

Dear Sir/Madam,

Invitation for Quotation

Supply, Installation and Rent "Food Waste Recycle Smart Bin", And provide related software systems for ISP-2021-21-003

We invite your company to bid for the materials or services listed on the enclosed "Quotation Form". If your company does not intend to accept part of the detailed requirements, please indicate clearly on the "Quotation Form"

1. The completed "Quotation Form" is emailed to smartlcc21@gmail.com or mailed to 3/F,21 Hang Hau Village, Tseung Kwan O. Overdue "Quotation Form" will not be accepted. The validity period of your company's "Quotation Form" is 60 days, starting from the above-mentioned quotation cut-off date/closing date before 18:00 on 26 Sep, 2022. If no order is received within the 60 days, the "Quotation Form" will be deemed unsuccessful.
2. The "Quotation Form" must be delivered to the Association by post or email before 18:00 on 26 Sep, 2022. If mailed, the envelope should clearly indicate:
Supply, Installation and rent "Food Waste Recycle Smart Bin", And provide related software systems for ISP-2021-21-003
3. If your company is unable or does not intend to make a quotation, please also send the "Quotation Form" to the above email address as soon as possible and specify the reasons for not intending to quote.
4. The 21 Smart Bins are placed in 7 housing estates, and the distribution is as follows:
 - Tseung Kwan O District 6 housing estates 13smartbins
 - Ma On Shan 1 housing estates 8smartbins
5. 1 spare smart bins for reservation use.
6. 21 Smart Bins are priced in the quotation, of which 1 spare Smart Bins that will only be charged when necessary.
7. 120L food waste recycle bin and 120L plastic transparency bag are provisional items if EPD's appointed food waste collection contractor cannot provide the bins and bags.

Thank you.

Your Sincerely,

NG Wai Sing

Chairman

Tseung Kwan O Kai Fong Joint Association Limited

1 Sep 2022

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1. Scope of work:

1.1. Project Duration

The duration of this project is from 9 Nov 2022 to 31 May 2024, included the last day of period.

1.2. Effective date of quotation

The quotation may be accepted within sixty (60) days, If the supplier fails to comply with this requirement, the validity period should be clearly stated in the quotation document.

1.3. Payment

Vendor is required to submit the offers in Hong Kong Dollars in goods / services solicited.

Payment to the vendor will be made within 30 days against invoice according to the following schedule.

1.4. Payment Schedule

Item	Item description	Percentage of contract amount payment
A	Confirm and approve the relevant of specification and design of "Food Waste Recycle Smart Bin"	30%
B	Complete the provision of software systems to cooperate with the establishment of the planned platform	20%
C	Monthly rent service (monthly payment for rent services, sub total:2% x 19 = 38%)	38%
D	Finish of contract	12%

1.5. Terminate the contract

a. If the contractor commits any of the following breaches of contract:

- i. The design does not meet the requirements, or the construction is unreasonably suspended before the completion of the project.
- ii. Failing to carry out the works consistently, refusing to comply with or continuously ignoring the written notice of the Association regarding the removal of substandard works or materials.

b. If the contractor continues to breach the contract for ten (10) days after receiving the written notice of the breach of the contract by the Association, the Association may notify in writing and unilaterally terminate the contract with the contractor without waiving its other rights and interests. Contract: but the issuance of the notice must be justified and not deliberately embarrassing.

c. If the contractor goes bankrupt or ceases business, whether voluntarily or not (except for reorganization), or is legally seized of property or sued, the Association may notify in writing and terminate unilaterally without waiving its other rights and interests. Contract with contractor.

1.6. Food Waste Recycle Smart Bin

1.6.1. General Requirements of the Smart Bin(s)

1. Collection capacity

Each smart bin should have an enclosed compartment sufficient to accommodate a 120 L mobile waste container ("purple bin") with dimensions specified as 550mm(L) × 480mm (W) × 940mm (H), conforming to European Standards (EN) 840-1:2012 or equivalent, accessible for disposal of food waste through a lid. The purple bin should be secured yet easy to retrieve and replace.

2. Weight sensor

The smart bin should be able to detect the current weight of the purple bin with a resolution no coarser than 0.1 kg.

3. Weight record of each instance of food waste disposal

The smart bin system should record the weight of each individual disposal of food waste, with additional identification such as user ID, time and location.

