

# Korean banks push the **technology envelope**

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# FEATURED BANKS




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# Celebrating with Korea's Technology Implementation Awards winners



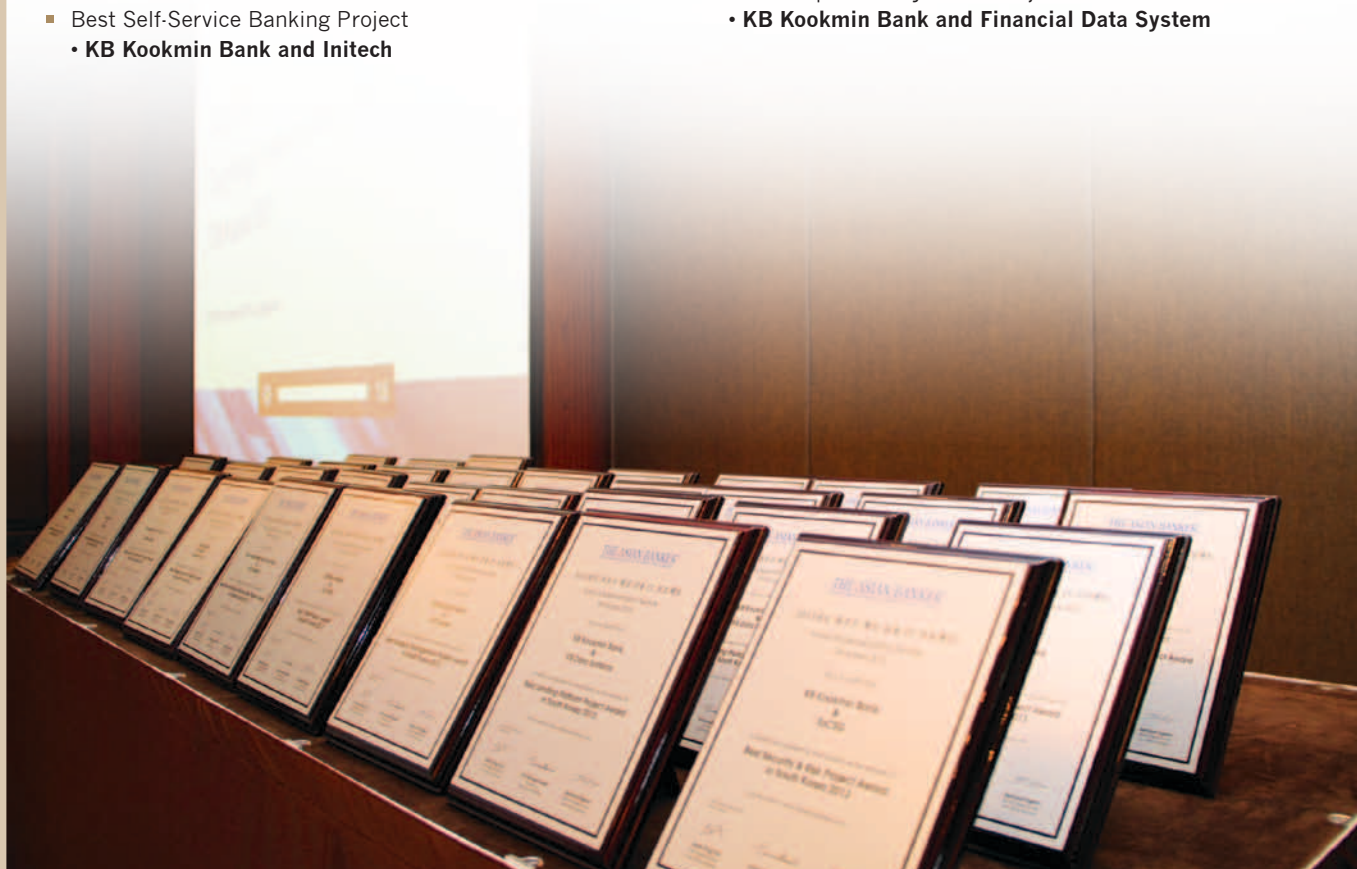
The Asian Banker Technology Implementation Awards Korea takes stock of the most important developments in the Korean financial services industry today. It is designed to recognise annual achievements as well as identify emerging best practice in the implementation of technology in banking operations. This programme uses the same criteria as The Asian Banker Technology Implementation Awards and focuses solely on the achievements in the Korean retail banking industry. For its first year in Korea, the Technology Implementation Awards received over 60 submissions from more than 30 financial institutions. The submissions covered a range of technology projects that are transforming the banking industry today.

They are made jointly by banks in Korea and their IT partners, as we believe a necessary part of a thorough evaluation is to understand the views of both partners. As IT projects are often long term, only projects that have been completed or made fully functional are considered for the awards. The evaluation criteria are set out and form part of a rigorous and transparent process vetted by leading practitioners, independent advisors and an international panel of industry experts. We wish to recognise the initiatives Korean banks have taken in the various products and services offered in the retail banking and technology segments. For these awards, Korean regional/local banks were compared on a national scale.

The Asian Banker would like to thank all participants for their support and offer our heartfelt congratulations to this year's award winners. **TAB**

## THE WINNERS - TECHNOLOGY IMPLEMENTATION AWARDS KOREA

- Best Core Banking Project
  - **KB Kookmin Bank and IBM Korea**
- Best Data and Analytics Project
  - **Standard Chartered Bank Korea and Teradata**
- Best Mobile Banking Project
  - **Hana Bank and Finger**
- Best Human Resource Project
  - **KB Kookmin Bank, White Information Networking and KB Data Systems**
- Best Branch Automation Project
  - **Industrial Bank of Korea and Fujitsu Korea**
- Best Smart Branch Project
  - **KB Kookmin Bank**
- Best Mobile Security Project
  - **Hana Bank, NSHC and eNsecure**
- Best Governance and Market Risk Project
  - **NH Investment & Securities and FIST Global**
- Best Self-Service Banking Project
  - **KB Kookmin Bank and Initech**
- Best CRM Project
  - **Shinhan Bank and LG CNS**
- Best Multi-Channel Management Project
  - **Standard Chartered Bank Korea and SK C&C**
- Best Treasury Management Project
  - **KB Kookmin Bank and UChannel**
- Best Mobile Social Media Project
  - **Hana Bank and i4unetworks**
- Best Lending Platform Project
  - **KB Kookmin Bank and KB Data Systems**
- Best Governance and Credit Risk Project
  - **Nonghyup Bank and FIST Global**
- Best Security and Risk Project
  - **KB Kookmin Bank and ToCSG**
- Best ATM and Kiosks Project
  - **KB Kookmin Bank**
- Best Corporate Payments Project
  - **KB Kookmin Bank and Financial Data System**





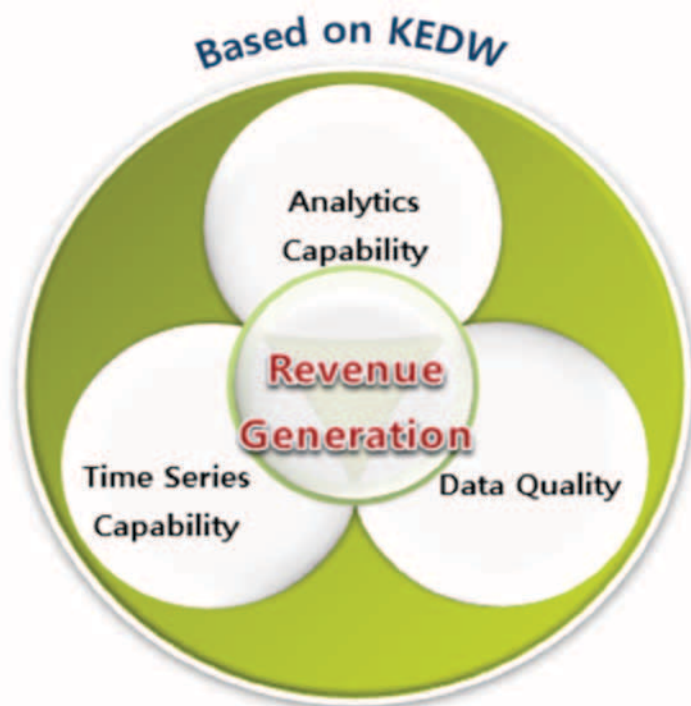
# Shifting from a product-centric to a customer-centric business model

SCBK's Korea Enterprise Data Warehouse makes use of innovative technology and corporate collaboration to enhance customer insights and boost revenue

When the Korea Accounting Standards Board replaced Korean business accounting standards in 2011, Standard Chartered Bank Korea's (SCBK's) financial and regulatory reporting processes had to be revamped. Moreover, the Financial Services Commission (FSC) required Korean banks to set up a consolidated backup centre as a precaution against cyber-attacks, and introduced comprehensive measures to reinforce data security in financial institutions. Under these mea-

asures, large Korean banks will be mandated to have two separate network systems by 2014: one for internal use, and the other for online use.

