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

Final Report on Approved Project

Project ref. no.

: D16 003 006

Project title

: Create "Hong Kong footwear homebase" platform to

pass on the industry's craftsmanship wisdom and technologies for the betterment in R&D and

sustainable development

(dd/mm/yy)

Period covered

: From 15/05/17 to ____

14/11/19 (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)

At the end of 2015, there were 1,200 footwear establishments in Hong Kong employing over 6,000 workforce. It is estimated that about 40% of the footwear establishments owns their offshores factories in Mainland China. When most of the Hong Kong footwear manufacturing SMEs are changing their manufacturing natures from OEM to ODM and OBM, fast prototyping, with the use of advanced technology such as computer-aided design and 3D printing etc., is essential for raising the competitiveness. No matter a footwear SME is at the upper stream of the production chain to sell the footwear design to other factories or is designing and manufacturing the footwear by herself, the demand for prototyping from external or internal customers is extremely high. Besides, the seasonal change-over of the footwear products in the global market, demand for product diversification and short lead time from overseas buyers and OBM development of an SME, all these factors forcefully drive the need of fast prototyping.

The traditional hand-made footwear sample for a brand new design requires 6 to 8 weeks for the prototype building. Most of the time are spent on building the sole unit moulds. In average, footwear manufacturing SMEs (no matter they are OEM, OBM or ODM) build over 100 pairs of footwear prototype every year. This number is more or less limited by the cost and time of current prototyping methodology. With the adoption of the advanced technology in this proposal, mould building is no longer required. It is estimated that it allows an average reduction of 80% on the lead time of new footwear prototype development which the sample can be finished within just 1 week. Furthermore, rapid footwear prototyping technologies enable shoes designers to perform concept modelling using multiple materials, thus helping designers to apply their creative ideas and innovative design. As a result, it can help footwear manufacturers to increase the capability in product innovation, by then able to launch more products to the market. Global sport footwear companies like Adidas and Nike demonstrated to the world that the technology, including 3D printing and computer aided design tool, accelerates their prototyping of new shoes at previously impossible speed. The significant time saving in prototyping allows the companies to make improvements on their products and bring new designs, not only the outlook but also the footwear configuration, to the market in short period of development time.

The Federation initiates this project aiming at sustaining the development of Hong Kong footwear industry by assisting footwear manufacturing SMEs in advancing their prototyping processes and training up practitioners with both design and craftsmanship wisdom. By reallocating the prototyping process to Hong Kong, the project can also encourage re-industrialization of footwear industry in Hong Kong.

Project Objective(s) (in about 80 words)

- To educate the advanced footwear prototyping technology and pass on footwear craftsmanship wisdom and skill to industrial practitioners
- To provide a workplace equipped with advanced facilities and tools to support the footwear industry in the design and prototyping phase of footwear manufacturing
- To sustain and encourage the research and development of footwear craftsmanship with the introduction of advanced technologies

Grantee/Collaborating Organisation/Implementation Agent

: The Federation of Hong Kong Footwear Limited Grantee Collaborating Organisation(s)

Hong Kong Design Trade Association Limited

Hong Kong Apparel Society Limited

The Hong Kong Chinese Importers' & Exporters' Association

Hong Kong 3D Printing Association Limited

Hong Kong Hide & Leather Traders' Association Limited

Hong Kong Synthetic Leather & Metal Material Suppliers' Association

Limited

Implementation Agent(s)

