

TDCC

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Crowned Champion in Asia: TDCC's e-Voting Platform Won Golden Award of 2019 eASIA Awards

TDCC's electronic voting platform won the highest honor on the global stage! On November 21st, the company participated in the final competition for 2019 eASIA Awards in Bangkok, Thailand. Its "Innovation in E-voting & Cross-border Voting Solution" won the Golden Award in "Digital Transformation—Public Departments," showing to the world the brilliant achievement of digital technology in Taiwan. The TDCC delegation also exchanged ideas with representatives from foreign governments, other participating teams, and industry professionals, sharing Taiwan's experience and winning widespread praise and recognition internationally.

eASIA Awards is the biennial international competition hosted by Asia Pacific Council for Trade Facilitation and Electronic Business (AFACT). The event aims to improve not only trade digitalization but also e-commerce development among AFACT members and economies as well as bridge the digital divide in Asia Pacific. Currently, there are 20 countries in AFACT. The 11 teams that reached the final round are from Taiwan, Thailand, Iran, and Bangladesh. TDCC won first place in "Digital Transformation—Public Departments" and received the Golden Award along with an unanimous recognition from the council.

For the protection of shareholders' rights and interests and assistance in improving corporate governance, the electronic voting platform "StockVote" was established in 2009. In 2018, TDCC reached the milestone of all TWSE-listed and TPEX-listed companies adopting e-voting. This has not only elevated the culture of corporate governance but also bolstered foreign investors' confidence in investing in Taiwan in terms of electronic voting and enhancement of shareholders' meeting transparency.

INNOVATION in e-Voting & Cross-border Voting Solution STP
 Digital Transformation (Public Sector) | Taiwan Depository & Clearing Corporation, Chinese Taipei | TDCC

Overview *Leading Voting Solution in the Region* since June 2008

Issuers

- Issuers contract with TDCC for the use of STOCKVOTE
- Provide meeting agenda & shareholders' data
- Receive voting results

STOCKVOTE

- Security
- Voting
- Identification
- Service

Investors

- Look up Meeting Agenda
- Vote / Amend / Withdraw
- Voting records print out

Problems & Challenges

- Meeting date concentration
- Cross-border challenges

Innovation

- 1 Standardization** Standardized formats for data transmission
- 2 STP Connection**
- 3 API Technology**

STP Connection: Broadridge ISS → STP → StockVote Platform → STP → Issuers (Sub-custodian Banks)

API Technology: STOCKVOTE × Trading × Asset Integration

Performance

- Wide Adoption:** 50% voting ballots came from mobile devices; 53% attending shares processed by STOCKVOTE
- Time Saving:** Meeting: 60,000 Hours/Year; Transportation: 127,000 Hours/Year
- Environmental Benefits:** PAPER SAVING 70 Tons/Year
- International Prestige:** (Logos of TW, TH, IR, BN)

Promotion of ICT *Empower the Market & Society*

- Ecosystem
- OpenData
- Regtech
- Compliance
- Patent

The First Investor Services Task Force Workshop Successfully Held

Investor Services Task Force (ISTF) was founded by TDCC in 2018 at Asia Pacific Central Securities Depository Group (ACG) with the objective of promoting and optimizing investor services among Asian CSDs by new technology. To further boost the information exchange among ACG members, TDCC, the ISTF convener, held the first ISFT workshop on November 14th at the Swissotel in Bangkok, Thailand. The workshop was successfully held together with the Asia Fund Standardization Forum (AFSF) 2019 by Korea Securities Depository (KSD) and Thailand Securities Depository (TSD). More than 70 delegates from the Asia-Pacific Central Securities Depository Group (ACG) members, ICSDs, custodian banks, asset management companies and information service providers attended this great event.

The ISTF Workshop focused on the theme of “e-Services of Annual General Meeting (AGM)” to follow the global trend of enhancing corporate governance and increasing shareholder activism in the capital market. Industry experts and specialists were invited to address CSDs’ considerations for new technology applications and market demand for AGM services. In addition, representatives from ACG members and custodian banks also shared their experiences and insights of AGM e-Services and discussed challenges and opportunities in the financial sector. During the panel discussion, KSD talked about its technical attempt and direction for AGM services; CDSL introduced e-voting and AGM services; HKEX updated the newly-launched hybrid virtual meeting practice in Hong Kong; and TDCC shared its successful promotion of e-Voting in Taiwan and depicted the e-Voting ecosystem in the Taiwan market.