4. Fill-level sensor

The smart bin should be able to detect how much capacity remains in the purple bin, in order to provide early warning to the administrators and users. With this information, administrators can arrange for timely replacement of the purple bin, and users can know ahead of time which smart bins still have capacity.

5. Disinfection device / odor abatement system

To minimize nuisance and promote hygiene the smart bin should take active measures for odor abatement and disinfection. The system that must comply with the World Health Organization's "Fourth Generation A1 Class Safe Disinfectant" certification.

6. Technology for user identification

The smart bin must support the GREEN\$ card and GREEN\$ Mobile App for user identification. The system should also be able to distinguish between GREEN\$ cards of the participating residents and those of other users, thereby making it possible to limit access to the smart bin by residents only.

7. Electronic locking system

A lid must be in place at all times to secure the purple bin to prevent unauthorized access and unchecked odour propagation, to be unlocked only after proper user identification.

8. Telecommunication

Usage data and control data (e.g. various machine status) should be transmitted through a data network (e.g. 3G/4G/5G mobile network and/or Wi-Fi and/or cable broadband) to the backend system for centralised storage and control.

9. Top opening infeed door

The infeed door or lid should open from the top, and there should be enough space for easy disposal of food waste. The top opening should be designed at a suitable height in order to be easily accessible.

10. Leakage proof design

The body of the smart bin should be water resistant or repellent, and should be designed to prevent leakage from overspilled food waste.

11. Enclosed design

The smart bin should provide full enclosure for the 120L purple bin. The purple bin should be replaced through an access door secured for authorized access only.

12. Fault sensing and notification

The smart bin system should be able to detect system faults and problems, for which notifications should be sent to the system administrators for proper handling.

13. Safety detection

Measures should be in place to ensure safe operation by the users (e.g. no body parts will be hurt when caught by the closing lid).

14. **Display panel**
The smart bin should have some kind of display unit for dynamic information and user interaction. The information displayed should pertain to proper food waste recycling or to the operation of the smart bin; this should include the weight of the food waste just disposed of, points awarded this time, the remaining time until automatic closing of the lid (i.e. the time-out period), etc. Other essential information such as operating hours, service hotline, contact for technical support should also be included, if not already printed on the smart bin. No promotional messages should be displayed, unless with the consent of the Recycling Fund.
15. **Multi-language system**
The smart bin must provide multi-language instructions, including Chinese and English.
16. **Data storage**
The smart bin system should provide data storage for the records of the collected amount from individual users. Data in the storage should be kept for access by authorized personnel for up to 180 days.
17. **Real-time communication**
The smart bin system should be able to transmit quantity information, control information (e.g. availability, location and status) and alert signals with minimal delays to users or administrators. It shall be free from data/ information missing arising from any reasons such as network failure due to delay or disconnection.
18. **Output channel**
All transactions arising from the smart bin system shall be transferred to the common communication platform with record. The smart bin system should have the ability to connect to the common communication platform of GREEN\$ ePIS and transfer data/ information through a standard API s.
The contractor shall demonstrate a successful 2-way data communication from the smart bin system to the common communication platform. Necessary supporting documents to provide information to demonstrate the connection with the common communication platform should be provided. The contractor shall ensure a reliable, accurate, complete and successful data/ information communication and transfer between the smart bin system and the common communication platform.
19. **Power saving model**
The system should be able to turn into "sleeping" mode automatically after a certain period of time idling; e.g. 15 minutes or 30 minutes, mid-night, etc.
20. **CCTV**
"Food Waste Recycle Smart Bin" should be equipped with CCTV for food waste monitoring function.
21. **Signal light**
The Smart Bin should be equipped with signal light, different colour represents different status of "Food Waste Recycle Smart Bin" in real time, for convenient for the public to visually observe the real-time situation of the recycling machine,
22. **Wrapping**
The Contractor shall produce the decoration wrapping of external parts of the Smart Bins and provide sufficient manpower to carry out the rapping work. The decoration shall comply all applicable legislation in Hong Kong. The decoration wrapping shall be based on a design provided by the Government Representative.

16.2 Requirements of the Contractor

23. The contractor shall supply, deliver, install and uninstall the smart bin(s) at the premises chosen by the housing estate.
24. The contractor shall provide all necessary insurance covering for works related to the delivery, installation, and uninstallation of the composter system.

