# Lin, Hsiu-Ying (Associate Researcher, Div. 6, Taiwan Institute of Economic Research)



Innovation and startups in Taiwan have been the keywords in recent years. In addition to the various competitions sponsored by the government and private enterprises, startup accelerators, communal space for startup communities, maker space and startup development programs have all become available to support and assist startup entrepreneurs. The bottleneck in the development stage of a startup is the lack of capital funds in the beginning. With this in mind, the government has provided government funds to work in conjunction with low rental and tax deduction for angel investors. This has boosted investments in private startups. Plus, the number of angel investment foundations and the accelerators to support investment increases, improving the early-stage investment environment in Taiwan.

However, the lack of information transparency still remains an issue for the early-stage investment as many transactions are undisclosed. Despite the fact that TVCA (Taiwan Venture Capitalists Association) has re-published the investigation results of startup companies in Taiwan in the most recent two years, the visibility of the full scope still remains limited. For the transparency of investment information,

TIER (Taiwan Institute of Economic Research) launched FINDIT platform to collect Pre-IPO equity investment data through various resources. New matchup data is tracked in rolling format and matchup list that has been omitted in the past will also be collected. This article will reveal the Taiwan venture capital funds from 2015 to August of 2018 compiled by FINDIT platform, which monitors the synergy changes in Taiwan's startups, the preferred investment stages and industries, and the leading startups.

#### **Definitions, Sources and Research Limitations**

The statistics in the "Taiwan Startup Enterprises Venture Capital Funds Data" covers both the venture capital funds information on the startup companies registered in Taiwan and Taiwanese overseas startup companies belonging to the second category. The data includes equity investment and ICO (Initial Coin Offering) methods. The statistics data in this article is public information and the sources are: (1) Crunchbase data; (2) Itjuzi.com; (3) Tech media and news media (Business Next, Inside, Commercial Times, Mega Time, etc.); (4) Websites of investment institutions and Venture Capital companies; (5) Findbiz - Department of Commerce, Ministry of Economic Affairs (6) National Development Funds, quarter and annual reports and other relevant departments; (7) Self-reported data from Venture Capital Funded Company; (8) Equity Crowdfunding platform, etc.<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> In 2018, data from Taiwan's venture capital funds included an investment from the Dexon Foundation (Dexon), which is a nonprofit organization similar to Ethereum Foundation. DEXON is at the bottom chain of the BlockLattice and uses Consenus Algorithm, that allows unlimited expansion and distributed ledger technology.

However, with NDA in place, many startups are unable to provide venture capital funds information. This report will be focusing on the analysis of key statistics and trends based on the data collected.

#### 1. Number of Startup Cases and Total Investment

 The total number of cases from 2015 to August 2018 is 339. The total disclosed venture capital funds exceed US\$1.6 billion and the expected investment funds should be over US\$1.7 billion.

From the "HeadStart Taiwan" in 2015 to the Innovation & Startup strategy from the Executive Yuan and the current "Asia Silicon Valley" program, the government has been actively advancing the Innovation and Startup policy. The accumulated cases from 2015 to August 2018 is 339. The disclosed venture capital funds are US\$1.611 billion (close to NT\$50 billion) and estimated investment funds should exceed US\$1.706 billion (around NT\$52 billion) From 2015 to 2017, there had been a steady growth in investment cases. In terms of the investment amount, except the challenges faced during 2016 in the global economy where the investment amount dropped, the amount in the other two years exceeded US\$500 million.

 There have been many positive news in the first eight months in 2018 on securing venture capital funds in Taiwan's startup companies with outstanding performance.

There has been a number of positive news on Taiwan startups securing venture capital funds since 2018. Based on the data from FINDIT platform of TIER, a total of

56 startups/small-medium sized companies received investment in the first eight months of 2018. The total disclosed value is US\$335 million (exceeding a total of NT\$10 billion), FINDIT estimates the total funds received could be as high as US\$359.5 million (circa NT\$11 billion). If removing the ICO funds on BitoEX and Joyso, the total investment is still at US\$335 million (NT\$10 billion), which is an outstanding result. Since Gogoro received a massive US\$300 million investment funds in Series C round in 2017, if it was deducted from the total venture capital funds in 2017, then the first eight months accumulated funds in 2018 has already exceeded the results in 2017.

