

**SME Development Fund/
Dedicated Fund on Branding, Upgrading and Domestic Sales
(Organisation Support Programme)**

Final Report of Approved Project

Project ref. no.	:	<u>D10002003</u>	
Project title	:	<u>Implementation and Support Programme in Enhancing Food Safety through Ozone Sanitization and Deodorization Technology for HK food SMEs and Catering Industry</u>	
Period covered	:	From <u>01/04/2012</u> (dd/mm/yy)	to <u>30/11/2013</u> (dd/mm/yy)

1. Project Details

(Please mark with "*" if any of the following project details is different from that in the project proposal appended to the project agreement.)

Project Reference and Title

Implementation and Support Programme in Enhancing Food Safety through Ozone Sanitization and Deodorization Technology for HK food SMEs and Catering Industry

使用臭氧技術提升香港餐飲業的食物安全水平

Project Summary (in not more than 150 words)

In view of the food poisoning outbreak in the restaurants, there is a need for local food SMEs to pay more attention to food safety and hygiene control. Ozone is a powerful oxidant and antimicrobial disinfecting agent. In addition, Ozone have many advantages and suggested usages in the local food SMEs such as food surface hygiene, sanitation of food processing equipment, reuse of waste water, lowering biological oxygen demand (BOD) as well as chemical oxygen demand (COD) of restaurant wastewater.

Thus, the Ozone sanitization and deodorization system will be studied through the in vivo test which confined with five different types of local food SMEs. A Standard Operation Procedure (SOP) will be issued mainly with graphics and photos as a guideline for SMEs to use in ozone sanitization and deodorization system. To implement the SOP, 2 introductory seminars (total 500 participants) & 8 workshops (320 participants) including managerial level and front line staff will be organized to understand this ozone technology more comprehensively by demonstration and illustration. Meanwhile, the newspaper will be published through the webpage hosted on HKFORT website. Moreover, to transfer the acknowledgment to the end users, 5 showcases will be conducted to public to realize the operations and real set-up of the in-house ozone technology. A technical support hotline will be launched for publics. An informative brochure with SOP will be issued to reach the public and sustain this valuable project.

Project Objective(s) (in not more than 80 words)

The Project aims to introduce and promote the use of ozone sanitization and deodorization technology, and also help to train the participants on how to apply the technology through show cases and training courses or workshops to achieve cost effective solution in local SMEs.

In general, we hope to provide a better health assurance to local SMEs by the use of ozone as an effective and environmentally friendly cleaning agent for the Catering industry in Hong Kong.

Grantee /Collaborating/Implementation Organisation Agent

Grantee : The Hong Kong Federation of Restaurants and Related Trades Limited (HKFORT)

Collaborating Organisation(s) :

Implementation Agent(s) : 1) Hong Kong University of Science & Technology (HKUST)
2) CMA Testing and Certification Laboratories (CMATCL)

Key Personnel

(A) Project Co-ordinator

(B) Deputy Project Co-ordinator

Name in English : Mr Ho Wai Hung
(Mr/Ms/Prof/Dr) # (First Name/Last Name)
Please delete as appropriate

Name in Chinese : 何惠雄 先生

Name in English : Mr. Simon TAM
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Name in Chinese : 譚俠聲 先生

Company/Organisation: <u>The Hong Kong Federation</u>	Company/Organisation : <u>The Hong Kong Federation</u>
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Project Period

	<u>Commencement Date</u> (day/month/year)	<u>Completion Date</u> (day/month/year)	<u>Project Duration</u> (No. of months)
As stated in project agreement	<u>01/04/2012</u>	<u>30/09/2013</u>	<u>18 months</u>
Revised (if applicable)	<u>01/04/2012</u>	<u>30/11/2013</u>	<u>20 months</u>

Methodology Employed

Methodology

In 2009, HKFORT conducted a survey to study the inclination of their members in supporting the application of TID SME development Fund in ozone sanitization and deodorization. More than 30 survey forms were collected from restaurant groups and related SMEs after the survey. All of them showed interest and strongly indicated that they supported this application.

Also, before the implementation of this project, HKFORT has been employed HKUST and CMATCL as consultants since both HKUST and CMATCL have competent expertise and strong in both technical and training background. Being one of the active members in HKFORT, CMATCL also has strong connection in Hong Kong catering industries. We assigned both parties to develop the project deliverables and implement the project activities.

