

FINGERTEC®, a story worth telling

By Gao Jianwei, Deputy Editor-in-Chief of Business Post

The beginning of a company

“But if establishing a new company in Malaysia is just to promote Founder electronic publishing system, I rather propose Peking University Founder Group¹ continues to appoint distributor or reseller in this region,” suggested Teh Hon Seng, when he was invited by Alan Chueng, the director of Founder Group to form and to head the Malaysia’s branch office back in 1995. He eventually accepted the offer when was given the freedom to venture into other businesses when the timing was right.

His foresight was right. The future growth of electronic publishing and newspapers industry was unsustainable when the transition from the conventional typesetting system was over, and the room became even smaller, for Founder Electronic Publishing System’s strength that lies on the Chinese publishing system which the demand was relatively small in South East Asia region.

Teh, ambitious and visionary, saw the potential of a corporation that owned by the top and renowned university in China, foresaw the resources and the supply of potential technologies would never run short from its research lab.

The beginning of FingerTec®

Finally, in 1996, his eyes settled on the Peking University’s fingerprint algorithm, which gaining high recognition in Automated Fingerprint Identification System (AFIS)² for police criminal investigation industry.

He told the press, “The use of Biometric identification method at that time was still constraint to government sectors, and the method to be vastly adopted by commercial market was still vague.”

But Teh ruled out the idea to market the same AFIS solution. He said, “The selling of Founder AFIS would mean that our role will only be limited to selling the product and providing technical supports, and the market is even smaller and more niche than our existing electronic publishing industry. The AFIS sales nature is basically project-based. To introduce it to other countries would require a local sales office in the particular country, and we need to build rapport with the police department or companies close to police department. And if you don’t hit it right, all the efforts you put in for a year or longer might easily become futile. All these constraints deterred my dream to enter the global market.”



Fingerprint technology

At that time there were only a few fingerprint products for commercial market use available, and mostly produced were from the USA and Eu-



Peking University Founder Group

rope, expensive, unstable and not user-friendly. For example, one unit of biometric door access device from the USA was selling at USD3,000 to end user in 1998 and the performance was not up to expectation in terms of fingerprint matching accuracy.

The shortcomings of the then biometric products sparked the idea of Teh, should they transfer just the core technology from Peking University, invented their own fingerprint products for commercial market with more lower price and better performance, would there be a market for such product?

The beginning of FingerTec®'s R&D

After he had a couple of meetings with the parent company, although they were skeptical of Teh's capability to run a second tier R & D center in Malaysia, he still managed to secure the 20 years licensing agreement.

Core technology was one issue; the R & D funding was another. Because Beijing's Founder Group would never agree on setting up an R & D center away from Beijing, and even if the R & D takes place in Beijing, Founder Malaysia would still have to bear the cost of the project with foreseeable lesser control of the technology and product. Hence outsourcing of R & D in Beijing and funding from the parent company were both out of question.

To undertake the project, Teh estimated the R&D cost of around USD400, 000 for a period of 18 months. He needed to organize an R&D team consisted of hardware and software engineers of no less than 10 persons, and he had to purchase some equipments. The road ahead was tough, filled with uncertainties and even if all resources are in place, there was no guarantee of success. Whether the product can be successfully invented, and sellable afterward was still a big question mark. Should Teh, 34 years old at that time, allow Founder Malaysia to take such a risk to continue the adventure?

"The question at that moment was not whether to lock away the 20-years licensing agreement in my drawer, and forgot about the whole thing. It was whether we would have sufficient fund to proceed? If we had, of course I would continue. The reason was simple; the company had no future if I didn't proceed. At least there was a great potential in view of the trend of the biometric market and if we could push it through, we might shine the future."

And the opportunity finally came knocking in 1997. The Malaysian government started the Multimedia Super Corridor (MSC)³ project that year to boost the ICT industry to incorporate with the then Premier, Dr.

Mahathir Mohamed's vision to achieve a developed nation status for the country by the year 2020.

In conjunction with MSC project, the Malaysian government offered MSC Malaysia Status to ICT companies that were prepared to set up operations in the MSC or those who had contributed to the MSC's development. For ICT companies, the MSC Malaysia Status⁴ came with a package of incentives. Founder Malaysia was among the first batch companies that wasted no time to apply and granted the approval in 1997 by the Multimedia Development Corporation (MDeC)⁵, an agency formed to oversee the MSC projects. Founder Malaysia's R&D plan to develop the first commercial used fingerprint identification products in Malaysia was highly recognized by the corporation.