Table 4.1, Early-Stage Venture Capital Funds Overview from 2015 to August 2018

| Year                        | Number of<br>Cases | Disclosed<br>Amount (US\$100<br>million) | Estimated Amount (US\$100 million) |  |
|-----------------------------|--------------------|--|------------------------------------|--|
| 2015                        | 87                 | 5.07                                     | 5.28                               |  |
| 2016                        | 94                 | 2.3                                      | 2.41                               |  |
| 2017                        | 100                | 5.4                                      | 5.78                               |  |
| 2018 (up to August<br>2018) | 58                 | 3.35                                     | 3.59                               |  |
| Total                       | 339                | 16.11                                    | 17.06                              |  |

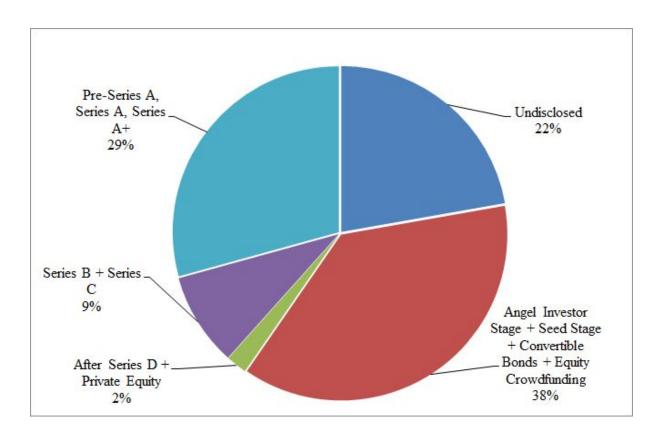
Sources: compiled by TIER

#### 2. Investment Stage - by Case Amount

 Over 60% of the investment is in the early stage. In 2018, cases in middle stage increased and ICO methods became available.

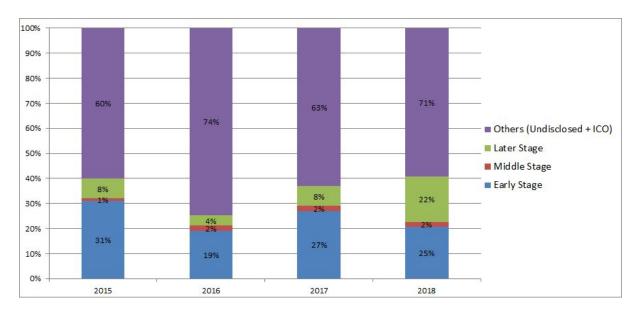
The distribution of Taiwan's venture capital funding stage from 2015 to August 2018 based on the number of cases, 71% of the transactions appeared in the early stage, where the sum of seed stage/angel investor stage, convertible bonds and equity crowdfunding is 37%, and 29% are Pre-Series A, Series A and Series A+ investment. While Series B and Series C rounds in middle stage are 9% and only 2% are after Series D rounds and private equity funds. However, transactions during the undisclosed stage are as high as 22%. Also, with the increased popularity on cryptocurrencies and blockchain, there are two cases funded through ICO (initial coin offering) in 2018, which amounted to less than 1% of the total cases.

If the investment stages are divided into early stage, middle stage, later stage and others, the graph shows that the percentage of investment in the middle stage increases significantly in 2018. Overall, the reason for over 20% of undisclosed cases could be contributed to the investment funded by National Development Funds that did not identify the investment rounds. However, based on the time the startups established to the reception of venture capital funds, the total investment value and feedback from some of the investors, our estimation is that majority are during Series B or Series C rounds. Based on this assumption, it is fair to suggest that since 2017, there has been a gradual increase on the number of investment cases in the middle stage of Series B and Series C rounds.