: Hong Kong Productivity Council

Key Personnel

						Tel No. &
			<u>Name</u>	(Company/Organisation	Fax No.
Project Co-ordinator	:	Mr Fran	k Leung	The Federation of Hong Kong Footwear Limited		T: 2395 5302 F: 2396 6020
Deputy Project Co-ordinator :		Mr Barry Liu		The Federation of Hong Kong Footwear Limited		T: 2395 5302 F: 2396 6020
Project Period						
			Commencement D (day/month/year		Completion Date (day/month/year)	Project Duration (No. of months)
As stated in project agreement		nent	15/05/2017	 : ;	14/11/2019	30
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	Actual result achieved	Reasons for
	1 Toject denverable	target	(e.g. 90 participants)	not achieving
		number	(e.g. > o purtrespunts)	the target, if
		The second secon		applicable
		(e.g. 100		
		participants)		(e.g. The total
				number of
			'	registered
				participants was
				over 120.
				However, some
	5			of them did not
			*	show up
				eventually.
				Will strengthen
				promotion and
				try to make up
				for the shortfall
				in the following
				two seminars.)
a)	Setup a Footwear	1 Studio in	A studio of 1350sq ft was setup at 3/F	N/A
	Prototyping Studio	Hong Kong of	Tai Nan Commercial building, 169 –	
		about 1400sq	171, Tai Nan Street, Sham Shui Po,	
		ft	Hong Kong.	27/4
b)	Footwear making	1	A database with 3D drawing and	N/A
	database		digitized information on shoe last, sole	
			pattern, shoe heel, accessories of	
			different types of shoe like woman's	
			shoe, man's shoe, sport shoe, loafer and	
			canvas shoe etc. was built and used in	
			the studio.	DT/A
(c)	Electronic Guidebook of	1	An eGudebook was built and uploaded	N/A
	Footwear Prototyping		on the project website	
			http://www.shoefountainstudio.com/en/	
			guidebook.php	
			The guidebook include totally 5	
			video clips of 30-60 seconds each.	
			1. Video of Footwear Database x1	
			2. Videos of prototyping machines x 1	
			(including part 1: 3D printing and part	
-				
			2: CNC) 3. Videos of processing machines x1	
			(including part 1: Leather scratching polishing machine, and part 2: Bottom	
1			sole edging machine)	
1			4. Videos of sewing machine x1	
			(including part 1: high head stepping,	
			part 2: high head thick thread stepping	1
			and part 3: high head stepping leather	
			sewing collar machine)	
	1		5. Videos of prototyping process	1
			2	
			The videos illustrated the prototyping	
			processes and the operations of the	
			advanced tools in the studio.	
				0.00

(d)	Promotional pamphlet & poster Seminar	Pamphlet: 10,000 Poster: 1200	10,000 copies of promotional pamphlets and 1,200 copies of posters were designed and printed. The pamphlets and posters were distributed to footwear and fashion practitioners through the network of FFHK, the network of the collaborating organizations, institutes, and some events of the associations. Some pamphlets are distributed in the studio A 3 hours seminar with the theme of	N/A
9,	Sommer.	, o paraospassio	Innovation and Technology in Footwear Industry was held at HKCEC on Jan 17, 2018 with 86 participants	
f)	Sharing Session x 3	40 participants each	The 1st sharing session was held on Jun 11, 2018. The number of participant was 40. The 2 nd sharing session was held on Jan 15, 2019. The number of participant was 64. The 3 rd sharing session was held on Oct 14, 2019. The number of participant was 32.	N/A
g)	Workshops x 16	15 participant each	16 workshops were organised on 2018/08/25, 09/29, 10/27, 11/30, 2019/01/18, 2/22, 3/29 and 4/26. Each workshops were participated by 15 people.	N/A
h)	Project Website	1	A project website (desktop and mobile versions) was built. http://www.shoefountainstudio.com	N/A
i)	Leaflets	100 copies for seminar and 70 copies per sharing session	100 copies of leaflet for the seminars were designed and printed. The leaflets were distributed to the participants of the seminar. 70 copies of leaflet for each of the three sharing sessions were designed and printed. The leaflets were distributed to the participants of the sharing sessions.	N/A
j)	Promotional pamphlet & poster	Pamphlet: 10,000 Poster: 1200	10,000 copies of promotional pamphlets and 1,200 copies of posters were designed and printed. The pamphlets and posters were distributed to footwear and fashion practitioners through the network of FFHK, the network of the collaborating organizations, institutes, and some events of the associations. Some pamphlets were distributed in the studio	N/A

Details of the deliverables (e.g. date, duration, venue, speaker, topic discussed, etc.)

(Please list out in table format if necessary.)

- a) Setup a Footwear Prototyping Studio
 - A studio located at 3/F Tai Nan Commercial building, 169 171, Tai Nan Street, Sham Shui Po, Hong Kong has been setup.
 - The studio was equipped with basic and advanced prototyping machines and tools sponsored by the Federation including CNC (Computer Numeric Control) machine, laser cutting machine, 3D printing machine, sewing machine and basic equipment for footwear making such as bottom sole edging machine, footwear oven, polishing machine and shoe lasts etc.

Item/Description	Quantity
CNC Machine, 4 axis Automatic Orientation CNC Machine	1
(Custom-built)	

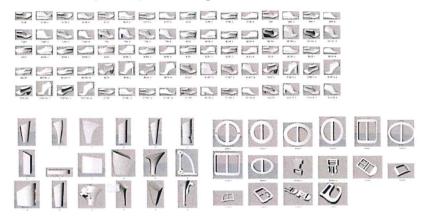
Laser Cutting Machine (Custom-built)	1
3D Printing Machine (Custom-built)	4
Sewing Machine – high head stepping leather sewing machine	1
Sewing Machine - high head thick thread stepping leather sewing machine	1
Sewing Machine – high head stepping leather sewing collar machine	1
Leather scratching and polishing machine (Custom-built)	1
Footwear Oven (Custom-built)	2
Bottom sole edging machine	2
Shoe lasts	80