With customer data becoming a key battleground, banks will need to reposition themselves as both safe-keepers and interpreters of data. As Asia's third largest retail banking market, Korea was chosen as the venue for revamping Standard Chartered Bank's (SCB's) information management capability. For SCBK, maintaining its business advantage required a new approach: the setting up of a customer-centric business model. In collaboration with its IT Partner Teradata, SCBK entered the ring with the "Red Queen Programme" and the "Showtime Project".

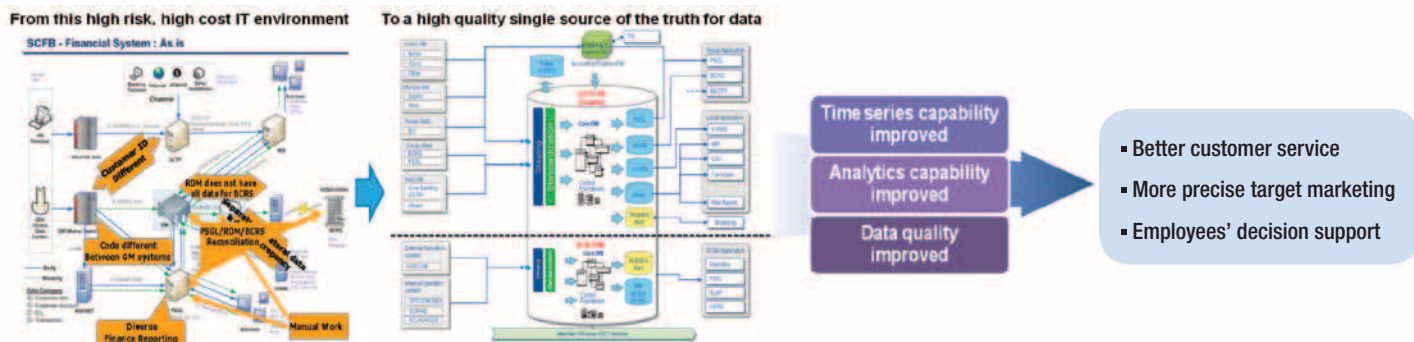


*KEDW contributes to revenue generation*

## Issues, objectives and targets

SCBK's Red Queen Programme aims to maximise enterprise performance efficiency and provide revenue generation opportunities through a single data source called the Korea Enterprise Data Warehouse (KEDW). The previous data system had a 1-Tier structure with upstream and downstream enmeshed, and the database was designed around the use of applications that were exposed to data redundancy, leakage and error.

With the introduction of the 3-Tier architecture for KEDW, it became possible to clearly segregate upstream and downstream, making it possible to track the cause of data redundancy, leakage or error. This new data warehouse allows the SCB group to prevent financial data error through better infrastructure and automation, improve data integrity through accurate financial and regulatory reporting, and support target marketing by better understanding customers' transaction behaviour.



*KEDW allows for improvements in various fields, including preventing financial data error, improving data integrity and enhancing target marketing*

The Red Queen Programme's main objective is to revolutionise the current high risk and high cost IT environment to a high quality single source system. SCBK realised the following benefits through the Red Queen Programme: advanced data analysis, enhanced marketing capacity, automation, data accuracy and time cycle reduction.

The Showtime Project, on the other hand, aims to improve SCBK's ROI and digital banking through better data analysis by utilising enhanced KEDW capabilities.

The main purpose of the Showtime Project is to improve KEDW's time series capability, analytics capability and promote data quality improvement. Moreover, Showtime aims to change the financial IT environment with a significant drop in visits to branches coupled with explosive growth in digital channel usage.

## Results

KEDW, one of the major achievements of the Red Queen Programme, provides enhanced customer insights through data analytics as the system allows the management of single customer ID, code and data integrity, and the support of consistent and precise data extraction. More specifically, the Red Queen Programme provides new data sets (e.g. transaction comments information and product information), timely data (e.g. credit card transaction information) and customer transaction trend analyses (e.g. average balance, large amount transaction and credit card usage). Subsequently, SCBK launched Showtime to change the financial IT environment and to boost SCBK's revenue generation opportunities in the long run.

SCBK was also able to contribute to the bank's revenue generation efforts by utilising the benefits of KEDW such as its analytics capability, time series capability and improved data quality. KEDW data will enable a deeper understanding of customer preferences, with the ability to conduct more analytic and advanced

target marketing. KEDW is expected to make significant contribution to SCBK's ROI growth. Furthermore, the introduction of additional solutions facilitates complex and diversified analytics for reporting and risk management and, therefore, contributes to the creation of new business value.

## Conclusion

Even though banks are facing multiple stress points on their technologies in general, SCBK is the first to apply three critical solutions (3-Tier architecture, FS-LDM and control framework) to its data warehouse. Currently, SCBK, along with the Industrial Bank of Korea (IBK), are the only banks to have a complete set of separate network systems required by the FSC. KEDW is Basel II compliant with two years of data available; SAS application is available for data mining, and convergence with US GAAP, IFRS and K-IFRS is easy to implement.

The Red Queen Programme systemised data used in financial services and, together with the Showtime Project, will dramatically change the scene from SCBK's customer management to marketing, operation, risk and finance strategies. So far, the bank has achieved a 4.8% point increase in customer contact rate in February 2013 compared with December 2012. Thus, SCBK has realised a shift from a product-centric to a customer-centric business model.

In conclusion, new reforms implemented through a more flexible data management framework will have profound implications for banks' competitive position in the marketplace. The multitude of new regulations is already placing considerable stress on banks' data and reporting platforms. SCBK rose to the challenge by completely revamping its information management capability with a systematic and ambitious approach despite its diverse cultural environment. As a result, SCBK's innovative projects were named the Best Data and Analytics Project in The Asian Banker Technology Implementation Awards Programme Korea. **TAB**

# Bringing retail banking to the customer's doorstep

Portable IBK allows Industrial Bank of Korea to reach out to customers while ensuring security and managing costs

**K**orean banks operate in a low-interest environment and net margins are under pressure. Under these conditions, they are cautious about capital expenditure. After a rapid expansion of traditional channels resulting in large—and costly—networks of bank branches, managers in retail banks are now exploring other ways of reaching out to large customer pools where banks have generally been under represented.

## Background

One of Korea's state-owned banks and ranked fifth in terms of asset size, Industrial Bank of Korea has devoted itself to financing the nation's small and medium-sized business and supporting customers for the past 52 years.

In order to expand its reach to customers, Industrial Bank of Korea worked with Fujitsu Korea to develop "Portable IBK", a small-sized terminal that bank personnel can carry when they visit customers.

