35 cubic-meter.

DESIRED OUTCOMES

To develop a solution that will

- Reduce the water wastage during cleaning by more than 50%
- Reduce the overall cost of cleaning currently incurred due to:
 - The need to meet the safety requirements of working in confined spaces; and
 - The cost of replacing water that is drained off before cleaning can commence.

TECHNICAL SPECIFICATIONS AND REQUIREMENTS

- Comply with Public Utilities (Water Supply) Regulations and the Singapore Standard CP48 - Code of Practice for Water Services. Inspection, cleaning and disinfection of water storage tanks are carried out in accordance with Annex A of CP48.
- Solution proposed can be a cleaning solution that does not require water in the storage tank to be drained off, or a micro-organism growth inhibiting coating that does not require the tank to be cleaned annually, or other innovative solutions.

- Proposals should include information on any proof-of-concept (POC)/minimum viable product (MVP) that is non-sensitive.
- Applicant should indicate estimated commercial price of solution, cost of operation/maintenance and cost-benefit analysis of the solution in the proposal.

Besides addressing the above requirements, the proposed solution should also fulfil the following criteria:

- Solution should not be readily or commercially available in the market.
- Solution should, wherever applicable, aim to:
 - Enhance safety of operations; and/or
 - Reduce reliance of manpower; and/or
 - Improve quality, consistency and service delivery; and/or
 - Achieve cost-effectiveness; and/or
 - Improve efficiency/productivity.

BUSINESS OPPORTUNITY

Cleaning of water tanks is a mandatory requirement for any high rise commercial and residential buildings, and the revenue is recurrent. If proven to be successful, the product developed can be sold or be provided as a service to Town Councils and cleaning contractors.

DEVELOPMENT TIMELINE

Solution development and test-bedding should take 6-9 months, and pilot deployment within 15 months.

THE RULES AND REGULATIONS ON THE CHALLENGE WEBSITE APPLIES, WITH ADDITIONAL INFORMATION BELOW.

FUNDING SUPPORT

Local SMEs/startups that are shortlisted may be supported with funding of up to 70% of the qualifying project cost, capped at \$250,000.

Foreign solution providers are encouraged to work with local SMEs/startups for solution development.

ADDITIONAL RESOURCES

EM Services will provide mentorship and test-bedding site for the solution.

EVALUATION CRITERIA

Proposals will be evaluated against the following criteria:

- Technical feasibility of solution [30%]:
 - Effectiveness in addressing the challenge statement
 - Operational feasibility for deployment
 - Ensure cleanliness of water storage tank and its stored water
- Economic feasibility of solution [30%]:
 - Cost effectiveness of solution
 - Commercialisation strategy
 - Estimated operating and life cycle costs
 - Scalable
- Capacity and expertise to execute project [25%]:
 - Requisite capabilities and committed resources to undertake solution development
- Clarity of proposal and accompanying information on POC/MVP [15%]

TECHNICAL BRIEFING

A technical briefing will be held to provide interested applicants with more information. The details for the briefing are as follows:

| | |
|------------------|---|
| Date : | 18 Nov 2019 (<i>Monday</i>) |
| Time: | 9am to 12 pm |
| Location: | 230 Victoria Street, Bugis Junction Office Tower, Level 10, Singapore 188024 - Room: Little Red Dot |

Please register your interest [here](#) by 14 Nov 2019, 12pm.

PROPOSAL SUBMISSION

Submit your proposal using the Application Form, together with all supporting documents, in the Sustainability Innovation Call portal.

CONTACT

For further enquiries, please email:

- andychev@emservices.com.sg – for matters pertaining to the challenge statement
- Sustainability_Challenge@enterprisesg.gov.sg –for assistance on:
 - *Using the Sustainability Open Innovation portal for registration, submission of proposal, etc.*
 - *Funding enquiry*