At the workshop, TDCC also released the “e-Services of AGM” survey results. The survey findings received many positive feedbacks from all participants, and provided reference for CSDs to develop AGM services. The key takeaways are as follows.

- The key factor in the prevalence of AGM e-Services is the regulatory support.
- Technologies and artificial intelligence will be widely used in AGM matters. The integrated portal for one-stop service is the most optimal AGM service model for the CSDs.

Moreover, in the AFSF session, TDCC introduced its new visualized fund services for announcements and inquiries on the integrated web portal “FundClear,” and shared how this service applies innovative technology to elevate the transparency in funds market and how it assists investors to instantaneously grasp the market dynamics, successfully attracting the attention of other CSDs in Asia.

TDCC spares no efforts on international exchange and cooperation, including hosting many momentous international conferences, serving as an executive committee and the convener of the ISTF in the ACG, participating in AFSF events, while building and maintaining the ACG official website. TDCC’s long-term involvement and contributions have been recognized by its peers. This September, TDCC Chairman & CEO Sherman Lin was elected as the ACG Vice chairman, and this ISTF Workshop was an extended continuance of his commitment to make ACG a platform for co-prosperity. He envisions this as an interactive and informative workshop that can encourage more CSDs to develop AGM services, and in the meantime discover more possible collaborative opportunities. In 2020, TDCC will be the host of “AFSF 2020” and the “22nd Cross Training Seminar of ACG.” TDCC is continuously promoting international cooperation and working with ACG members to build better capital markets in Asia.

In sync with the Continuous Trading Implementation, TDCC takes Necessary Measurements Accordingly

To integrate into the global community, encourage foreign investments in Taiwan stock market, improve trade efficiency and elevate information transparency, Taiwan Stock Exchange Corporation (TWSE) is projecting an updated order-matching system - the continuous trading to replace the current call auctions. The prospective time of launching the new system is set on March 23rd, 2020. Continuous trading supports an ongoing matching process and generates multiple prices, eliminating any waiting time for matching. In addition, various and diversified order types of the Continuous Trading such as Rest of Day (ROD), Immediate-or-Cancel (IOC), Fill-or-Kill (FOK) will enhance investment flexibility and trading strategies for investors.

With the implementation of the continuous trading, it is estimated that the overall number of transactions in the stock market, and the volume of the information exchanges will be exponentially larger than the current call auctions. For better accommodating the vast trading information after the new continuous trading system implements, TDCC has readily expended information hardware facilities and storages of securities depository and clearing system. TDCC has also upgraded information system to match up with the information exchange main frame systems in TWSE. Likewise, TDCC has intensified the automatic information exchange system and completed the tests with participants, and shall monitor and verify the system in continuous trading market correspondingly. In order to let investors and brokerages to be familiarized with this new scope, TDCC is closely collaborating with TWSE in a series of promotions of the continuous trading. TDCC also holds 22 training seminars in the north, middle and south of Taiwan for brokers to promote this new matching mechanism.



Elevation of the Market Financing Efficiency with the Construction of the Short-Term Bills Bidding Platform

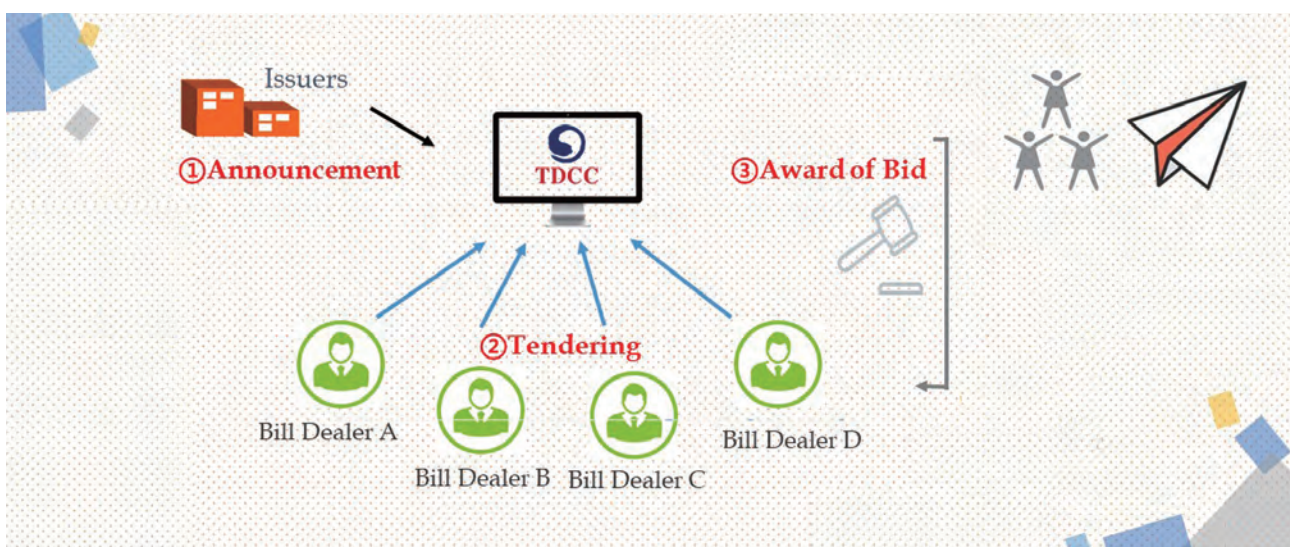
Following the success of the dematerialization of commercial papers (CP) in September 2017, TDCC commenced the electronic service of CP documents delivering in October 2018. The operational costs for the issuers and the bill dealers are greatly reduced, and this implementation receives positive feedback.