## Portable IBK

Because branches require customers to move to a given location and ATMs have limitations in terms of location and achievable tasks, Portable IBK allows the bank to increase its reach by servicing customers wherever they are and provide them with a wide range of operations and products at a low cost. Moreover, a fully integrated channel strategy makes the bank a partner that customers can reach wherever they are.

As security in e-banking banking is a priority for the bank, users are assured that their data is safe. Portable IBK allows for dual identity checks based on ID scans and biometric verification. No data is stored on the terminal as each operation is done online. The machine has a physical lock and possesses an anti-

theft bracelet without which it cannot operate. A GPS tracker is also available.

Because Korea has a well-developed wireless 3G network, the machine works anywhere, any time.

The terminal operates in the same way a teller does, using the same Windows-based software. This allows for any bank personnel to use it without additional training and reduces maintenance costs as it does not require a separate software provider.

This project has been scaled nationally and all regional headquarters are equipped with a machine. Because it only requires a wireless connection to run, the product can be scaled globally at a low cost. However, the main issue with rolling this device out in foreign countries would be the possible lack of proper wireless infrastructure as well as regulations concerning data disclosure to relevant authorities. On the positive side, it can be used on the ground before branches are set up and help locate the largest customer pools, thus allowing for a smarter expansion of the physical network of branches.

## Bridging the branch and e-banking experiences

In Korea, e-banking and mobile banking are well developed—up to 70% of the population uses cell phones. These channels are useful in helping reach the customer and enable banks to gather data on customer consumption habits. However, these systems have their limits. Many banks have capitalised on digital technologies as a way to reduce costs, but while the savings generated from taking a self-service approach can be tempting, the longer-term cost of abandoning customers to their own high-tech devices is high. Human interaction is critical for some (e.g. older persons in hospitals). For others, travelling to a bank



can be a hassle while meeting with a bank representative offers a more personal experience over the use of digital technology. Moreover, because the regulator wants banks to have a visual confirmation—the “handshake” rule—when opening an account or proceeding with large transactions, it is critical to have a bank representative on site.

### Achieving more than traditional branches

With Portable IBK, each branch can potentially set up a pop-up branch to promote products and acquire new customers within targets such as offices, hospitals and campuses. According to Kyoungtae Kim, senior manager, IBK Smart Business, its performance is equivalent to that of seven branches and its productivity is on the rise. IBK’s strategy is, however, not to close branches but to use them for different target segments, such as high net worth individuals, and try to streamline basic operations while further improving tellers’ productivity

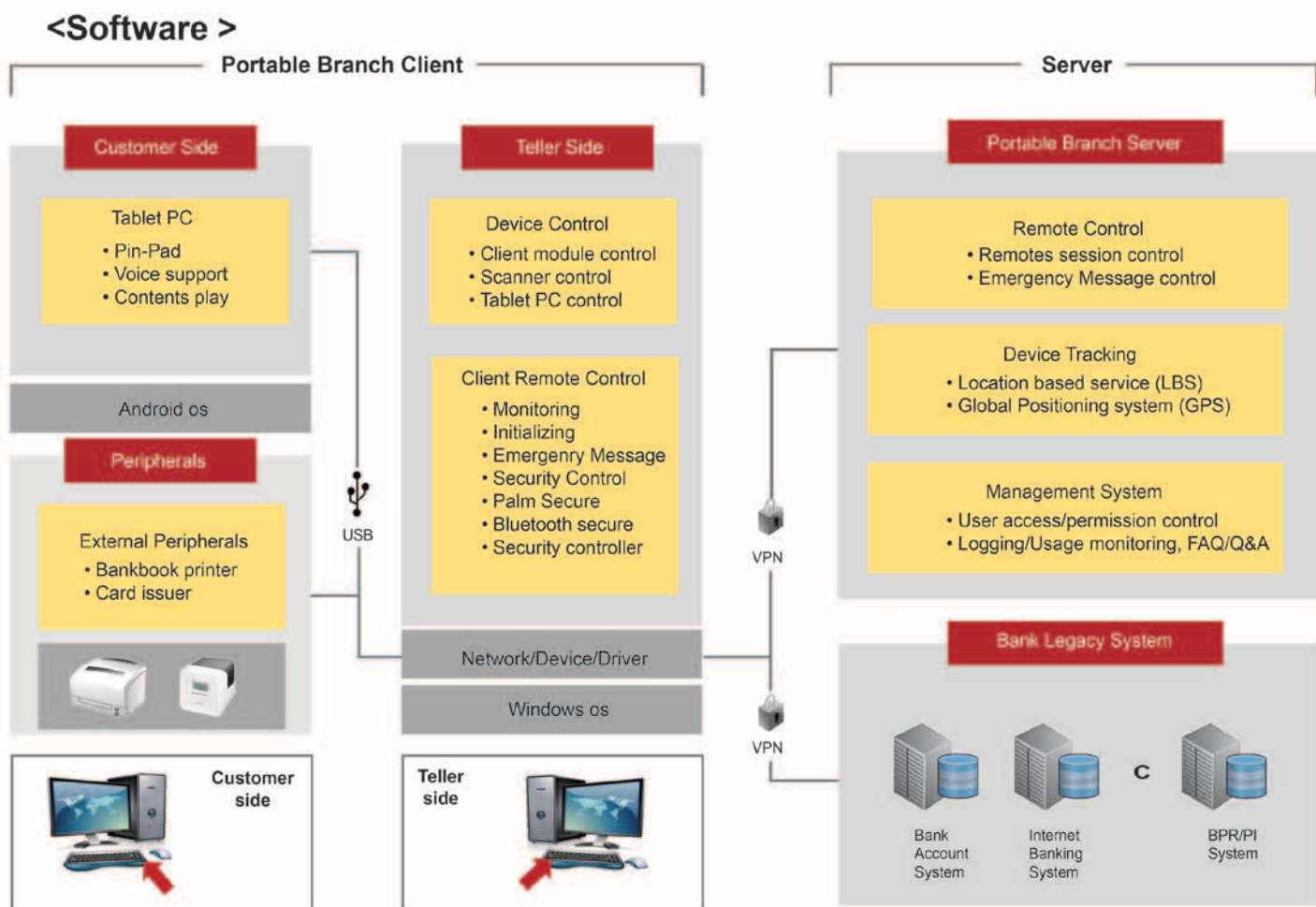
Because the project was launched recently, its performance has been analysed only over a six-month period, from Janu-

ary 1<sup>st</sup> to June 30<sup>th</sup> 2013. The 36 units deployed have already generated:

- 25,589 accounts while the branch average was 1,946 over the same period;
- 10,077 debit cards compared to a 1,730 debit card issuance per branch;
- 24,616 enrolments for mobile banking while branches only transformed 1,135 clients on average.

### Conclusion

The scorecard used to evaluate the project states that a successful branch automation implementation project is denoted by maximised utilisation of the branch footprint due to increased numbers of satisfied customers. This project clearly maximises the branch footprint by maintaining the square footage while extending its reach. Moreover, the customer satisfaction rate is the same as for the branch. Overall, the project appears to be a great improvement as it allows the bank to tap into customer pools very often neglected with a limited investment. **TAB**



Serving customers better with Portable IBK

# Building an inclusive online presence

SCBK is the first Korean bank to implement a website that complies with the APDDP, gaining a significant market advantage while fulfilling its corporate social responsibility objectives

Standard Chartered Bank Korea (SCBK) is committed to addressing social and economic issues while building a sustainable business and creating value for its customers and stakeholders. SCBK strives to contribute to local community development and improve the quality of life for the underprivileged through various initiatives. In collaboration with SK C&C, a leading Korean IT Service company, the bank adopted a cutting-edge web and QR-enabled money transfer service, enhancing the level of customer experience and complying with the Act on Prohibition of Discrimination of Disabled Persons (APDDP)—a ground-breaking achievement in the local banking industry. More specifically, the project achieves a one-stop platform for sales activities, accessibility for disabled persons and a customer-friendly website with purely Korean menus.

