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

Final Report on Approved Project

This report is for (please put "√" in either one box only):

☑ SDF Final Report

☐ BUD Fund (OSP) Final Report

Project ref. no.	D15 003 004
Project title	Moving into the Internet of Things (IoT) and Wireless Era: Opportunities & Development of Hong Kong Electronics Industry
	物聯網及無線科技時代：香港電子業的機遇和發展
Period covered	From _____15/03/2016_____ to _____14/09/2017_____
	(dd/mm/yy) (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 Summary (in about 150 words)

Hong Kong's electronics industry is the largest merchandise export earner of the territory, accounting for 61% of Hong Kong's total exports in 2014. The industry is now focusing on further technological enhancement to sustain their business as well as to increase their competitiveness in the global market. Under the emerging trend of IoT, mobile computing devices with wireless connectivity, in particular the tablets, smartphones and wearable devices are well received in the market. The demand on those products continues to grow in the following 5 to 10 years. In addition to the wireless technology (one of the essential methods to make things connected) which makes connecting different things possible, there are a wide number of other electronics devices and technologies that benefits from or supports the IoT era. Being the key developer and manufacturer for the IoT and wireless devices, the Electronics industry should not miss the IoT industry trend, market opportunities as well as the awareness of the vulnerability issues related to IoT technology and solutions to tackle.

Despite this huge market potential, Hong Kong Electronics Industry lacks both the marketing and technical knowledge to understand the regulations, standards and requirements under the IoT & wireless applications as the industry traditionally focuses on being a Original Equipment Manufacturer (OEM) rather than a developer.

In order to stay ahead in the competition, up-to-date knowledge on new and innovative products & ideas as well as the availability of latest electronic components, solutions is particularly important for the SMEs in Hong Kong. Some SMEs, such as GS1, Megabyte Ltd. move forward to IoT trend with great success. Although HKSTP and HKPC involve in IoT area, their services are not target to electronics players only. This project is tailor-made for Hong Kong electronics industry players which satisfy their needs in knowledge in developing leading-edge IoT devices and technologies.

Project Objective(s) (in about 80 words)

IoT and wireless technologies are driving new business models in a number of markets. This project aims to assist Hong Kong electronics industry players to tap into the opportunities of these emerging trends and applicants. High-level symposiums, visits, coupled with in-depth seminars and information sharing focusing on IoT and wireless will be included in this project.

Grantee/Collaborating Organisation/Implementation Agent

Grantee	: Federation of Hong Kong Industries (FHKI)

Collaborating Organisation(s) :
Hong Kong Electronics Industry Council (HKEIC)
Hong Kong Science and Technology Parks Corporation (HKSTP)
Hong Kong Trade Development Council (HKTDC)
Hong Kong Productivity Council (HKPC)
The Hong Kong Electronic Industries Association Limited (HKEIA)
Hong Kong Electronics & Technologies Association Limited (HKETA)
Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI)
Hong Kong Wireless Technology Industry Association Limited (WTIA)
The Hong Kong Standards and Testing Centre Limited (HKSTC)

Implementation Agent(s) : Nil

Key Personnel

	Name	Company/Organisation	Tel No. & Fax No.
Project Co-ordinator :	Ms Alexandra Poon	Federation of Hong Kong Industries	Tel: 2732 3173 Fax: 2721 3494
Deputy Project Co-ordinator :	Ms Summer Cheung	Federation of Hong Kong Industries	Tel: 2732 3150 Fax: 2721 3494

Project Period

	Commencement Date (day/month/year)	Completion Date (day/month/year)	Project Duration (No. of months)
As stated in project agreement	15 March 2016	14 September 2017	18
Revised (if applicable)			

2. Summary of Project Results

Project Deliverables
(Please list out the project deliverables as stated in the project proposal appended to the project agreement and provide details related to the actual result achieved for each of them.)