During the advocacy of CP dematerialization and electronic document services, TDCC provides assistance to the issuers and the bill dealers in using the short-term bills registry system. The feedback indicates that current procedures for CP financing auctions are relatively complex and time consuming since the invitation for bids, broker quotations and award of bids are all notified via phones, e-mails or faxes; it is desired to have a convenient feature in the existing system. To simplify the procedures for both the issuers and the bill dealers and boost the market financing efficiency, TDCC develops the Short-Term Bills Bidding Platform.

After consultation with issuers and bills dealers, TDCC plans the following platform features based on the operational and functional needs:

1. The issuers are able to use the platform for tendering requirements setting, quotation queries, quotation rate auto-sorting, award of bid notifications and funds appropriation contents.
2. The bill dealers are able to use the platform for tendering criteria filtering, quotation submission, quotation queries and award of bid notifications.

As of now, TDCC has already completed the construction framework and procedures. Now system developing and testing are underway. The service is expected to be launched in Q1, 2020. TDCC envisions lower operational costs for the market participants, and greater efficiency and security in the short-term bills market.



Introduction of the ReLife Project (the Experimental Project for Self Pension Saving Investment)

In order to promote the concept of “saving and preparing for your own retirement,” Mr. Wellington Koo, Chairman of the Financial Supervisory Commission (FSC) announced an experimental project for self pension saving investment (hereafter referred to as the ReLife Project) in late-2018. The program was open to registration on April 11, 2019, with investment commencing officially on July 31. Initially, the number of accounts for signing up to the program were limited up to only 10,000. However, in just four months, the number of registration increased to 110k, indicating enormous demand for retirement preparation. The broad acceptance of the project, in terms of the number of participants, has far exceeded the expectations of the organizers.

The ReLife Project is collectively organized by the Securities Investment Trust and Consulting Association (SITCA), Securities & Futures Institute (SFI) and TDCC, with FundRich Securities (FundRich) implementing the project operations. The project has been well-received by the public and much discussed for months. Dignitaries like former central bank governor Perng Fai-Nan and FSC chairman Wellington Koo have also participated in the ReLife project, and praised the benefits of the project in public. Continued inquiries about and participation in the project speak volumes about the popularity of pension investment in Taiwan.

Statistics of the ReLife Project show an equal distribution of male and female participants. Participants aged between 41-50 years old account for almost 30% of the total base as the largest age group of all. The average age of the participants is 42.6 years old. The participants come from all walks of life, including manufacturing, service, financial and tech sector employees as well as civil servants, soldiers and school teachers, suggesting systematic investment plan scheme offered by the ReLife Project is highly recognized by incumbent workers. People who have already retired, housewives and even students are also among the participants. Almost 25% of the participants have less than two years of investment experience. This figure means the project could be a good start for people who have limited experience of investment.

With the registration and subscription for the ReLife project closed, it is clear that people in Taiwan also believe they should be responsible for their own retirement, and the long-term, systematic investment plan scheme of the project is an effective way of accumulating wealth in preparation for their retirement. Indeed, the ReLife Project could help pave the way for a more comfortable retirement in the future.