Formation of Advisory Group An advisory group was formed, composing of representatives from HKFORT, HKUST and CMATCL, to define project scope and directions. Members from HKFORT are responsible for providing up-to-dated practices or information to local food SMEs. Meeting will be held in regular basis to monitor the project progress closely and make sure the deliverables are closely related to the local food SMEs' operations. The project deliverables should focus on the operational level and put emphasis on best practices of the ozone sanitization and deodorization technology. This project has 5 distinct tasks as follows:

Task 1- Literature review and feasibility studies on the application of ozone sanitization and deodorization technology in local food SMEs.

Task 2 - Design and Fabrication of ozone sanitization and deodorization system.

Task3 – Verification of ozone sanitization and deodorization systems in the five showcases and the development of SOP in the safety implementation of ozone technology.

Task 4 – Knowledge transfer and Capacity Building to Local food SMEs

In order to develop an effective, environmentally friendly and safe, sanitization and deodorization using ozone for local food SMEs, HKUST will design and carry out the feasibility studies with focuses on the following 5 areas:

- i. Kitchen-wares and workers hygiene control;
- ii. Pesticides and preservatives removal in fruits and vegetables ;
- iii. Restaurant fish tank disinfection;
- iv. Airborne bacteria control;
- v. Indoor air deodorization control.

In addition, five ozone generators together with the peripherals and accessories were purchased for the *in vivo* study. The study using the above selected show cases can measure the real operational efficiency of the ozonation systems in sanitization and deodorization.

As most of the operators are lack of technical knowledge and uncertain about how to use ozone safely and effectively, a SOP was developed. The SOP can further be modified according to feedback of the operators in show cases.

After the completion of the project, the five ozone sanitization and deodorization systems will be removed from the showcase sites and relocated to HKFORT training centre as demo units for training purpose and further application development.

2. Summary of Project Results

Project Deliverables

(Please list out the targeted project deliverables as stated in the project proposal appended to the project agreement and provide details of actual result achieved, including beneficiaries, for each of them.)

- 5 showcases to conduct & realize the operations and real set-up of the in-house ozone technology.

Result Achieved:

5 showcases were conducted & realized the operations and real set-up of the in-house ozone technology for the following five categories:

- Chinese-style restaurants;
- Japanese-style restaurants;
- Pubs and Bars;
- Fast food restaurants;
- Cha Chan Tang

- 2 introductory seminars (250 participants x 2) on the application of ozone in local food SMEs (1 for restaurant owners and 1 for food manufacturing companies).

Result Achieved:

2 introductory seminars were organized on 20 August 2013 and 18 September 2013 to the local food SMEs for both managerial and front-line staffs. One is mainly for the restaurant owners and the other is especially for the food manufacturing companies. Around 420 - 450 participants were invited in two seminars on a first-come, first-served basis for all the local food SMEs with no admission fee. 445 persons registered and 295 persons participated in the seminars.

- 4 workshops for the managerial staffs to provide them training in 1) ozone technology applications in various types of restaurant 2) Train their front line staffs for using ozone in food sanitization and deodorization through internal training procedures.

Result achieved:

4 training workshops were held on 9 and 10 September 2013 and 11 and 18 October 2013 for managerial staffs. In the workshops, the managerial staffs learnt the application of the ozone technology in their restaurants as well as provided the basic training materials, such as checklist, for them to coach the front line staffs on how to use the ozone sanitization and deodorization technology properly and safely. Totally around 150 participants were invited in the four training workshops. 83 persons registered and 64 persons participated in the workshops.

- 4 training workshops for front line staffs (50 participants x4) to demonstrate the SOP of ozone sanitization and deodorization technology and the respective safety measures.

Result achieved:

The above four training workshops were organized on 9 and 10 September 2013 and 11 and 18 October 2013 to the front line staffs to demonstrate how to follow the SOP of the ozone sanitization and deodorization technology under safety precautions. Totally around 150 participants were invited. 73 persons registered and 60 persons participated in the workshops.

- 3 visits (60 participants x 3) to the show cases.

Result achieved:

3 visits were conducted on 9 and 10 September 2013 and 18 October 2013 to show case restaurants. Totally around 80 participants were invited in the 3 visits. 86 persons registered and 79 persons participated in the workshops. In each visit, visitors realized the operation and real set-up of the in-house ozone sanitization and deodorization technology. The experience accumulated throughout the show cases was shared to the public who have not taken part in the project by the visits.

- A Technical Support hotline.