	Project deliverable	Quantifiable target number (e.g. 100 participants)	Actual result achieved (e.g. 90 participants)	Reasons for not achieving the target, if applicable (e.g. The total number of registered participants was over 120. However, some of them did not show up eventually. Will strengthen promotion and try to make up for the shortfall in the following two seminars.)
a)	First large scale "IoT and Wireless" Symposium & Showcases (31 May 2016)	200 participants 8-10 showcases/kiosks	232 participants 17 showcases/kiosks	N/A
b)	First Factory Visit (9 September 2016)	35 participants	46 participants	N/A
c)	First in-depth Seminar & Sharing on 1st Factory Visit (7 October 2016)	70 participants	91 participants	N/A
d)	Second in-depth Seminar & Sharing on 2nd Factory Visit (24 February 2017)	70 participants	94 participants	N/A
e)	Second large scale "IoT and Wireless" Symposium & Showcases (26 May 2017)	200 participants 8-10 showcases/kiosks	221 participants 16 showcases/kiosks	N/A
f)	Third in-depth Seminar (24 August 2017)	70 participants	74 participants	N/A
g)	Second Factory Visit (8 September 2017)	35 participants	35 participants	N/A

Details of the deliverables (e.g. date, duration, venue, speaker, topic discussed, etc.)
(Please list out in table format if necessary.)

a) First large scale "IoT and Wireless" Symposium & Showcases: "Internet of Things (IoT) & Wireless Symposium – Opportunities for Electronics Industry"
Date: 31 May 2016; Time & Duration: 8am-7pm (total 11 hours)
Venue: Charles K Kao auditorium and Pre-Function Hall, Hong Kong Science Park

Total 12 IoT experts from Hong Kong, Asia and overseas were invited to be the first symposium's speakers and deliver the presentations on 4 aspects: global trend on IoT development and the arising opportunities to electronics industry, IoT technology for smart city, wireless technology for healthcare & wellness, wireless technology for IoT. Please find the speaker list as below:

	Company	Country that speaker come from	Name of Speaker	Industry of Speaker	Presentation Topic
1	City University of Hong Kong,	Hong Kong	Ir Dr Tsang Kim-Fung	Wireless communications	Fuelling Sustainable Future Smart Buildings with Internet of Things
2	Microsoft Hong Kong Limited	Hong Kong	Mr Fred Sheu	Wireless communications	Creating the Internet of Your Things
3	GS1 Hong Kong	Hong Kong	Mr Ken Lam	Wireless communications	Empowering Omni-Channel Consumer Trust with Innovations
4	Agency for Science,	Singapore	Mr Pankaj Sharma	Wireless communications	TV White Spaces: Trends and Opportunities for Smart

					City development
	Technology and Research (A*STAR)				
5	Airport Authority Hong Kong	Hong Kong	Mr KC Fung	Transportation	IoT Applications for Smart Airport
6	Sarux Systems Co.	Hong Kong	Mr Fai Fan	Wireless communications	Indoor Positioning and Tracking
7	NeuroSky Inc.	USA	Dr Joe Mak	Wireless healthcare	Wireless Biosensors in Everyday Life: Quantified self meets the Internet of Things
8	Samsung Electronics	Korea	Mr Min Cho	Electronics	Wearable Devices in IoT Era
9	Autoliv Electronics Inc.	USA	Ms Ludy Liu	Electronics	Advanced Embedded System for Wireless Application
10	Texas Instruments Hong Kong Limited	Hong Kong	Mr Johnson Ng	Wireless communications	Advanced Wireless and Sensing Solutions for IoT
11	Vodafone IoT	Taipei	Mr Douglas Wang	Wireless healthcare	Vodafone IoT in the booming eHealthcare industry
12	Hong Kong Science and Technology Parks Corporation	Hong Kong	Mr Albert Wong	Wireless communications	Keynote Speech on IoT development in HK

Registration was opened to all SMEs and enterprises of the industry free of charge. Total 232 participants attended the symposium. Publicity campaign was launched for the symposium through different channels, including project website, FHKI website & Facebook, online advertising on www.hkej.com, etc. 500 copies of programme booklets were printed and distributed to the participants.