- The studio was also equipped with footwear prototyping software, Rhino, a software for 3D product design, and a 3D footwear design tool developed by HKRITA.
- A full time administrator, one part time craftsman and one part time craftsman's assistant were employed through open recruitment, with advertisement on newspaper and labour department.
- The part time craftsman and craftsman's assistant worked in the studio 16 hours/week and 20 hours/week respectively.
- The studio was opened on Nov 15, 2017. It allows booking by footwear SMEs, fashion practitioners and students from footwear and fashion design disciplines in Hong Kong through an online booking system on project website and phone booking. The studio opened on Monday to Friday from 9:00 am to 6:00 pm.
- The footwear database built in this project was deployed in the studio. Users of the studio were able to use the database and also update the database with their drawings.
- There was total 539 bookings (463 bookings from SME and 76 bookings from students) during the period of 15/11/2017 to 14/11/2019. In average, there are 5 SMEs booked the studio each week and 1,390 pairs of footwear samples, in total, were made.
- eDM, posters and pamphlet for the promotion of the workshops were sent to different companies through the network of FFHK and the collaborating organizations, as well as different institutes regularly throughout the project period.



b) Footwear making database

- A database was built including 3D drawing and digitized information on shoe last, sole pattern, shoe heel, accessories of different types of shoe like woman's shoe, man's shoe, sport shoe, loafer and canvas shoe etc.
- The database was deployed at the studio and allow users to use within the studio.
- The drawing in the database included some files contributed from Thei and PolyU.
- The database was being updating throughout the project period. Users of the studio were invited to contribute their drawings to enrich the content of the studio.
- There were, in total, 412 drawings in the database.



*Partial of the drawing files

c) Electronic Guidebook of Footwear Prototyping

- An electronic guidebook about footwear prototyping was composed.
- The guidebook contained the step by step procedures of footwear prototyping.
- The procedures were illustrated in text, graphic and video formats.
- Craftsman employed in this project was interviewed and assisted in the write-ups of the guidebook.
- The guidebook was a self-learning tool. It was posted on the project website for free download.
- The content of the e-guidebook was enriched with the technology information collected from the seminar and the sharing sessions.





d) Promotional pamphlet and poster

- The promotional pamphlet and poster of the studio were designed, 10,000 sets of the pamphlet and 1200 sets of poster were printed.
- The pamphlets, together with the poster of the studio, were sent to footwear or fashion manufacturers of Hong Kong through the networks of FFHK and the collaborating organizations. The pamphlets and the posters were also sent to the institutes for the promotion of the studio.
- The pamphlets were distributed at the studio as well.
- Posters and pamphlet for the promotion of the workshops were sent to different companies through the network of FFHK and the collaborating organizations, as well as different institutes regularly throughout the project period.





e) Seminar

An Innovation and Technology Seminar for footwear was held on Jan 17, 2018 from 2:30 pm to 5:30 pm at HKCEC during Fashion Week 2018 (Spring).

5 speakers were invited to present the topics related to Digital Prototyping and Advanced

Technology in footwear sampling.

reciniology in footwear sampling.	
Speaker	Topics
Mr Ho Ho Tak, Lecturer of Department of	HKDI Fashion Archive: Innovation X
Fashion and Image Design, Hong Kong	Design X Education
Design Institute	
Ms. Trazy Yuen, Assistant Manager of	Revolution of Footwear – Smart
Product Development, Belle International	Development and Manufacturing
Mr. Ricky Wong, Executive Director of V.	Innovation inspired by Technology
Success(HK) Ltd.	10 - N
Ameber Leung, "The Belt and Road	Example sharing: Traditional Footwear
Initiatives" and "Guangdong-Hong	Brand through the Upgrading with
Kong-Macao Greater Bay Area"	Innovation and Technology to expand
Development Research Center of the	Marketing Strategy of Grand Bay Area
Shenzhen Research Institute of the Jiangxi	(30min)
University of Finance and Economics.	
Brian Yip, Business Manager of Leeport	Digitalization for footwear design and
Holding Limited	manufacturing

- Number of participants of the seminar was 86.
- 36 survey forms were collected. 89% of the responder said they would apply the knowledge of the seminar in their daily work, and 100% of the responder ranked 1 and 2 (top two) regarding the satisfaction of the seminar.