Status Company

The search of funding

The approval of MSC Status was one story, but to get the MSC's R&D Grant⁶ (Which called MGS) was entirely different story. The company spent almost a year preparing a proposal for the MGS application, went through many interviews and presentations,

refining their development schedule, and finally the letter of approval, a sum of RM854,400 (USD224,842) based on the reimbursement basis arrived on 1st December 1999.

"We held a small celebration party in our office, and we knew that the entire new chapter will start from here." Recalled Teh and the jubilation still flickered in his eyes. With the Grant and their own generated fund from the profit of Electronic Publishing System, the research and development led by another executive director almost ran on smoothly.

When asked about the major obstacles during the R&D period, he grinned, "That was one of the happiest moments of the company, because our objective was crystal clear. We wanted to invent a really good product, which could lead us to penetrating the global market. Whatever technical problems we encountered, we overcame them eventually. The only glitch that disturbed me the most was the fact that we couldn't find most of the electronic components in Malaysia to complete the prototype. We had to order them abroad and this had causing us much delay in the schedule."

Continue search of funding

From technical specifications, exterior & interior structural designs, core-board and MCU board design, application software and firmware programming, prototyping, the R&D team had many sleepless nights

over that 18 months in order to meeting the deadline. The prototype of their first product AC600 was finally born. The brand name in conjunction with the fingerprint technology – FingerTec®, was also born to welcome the new milestone for Founder Malaysia.

The performance of the prototype was satisfactorily in the laboratory. Despite a bulky exterior, they decided to go for mass production and outsourced their manufacturing in Malaysia. They produced the first batch production of just three hundred units to test the market respond. “The whole post-prototyping activities were tied up with fund raising,” he described. However, the real challenge was yet to emerge.

“There were three major areas draining the money. First, the R&D needed to be maintained for future product improvement and development, although the funding from the MGS was unavailable anymore. Second, we had to mass produce the product after prototyping stage; and third, we had to spend money in strategizing sales and marketing,” continued Teh, “In the end, we went for initial public offering on the MESDAQ⁷ market. When the prototype was almost completed, we received the listing approval from MESDAQ on 26th April of 2001, and the company was successfully listed in the following year. Our company performance was based on the revenue generated from the electronic publishing system and the future potential of FingerTec.”

A short rise and a big fall

Teh later channeled the larger part of the seed fund to these three areas. They made their first move by participating in Security Trade Show in both Malaysia and Taiwan. They strengthened their achievements by winning three awards in 2002 and 2003, MSC-APICTA Best Security Product Award and Invention and Innovation Award from Ministry of Science and Technology in Malaysia and Secutech Innovation Award in Taiwan.

They priced their product FingerTec® AC600 at retail at USD 1,000 for the local market. The price was competitive and far below the Europe and US products with features that Teh claimed to be much superior than them.

“But replacing cards system or conventional time recorder by using fingerprint was still new and unusual to the market at that time, and users were skeptical. The response from the market was lukewarm despite the price competitiveness. The situation worsened when the market early adopters started complaining about the hardware

instability, and that the application software couldn't cope with the fundamental requirements. Some even asked for cash returns for the machines.”

“Our recall rate once shot up to 30%. It was really a nightmare,” Teh, “The normal recall rate shouldn't go above 5%.

When a product exceeds 10% recall rate, it's a doom. What about 30%? It was like the guillotine was falling.”

“The problems list expanded. We managed to resolve some problems, but for some structural problems, we had to live with them.” Despite the rectifications, the sales were still slow moving, and there was not much improvement in the recall rate.

While solving all the problems seemed futile, they moved forward by designing a new product with more advanced features, smaller in size and better-looking, to hit the market good, according to Teh.

The R&D of the second-generation product was later started in 2002, seven months after the AC601 making its debut to the market. AC701 employed the latest four-layer PCB board design, which was claimed as the smallest in the world at that time.

The predicament

The lightning never strikes twice, but it struck mercilessly the second time right at FingerTec®. A year later in September 2003, after the new AC701 hit the market, while the exterior design was highly praised by the market, the stability became worse than its predecessor. According to the experts, the size mattered because the two major boards were almost touching each other causing the instability and the casing design left no room for readjustment.

The market responded poorly to both products, the light for the future suddenly turned dim for the company. And added to Founder Malaysia's predicament, the other core product, electronic publishing system, like what had been projected, the sales passed the good years and started to go downhill.