Showcases were arranged to display IoT & wireless devices & technologies for Hong Kong electronics industry players to know more about the latest IoT & wireless devices & technologies in the market. Overwhelming number of applications was received. 17 companies were selected by project committee to conduct on-site introduction and demonstration of IoT devices & technologies for the participants. Below please find the list of showcase companies:

Showcase Companies			
1	Airproce HK Limited	10	Infineon Technologies Hong Kong Limited
2	AppoTech Limited	11	Integrated Solutions Limited
3	Arrow Asia Pac	12	LSCM R&D Centre for Logistics and Supply Chain Management Enabling Technologies (LSCM R&D Centre)
4	Castel Beidou Hong Kong Limited	13	Miracle Elite (HK) Limited
5	EIL Company Limited	14	Murata Co Limited
6	GainSpan Corporation	15	Nano and Advanced Materials Institute Limited
7	Hong Kong Applied Science and Technology Research Institute (ASTRI)	16	Remotec Technology Limited
8	Hong Kong Caiqin Electronics Elements Company Limited	17	Solomon Systech Limited
9	Hong Kong X'tals Limited		

The symposium was recorded and full version of videos was uploaded to project webpage (http://sdf.hkeic.org.hk/en/enewsletters/detail/7/) and YouTube channel (https://goo.gl/UT3azj) for public access.

b) First Factory Visit: "IoT Discovery- Visit to Huawei & DJI"
   Date: 9 September 2016; Time & Duration: 9am-5pm (total 8 hours, include 2 hours for lunch)
   Visited factories: 1. Huawei (Shenzhen) 2. DJI (Shenzhen)

One day visit to Huawei and DJI in Shenzhen was arranged, and total 46 participants attended to learn the IoT initiatives and development of these leading companies. A sharing session was arranged to share the information and insights collected from this visit in the first in-depth seminar on 7 October 2016. Also, the visit highlights were shared to industry players via e-newsletter and posted on project webpage (http://sdf.hkeic.org.hk/en/events/event_list/3/) for public access.

c) First in-depth Seminar & Sharing on Factory Visit: "International IoT Seminar – Enabling Technologies"
    Date: 7 October 2016; Time & Duration: 1pm-6pm (total 5 hours)
    Venue: Conference room and exhibition hall in Federation of Hong Kong Industries

Total 5 IoT experts were invited to be the speakers of first in-depth seminar to deliver the presentation on the aspect of enabling technologies. Please find the speaker list as below:

	Company	Country that speaker come from	Name of Speaker	Presentation Topic
1	TransSiP, Inc.	USA	Mr Desmond Wong	Advanced Miniaturization and Power Management for Wireless Devices
2	Well Being Digital Ltd.	Hong Kong	Mr Kow Ping	Building the World's Largest Suite of Pre-Medical IoT Devices
3	Flex Automation Z-Wave Alliance	Brazil	Mr Jean Pascal Nathan De Simone	IoT for Smart Home Like a PC Market in the 80's
4	Kalloc Studios Asia Ltd.	USA	Mr Henry Yu	Empower Design, Construction and Beyond with Virtual Reality
5	Infineon Technologies AG	Germany	Mr Abhiram Chakraborty	24GHz Radar Solutions for IoT Applications

Remarks: Though 5 speakers were invited, the hotel accommodation, air-ticket and speaker fees did not exceed the budget amount as we only need to cover those fees for 4 speakers. For details, please refer to below section C-1.

Registration was opened to all SMEs and enterprises of the industry free of charge. Total 91 participants attended the seminar. Publicity campaign was launched for the symposium through different channels, including project website, FHKI website & Facebook, etc.