Sources: compiled by TIER

Figure 1. The Distribution of Taiwan's venture capital funding stage from 2015 to 2018.08



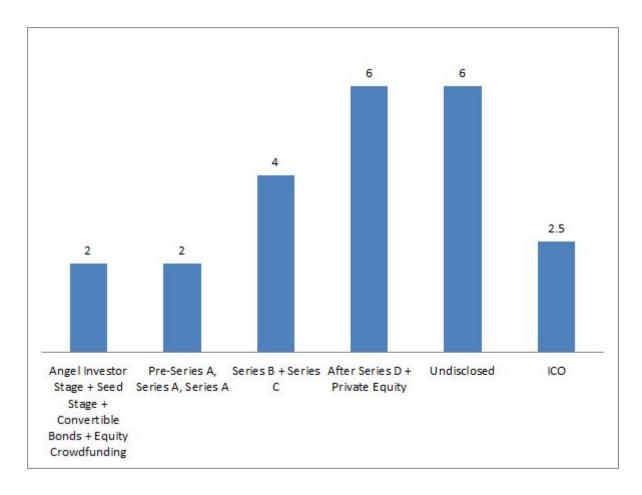
Sources: compiled by TIER

Figure 2. The Distribution of Taiwan's venture capital funding stage from 2015 to 2018.08, by year

- 3. Time Received Venture Capital Funds by Case Amount
- The average time when receiving venture capital funds is during the second year of the early stage

If we go further, break-down by different stages and observe the average number for the time from establishing startup companies to securing venture capital funds, the three years from 2015 to 2018.08 in Taiwan's venture capital transactions, average year of establishment at the early stage (seed stage/angel investor stage) is 2 years. For the middle stage of Series B and Series C, the average establishment is around 4 years; the average year for Series D and Private Equity venture funds is 6 years. In terms of other 2 cases of ICO, the average time from the establishment to securing fund is around 2.5 years It is worth noting that, average year on venture capital funds of the undisclosed cases is 6 years. The majority of these cases are

funded in conjunction with National Development Funds for the startups, to some extent, to ensure the high acceptance rate of the application, venture capital organizations tend to work with companies that have been operating for a period of time and have consistent performances in order to reduce the investment risk.



Sources: compiled by TIER

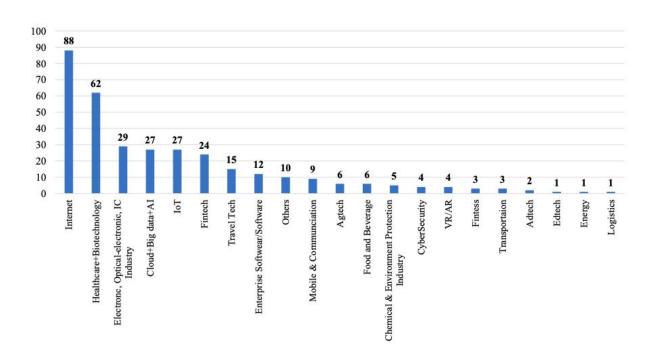
Figure 3. The time needed for startups to receive venture capital funds in early stage in Taiwan

#### 4. Invested Industry - by Case Amount

The areas including Internet applications, healthcare, medical,
biotechnology and pharmaceutical are the favorites among investors.

# ICT hardware is another preferred sector, while IoT, cloud, big data and Al also become increasingly popular.

Based on the types of the companies that received venture capital funds, startups of Internet-related applications received the most, healthcare/medical and biotech/pharmaceutical came second. This is aligned with the global investment trend. The third highest investments by the number of cases are electronics, photoelectric, semi-conductor related equipment and components companies. This reflects investors' faith in Taiwan's exceptional skills and mass production abilities in the ICT industry. Some of these are spin-off companies from Industrial Technology Research Institute and Institute for Information Industry and some are startup companies independent from the existing companies. In terms of startups of IoT, cloud, big data and AI, travel tech and FinTech have also stood out in recent years and are on investor's watchlist.

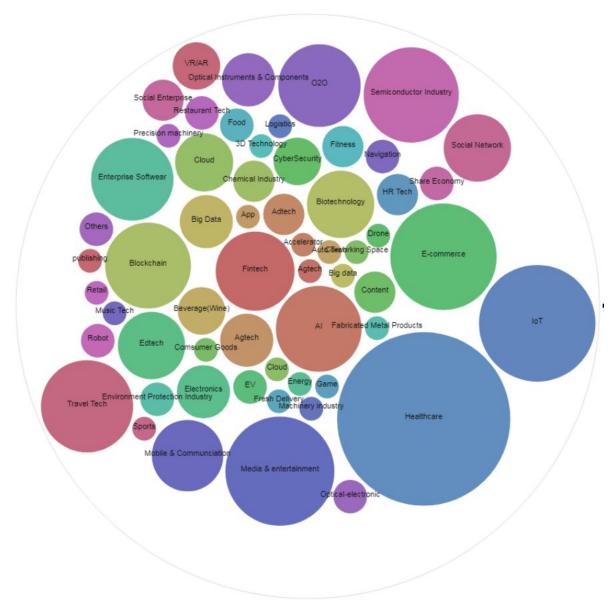


Sources: compiled by TIER

Figure 4. Distribution of Taiwan's startups by sectors from 2015 to 2018.08, by case amount

 Detailed business sectors: Healthcare/medical, IoT, semi-conductor and travel tech are the most popular sectors for investments, followed by e-commerce, FinTech, media & entertainment and Al.