Besides, many resellers and customers made the technical issues as excuses to delay payments, and eventually some turned into bad debts. The poor performance translated to financial lost, and their share price plummeted. The company, which once had been blessed, suddenly was facing with their most crucial dilemma that plunged them into an abyss that could lead to a possibly dark end.

Teh, a visionary entrepreneur, now with a dream



AC700



AC600



Teh Hon Seng

slowly drifted away, was hit by another blow when a group of R&D, technical and marketing personnel, including the executive director that led the FingerTec® team resigned at the end of 2004.

The good money dried out, an investment ran sour, the brand image was damaged,

and the unused components and unsold machines piled up in the store. Alan Chueng, the immediate boss of Teh suggested, "Relinquish FingerTec and try to look for other business opportunities."

Teh was adamant because he still could see some light flickered obscurely. He told Alan, "There is still some hope. We are almost there. With some restructuring and repositioning, we might be able to turn around. Let me have a last attempt, and I will prove you I'm right. I promise to take a greater control on expenditure."

His diehard attitude was eventually paid-off.

When Teh looked back after two years, he said, "I am fortunate to not retreat, the gold mine was actually buried another 50 yards underground. We already dug the first 50 yards, if we stopped and headed back home, all the efforts would turn to waste. I saw many Biometric companies that started as early as us were no longer exist in the market."

The turn around

Teh actually was never involved in running day-to-day FingerTec® business himself before that. He initiated the FingerTec® project, laid the master plan, and made some comments. His time was spent more to securing some big newspapers electronic publishing projects.

After the resignations of the key personnel in FingerTec, he had to change his role from an observer and a commenter to an involver. He commented, "When the situation left one with no choice, you had to face it. The more I dealt with it, the more I saw the prospect. Some ideas that were taken lightly or turned down in the past needed reassessments. I rather called it a fresh start, with less people, less cost and less noise."

He reassessed the situation, and redrawn some principles, which later proved to be useful groundwork to make FingerTec® re-emerges as a reputable and a reliable brand in biometric industry:

1. Stabilize both hardware and software in no time;

2. Outsource some R&D work;
3. Stop selling directly to end users, FingerTec® will adopt distribution channel;
4. No credit term, only TT, LC or cash on delivery is accepted;
5. Lower the cost further by shifting the manufacturing to China;
6. Go for fair but useful technology; don't obsess with high technology.

Said is always easier than done. A right concept must always goes along with a strong execution before it could produce success. From the R&D perspective, Teh stressed on practicality, not blindly longing for the top technology. The shortage of in-house R&D people after some resignations, Teh outsourced some of the R&D jobs locally and abroad for its product's reengineering. For production, he played his last bet cautiously but boldly by producing 2,000 units, which was one thousand units each for two new models, AC800 and AC100, instead of a few hundred units readers like their previous practice. To reduce cost, Teh even didn't mind to share the same casing design with his competitor.

The betterment

When the new products hit the road five months after Teh took the helm for FingerTec® in 2005, it stirred the local market in Malaysia, because the price, almost half from its previous model, were sold to the end users for less than RM2000 (USD 572) per unit, created some buying temptation to go for an early adoption for new technology. With no competitors could offer such a price, there was a booming in sales, and many resellers did not mind to pay cash to secure the products.

"Some technical glitches were still present but they were manageable, and the products were more reliable as compared to their predecessors." Smiled Teh, "at least we had cut down the recall rate tremendously to less than 5%, later to less than 1%, and I see the possibility to further improve the quality." He added.

In terms of brand building, he played his magic. He said when he saw the shifting of manufacturing to China reduces cost; the threat of other low-cost China fingerprint products would finally come into the scene. When this happened, the advantage of low cost for FingerTec products would not sustain in the future market, he conceded.

In order to build a more visionary branding empire, he first changed the old FingerTec® tagline from "Security at your fingertips" to "One finger solves it all". "The message is clear," he said, "Security industry is relatively small, when we narrow down the security



FingerTec® products

further to fingertips, the tagline symbolize a smaller market. So I reversed my viewpoint from the fingertips to look at a larger market. For example, why should I limit fingerprint identification system for security purpose only, why can't I extend it to office automation market? There are still a lot of untapped industries which fingerprint technology can be applied".

To enter some new markets, for example the office automation market, he said the industry players were averagely technically weak, but their sales channels were strong. If FingerTec® can tailor the hi-tech products into DIY (Do-it-yourself) products, it would reduce the technical support cost for all resellers and definitely would enable the technically weak resellers to sell FingerTec® products.

He was right again this time. When FingerTec® product started to bundle with step-by-step hardware and software video guide, a good written manual, its sales showed another sign of grow.