Notably, most of APDDP's articles are not mandatory and take the form of cooperative or voluntary implementation. Since the Act took effect in 2008, the APDDP Monitoring Group has been screening its implementation nationwide as things have not improved much for people with disabilities. Hence, SCBK is a pioneer not only within the Korean banking sector but in the global arena.

## Issues, objectives and targets

From a user's perspective, SCBK aimed to build a website with Korean menus that all Korean customers are familiar with. SCBK also adopted a flexible web capability that allows the same customer experience across all devices including smart phones, tablets and PCs, and for banking processes to be streamlined for the convenience of its users.

From a community perspective, SCBK set out to build a website accessible to the disabled in compliance with APDDP by 2013. The site aims to meet international web standards and to build an open platform to deliver customer experiences in innovative UI/UX. This would not only allow SCBK to gain a competitive edge in the industry but also help reach out to the disabled.

## Results

In general, this project allowed transaction processes to be streamlined and cut by half or one third. A "virtual passbook" feature was created that allows transaction details to be viewed just like a real passbook. In addition, a digital calendar feature,

*“SCBK successfully created a website for people with different lifestyles and needs. Notably, for the first time in Korea, SCBK built internet banking services through a responsive web interface which is supported by one source”*

which allows transaction history and schedules to be accessed, has been introduced. Thanks to the responsive web function, the same transaction environment with the same look and feel is available even when accessing with a smart phone.

*“Instead of the hierarchical information architecture structure favoured by financial websites in general, a horizontal one was adopted to ensure ease of navigation”*

Furthermore, features provided on the homepage and open banking were simplified and consolidated to make the most of different channels and media.

Content that can only be changed by IT staff is transferred via a business administrator, minimising IT version release risk and enhancing time-to-market. Moreover, language standardisation enabled by HTML5 development of all web pages maximises ease of maintenance. Through these capabilities, the bank's need for flexible content management is fulfilled.

Instead of the hierarchical information architecture (IA) structure favoured by financial websites in general, a horizontal IA was adopted to ensure ease of navigation. This innovative step distinguishes SCBK from the conventional web menus of other banks and simplified both menu and transaction structure.

As of July 2013, three months after the project completion, 33.5% of internet banking users were making transactions on the open platform. This compares with roughly 10% of usage at other banks and is also a testament to the strong digital capacities of SCBK.

### **Web accessibility and a multi-OS/browser environment**

In order to comply with the APDDP, SCBK in collaboration with SK C&C, deployed multi-OS/browser open web for transaction/non-transaction services as a strategic response to the smart business trend.

On the one hand, compliance with the APDDP was established. In particular, adherence with official standards or specifications describing or defining the world wide web was effected. This en-

sures that any user, such as the disabled or elderly, can access the web without special capabilities or even technical knowledge in any environment. Thus, information accessibility without reverse discrimination is achieved.

On the other hand, this project complies with the APDDP and the web accessibility and web standardisation guide, and utilises a transaction-related multi OS/browser. Hence, functionality for other transaction support services on a multi-OS/browser environment, as for example, for output in chart or table format can be achieved.

### **Conclusion**

SCBK successfully created a website for people with different lifestyles and needs. Notably, for the first time in Korea, SCBK built internet banking services through a responsive web interface which is supported by one source.

Furthermore, this multi-device platform offers benefits and cuts channel running costs while providing the same customer experience for the same internet banking transactions from multiple devices.

A strategic goal of SCBK is to become established as a “main digital bank” which aims to adopt digital technology for service innovation to enhance customer convenience. This project fulfilled these requirements while including society's more vulnerable segments and complying with APDDP.

SCBK endeavoured to fulfil its corporate social responsibilities and actively promote a wholesome corporate culture and was recognised as the Best Multi-Channel Management Project at The Asian Banker Technology Implementation Awards Korea. **TAB**



*SCBK adopted a flexible web capability that allows the same customer experience across all devices, including PCs, tablets and smart phones*



FIST Global's market risk management package, RiskCraft™. MARKET, is designed to simplify changes to organisational functions through the adoption of open architecture, enhanced simulation capabilities and a transparent user interface to verify evaluation results.



RiskCraft™.MARKET fulfils many of NH Bank's requirements. First, the risk management package allows a full valuation pricing engine for a simulation-based product, and has the capability of reversing stress test analyses and stressed VaR capable of meeting Basel 2.5 requirements. Secondly, all processing for market risk management reports can be completed within three hours, making timely reporting before 9am the next day possible. Thirdly, the pricing model for RiskCraft™.MARKET builds an internal pricing library to boost the capability for an external pricing model. Fourthly, for an enhanced limit monitoring function, this risk management package provides the flexibility to address risk events through an intra-day risk monitoring system.

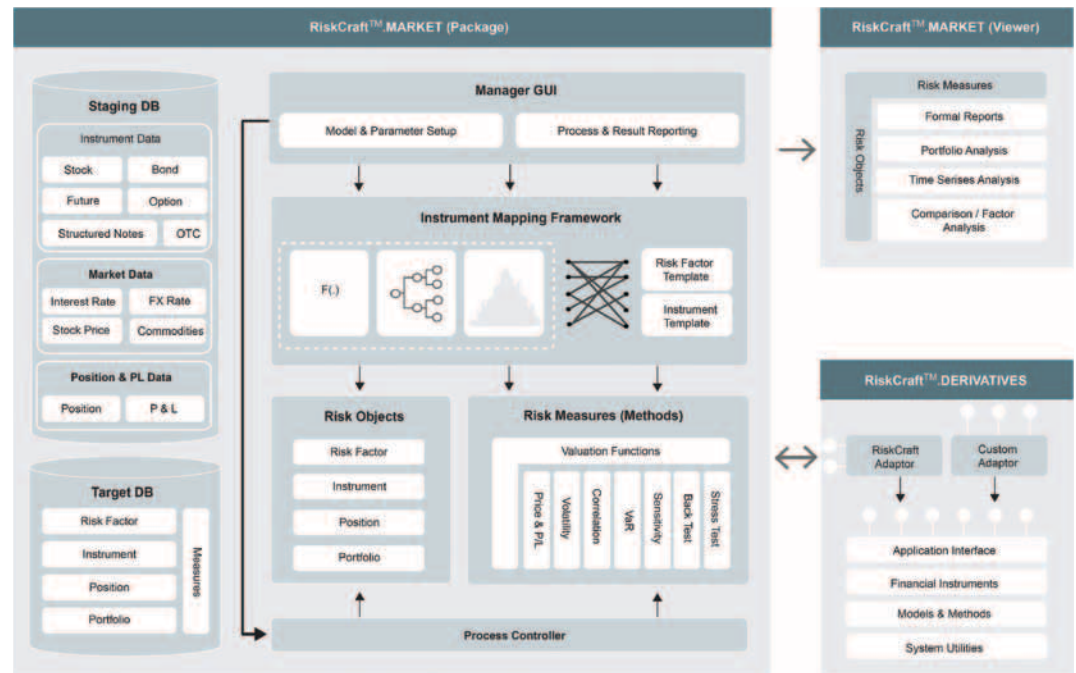
## Results

In terms of general risk factor for NH Bank, RiskCraft™.MARKET offers a factor calculation standard and mapping definition in its user interface. This allows for better product valuation through flexible and independent pricing library for new products, additional products and multiple products as well as other parameters used in the valuation process.

The innovative features of NH Bank Credit VaR System (NCVS) led to performance enhancement, stable statistical values and storage space saving. Fast MCS logic, a product that dramatically shortens the measurement time of structured products, is a core function for the measurement of market risk and other project features. MCS logic also makes it possible to decrease the cost of hardware, implement a full valuation method, accurately measure sensitivity and make timely reports.

Notably, NH Bank, in collaboration with FIST Global, also made the addition of measurement values possible, allowing for ad hoc implementation.