To break it down further, graph 4.5 shows the sector receiving the most venture capital funds in the past 3 years are healthcare-related area (53 cases), followed by IoT (25 cases), media & entertainment (including gaming) (21 cases), e-commerce (20 cases), semi-conductor (16 cases), travel tech (15 cases). It is noteworthy that the popular AI sector and blockchain technology each have 13 investment cases from 2015 to 2018.8 in Taiwan. As artificial intelligence has been adopted in various vertical areas, if it is only classified by one specific usage/sector, it will underestimate the number of general AI application companies received venture capital funds. In addition, there are 12 investment cases of enterprise software focusing on B2C, which is the same amount as to the on-demand O2O. In terms of FinTech (excluding blockchain), there are 11 cases received venture capital funds. Above are the relatively popular sectors to the investors



Sources: compiled by TIER

Figure 5. Distribution of Taiwan's startups by detailed sector from 2015 to 2018.08, by case amount

- 5. Top 10 Cases by Total Investment Value
- 1. Top 10 by Total Investment Value from 2015 to 2018.08

 Gogoro received US\$300 million Series C funds, which broke the record of the highest single investment value in the past 3 years. Accumulated investment funds of US\$480 million also put them in the lead.

In the top 10 venture capital funds in the past 3 years, Gogoro leads the way by completing a US\$300 million Series C fund on September 20, 2017. Gogoro's current energy network consists of 750 charging stations in Taiwan and the goal is to reach 1,000 charging stations by the end of the year. On September 11, 2018, Gogoro announced the collaboration with YAMAHA, which is the second-largest in the world and the second-largest fuel-based motorcycle brand in Taiwan. In addition to providing a battery exchange system, Gogoro becomes OEM for YAMAHA's electric scooters and extends its business reach from own-brand to manufacturing. The first generation of YAMAHA's branded electric scooters is expected to launch in the summer of 2019 with a positive outlook.

The online English teaching platform iTutorGroup came second with US\$200 million funded under Series C round. The third came JHL Biotech. After its removal from the emerging stock market and turning into private placement, the investment valued US\$1.306 billion. The abovementioned three investment deals were all over US\$100 million.

Between the 4th to the 6th, the investment funds were over US\$40 million, including Synovel Sciences Inc. which focuses on new drug development and received a venture capital funds of US\$47 million in 2015. JHL Biotech also received a US\$45.6 million Series C investment funds in the same year. The parent company

of 17 Media, M17 Entertainment, received US\$40 million under Series B round in August 2017.

The total investment is over US\$30 million from the 7th to the 10th place. This includes, M17 Entertainment, an investment of US\$35 million under Series C fund in June 2018. Appier, an Al-based startup received Series C funds of US\$33 million in 2017 and Gogoro received US\$30 million in November 2015. Perfect Corp. sits in the 10th place. It uses AR and Al technology to change consumers' journey of the traditional cosmetic shopping experience. It sets a leading position in AR-based cosmetic shopping industry and received US\$25 million investment funds under Series A round in October 2017.

Overall, Gogoro receives the most accumulated venture capital funds in Taiwan with a total of US\$480 million, iTutorGroup comes second with US\$200 million and the third one is JHL Biotech with US\$186.6 million.