How hard to make everything easy?

Teh further explored the concept to make everything easy. He told the press, the DIY concept just covers the end user; can I make the selling of FingerTec® easy? Can I make the technical support of resellers easy? There are more inquiries from overseas, how can these resellers benefit from the "everything's easy" concept? The delivering of "easy" to customers proved no easy task for Teh. He knows if he can't solve it all, the room to grow would be confined.

He pondered hard, and the conclusion came out simple, everything that has been done must be centralized in one platform, which is e-Platform for easy man-

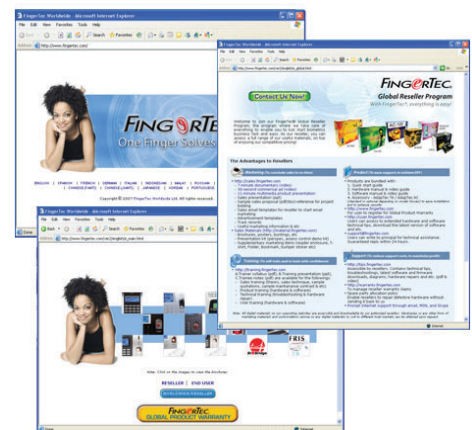
agement and access by the resellers and users. And the first step towards the e-Platform, is to refurbish the old official website.

"For people who don't know who you are, a portal in virtual world is the first impression. What's to show and what's not? What're the objectives to achieve? In fact, a good website can help to realize your conceptual products and ideas without physically showing it to the customers."

"The Internet changes the impossible to the possible. We are an IT based company, we provide IT solution to clients, and how can we not provide a good one for ourselves?"

How to reach their target audience? What should be the appropriate contents?

In the end, a face-lift of FingerTec® new website stunned the market. The website has no company introduction, no news update, no boasting of how great the technology, how charming the awards, but simple, no-nonsense approach, straight-to-the-points, with 14 languages available, to cover just the Global Reseller Program, products information,



FingerTec® Official Website www.fingertec.com

benefits and warranty registration for end users.

"I removed all the unnecessary contents, because everyone look at the website would know that this is a great company with great products, just like Google, with a front page of less than 30 words, users would still feel the greatness. Most importantly, with less contents the website carries clear message, I made the maintenance of the multilingual translations viable." He said, "Once the new website went online, surprisingly, without any online advertisement, we received the enquiries consistently everyday."

The splendid springing platform

He saw the value to have a virtual presence and when he wanted to relaunch the new website, he did not hesitate to pay a considerable amount of money to acquire the URL name www.fingertec.com which was formerly registered to an opportunist.

When they started to advertise through Google's Ad-Word a few months later, more inquiries were received. By end of 2005, they exported their products to 25 countries; a year later, FingerTec® products were exported to 50 countries. To-date, FingerTec® has a strong presence in more than 70 countries around the world.

The e-Platform was expanded after the re-launching of the official website. Today, they have altogether six supporting websites on top of an official website, from sales supports, warranty claim, technical tips to marketing and training material, making FingerTec® information on-line self-sufficient for FingerTec® reseller family in terms of sales and technical supports.

His belief has been right. Good branding policy produces better margin, easier in selling, and lesser in supports, that's why he said, once the resellers have started selling FingerTec®, they would be reluctant to switch to other brands. In reverse, there were some resellers that

switched from China and Korean products to sell FingerTec® products.

The future of a visionary brand

Teh surprised many people when he said he is personally in charge of the product design and provides design ideas of the marketing materials and also does some creative copywriting to most of the marketing and advertisement contents including the documentary.

He likes art and literature, and also a poet, a columnist and a critic, has published six books for the past 15 years, and he plans to publish another two more in the next two years. He places the brand building team direct under his command.

"I am the creative director and art director myself." He laughed. It seemed his personal hobbies mixed well with FingerTec®.

When asked about FingerTec®'s plan for the future, he addressed the question in a confident tone, "We would introduce the new color multimedia FingerTec® products, iKiosk 100 and iKiosk 100 Plus to the market by end of 2007. We foresee by integrating multimedia technology into the plain fingerprint device, it would take us to another height".