25. The contractor shall perform functional tests for the installed smart bin(s). The functional tests shall include at least the basic operation procedures and the regular maintenance procedures, such as access through GREEN\$ card or GREEN\$ Mobile App, smart sensors to measure weight, levels for alert signal, connection to the common communication platform, bin full alerts and bin replacement, as well as various error states.
26. The contractor shall rent the smart bin(s) to the housing estate for food waste collection for a period of 22 months. The commencement date of rental contract should be fixed on the day when all the functional tests of the installed the smart bin(s) are successfully completed.
26. The contractor shall provide user operation and maintenance manuals with drawings within one week from delivery of the smart bin(s) to the premises chosen by the housing estate.
27. The contractor shall provide training to operational staff and workers designated by the housing estate covering the operation, checking and maintenance aspects relating to the smart bin(s) within two weeks from the delivery of the smart bin(s).
28. During the rental period of the smart bin(s), the contractor shall carry out regular checking and maintenance and also provide consumables and spare parts necessary for the proper operation of the smart bin(s). The contractor shall also provide advice and guides to resolve any operational or maintenance problems of the smart bin(s).
29. Upon completion of the rental period, the contractor shall decommission and remove the smart bin(s) away from the premises if no arrangement has been made with the housing estate for continuing the service beyond the rental period.
30. The contractor shall provide a layout design in the quotation to show the space required for installation and operation of the smart bin(s), including:
 - installation dimensions of the smart bin
 - lid opening/closing during operation
 - minimum dimensions of the operation buffer zone for retrieval and replacement of the purple bin, etc.
31. The contractor shall submit the following documents to the front-line customer service of the housing estate before supply, delivery and installation of the smart bin(s) to the housing estate. The contractor shall make every effort to provide assistance to the housing estate in operating and maintaining the smart bin(s).
32. Specifications of the delivered system would be cross-checked and verified with the specifications submitted with the quotation. Proper record should be kept. Specifications include:
 - Dimensions of the smart bin
 - Space requirement for retrieval of the purple bin
 - Electrical power requirement
33. Operation and maintenance manual shall include the following items:
 - a. Safety precautions
 - b. Installation location, electricity or other requirements
 - c. Recyclable and non-recyclable materials for the system
 - d. Operation of the system, including but not limited to, start-up, shut-down, normal operation, etc.
 - e. Consumables (e.g. for the disinfection device and odour abatement system)
 - f. System information:
 - i. Description of the operating system (e.g. Microsoft Windows, Android, etc.), sensors, disinfection device, odour abatement system
 - ii. Description of the display unit, indicators and alarm signals
 - iii. Power requirements

- g. Maintenance and warranty guides
- h. Troubleshooting guide
- i. Recommendations for operation (e.g. frequency of collection, replacement of purple bin, hygiene, etc.)

34. System testing and commissioning (T&C) should be conducted after the system has been delivered and installed, T&C records should be properly kept and it should include:

- a. Functional test to ensure the system functions properly, including the collection of food waste and the replacement of purple bin
- b. Power test to ensure the proper installation and safety of power supply

35. The contractor shall submit the documents and records, as stated in (32), (33) and (34) above, to the housing estate within 1 month after installation.

36. The contractor should ensure total out-of-service hours of any smart bin commission in a given month shall be no more than 24 hours. When the requirements could not be met, the contractor should engage the housing estate to remedy the issues as soon as possible. All down-times of the machine and the relevant remedial actions should properly be recorded by the contractor where such record may be requested by the housing estate. Should the smart bin go out of service or require emergency maintenance for any length of time, the contractor should provide an incident report within 5 working days.

37. The gift for gift redemption program should provide by supplier, (The minimum gift requirement is 3,000 units, with any excess determined by unit pricing.)

Tender must include the aforementioned 37 components. Please check the box on the next form if the tender offers to supply the aforementioned services. If not, kindly elaborate.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37			

163. Experience and Qualifications

- The experience of a vendor company representative has not less than three(3) years on software development, Please attach the relative job reference or evidence to achieve the above requirement.
- The experience of project manager has not less than five(5) years of food waste recycling management experience. Please attach the proof of experience of the project manager with the quotation.