Despite becoming a critical function of contemporary measurement under Stressed VaR in Basel 2.5 regulations, this feature, alongside that of opposite risky situation analysis, were not initially included. It was added to the project because of a change



*RiskCraft™.MARKET system serves as an effective tool for market risk management*

in regulation. This addition demonstrates how easily the technology can be modified for the implementation of new regulations in a timely manner.

In brief, the following results were achieved through the project: the implementation of an enhanced risk measurement method through measuring market risk via the full valuation method; timely reporting of market risk and strengthening the limit management function through simultaneous monitoring.

## Conclusion

From a risk management perspective, today's portfolios are in general too complex to manage with simple factor analysis. Additionally, the inclusion of non-linear instruments such as structured products makes their risk profile too complicated to secure without in-depth valuation analysis. Thus, NH Bank's system was able to tackle daily VaR analysis and reporting and intra-day real-time scenario analysis while handling a higher volume of financial instruments and more complex and exotic instruments.

NCVS based on the newly-developed analytic credit VaR distribution method produces more stable and reliable results for lower level asset portfolio contribution VaR. In addition, methods such as PCA, Factor Model and Analytic VaR make credit VaR for a total portfolio more stable and accurate.

The most outstanding features of NCVS are performance enhancement, stable statistical value and saving of storage space. **TAB**

# Pushing mobile banking engagement to a new level

Hana Bank, a smartphone banking pioneer, focuses on the younger generation through innovative online strategies and an enhanced security tool

Mobile banking has become a part of everyday life for most Koreans. According to the Central Bank of Korea, the use of mobile banking in South Korea rose 10.2% in the second quarter of 2013 on the back of the growing popularity of smartphones. Notably, transactions via mobile banking or banking services accessed via wireless handsets were valued at KRW1.39 trillion (\$1.24 billion) per day. The number of internet banking subscribers registered with 19 financial firms grew 2.5% quarter-on-quarter to 91.6 million as at end June. Nearly 90% of households in South Korea have access to cheap broadband internet and more than 30 million—or about 60% of the total population—use smartphones. Hence, internet banking is on the rise as customers migrate from desktop to smartphone transactions a decade after the launch of the first mobile banking service.

Since 2005, Hana Bank has come up with a line of innovative products and services for the online market in Korea. Specifically, the bank introduced “Hana N Bank” the first online banking service on a smart phone, “Hana N Money” the first personal expense management App on a smart phone, “Hana N CBS” the first corporate banking service on a smart phone and “Hana N mini” the first mobile banking service for foreigners. Unsurprisingly, such innovation has won Hana Bank many accolades including Best Mobile Banking Initiative, Best Mobile Social Media Engagement Project and Best Mobile Security Project by The Asian Banker. Details of the winning projects are set out below.

## N Wallet

In 2011, Hana Bank embarked on N Wallet in collaboration with IT partner FINGER to establish itself in the competitive mobile

payment space. N Wallet is basically a cyber wallet aimed at providing financial services to customers through a smart phone. The project's main goals were to overcome difficulties stemming from fewer offline channels and a smaller customer base arising from increased competition among financial institutions, to improve its customer portfolio which lacked mass and youth customers, to respond to the rapid increase in smart phone users, promote low cost channel and to take back domination in PG services (PG companies and other players dominate the market due to the bank's inadequate response to the internet revolution).

N Wallet allows for P2P money transfers without account number or public certificate key which the Korean regulator requires for online financial trading users in South Korea. Most importantly, the two-way P2P service is integrated in N Wallet. This function has been well received in Korea. Unsurprisingly, competitors have also started offering the same function and the value of the two-way P2P service is unchallenged today.

*“Notably, transactions via mobile banking or banking services accessed via wireless handsets were valued at KRW1.39 trillion (\$1.24 billion) per day”*



It is difficult to increase market share in Korea without increasing branch numbers, which requires additional expense in terms of set up, licensing and management costs. Thus, the idea of attracting new customers via mobile services is an attractive one. As additional bank services become more important for customers, the fees for such services make up an ever larger portion of Hana Bank's revenue. These services are especially appealing to the younger generation that are the bank's future source of revenue.

N Wallet falls outside Hana Bank's traditional services but attracts new customers and therefore functions as a marketing tool. Consequently, a more accurate performance indicator is its attractiveness to potential customers that do not use Hana Bank yet. The bank estimates this to be approximately 18.2%. Banks depend on profit from diverse transactions and relationships with customers in the Korean market. As such, the marketing effect of acquiring new customers through N Wallet is more effective than engaging off-line salespersons.

In 2012, Hana Bank unveiled N Wallet for the first time in local market and won the award for the Best Mobile Banking Initiative from The Asian Banker.

## Facebook Virtual Branch

In addition to N Wallet, Hana Bank has tried to expand its base among the younger generation in diverse ways by differentiating itself from other Korean banks. In recent years, the bank has paid more attention to social network services (SNS) with the intention of strengthening trust and expanding communication with customers rather than just developing its corporate brand through traditional channels. After intense research, Hana Bank identified a trend with good market potential through SNS channels. With younger customers generally showing a preference for engaging banks via SNS channels rather than through offline banking branches, Hana Bank decided to reach out to online customers on Facebook and Twitter.

As part of its proactive SNS marketing initiative, Hana Bank launched "Facebook Virtual Branch" in an attempt to attract the younger generation in their 20's to 30's and increase customer satisfaction. One of the more efficient services offered on Facebook Virtual Branch involves connecting customers with financial specialists providing financial solutions. Hana Bank reaching out and advertising its products on the Facebook Virtual Branch, combining it with existing channels such as Hana N Bank and N Wallet.



Hana Bank provides information on its products and services through various channels

Major services on Hana Bank's Facebook Virtual Branch are Deposit and Instalment, Loans, Foreign Currency Activities, Fund, Bancassurance, Pension, Mobile and Internet Banking, and Corporate Banking. Basically, customers can chat with bank consultants in real time and get information and coupons on various banking services. The purpose of Hana Bank's Facebook Virtual Branch is allowing Facebook users simplified access to the banking platform through banners as well as the necessary information about the bank's products. This business model has great potential for gleaning customer information and is thus a good tool for target marketing.

The banking business is changing from a supplier-oriented business to customer-centric service. Accordingly, Hana Bank is providing customised services through a virtual branch on Facebook. This business platform based on SNS networks helps strengthen the bank's customer relationships and increases awareness of Hana Bank's brand in the market. In addition, it improves Hana Bank's participation in CSR via donations ef-

fected through the SNS channel. Moreover, the Facebook Virtual Branch provides useful information about customers' interests on bank products based on age and lifestyle through careful monitoring.