Table 4-2 Top 10 Investment funds of startup companies in Taiwan

| Rank | Venture Capital<br>Funded<br>Company | Time<br>of<br>Estab<br>lishm<br>ent | Investmen<br>t/Date of<br>Announce<br>ment | Investment<br>Funds<br>(US\$) | Round             | Industry              |
|------|--------------------------------------|-------------------------------------|--|-------------------------------|-------------------|-----------------------|
| 1    | Gogoro                               | 2011                                | 2017.9                                     | 300,000,000                   | Series C          | EV                    |
| 2    | iTutorGroup                          | 2004                                | 2015.11                                    | 200,000,000                   | Series C          | Edtech                |
| 3    | JHL Biotech                          | 2012                                | 2018.5                                     | 106,000,000                   | Private<br>Equity | Healthcare            |
| 4    | Synovel<br>Sciences Inc.             | 2014                                | 2015                                       | 46,875,000                    | Undisclos<br>ed   | Healthcare            |
| 5    | JHL Biotech                          | 2012                                | 2015.5                                     | 45,600,000                    | Series C          | Healthcare            |
| 6    | M17<br>Entertainment                 | 2015                                | 2017.8                                     | 40,000,000                    | Series B          | Media & entertainment |

| 7  | M17<br>Entertainment | 2015 | 2018.6  | 35,000,000 | Series C | Media & entertainment |
|----|----------------------|------|---------|------------|----------|-----------------------|
| 8  | Appier<br>Appier     | 2012 | 2017.8  | 33,000,000 | Series C | Al                    |
| 9  | Gogoro               | 2011 | 2015.11 | 30,000,000 | Series B | EV                    |
| 10 | Perfect Corp.        | 2015 | 2017.11 | 25,000,000 | Series A | AR App                |

Sources: compiled by TIER

#### 2. Top 10 Total Investment as of 2018 to Date

According to FINDIT (from TIER) data, as of 2018 to date (January 1, 2018, to August 31, 2018), the venture capital funds information on the startup companies in Taiwan or overseas Taiwanese startup companies, there is a total of 56 startups/small to medium-sized companies reported investment cases. A total of US\$335 million disclosed amount (exceeding NT\$10 billion), with an estimated investment value of US\$359 million. The average years of establishment on venture capital funded companies are 3.97 and 71% are funded in the early stage.



Figure 6. The startups received venture capital funds in the first 8 months of 2018, by detailed sector

 JHL Biotech received a funding of US\$106 million which was the highest amount so far in 2018 on the venture capital funds received by a startup.

Further observation shows that with the top 10 largest venture capital funds received in the first eight months of 2018, JHL Biotech held the largest investment funds of US\$106 million through private equity. M17 Entertainment was the second largest. Despite its withdrawal of IPO under the New York Stock Exchange, its total venture capital investment was US\$350 million. BitoEX came third, it is one of the domestic cryptocurrency trading platforms. It was funded through ICO in May this

year and raised over NT\$600 million (US\$20 million) within 26 hours. Dexon Foundation was the fourth, with an investment worth US\$20 million from IDG Capital. Strictly speaking, Dexon Foundation is not a business operating company, although it's established by the founder of Cobinhood, its operation is similar to Ethereum Foundation, a nonprofit organization. On the fifth place was Kneron, focusing on Al chips. The founder is from Taiwan and the company is registered in San Diego, US with US\$18 million received under Series A round. Space Cycle was the sixth from the list, it is a health and fitness brand with 6 studios in Beijing, Shanghai, and Taipei. It offers cutting edge live fitness experience in indoor cycling, barre-based fitness class, yoga and dance which revolutionized the traditional live fitness operation model. It received RMB\$100 million (around NT\$15.64 million) investment under Series B round. The seventh place is Gogolook which is from Taiwan and still under operation. Although it has been bought by the parent company of LINE, NAVER. Gogolook received investment funds of US\$11.7 million in Jan., 2018 with undisclosed round. The eighth place was APRINOIA Therapeutics, a targeted clinical-stage biotechnology company specializing in therapeutics and diagnostics research and developments on neurodegenerative diseases. US\$11.1 million investment funds under Series B was raised. KKday, a well-known travel tech company in Taiwan, was on the ninth place. It raised US\$10.5 million investment funds under Series B in February 2018 and again in July, it was funded by Alibaba Entrepreneurs Fund with undisclosed value. It is estimated the amount invested should be no less than the Series B fundraised in February. On the tenth place was TTT® technology, it is a spin-off company based on the research and development of academician, Chiu-Chung Young, of Academia Sinica. In 2018, after the company was established, a funding of NT\$300 million (equivalent of US\$10 million) investment was raised. Below is a detailed introduction of the products and the status of venture capital funds of the Top 10 companies listed.