2. Technical Schedule of Proposed Smart Bin

1. Smart Bin	
a. Manufacturer	
b. Country of make	
c. Model and type	
d. Casing material	
e. Collection capacity (kg / day)	
f. Operating temperature (°C)	
g. Size (LxWxD)	
h. Weight (kg)	
i. Fill-level sensor type	
j. Weight sensor precision	
k. Disinfection device / odour abatement system	
l. Telecommunication network requirements (e.g. Wi-Fi or cellular coverage, minimum signal strength in dBm, etc.)	

m.	Voltage/phase/Hz	
n.	Power rating (W)	
o.	Accessories	
p.	Consumables requirement	
q.	Safety features	
2.	Layout design of Smart Bin	
a.	Installation dimensions of the smart bin	
b.	Recommended clearance for servicing the smart bin and for replacing the purple bins	
c.	Surface dimensions for promotional wrapper/sticker	

***If the above form is incomplete, it will not be taken into consideration.**

3. Quotation Form

Project: The Recycling Fund#ISP-2021-21-003 "Smart · low carbon city"

The company *(wish/do not want) undertook the project of The Recycling Fund#ISP-2021-21-003 "Smart · low carbon city" supply and installation of "Food Waste Recycle Smart Bin" and software system to match the planned platform-project and will be on 26 Sep, 2022. Submit the completed "Quotation Form" and all related documents at or before 18:00 on the day .

〔 If you don't want to bid, please fill in the reasons below 〕

The reasons why the company does not want to bid for this project are as follows:

- Cannot to provide related services
- Cannot to fulfil the relevant clauses or requirements in the contract
- Cannot to complete the project contract within the prescribed time
- Others (please specify: _____)

(Please click in the number in the upper box)

Company Name:	
Company Address:	
Company BR:	Please Attach with Quotation Form
Company representative Name:	
Company representative Signature:	
Company representative Mobile Number:	
Company representative E-mail Address:	
Company Stamp:	
Date:	

After filling in the reply slip, please send it back to the Tseung Kwan O Kai Fong Joint Association Limited by email smartlcc21@gmail.com or before 18:00 on 26 Sep, 2022 , thank you for your cooperation.

* Please go to those that do not apply.

Service Item	Unit Price (HK\$)	Qty	Number of Rental Months	Total Amount (HK\$)
Item A- Hardware				
• Food Waste Recycle Smart Bin (Details please refer to #1.6.1)		21	19	
Provisional items: • Spare food waste recycle smart bins (The cost covers delivery and installation of the unit)		1	1	
Provisional items: • 120L food waste recycle bin (size of 120L recycle bin: 950mm(H) x 482mm(W) x 520mm(D); colour: purple; EN 840 standard)		47	1	
Provisional items: • 120L transparency plastic bag		2100	1	
Sub-total (A):				

Item B- Software				
● Platform for user registration, record the recycle data, monitoring the "Food Waste Recycle Smart Bin" status, the platform should relate to "Food Waste Recycle Smart Bin" for data transfer.		1	1	
Sub-total (B):				
Item C- Service				
● maintenance Service		21	19	
● Redemption gifts		3000	1	
Provisional item: ● Redemption gifts (Every 100 units)		100	1	
● Software update		1	19	
● Machine delivery and installation & Removal		21	1	
● Customer Service Hotline (for public use)		1	19	
● Public Liability Insurance		21	19	
Sub-total (C):				
Total A+B+C			Total (A+B+C):	
Continuation service fee per smart bin(Monthly)				HK\$

4. Submission of Proposal

The submission should not be later than 18:00 on 26 Sep, 2022. Any late of submission will not be considered.

The completed "Quotation Form" is emailed to smartlcc21@gmail.com or mailed to 3/F, 21 Hang Hau Village, Tseung Kwan O. Overdue "Quotation Form" will not be accepted. The validity period of your company's "Quotation Form" is 60 days, starting from the above-mentioned quotation cut-off date/closing date. If no order is received within the 60 days, the "Quotation Form" will be deemed unsuccessful.

5. Enquiry

If tenderer company have any question that about the quotation request process, please follow the below method to contact Tseung Kwan O Kai Fong Joint Association Limited:

Address: 3/F, 21 Hang Hau Village, Tseung Kwan O

Contact Person: NG Wai Sing

Telephone: 27199494

Fax: 27199014

Email Address: smartlcc21@gmail.com

6. Annex A

API document [Supplier]

Prepared By

Smart City Division

Hong Kong Productivity Council



1 February 2022