Result achieved:

A technical support hotline was launched and supported by HKUST and CMATCL for ad-hoc technical operational enquiries and enhancing communication between the public, especially the local food SMEs. The hotline was operated during office hours and answered by the Project Assistant (employed under the project) for free technical enquiries starting from the fourth month of the project. After the completion of the project, further enquires about the ozone sanitization and deodorization technology was supported by the HKFORT.

- An informative brochure with SOP to reach the public and sustain this valuable project.

Result achieved:

A bilingual brochure (2,500 copies) with SOP was issued. Softcopy was uploaded on the website of the project.

- Webpage

Result achieved:

A project website (http://www.cateringgozone.com/theme_1a.html) was developed for the project to facilitate the local food SMEs to access the technical knowledge and information.

Actual Benefits to SMEs/Enterprises

(Please indicate in clear, specific, tangible and quantifiable terms the benefits of the project and its contribution to enhancing the competitiveness of Hong Kong's SMEs / enterprises in general or SMEs / enterprises in specific sectors / assist Hong Kong enterprises in general or in specific sectors in developing brands, upgrading and restructuring business operations, and promoting domestic sales in the Mainland, in not more than 400 words.)

- 1) Literature review and feasibility studies had been completed by HKUST.
- 2) HKUST collaborated with CMATCL to carry out in vitro test.
- 3) 5 different types of restaurants had been recruited for undergoing in vivo test.
- 4) After in vivo test, know-how had been used to establish Standard Operation Procedure.

- 5) The collected data for SOP had been verified and validated.
- 6) A webpage had been established for disseminating up-to-date information.

The Project aims to introduce and promote the use of ozone sanitization and deodorization technology, and also help develop a practical solution for the application of ozone to meet different nature of various trades of local food SMEs at lower costs with a set of standard operational procedures for companies to manage food safety and hygiene control system.

Through the seminars and all the training programmes, the public awareness of ozone sanitization and deodorization technology has been raised to the enterprises and SMEs , and also help all SMEs to train all the participants on how to provide better health assurance to the public in terms of food and environmental hygiene, which can help to promote HK's image as a metropolitan of fine-cuisine and environmental city.

Milestones (in chronological order)

(# Please indicate if the milestone is completed (C), deferred (D) or not achieved (N). If it is deferred, please indicate the revised completion date. For those milestones which are deferred or not achieved, please also provide the reasons under item 2.4.)

	<u>Milestone</u> (as set out in the approved project proposal appended to the project agreement)	<u>Original target completion date</u>	<u>Revised target completion date</u> (if applicable)	<u>Status</u> (C/D/N) #
(a)	Equipment prototype is ready for feasibility study	31/05/2012	31/08/2012	D
(b)	Feasibility study is completed	31/07/2013		C
(c)	Designation and establishment for webpage	31/07/2013	25/10/2013	D
(d)	Preparation of introductory seminars	31/07/2013		C
(e)	SOP development	31/07/2013		C
(f)	Final equipment design for show cases	31/07/2013		C
(g)	Show cases candidates selection	31/07/2013		C
(h)	Progress report to TID	31/01/2013	31/05/2013	D
(i)	Introductory seminar are organized	30/10/2013		C
(j)	Installation of hotline	30/10/2013		C
(k)	Equipment installation and kick-off the tests in candidates' premises	30/10/2013		C
(l)	SOP is ready for candidates' use	30/10/2013		C
(m)	Seminar / Training workshop to managerial staff	30/10/2013		C
(n)	Seminar / Training workshop to front line staff	30/10/2013		C
(o)	Monitoring of effectiveness of application	30/10/2013	30/04/2014	D
(p)	Site Visit are organized	30/10/2013		C
(q)	Brochure preparation and publication	30/11/2013	19/05/2014	D
(r)	Final report	28/02/2014	18/02/2015	D

Marketing/Dissemination Activities (in chronological order)

(Please provide details of all completed and on-going promotional and/or dissemination activities for each of the project deliverables. Such activities may include advertisements, seminars, workshops, etc.)

<u>Date/ Period</u>	<u>Description</u>	<u>No. of beneficiaries</u> (Please specify whether they are SMEs or not.)
Oct 2013	Webpage	Public
July 2013	8 Workshops	~300 (SME)
Aug 2013	2 Introductory Seminars	~420-450 (SME)
Sept 2013	Newsletter	Public
Sept 2013	Installation of hotline	Public
Oct 2013	3 Visits to the Show Cases	~80 (SME)
May 2014	Brochures 2500 copies	2,500
Total no. of beneficiaries - no. of SMEs		: 3500 SME
no. of companies which are <u>not</u> SMEs		: /

Future Plan for Promoting the Project Deliverables