Table 3 The investment funds of the Top 10 startups in Taiwan in the first eight months of 2018

| Rank | Venture Capital<br>Funded<br>Company | Time<br>of<br>Establi<br>shmen<br>t | Investme<br>nt/Date of<br>Announc<br>ement | Investment<br>Funds<br>(US\$) | Round          | Business<br>Sector     |
|------|--------------------------------------|-------------------------------------|--|-------------------------------|----------------|------------------------|
| 1    | JHL Biotech                          | 2012                                | 2018.5                                     | 106,000,000                   | Private Equity | Healthcare             |
| 2    | M17<br>Entertainment                 | 2015                                | 2018.6                                     | 35,000,000                    | Series C       | Media & entertainment  |
| 3    | BitoEX                               | 2014                                | 2018.5                                     | 20,000,000                    | ICO            | Blockchain             |
| 4    | The Dexon<br>Foundation<br>(DEXON)   | 2018                                | 2018.8                                     | 20,000,000                    | Series A       | Blockchain             |
| 5    | Kneron                               | 2015                                | 2018.5                                     | 18,000,000                    | Series A       | Al Chip                |
| 6    | Space Cycle                          | 2015                                | 2018.1                                     | 15,640,000                    | Series B       | Fitness                |
| 7    | Gogolook                             | 2012                                | 2018.2                                     | 11,700,000                    | Undisclosed    | Mobile & Communication |
| 8    | APRINOIA<br>Therapeutics             | 2015                                | 2018.2                                     | 11,100,000                    | Series B       | Healthcare             |
| 9    | KKday                                | 2014                                | 2018.2                                     | 10,500,000                    | Series B       | Travel Tech            |
| 10   | TTT® technology                      | 2018                                | 2018.7                                     | 10,000,000                    | Series A       | Agritech               |

Sources: compiled by TIER

#### 1. JHL Biotech

JHL Biotech Inc. Taiwan (hereinafter referred to as JHL Biotech) is a wholly-owned subsidiary established by its parent company, a British Cayman Island

based company, JHL Biotech, Inc. JHL Biotech is the R&D center in Taiwan and is developing a series of new anti-body drugs and biosimilar products which comply with international standards (biosimilar drugs is categorized as new drug development in Taiwan). In hope to develop high quality, low costs anti-body drugs for Asian and global patients.

Venture funding information: JHL Biotech is removed from emerging stock market in April 2018, therefore it can be included in the calculation for private equity funds of startups in this research. Before JHL Biotech was listed on the emerging stock market on September 17, 2015, it has already raised a total of US\$80.6 million through Series A round, Series B round (US\$35 million), Series C round (US\$45.6 million), etc. After it was officially de-listed from the emerging stock market, it raised a further US\$106 million on May 28, 2018, a funding led by VMS Investment Group and followed by Sequoia Capital, Kleiner Perkins Caufield & Byers, Fidelity Investments, China Development Industrial Bank (CDIB), BIOMARK CAPITAL and Milestone Capital Partners.

#### 2.M17 Entertainment

M17 Entertainment is a new company founded through the merger of 17 Media in Taiwan (established in 2015) and Paktor, a dating service in Singapore. The company was officially launched on April 27, 2017 by providing live streaming as its main service. Over 91.4% of the group revenue comes live streaming rewards and only 8.1% comes from dating App. As of March 31, 2018, the total registered

member of M17 Entertainment Group is 47.9 million and 33.3 million members are through 17 Media and 14.6 million is registered through Paktor.

Venture funding information: The parent company of 17 Media (a leading live streaming media startup), M17 Entertainment, raised US\$40 million (circa NT\$1.2 billion) under Series B on Aug. 2, 2017. The company originally planned to be listed on the New York Stock Exchange on Jun. 7, 2018. However, due to the issues related to the settlement of American Depositary Shares (ADSs) with specific IPO investors, M17 Entertainment has decided to postpone the plan. At the same time, on June 14, 2018, the company announced a funding raised with a combination of existing investors and new venture capitalist through Infinity Venture Partners (leading), Majuven, Convergence and Global Grand Capital, etc. with a private equity of US\$35 million (around NT\$1.04 billion) to support the growth of current business operations and expansion into Japanese market and other regional markets.