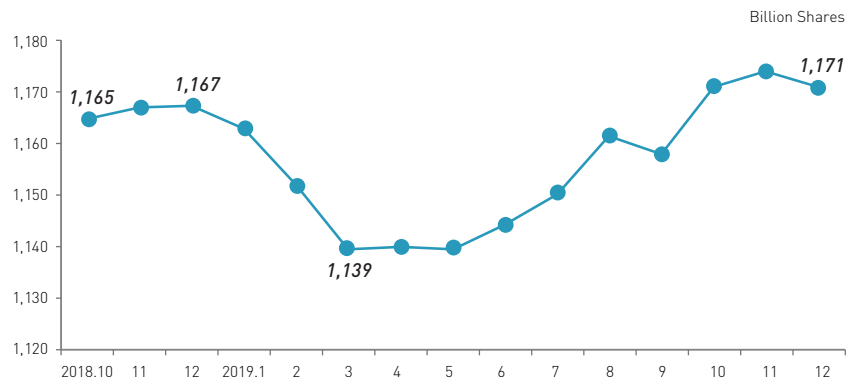
TDCC to switch from PowerBuilder to Java for building its futures clearing system

Currently, TDCC's futures clearing system provides 544 end-user applications built with programming language PowerBuilder (PB). Given a declining market share of PB, which could make maintenance more difficult for IT vendors and consequently undermine the quality of maintenance, TDCC has decided to switch to JAVA, which is the market mainstream, to ensure consistent performance of the futures clearing system over the long run. Specifically, the PB-based functionality of TDCC's futures clearing system will be completely switched to web-based functions by June 2021, using JAVA as the programming language.

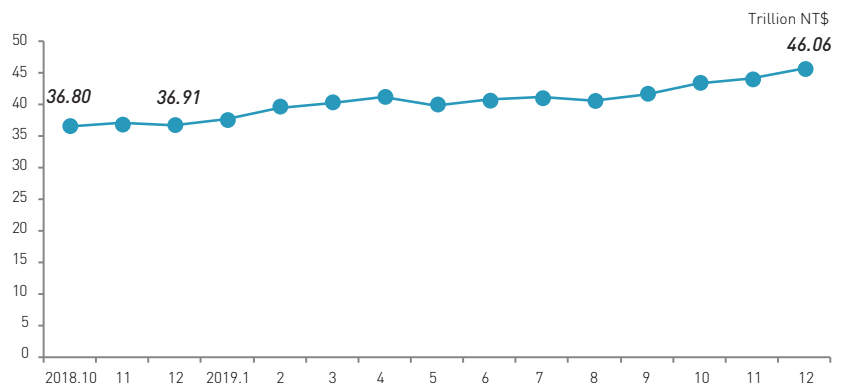
The migration will take place in two stages. The first stage has been completed with 129 Java-based applications featuring 122 batching and 7 file transmission and receiving functions coming online on October 28, 2019. The second stage is underway. TDCC expects the migration to JAVA to bring about the following benefits:

1. Switching the development tool helps strengthen consistency of system performance over the long run
 - Replacing PB, which has fewer resources, will eliminate the risks of IT vendors not being able to provide technical support in the future; and
 - Using JAVA, which is the market mainstream and unlikely to be replaced at least in ten years, allows TDCC to develop cross-platform processing functions, and with abundant reference resources, it shouldn't be difficult to find competent IT companies to provide system maintenance.
2. Using web-based IT structure can effectively reduce operational risks and enhance performance
 - End-users no longer need to install software on their computers or devices. This practice will make software update more efficient, and the hardware requirements on end-users' side, such as hard drive capacity and memory, will be lower;
 - The risks of software update or incompatibility of outdated software facing end-users will be reduced; and
 - Web-based structure allows more flexible access settings, and more diversified interface design options.
3. Web-based systems offer better security and are easier to expand
 - A triple-tier structure provides more stringent security control mechanisms; and
 - JAVA allows cross-platform support, and provides Web Service options for future expansion of applications and functions.

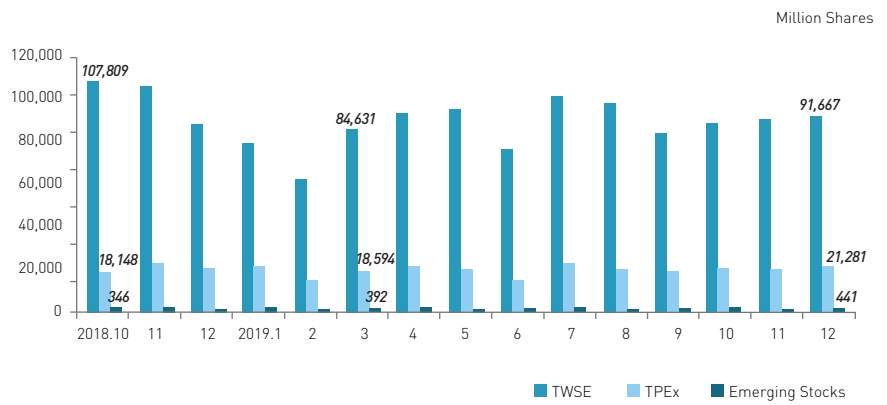
Equities in Custody (Shares)