f) Sharing Session

Three sharing sessions were organised
The schedule is as follow,

Sharing	Date	Sharing Topics and Speakers	No. of
Session			Participant
1 st	Jun 11, 2018	Theme: FOOTWEAR • INNOVATION (1) Introduction to Thermo Welding Technology by Mr. Wilfred Yuen, Product Manager of Framis Italia HK Ltd. (2) The World Of Sewing by Mr. Martin Chow, Supervisor/ Technical Support & Customer Service Centre of German Schmetz Needle/Hop Cheong Sewing Machine Ltd. (3) Application of 3D concept in footwear design by Mr. Frank Leung, Chairman of The Federation of Hong Kong Footwear Limited and Managing Director of New Wing	40
2 nd	Jan 15, 2019	International Holdings Ltd. Theme: NEW TECHNOLOGY • NEW MATERIAL: RAPID FOOTWEAR PROTOTYPING (1) Footwear – From Health and Safety Angle by Professor LEE Ka Yan David, BBS, MH, OStJ, JP (2) Innovative Material and Design for Footwear by Ms. Jenny Cheung, Teaching Fellow, Faculty of Design and Environment Technological and Higher Education Institute of Hong Kong (3) Introduction to Thermo Welding Technology by Mr. Wilfred Yuen, Product Manager of Framis Italia HK Ltd. (4) 3D Footwear with New Material and Technology by Mr Ameber Leung, "The Belt and Road Initiatives" and "Guangdong-Hong Kong-Macao Greater Bay Area" Development Research Center of the Shenzhen Research Institute of the Jiangxi University Technological and Higher Education Institute of Hong Kong	64
3 rd	Oct 14, 2019	Theme: SMART MANUFACTURING. INNOVATION DESIGN: DIGITAL FOOTWEAR CREATION (1) Smart Manufacturing of Footwear by Mr. Paul Cheung, Associate Consultant of HKPC (2) Reusable Material and Design Concepts for Footwear by Ms. Jenny Cheung, Teaching Fellow, Faculty of Design and Environment Technological and Higher Education Institute of Hong Kong (3) Innovation of Leather Material by Mr. Lawrence Wong, Director of Leaton Leather & Trading Co. Ltd (4) Sneakers and Innovation Footwear Technology by Ms. Wing Leung, Footwear Designer	32















- g) Workshops
- Total 16 workshops were organised during the project period
- The schedule is as follow,

Workshop	Date	Workshop	Date
1 & 2	Aug 25, 2018	9 & 10	Jan 18, 2019
3 & 4	Sept 29, 2018	11 & 12	Feb 22, 2019
5 & 6	Oct 27, 2018	13 & 14	Mar 29, 2019

7 & 8	Nov 30, 2018	15 & 16	Apr 26, 2019
, 00 0	1101 00, 000		

- Each workshop was participated by 15 people.
- First lesson of the workshop was about practical usage on footwear prototyping, as well as learning of computer application and computer-aided tool; Second lesson was about machines application for prototype making





- h) Project Website
 - The website of the project was built and launched in Oct 2017.
 - The content of the website includes Project introduction, Activity Promotion, Activity Reports, Booking of the Studio, Online Enrolment of project event, eGuidebook for footwear prototyping etc..
 - http://www.shoefountainstudio.com
 - The website was regularly updated with upcoming activities, activity reports and gallery of the studio throughout the project period.

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 <u>completion</u> <u>date</u> (if applicable)	Status (C/D/N)#
(a)	Forming of project committee	14/06/2017		C
	Planning the project detail and schedule			
	■ Identify the location of the studio			
(b)	Construct the project website	31/10/2017		C
	 Confirm the venue of the studio and start decoration Installation of the prototyping machines and tools in the studio 	31/10/2017		С
(c)	Recruitment of the administrator and the part time craftsmen			
(d)	Composing and production of the e-Guidebook and pamphlet	31/10/2017		C
(e)	■ Building of the database	31/10/2017		C
(f)	 Hiring of the administrator and the part time craftsmen 	04/11/2019		C

(g)	Opening and operation of the studio	04/11/2019		С
(h)	Organize the Innovation and Technology Seminar	30/11/2017	17/01/2018	С
(i) =	Organize the 1st Sharing Session	28/02/2018	11/06/2018	С
(j)	Organize the 1st to 4th workshops	31/08/2018	29/09/2018	С
(k)	Organize the 2nd Sharing Session	31/08/2018	15/1/2019	С
(1)	Organize the 5th to 10th workshops	31/03/2019		С
(m)	Organise the 11th to 16th workshops	31/10/2019		С
(n)	Organize the 3rd Sharing Session	14/11/2019		С

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

- The eGuidebook for prototyping would be posted in FFHK's website for free download
- FFHK would keep promote the studio and the drawing database to the industry through different events
- FFHK would run training courses in the studio