#### 3. BitoEX

BitoEX was established in 2014 and is one of the leading players in the domestic cryptocurrency transaction platform. BitoEX has introduced a new exchange platform called BitoPro in Q1, 2018 and it is currently up and running. Based on the white paper provided by BitoPro, BitoPro will provide various financial services, including currency exchange, atomic swaps, leverage trading and OTC (over-the-counter) services for large value transactions.

Venture funding information: It raised US\$2 million in the seed stage in 2014 and through ICO on May 1, 2018. Over NT\$600 million funding was raised within 26 hours with an accumulated investment fund of US\$22 million.

#### 4. The Dexon Foundation(DEXON)

The Dexon Foundation (Dexon) is a nonprofit organization, which is similar to Ethereum Foundation. DEXON is at the bottom chain of the BlockLattice and uses Consenus Algorithm that allows unlimited expansion and distributed ledger technology. Dexon Foundation is established in 2018 by the co-founder, Tai-yuan Chen, of Cobinhood and the foundation raised US\$20 million from IDG Capital.

#### 5. Kneron

Kneron was founded by a young Taiwanese entrepreneur, Albert Liu, in San Diego, US. It's a leading solution provider in edge Al. Kneron launched its first terminal device based on Al processor, NPU IP, in 2016. It then followed by Kneron NPU IP series on convolutional neural networks (CNN). Kneron's NPU IP series offers 3 products, ultra-low voltage version - KDP300, standard version - KDP 500 and high energy efficiency - KDP 700, which can be applied to smartphones, smart homes, smart security and other IoT device applications. It's based on many Kneron's exclusive technologies, which allow the product series to offer features such as low power consumption and small chip size but still provide high computing power. KDP300 was developed specifically for facial recognition on smartphones

with power consumption under 5 mW. It currently has a large global client base and partners and has started providing hardware products and software solutions for their clients on smart home, smart security and smartphones, etc.

Venture funding information: It raised over millions of US dollars under Series A in November 2017, and another US\$18 million investment funds under Series A1 round. This round was led by Horizons Ventures, the private technology investment arm of Mr. Li Ka-Shing, followed by the investors from the Series A round, Sequoia Capital, Qualcomm, Alibaba Entrepreneurs Fund, CDIB Capital, Cyzone Angel Fund, Thundersoft, Himax Technology, etc. The accumulated investment funds raised to date exceeded over US\$33 million.

#### 6. SPACE CYCLE

SPACE CYCLE is a boutique fitness and active lifestyle brand founded in June 2015 and has expanded into Beijing and Shanghai within three years. A total of 6 studios are located throughout Beijing, Shanghai and Taipei at the moment. It offers cutting edge live fitness experience on indoor cycling, barre-based fitness class, yoga and dance which revolutionized the traditional live fitness operation model. Space Cycle's state-of-the-art multimedia fitness studios, celebrity trainers and curated music playlists, through partnerships with popular music streaming services in Greater China, offer a tailored thematic live fitness experience that integrates music, entertainment and group fitness. Changing the way the industry operates with

celebrity followers and a trend guided by a renowned international team, SPACE CYCLE delivered outstanding results and has been widely recognized.

Venture capital funds information: A completion of RMB\$100 million Series B funds (circa US\$15.6 million) was announced on Jan. 17, 2018. It was led by Alibaba Taiwan Entrepreneurs Fund and followed by WI Harper Group.

# 7. Gogolook

Gogolook was founded by three graduates from Tsing Hua University in April 2012. Its main product is Whoscall app, which identifies unknown incoming calls and blocks spam calls through a global database of over 1 billion phone numbers. Eric Schmidt, the previous Google CEO, especially praised the app in 2011. Whoscall currently has over 60 million global users. In addition to Taiwan, other key overseas markets include Brazil, Hong Kong, Japan, South Korea, etc.

Venture funding information: It was bought out by NAVER, the parent company of LINE in 2013 with NT\$529 million. A further US\$17 million (circa NT\$345 million) funding was raised on January 6, 2018, by renowned investors from high tech and IoT related fields. The funding will be invested in developing AI talents and overseas expansion into South East Asia.

## 8. APRINOIA Therapeutics

APRINOIA Therapeutics was founded in October 2015 by Dr. Ming-Kuei Jang, who previously was an Associate Director in GSK's Neurodegeneration Discovery Performance Unit and was responsible for formulating and executing therapeutic strategies for Alzheimer's disease. APRINOIA Therapeutics focuses on a targeted clinical-stage therapeutics and diagnostics research and developments on tau, alpha-synuclein and neurodegenerative diseases.