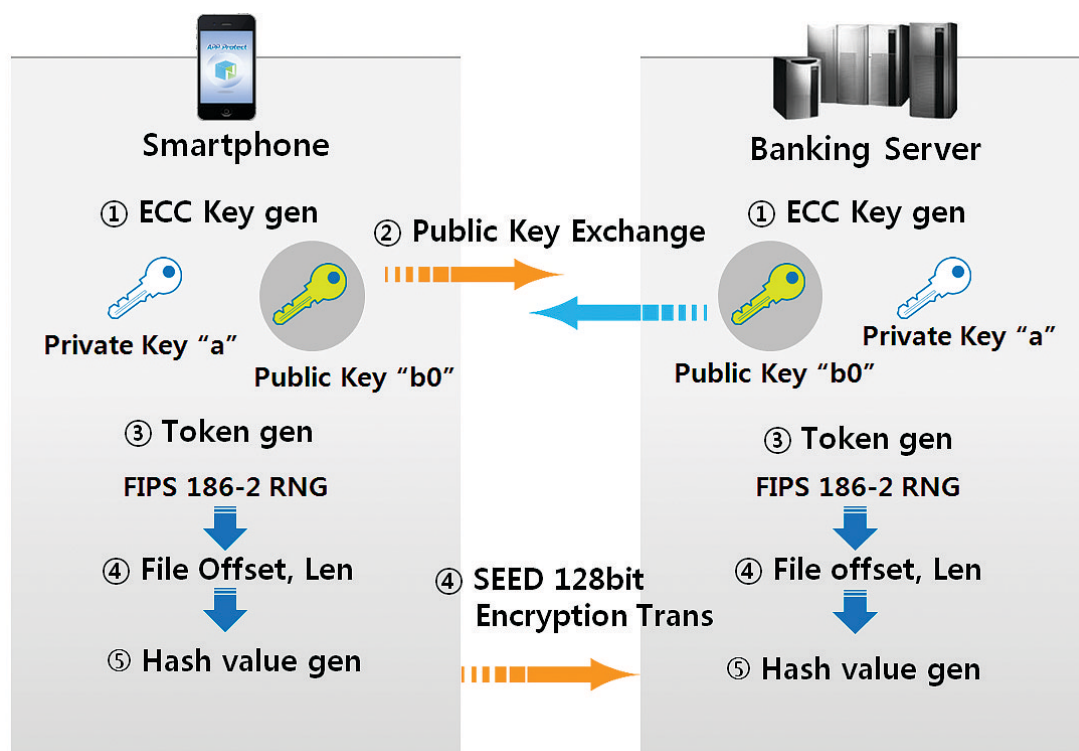
## Mobile banking and security

As mobile banking in South Korea continues to grow, the need for security for mobile banking applications is increasing. The mobile banking App provided by Hana Bank is no exception. For this reason, Hana Bank in collaboration with its IT partners NSHC and eNsecure utilises two secure modules to protect its own App from hacking attacks: first, prevention of App modulation through integrity verification and second, protection of the App using obfuscation and encryption.

The foremost IT strategy of financial businesses is the unceasing effort to procure a safe financial environment for their customers. As banking applications require high levels of security, various security solutions against possible hack-

The screenshot displays the Hana Bank Facebook Virtual Branch interface. At the top left is the 'talk! Hana' logo. Below it, a banner reads '하나은행 가상 브랜치에 오신 것을 환영합니다!'. To the right, a 'Smart Center' monitor displays a banner: '영업점 방문 없이 상담에서 실행까지!'. A red dashed line points from this banner to the text 'Display 4 Hana Bank banner ads'. Below the monitor, a grid of service icons is shown, including '예금/적금', '대출', '외환/글로벌머니송금', '펀드/보험/연금', '모바일/인터넷뱅킹', and '기업뱅킹'. A red circle highlights this grid, with a red dashed line pointing to the text 'Icons are activated when mouse is placed over'. Below the icons, a section titled '상담을 받으시면, 하나은행이 진행하는 하나터나눔에 참여됩니다.' provides details about a CSR program. At the bottom right, a '하나 N Wallet' banner is shown, with a red dashed line pointing to the text 'Detailed information is display when banner is clicked'. Other elements include a '고객님, 무엇을 도와드릴까요?' section with a chat icon, an '안전 및 보안' section, and a '친구에게도 Hana를 소개해주세요!' section with social media sharing options.

Product information via Hana Bank's virtual branch



*Hana Bank's Integrity Validation Flow enhances application security*

ing activities are loaded onto financial applications. However, after an App is distributed, incidences involving fake applications—created through reverse engineering techniques that break up and reassemble the application—often occur and pose a serious threat to the financial safety of banks. In response to such threats, the solution provided by Hana Bank via this project blocks server access of the modulated application, and fundamentally shuts off attempts to modulate the application at all.

Hence, this project's purpose is to provide a safe environment, deal with the higher security risks arising from the openness, transportability and connectivity of the mobile environment, protect key functions of the application through various mobile platforms and conform to the regulations of financial authorities.

As a service responding to the App modulation threat, this project enhances reliability for Hana Bank's customers by providing safety against hacking threats and, as a result, Hana Bank is positioning itself as the leading bank in Korea in terms of the security of its system. The fact that this project established a very practical and future-oriented structure against App modulation, a key threat to the current mobile service, is of great significance.

## Conclusion

Without doubt, Hana Bank is the smart phone banking pioneer in South Korea. N Wallet brought a significant change not only for the Korean banking industry, but also for the Korean payments market. The fact that other banks have started launching similar services only serves to strengthen the Korean digital wallet market. Therefore, Hana Bank has succeeded in pushing mobile banking in South Korea to the next level and for this, the bank's efforts are validated through its win for Best Mobile Banking Initiative.

In line with N Wallet, Hana Bank enhanced its mobile security standards to protect its customers from misuse, fraud and cyber-attacks. Hana Bank shows a well thought-out strategy for the mobile phone market by seeing the broad picture and working out details relating to security issues. Hence, Hana Bank won the award for Best Mobile Security Project.

Finally, Hana Bank stays on the road to success by focusing on the younger generation and investing in its future clients through its Facebook Virtual Branch product. Agile transactions through this cyber branch as well as positive customer feedback affirm the bank's instinct to attract young customers in this highly progressive manner. Thus, Hana Bank gets its third award for Best Mobile Social Media Engagement Project. **TAB**



# Technology implementation across business lines and systems

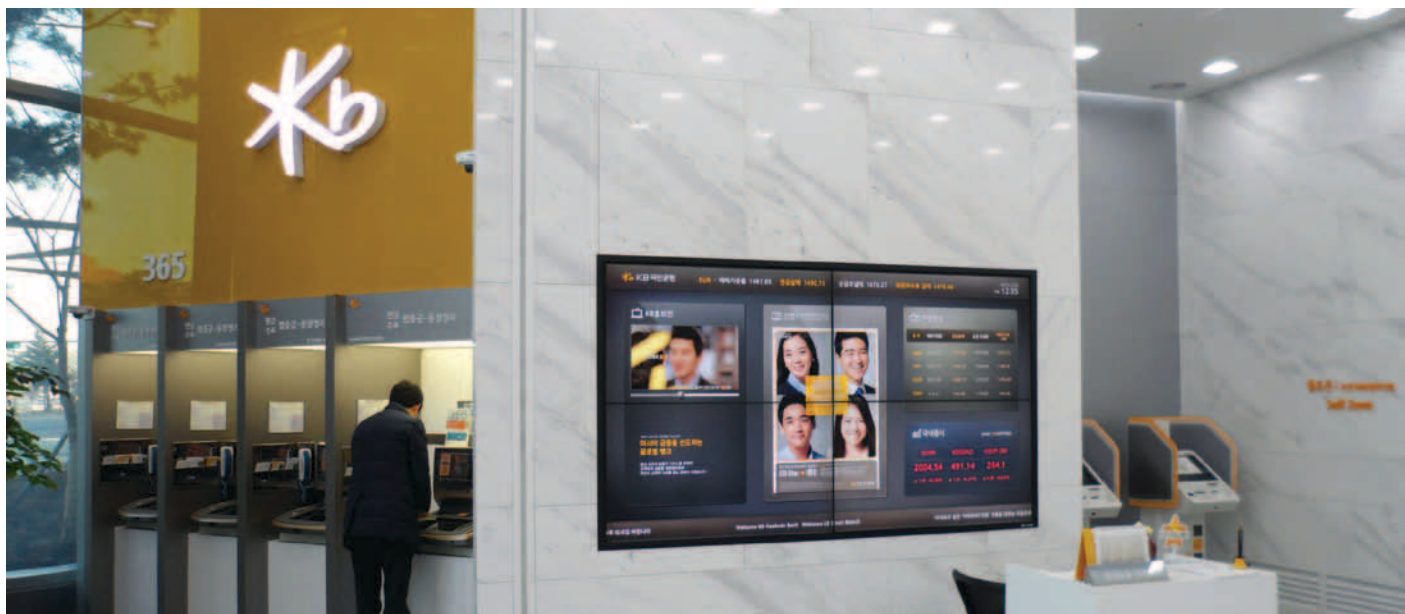
KB Kookmin Bank has shown its superior technological capability through outstanding achievement in nine categories in the recent TIA Korea awards

**K**B Kookmin Bank is Korea's biggest bank with total assets of KRW 288 trillion (\$274 billion) and more than 28 million customers. One out of every two Koreans has an account with the bank. It also has the biggest branch network in the country, comprising 1,199 branches.