The seminar was recorded and full version of videos were uploaded to project webpage (http://sdf.hkeic.org.hk/en/enewsletters/detail/8/) and YouTube channel (https://goo.gl/yv8khB) for public access.

d) Second in-depth Seminar & Sharing on Factory Visit: "International IoT Seminar- Standards, Requirements and Regulations for IoT and Wireless"
    Date: 24 February 2017; Time & Duration: 1pm-6pm (total 5 hours)
    Venue: Conference room and exhibition hall in Federation of Hong Kong Industries

Total 5 IoT experts were invited to be the speakers of second in-depth seminar to deliver the presentation in the aspects of standards and regulatory compliance of IoT and wireless products. Please find the speaker list as below:

	Company	Country that speaker come from	Name of Speaker	Presentation Topic
1	Rohde & Schwarz	Germany	Mr Xie Feng	Emerging Communication Technologies Enabling the Internet of Things- IoT System Design Challenges and Testing Solutions
2	Keysight Technologies, Inc.	USA	Mr Kailash Narayanan	Advance Testing and Measurement Techniques on Wireless Systems and Products with a Focus on IoT Device Testing Techniques
3	Hong Kong Standards and Testing Centre	Hong Kong	Mr Kenneth Cheung	News Update for RF Type Approval in HK and US
4	Hong Kong Productivity Council	Hong Kong	Mr Norton Yuen	Case Study – Plan for the Compliance to Regulations during Design Phase to Save Project Cost

				and Time
5	TÜV SÜD Greater China	China	Mr Radu Cristian Gosav	New Requirements in EU & EFTA Countries for Radio Devices

Remarks: Though 5 speakers were invited, the hotel accommodation, air-ticket and speaker fees did not exceed the budget amount as we only need to cover the hotel accommodation fees for 3 speakers and no air-ticket fee was involved. For details, please refer to below section C-1.

Registration was opened to all SMEs and enterprises of the industry free of charge. Total 94 participants attended the seminar. Publicity campaign was launched for the seminar through different channels, including project website, FHKI website & Facebook, etc.

The seminar was recorded and full version of videos were uploaded to project webpage (http://sdf.hkeic.org.hk/en/enewsletters/detail/9/) and YouTube channel (https://goo.gl/m81IPS) for public access.

e) Second large scale "IoT and Wireless" Symposium & Showcases: "Internet of Things (IoT) & Wireless Symposium- Exploring the Power of IoT"
Date: 26 May 2017; Time & Duration: 8am-7pm (total 11 hours)
Venue: Charles K Kao auditorium and Pre-Function Hall, Hong Kong Science Park

Total 12 IoT experts from Hong Kong, Asia and overseas were invited to be the second symposium's speakers and deliver the presentations on 4 aspects: global trend on IoT development and the arising opportunities to electronics industry, IoT technology for smart city, wireless technology for healthcare & wellness, wireless technology for IoT. Please find the speaker list as below:

	Company	Country that speaker come from	Name of Speaker	Industry of Speaker	Presentation Topic
1	Midea Smart Technology Co., Ltd.	China	Dr Chen Ting	Smart home	M-Smart: Creating a Smarter Life
2	Amazon Website Services	USA	Mr Zane Moi	Smart city	Smart Cities and the Internet of Things: Practical Solutions for Practical Times
3	Hong Kong Productivity Council	Hong Kong	Dr Lawrence Poon	Smart city	The Technology Trend of Intelligent Mobility in the Next 5 Years - from IoT to IoV to Autonomous Vehicles
4	Concorde Security Pte Ltd.	Singapore	Mr Alan Chua	Smart city	The New Face of Security…Utilizing Digital Technology
5	Z-Wave Alliance LLC	USA	Mr C K Sze	Smart home	Understanding Z-wave Technology and Shared Overview of Key Smarthome Markets
6	Petro-CyberWorks Information Technology Co., Ltd.	China	Mr Sun Huimin	Smart city	The Technique for Surging Connectivity Value Steers Us towards the Era of Technology Commercialisation
7	China Smart Home Industry Alliance	China	Mr Wang Shengyang	Smart home	IoT Industry and Development Trend of Smart Home in China
8	Hong Kong R&D Centre for logistic and Supply Chain Management Enabling Technologies	Hong Kong	Mr Stephen Wai	Smart logistics	Cross Industrial IoT Application
9	Li & Fung (Trading) Ltd.	Hong Kong	Mr Robert Burton	Smart logistics	Connecting IIOT (Industrial Internet of Things) with IOT
10	Sierra Wireless	Canada	Mr Pierre Teyssier	Wireless communications	The Future of Connectivity for IoT: LPWA and eUICC
11	Hewlett Packard Enterprise	USA	Ms Dorothy Marie Stanley	Wireless communications	5G Wireless Technology: IEEE 802.11 Components

| 12 | Comba Telecom Systems Holdings Ltd. | Hong Kong | Mr Simon Yeung | Wireless communications | Wireless Connectivity: Future Evolution of the Mobile Network |