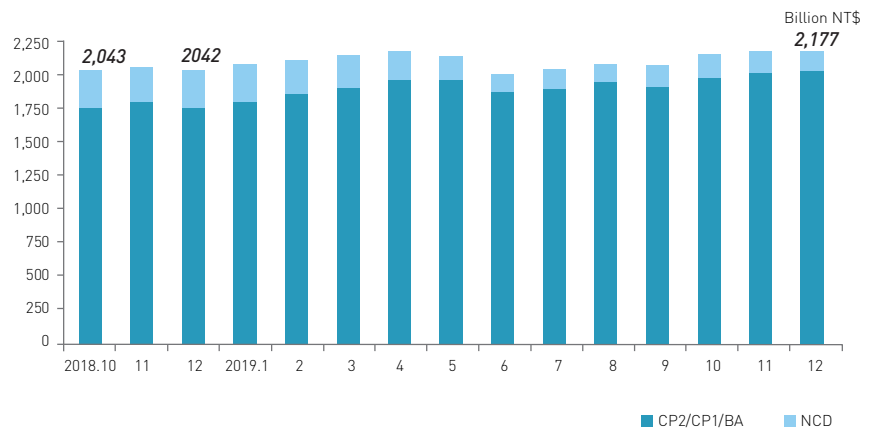
Equities in Custody (Market Capitalization)



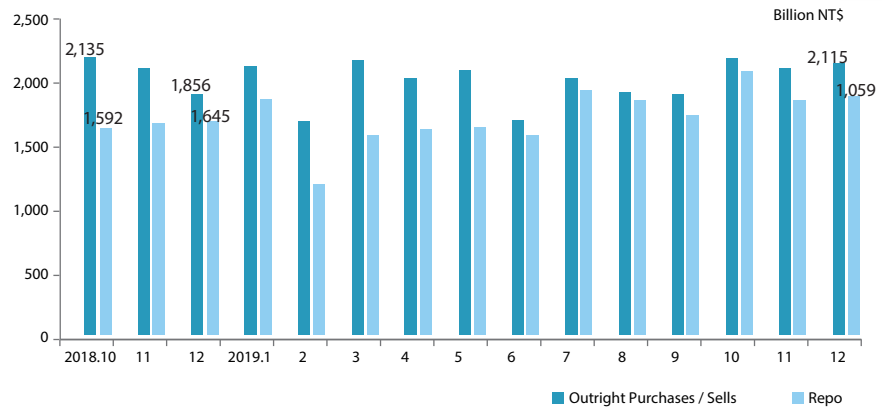
Book-Entry Operations (Shares)