KB Kookmin Bank has one of the most sophisticated IT systems in Korea, having embarked on one of the most intensive technol-

ogy implementation projects in the country, involving several of its major channels, business lines and systems.

In the recent Technology Implementation Award programme, KB Kookmin Bank was recognised for its outstanding achievements across nine different categories. The following is an overview of the projects that stood out for best implementation in their respective categories.



*Best Smart Branch Project offers efficient and convenient service in a youthful, innovative environment*



*KB Datacentre*

### **Best Smart Branch Project**

In response to changing customer needs, KB Kookmin Bank sought to offer a banking environment that would allow customers to take care of their banking needs whenever and wherever they wanted.

KB Kookmin Bank embarked on a project to design a smart branch that would create a youthful and innovative brand image, while at the same time increasing productivity through cost-efficient process innovation. The smart branch would also facilitate flexible responses to changes in the banking environment and banking trends.

### **Best ATM and Kiosk Project**

KB Kookmin Bank implemented a new pass book issuing machine, eliminating the need for lengthy queues. Customers can now simply press the “Reissue Pass Book” button on the screen to get a new copy of their pass books.

The machine is innovative in that it replaces the need for a teller in the pass book renewal process. The facility sharply reduces customer waiting time and can also be used for payment of public dues and utility bills.

### **Best Self-Service Banking Project with Initech**

KB Kookmin Bank selected Initech as a partner to expand its self-service banking capabilities. In order to reduce development risk, KB Kookmin Bank requested for a system that would be flexible, expandable, with an “as-is” compatibility.

KB Kookmin Bank’s open-banking project ensured all services, including internet banking, can be used on both PCs and smart devices. Its modularised screen graphic user interface provides optimised display to multiple devices through auto-detection, and uses a pad-type environment for each device.

### **Best Core Banking Project with IBM Korea**

Following mergers with several banks since 2008, KB Kookmin Bank found itself with an exceedingly complex IT operating environment which affected its ability to respond quickly to changes in the market. It was difficult to further develop the IT system without implementing some standardisation strategies.

To update and streamline its system for enhanced competitiveness, KB Kookmin Bank selected IBM’s mainframe as its core banking platform based on performance, stability, management efficiency, flexibility, security and scalability. The implementation resulted in the bank benefitting from several key advantages. Product development periods were shortened significantly and KB Kookmin Bank gained full life cycle control of its products.

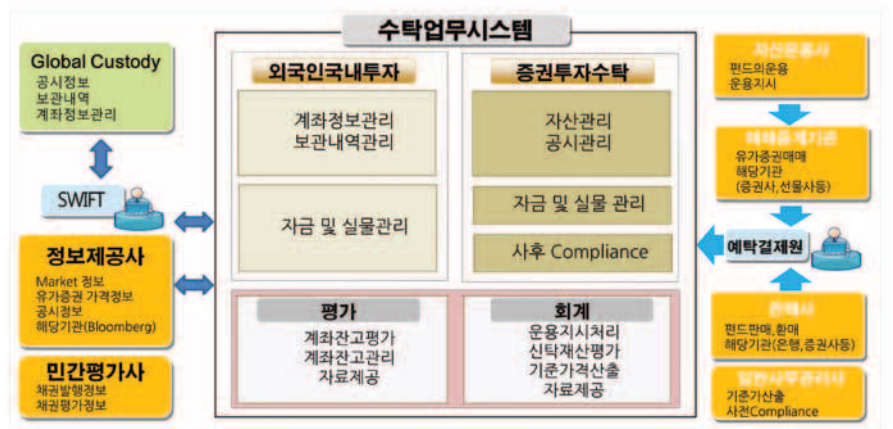


*Best Self-Service Banking Project ensures all services can be accessed via PCs and smart devices.*

## Best Corporate Payments Project with Financial Data System

KB Kookmin Bank worked with Financial Data System to enhance its system to better meet customer needs.

The project delivered improvements in processing time and maximised productivity by streamlining and automating work processes. It was also to maximise its sales capacity by the systematic administration of marketing and management information.



Best Corporate Payments Project delivers improved processing time and productivity

## Best Lending Platform Project with KB Data Systems

The project allowed the bank to improve its capacity for early detection of problems with corporate borrowers, thereby allowing for pre-emptive risk management.

Through the implementation of an advanced warning system, the use of around 100 inspection items selected via statistical analysis became feasible, as the timing of early warning was accelerated through the application of sensitive items such as limit run-out rate. Work process improvement and early warning grade computation were also achieved, thereby lessening the workload of reviewers and at branches.



KB ITSM



Best Treasury Management Project performs integrated management to look into capital flows through an interoperable infrastructure





*Best Human Resource Project allows a standardised HR system bank-wide for effective HR processes*

### Best Treasury Management Project with UChannel

By establishing the KB-UFS treasury management system, KB Kookmin Bank aimed to enable new profit streams and optimise bank financing costs.

KB-UFS performs integrated management to look into capital flows through an interoperable infrastructure with different systems, including standard local tax systems and the E-local finance management systems of local governments. It also provides a real-time search function and prevents accounting errors through transparent capital flows.

### Best Security and Risk Project with ToCSG

KB Kookmin Bank's previous system was inefficient and slow in log storage, search and correlation analysis, as it was used for Big Data security log searches and correlation analysis. Data search took up to 12 hours per day.

The bank partnered ToCSG to help establish a real-time security log correlation analysis system to manage delays in speed as well as security risks in the internet exchange occurred by sophisticated and consistently evolving APT attacks.

### Best Human Resource Project with White Information Networking and KB Data Systems

As Korea's largest bank by both asset value and market capitalisation, KB Kookmin Bank currently does business with more than half the population of Korea, more than 27 million customers.

With more than 21,000 employees on its payroll, KB Kookmin Bank needed to replace its ageing human resource (HR) system with a complete revamp of both hardware and software. For this, KB Kookmin Bank worked with White Information Networking to completely reform the process of its HR system. With "MyHR" KB Kookmin Bank was able to standardise a HR system bankwide as well as carry out HR processes in an effective manner.

### Conclusion

KB Kookmin has amply demonstrated its excellence in technology implementation through its outstanding achievements in these nine specific projects. It stands today as a clear example of sophisticated technological capabilities in the Korean banking industry. **TAB**

# Offering full valuation analysis and real values for risk instruments

NH Investment & Securities implemented RiskCraft™.MARKET a risk management system with enhanced accuracy, performance and extensibility

The financial market worldwide has shrunk since the global financial crisis. But with more financial instruments coming into the market, there has been increasing demand for a tighter management of risks. Some of these financial instruments, called “smart instruments”, have been developed to give financial institutions new opportunities to generate revenue while minimising possible losses even in unfavourable market conditions such as a recession or depression. In order to translate these market opportunities into revenue while managing attendant risks, institutions should be equipped with a system that is capable of accurately assessing expected returns and risks.

Since 2006, Korean securities company NH Investment & Securities has been using RiskCraft™.MARKET R2 version of its IT partner FIST Global as its market risk management system. However, the financial environment, regulations, market posi-

tions and financial products have since become more complex and the old version was no longer effective in managing mar-

ket risk. To address new risks and market requirements, NH Investment & Securities decided to update its system. Basically, the company needed a high performing system to maintain its position in the competitive Korean IT securities market. A more flexible system to address a fast changing financial environment and regulations was required. The aim was to develop a high performance calculation engine, a flexible and

user friendly interface and a transparent system to verify results while meeting Basel 2.5 requirements.