Venture funding information: APRINOIA Therapeutics completed in seed stage (US\$430 thousand) and Series A (US\$6 million) funding respectively in May 2015 and May 2016 with an accumulated funding of US\$6.43 million. A completion of Series B fund of US\$11.1 million on January 12, 2018 was led by KTV Network (Korea) and DCI Partners (Japan). Other investors include ShangPharma Group (China) and TaiAn Technologies Corp. The funding will be invested in clinical-stage research and developments on APRINOIA's image diagnostics and therapeutics products.

# 9. KKday

The Taiwan based travel startup, KKday, was founded in 2014 and was launched in 2015 specializing in travel and holiday trips. Between 2015 and 2016, it received 2 funds from Singapore and Hong Kong venture capitalists with an accumulated fund of US\$11.5 million. A further US\$10.5 million was raised in February 2018 led by H.I.S, the largest travel agency in Japan, and on June 6, 2018, it announced that

Alibaba Taiwan Entrepreneurs Fund invested further with undisclosed funds. Excluding this Series B1 round, the total funding raised under the first three rounds were US\$22 million. In addition to the funding from Alibaba Taiwan Entrepreneurs Fund, KKday also partners with Fliggy, a travel agency under Alibaba group, which allows KKday to enter China by listing and selling its product on Fliggy's website. Alibaba will also facilitate the skills and payment knowledge transfer.

Venture funding information: Accumulated funding under 3 rounds were US\$22 million. (2016.3.16/Series A \$4.5M, 2016.12.4/Series A \$7.0M, 2018.2.22/Series B \$10.5M, 2018.7.6/Series A undisclosed value) 。

## 10. TTT® technology

TTT® technology was founded in 2018 followed by the research and development of academicians, Chiu-Chung Young, of Academia Sinica in 2018 on an innovative and rapid method to process organic waste.

The traditional method of organic waste is through composting, which is time-consuming as it requires microbial to decompose. Dr. Young suggested to start with the right enzyme and finished it with building up a rapid technology on organic waste decomposition. It is over 100% faster than the traditional method and shortens the length from 3 months into 3 hours to turn waste into organic fertilizer. It recently received NT\$300 million funds from Diamond Capital, etc., which broke the record of the highest research value on scientific projects funded by Ministry of Science and Technology.

#### Conclusion

The investment cases have steadily increased in Taiwan's startup investment from 2015 to August 2018. In terms of the investment amount, except the challenges faced during 2016 in the global economy where the investment amount dropped, the amount in the other 2 years exceeded US\$500 million. And the accumulated funds within the first eight months of 2018 also exceeded tens of billions of US dollars, showing the popularity of early-stage investment continues in Taiwan.

Compared to the rest of the countries in Asia, the early-stage investment funds in Taiwan is relatively small and this is mainly due to a smaller scale of the domestic market of B2C. However, with the development of the digital economy and IoT, it removes the limitations between different nations. This type of business model can be taken anywhere, for example, the popular travel tech companies, KKday and FunNow, are the favorites of both local and international investors, with continuously increasing funds since they started a few years back. In terms of B2B, domestic healthcare and medical, electronics, photoelectric, semi-conductor, agricultural science and technology, IoT, cloud/big data and other fields are also the key development sectors supported by the Taiwanese government. In addition to the development of exceptional skills and mass production abilities on enterprises, startups from the government-funded research institutes or research and development results are sources for domestic technology-based startups and also one of the key areas that attract venture capital organizations. We are looking forward to the new value created from the government-funded research programs in

the future. In addition, from 2017 to August 2018, it is noticeable that many blockchain startups have attracted interests and funds from Japanese, Swissland, and Hong Kong strategic investors. It has become an upcoming force.

The team of FINDIT is grateful for the support received and will continue to compile and update the latest information on startups in Taiwan and hopefully provide full scope for venture capital status on these startups. Despite numerous reviews and revisions on data, it's still possible for missing or incorrect data. If such cases arise, please do not hesitate to let us know. We also welcome any public venture funding information shared by you, so the data could be updated to make the early-stage investment market in Taiwan become more transparent.