Registration was opened to all SMEs and enterprises of the industry free of charge. Total 221 participants attended the symposium. Publicity campaign was launched for the symposium through different channels, including project website, FHKI website, Facebook, online advertising on www.hkej.com, https://unwire.hk/ and https://unwire.pro/, etc. 500 copies of programme booklets were printed and distributed to the participants.

Showcases were arranged to display IoT & wireless devices & technologies for Hong Kong electronics industry players to know more about the latest IoT & wireless devices & technologies in the market. Overwhelming number of applications was received. 16 companies were selected by project committee to conduct on-site introduction and demonstration of IoT devices & technologies for the participants. Below please find the list of showcase companies:

Showcase Companies			
1	Altai Technologies Limited	9	Jieli Technology (HK) Co., Limited
2	Arrow Asia Pac Limited	10	Liricco Technologies
3	Castel Beidou Hong Kong Limited	11	LSCM R&D Centre
4	Comba Telecom Systems Holdings Limited	12	Qorvo
5	DME Micro	13	Sierra Wireless
6	Hong Kong CAIQIN Electronics Elements Co., Limited	14	The Contact Store
7	Hong Kong X'tals Limited	15	The Win Win Group
8	IngDan Technology (Hong Kong) Limited	16	Z-wave Alliance LLC

f) Third in-depth Seminar: "Building Next Generation IoT & Wireless Devices and Solutions"
    Date: 24 August 2017; Time & Duration: 1pm-6pm (total 5 hours)
    Venue: Conference room and exhibition hall in Federation of Hong Kong Industries

Total 4 IoT experts were invited to be the speakers of third in-depth seminar to deliver the presentation in the aspects of IoT product design and advanced wireless technologies. Please find the speaker list as below:

	Company	Country that speaker come from	Name of Speaker	Presentation Topic
1	AWR Group, National Instruments	USA	Dr Derek Linden*	Antenna Synthesis for IoT and Wireless Applications
2	Swiss Federal Institute of Technology in Lausanne (EPFL)	Switzerland	De Marc Laperrouza	Creativity and Design on IOT Products/Devices for Global Competitiveness
3	Elexa Consumer Products, Inc.	USA	Steve Clemons	How Property and Casualty Insurance Providers in the US are Adopting IoT Solutions
4	Semtech Corporation	USA	Tony Li	Lora – A revolutionary technology for IOT LPWAN

*Remarks: Due to the disruption of typhoon Hato on 23 August 2017, the flight of Dr Derek Linden, Director of Technology of National Instruments was cancelled, so he could not come to Hong Kong finally and his sharing was conducted in web conferencing instead during the seminar.

Registration was opened to all SMEs and enterprises of the industry free of charge. Total 74 participants attended the seminar. Publicity campaign was launched for the seminar through different channels, including project website, FHKI website & Facebook, etc.

The seminar was recorded and full version of videos were uploaded to project webpage (http://sdf.hkeic.org.hk/en/enewsletters/detail/10/) and YouTube channel (https://goo.gl/Ad4ty4) for public access.

g) Second Factory Visit: "IoT Discovery- Visit to Midea and Real-Design Intelligence"
    Date: 8 September 2017; Time & Duration: 6:30am-8pm (total 13.5 hours, include 6.5 hours for transportation & 1 hour for lunch)

Visited factories: 1. Real-Design Intelligence (Shunde) 2. Midea (Shunde)

One day visit to Real-Design Intelligence and Midea in Shunde was arranged, and total 35 participants attended to learn the IoT initiatives and development of these leading companies. Interviews were conducted with two participants and an article was compiled for sharing with the industry via an e-newsletter. Also, the visit highlights were shared to industry players via e-newsletter and posted on project webpage (http://sdf.hkeic.org.hk/en/events/detail/7/) for public access.