Starting with a vision, followed by simple yet viable plan and well execution, FingerTec® has started a remarkable revolution, changing the unreachable high technology to a "touchable" product faster than its rivals, setting fingerprint product a new benchmark. How FingerTec® continues to stay ahead from the rest for a more competitive and challenging biometric market in the future? Just as FingerTec® slogan goes, One finger solves it all; so, we have something to expect from a determining brand.



i-kiosk 100

Notes

1. Peking University Founder Group

Peking University Founder Group, founded in 1986 with the investment from Peking University, has come a long way to become a well-known IT enterprise in China and plays an important role in the development of China's IT industry. With a total staff of over 20,000, Founder Group now owns 5 public listed companies on the security exchange of Shanghai, Shenzhen, Malaysia and Hong Kong, as well as over 20 wholly-funded companies and joint-ventures both at home and abroad. In 2006, it was ranked 10th in the Top 100 State Electronic & Information Enterprises and 9th in the Top 100 Beijing Enterprises. Founder Group is seen as the corporation that in possession of true core technologies, vital to China's IT industry. Moreover, Founder Group is one of the most successful and the most important software enterprises in China. Since entering into PC manufacturing field, Founder Group stands firmly in the 2nd place for 7 consecutive years in China. Faced with fierce competition, Founder Group has moved quickly towards more value-added upstream links and stepped into the fields of PCB and IC chips production. In recent years, Founder Group has expanded its core business from IT to Healthcare and Pharmaceuticals. By seeking for a leap-forward development on its own initiative, Founder Group is confident to build itself into a larger and stronger global enterprise group. The core technology of Founder-Fingerprint products is originated from an R&D result of the State Key Laboratory of Peking University's Information Center. Under the leadership of two leading academicians, Professor Cheng Mingde and Professor Shi Qingyun, and having gone through a 20-year R&D practice and a 10-year marketing development, products such as the automated fingerprint recognition system or also known as PU-AFIS, integrated criminal investigation information management system, live fingerprint rolling capturing system, and population and public security integrated information management systems have gradually been improved. In view of the uniqueness and advanced features of the system, the system was granted the first award for technology advancement by the State Educational Committee in 1991 and was awarded the second prize for technology advancement by the State in 1993. The system has been assigned and completed the "8.5" technology key problems tackling assignment by the public security department. The system is now matured and has been widely used in criminal investigations by the public security department. *Page 1*

2. Automated Fingerprint Identification System (AFIS)

Automated Fingerprint Identification System (or AFIS) is a system to automatically match one or many unknown fingerprints against a database of known prints. This is done for various reasons, not the least of which is because the person has committed a crime. With greater frequency in recent years, AFIS like systems have been used in civil identification projects. The intended purpose is to prevent multiple enrollment in an election, welfare, DMV or similar system. *Page 1*

3. Multimedia Super Corridor (MSC)

Situated in Malaysia, the MSC Malaysia or formerly known as Multimedia Super Corridor is a Government designated zone, designed to leapfrog Malaysia into the information and knowledge age. It originally includes an area of approximately 15x50 km² which stretches from the Petronas Twin Towers to the Kuala Lumpur International Airport and also includes the towns of Putrajaya and Cyberjaya. It has been expanded to include the entire Klang Valley on 7 December 2006. *Page 2*

4. MSC Malaysia Status

The Multimedia Development Corporation (MDeC - previously known as MDC) is a government-owned institution responsible for the management of the Multimedia Super Corridor (MSC Malaysia) in Malaysia as a world-class technology industry and commerce zone. *Page 2*

5. Multimedia Development Corporation (MDeC)

The MSC Malaysia Status offers a package of incentives to ICT companies that qualify for the MSC Malaysia Status. MSC Malaysia Status companies will enjoy the benefits of World Class physical and information infrastructure; allow unrestricted employment of foreign knowledge workers; freedom of ownership by exempting from local ownership requirements; no income tax for up to 10 years (5+5) or Investment Tax Allowance; no duties on importation of Multimedia Equipment; Intellectual Property Protection and Cyberlaws; no censorship of the Internet; competitive telecommunications tariff and tender key MSC infrastructure contracts. *Page 2*

6. MSC's R&D Grant

One of the main goals of MSC Malaysia (the Multimedia Super Corridor) is to catalyse and nurture a competitive cluster of Malaysian ICT/multimedia companies that will become world class over time. In line with this objective, a total sum of RM120 million has been allocated for the MSC Malaysia Research and Development Grant Scheme (MGS) to support R&D initiatives within MSC Malaysia. Multimedia Development Corporation (MDeC) has been entrusted to manage the grant and oversee the progress and completion of funded projects. *Page 2*

7. MESDAQ

MESDAQ (Malaysian Exchange of Securities Dealing & Automated Quotation) was launched on 6 October 1997 as a separate market mostly for technology based companies listing. It is part of Bursa Malaysia. *Page 3*