## Issues, objectives and targets

The objective of this project was the implementation of an enhanced performance engine to deal with large positions and complex structured financial products which requires Monte Carlo Simulation (MCS) evaluation, a flexible user interface to

*“Not only did this project reduce the measured time of structured products, it also optimised risk measurement, specifically market risk, by implementing a full valuation method”*

handle new regulations and a changing financial environment, Basel 2.5 compliance and a transparent user interface to verify the results.

NH Investment & Securities defined all its requirements, provided input data and worked with IT partner FIST Global to implement the new version for its market risk system based on the Risk-Craft™.MARKET R3 version.

Results

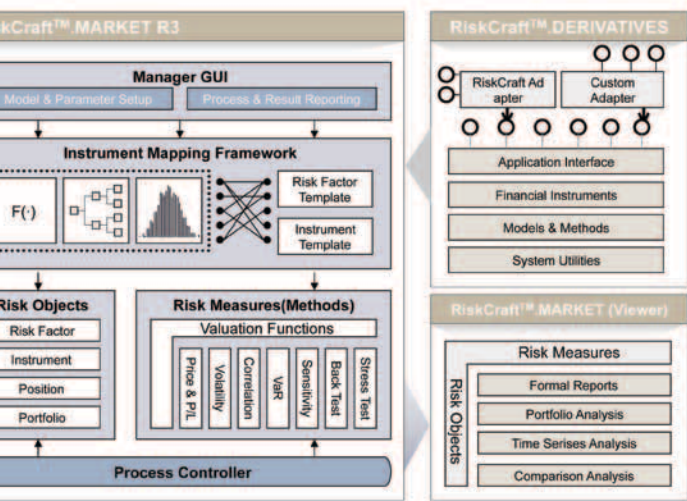
Accuracy and timeliness of risk measurement are the main achievements of this project. Not only did this project reduce the measured time of structured products, it also optimised risk measurement. specifically market risk, by implementing a full valuation method. Timely reporting of market risk and simultaneous monitoring were carried out.

As financial institutions generally have large trading accounts and revenue, market risk management is particularly important. The market risk management system introduced not only verifies Value-at-Risk measurements, but produces needs index measurements and analytic reports. Such outcomes are particularly important in risk management. In this project, various indices were implemented, such as timely reporting before start of business day. Moreover, the enhanced performance of the new system generated accurate and valuable information, which is used by the trading department. Such information is based on the increased number of simulations within the project.

Fist Global’s Fast MCS methodology implementation is essential for structured products as it is required for pricing techniques and simulation processing. Notably, FIST Global developed a new MCS engine in the RiskCraft™.MARKET R3. It is proven to save processing time by 1/100 in the same environment while maintaining the same level of accuracy.

Conclusion

Financial instruments, especially trading instruments, have evolved despite fluctuation in the economic cycle. Thus, the market risk system, which manages the risk of those instru-



RiskCraft™.MARKET’s open architecture offers high performance and extensibility

Measure \ Object		Risk (Value at Risk)												
		Price/ValueWeight	P&L(Virtual)	Return	Volatility	Correlation	Sensitivity	Parametric VaR						
								SA			RC			Back Testing
Risk Factor		•	N/A	•	•	•	N/A	N/A	•	N/A	N/A	•	N/A	N/A
Risk Category		N/A	•	N/A	N/A	N/A	N/A	N/A	•	N/A	N/A	•	N/A	•
Instrument		•	N/A	N/A	N/A	N/A	•	•	•	N/A	•	•	N/A	N/A
Position		•	•	N/A	N/A	N/A	•	•	•	N/A	•	•	N/A	N/A
Portfolio(Real)		•	•	•	•	•	•	•	•	•	•	•	•	•
Portfolio(Virtual)		•	•	•	•	•	•	•	•	•	•	•	•	•

SA: Standalone VaR, RC: Risk Contribution, Rel.: Relative VaR

RiskCraft™.MARKET has the functionality to address all requirements for market risk management

ments, should be capable of being extended to accommodate such fluctuation. RiskCraft™.MARKET, based on open architecture, has been developed to provide a high level of extensibility, so that institutions will, with a little training, be able to link its proprietary models to the system or to add institution-specific functionalities to its existing ones without too much trouble.

RiskCraft™.MARKET R3 offers high performance and extensibility, serving as an effective tool for market risk management. FIST Global enjoys a leading market share in market risk systems with clients in the financial sector. RiskCraft™.MARKET supports full valuation analysis, allowing institutions to take into account all the risk factors affecting the value of instruments. For this initiative, NH Investment & Securities and FIST Global are the winners for Best Governance Risk and Compliance Project. **TAB**





## Korea's technology leaders

The banking industry came together in a gala night of celebration and camaraderie at The Asian Banker's inaugural Technology Implementation Awards (TIA) Korea Programme, at the Lotte Hotel, Seoul, to recognise emerging best practices and applaud achievements attained in banking technology. Special guest presenter at the ceremony, Brett King, bestselling author and founder and CEO of Moven, the world's first mobile enabled bank, shared his insights on banking innovation and technology trends.



1. Group photo of all the Korea Technology Implementation Awards winners.
2. Best Core Banking Project: KB Kookmin Bank and IBM Korea.
3. Best Data and Analytics Project: Standard Chartered Bank Korea and Teradata.
4. Best Mobile Banking Project: Hana Bank and Finger.





5. Best Human Resource Project: KB Kookmin Bank, White Information Networking and KB Data Systems.
6. Best Branch Automation Project: Industrial Bank of Korea and Fujitsu Korea.
7. Best Smart Branch Project: KB Kookmin Bank.
8. Best Mobile Security Project: Hana Bank, NSHC and eNsecure.
9. Best Governance and Market Risk Project: NH Investment & Securities and FIST Global.
10. Best Self-Service Banking Project: KB Kookmin Bank and Initech.
11. Best CRM Project: Shinhan Bank and LG CNS.



## THE TECHNOLOGY IMPLEMENTATION AWARDS KOREA NIGHT



12



13



14



15



16



17



18

**12. Best Multi-Channel Management Project:** Standard Chartered Bank Korea and SK C&C.

**13. Best Treasury Management Project:** KB Kookmin Bank and UChannel.

**14. Best Mobile Social Media Project:** Hana Bank and i4unetworks.

**15. Best Lending Platform Project:** KB Kookmin Bank and KB Data Systems.

**16. Best Governance and Credit Risk Project:** Nonghyup Bank and FIST Global.

**17. Best Security and Risk Project:** KB Kookmin Bank and ToCSG.

**18. Best Corporate Payments Project:** KB Kookmin Bank and Financial Data System.



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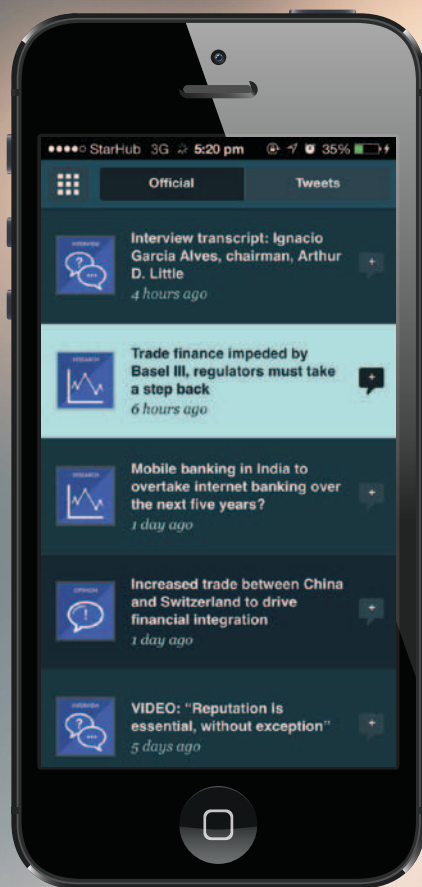
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