h) Publicity and industry news sharing to industry players
A series of advertisements were rolled out to draw industry players' attention on IoT impact of electronics industry and promote the project and project events. Please find the advertisement details as below:

(i) Advertisement on FHKI publication- Hong Kong Industrialist:
Total 3 full pages advertisements were made at FHKI's monthly journal

Event	Date of advertisement
First large scale "IoT and Wireless" symposium & showcases	June 2016 issue (https://www.industryhk.org/HKI/201606/#26 P.26-27)
First in-depth seminar	November 2016 issue (https://www.industryhk.org/HKI/201611/#50 P.50-51)
Second large scale "IoT and Wireless" symposium & showcases	May 2017 issue (https://www.industryhk.org/HKI/201705/#50 P51)

(ii) Advertisement in other related industrial publications:

Advertisement platform	Date of advertisement and purpose
HKEIA Bulletin	Jan-Feb 2017 issue (bi-monthly issue) for second seminar
HKPC Smart ONE	Feb 2017 issue for second seminar
Hong Kong Engineer	May 2017 issue for second symposium

(iii) Online advertisements were made in different channels:

Advertisement platform	Date of advertisement and purpose
FHKI's website (https://www.industryhk.org/en/index.php?undefined)	April 2016 – July 2017 (16 months)
Hong Kong Economic Journal (www.hkej.com)	- 9-22 May 2016 for promoting the first symposium - 8-14 May 2017 for promoting the second symposium
Unwire.hk	2-8 May 2017 for promoting the second symposium
Unwire.pro	2-15 may 2017 for promoting the second symposium
Facebook*	- 13-27 May 2016 for promoting the first symposium - 13-27 January 2017 for promoting the second seminar - 24 April – 7 May 2017 for promoting the second symposium - 2 August – 15 August 2017 for promoting the third seminar

*Remarks: To create an advertisement on Facebook, the advertisement must be posted under a Facebook account and advertisement fee will be charged to this account. The Facebook advertisements made under FHKI account were opened to public and randomly appeared on the viewer's personal Facebook account, thus people do not need to "like" FHKI Facebook account in order to see the advertisements.

(1) E-newsletter:
4 issues of e-newsletters were published and disseminated to industry players. All of the symposiums and seminars were recorded. Full version and edited videos were uploaded to project website for industry players' review (http://sdf.hkeic.org.hk/en/enewsletters/);

Issue of e-newsletter	Date of publication
First issue	July 2016
Second issue	December 2016

| Third issue | May 2017 |
| Fourth issue | September 2017 |

(2) Project website was developed and launched in Oct 2016. The domain name of the project website is http://sdf.hkeic.org.hk/, which is placed under FHKI official website.

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.)

	Milestone (as set out in the approved project proposal appended to the project agreement)	Original target completion date	Revised target completion date (if applicable)	Status (C/P/D) #
(a)	Formation of project committee and working team; preparation of 1st symposium and publicity campaign	15/04/2016		C
(b)	1st symposium & showcase and publicity	01/06/2016		C
(c)	1st issue of "E-Industry News" launch	31/07/2016		C
(d)	1st visit to mainland	30/09/2016		C
(e)	1st seminar and sharing for 1st visit	30/11/2016		C
(f)	2nd issue of "E-Industry News"	31/01/2017		C
(g)	2nd seminar and sharing for 1st visit	14/03/2017		C
(h)	3rd issue of "E-Industry News"	31/05/2017		C
(i)	2nd symposium & showcases	30/06/2017		C
(j)	3rd seminar	31/08/2017		C
(k)	2nd visit to mainland	28/02/2017	14/09/2017	D
(l)	4th issue of "E-Industry News"	14/09/2017		C
(m)	Sharing for 2nd visit through e-newsletter and project webpages	14/09/2017		C

Future Plan for Promoting the Project Deliverables (Nil if not applicable)

Nil