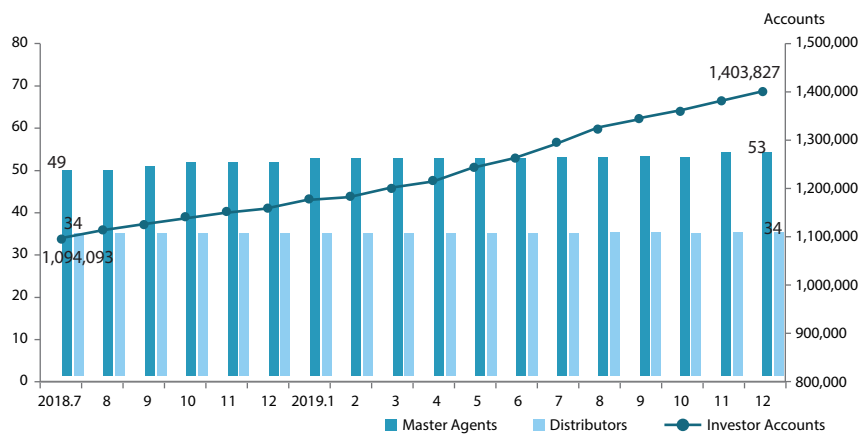
Short-Term Bills in Custody



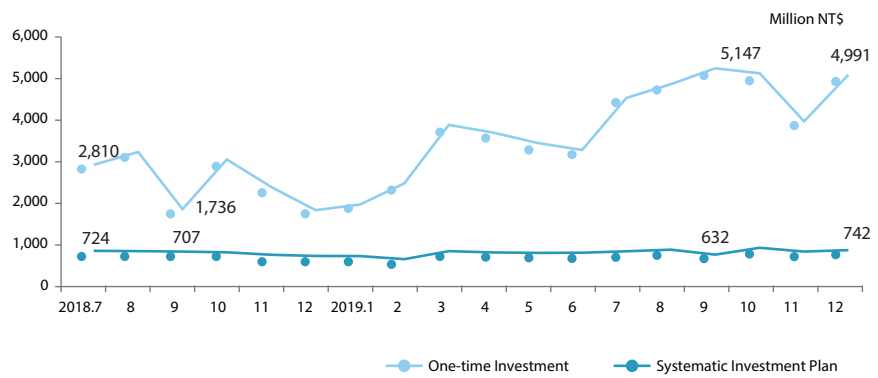
Secondary Market Clearing & Settlement of Short-Term Bills



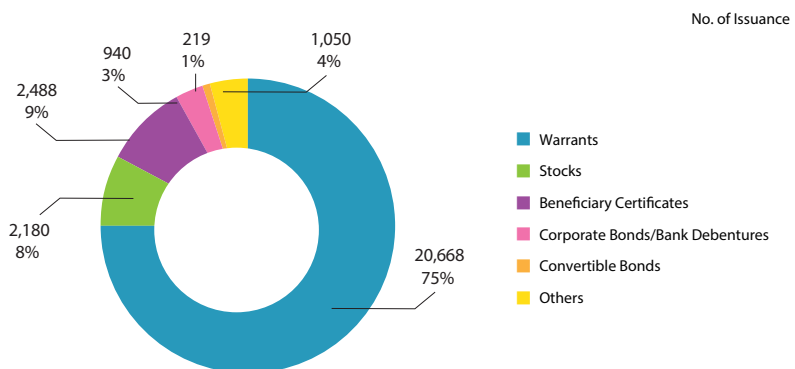
Offshore Fund Operations



Offshore Fund Subscriptions



Registration of Dematerialized Securities



Grand opening of TDCC's 30th Anniversary Special Exhibition at Taiwan Stock Museum

In order to celebrate the 30th anniversary of TDCC, the Taiwan Stock Museum has organized a special exhibition of TDCC, which is open to the public from November 11, 2019 to April 30, 2020.

Since its establishment in 1989, TDCC has seen its business portfolio expand from equity securities to funds, corporate actions, fixed income and information services. In recent years, TDCC has been focused more on business diversification and financial innovation by extending its scope of services to B2B2C and B2C areas. The special exhibition is put in place to help visitors better understand the achievements and contribution of TDCC to the development of Taiwan's capital market over the past thirty years.

The organizer meticulously arranged a static exhibition zone, which includes an interactive animation corner housed in the Transition Hall of the Taiwan Stock Museum, with animated figures explaining the evolution of stock dematerialization in Taiwan, which is one of the major achievements of TDCC. Visitors can interact with the animated figures via installed touch screens, and go to the funny photo zone or participate in the museum's stamp-collecting activity for different experiences. The Taiwan Stock Museum provides exclusive souvenirs to visitors who take pictures and share them on social networking platforms such as Facebook.

Taiwan Stock Museum is committed to the promotion of financial knowledge and education, and has received 140k visitors, of which 70% are students and school teachers at various levels since its opening in late 2012. Upon the requests of school teachers, the museum provides tailored group tours and lectures as a supplementary component of school curriculum.

The service has been well-received, making the Taiwan Stock Museum one of the best educational venues outside of schools.





Chairman & CEO Mr. Sherman Lin (right 3) led managements to attend the “Going Further, Doing Better” anti-money laundering event, and received the praise from the Premier of Executive Yuan, Mr. Tseng-chang Su (center) on October 3, 2019.



Chairman & CEO Mr. Sherman Lin (right 7) took a group photo with FSC Chairman Mr. Wellington L. Koo (center), and TDCC colleagues at the 2019 Financial Services Charitable Carnival in Hsinchu City on November 2, 2019.



The Conference on the Transformation and Reform of TDCC Core System took place on November 25, 2019.



President Mr. Han-Chiang Chu (right) on behalf of TDCC received the 2019 Taiwan Enterprise iSport Award, which was presented by the Administrative Deputy Minister of Education, Mr. Lin, Teng-Chiao (left), on November 4, 2019.



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