

Fintech South Korea

Market Intelligence Report

**INNOVATION
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About Intralink

Intralink is an international business development consultancy with a deep specialism in East Asia.

Our mission is to make companies' growth in overseas markets fast, easy and cost effective.

We have 80 multilingual employees, a 30-year track record and offices in London, Silicon Valley, Boston, Shanghai, Tokyo, Seoul and Taipei. We enable Western companies to expand in Asia, and Asian companies in the West.

We do this by providing the in-country expertise to identify a company's market opportunity, secure sales and drive its business growth. Our teams are immersed in the business practices, cultures and customs of their local markets.

And we are different from other consultancies as we do not just develop market expansion strategies for our clients – we play a hands-on role in building their businesses.

Through our Surrogate Sales Program™, we close deals, generate revenues and, when a client is ready, help them set up a permanent in-country presence through a local subsidiary, partnership or acquisition.

We also offer a range of additional services including market opportunity assessments, distributor and supplier searches, investment co-ordination and local representation.

Our clients are companies from startups to multinationals in the automotive, energy, healthcare, electronics, telecoms and other high-growth sectors. We also work with governments and economic development agencies to promote exports and attract foreign direct investment.



1. Introduction

South Korea (Korea) offers significant opportunities for British fintech companies with major technology leaders, online and offline banks, financial institutions, as well as a number of local startups investing heavily in the field. While regulations in this traditionally conservative sector have acted as a break on growth to date, the Korean government is now actively supporting innovation by deregulating and creating a favourable policy environment. The nascent industry has no clear leader at present and companies are keen to engage with world-class UK companies to gain an advantage over rivals.

Major online and offline banks, as well as securities firms, insurers and technology companies, are partnering with fintech leaders, such as Kakao Pay, Naver Pay and Toss, to stay relevant in a rapidly changing and growing market. The country's main financial players have all established fintech innovation labs and are actively investing in fintech startups. The B2C market has seen particularly strong growth: Korean consumers are now relatively experienced with fintech products and keen to embrace new solutions. Total

transaction values in digital payments alone stood at GBP 73bn in 2018; a number that is expected to grow to GBP 110bn by 2023.

Fintech has been identified as an important growth industry by the Korean government and steps are being taken to remove or revise regulations to ensure Korea offers appropriate opportunities for new fintech solutions. Open banking schemes that aim to increase the cooperation incentives for banks to work with technology companies and share information should facilitate data access and growth in the industry. The Regulatory Sandbox Program - the Korean government's major policy to spur innovation in the industries of the fourth industrial revolution - encourages local and overseas companies to develop and deploy new solutions and gain market validation by providing a roll-out environment free from certain regulations. The scheme came into effect in April 2019.

British companies looking to enter the market should find a warm reception as the country is well recognised within Korea as a fintech powerhouse. Indeed, in 2016 Korea signed a FinTech

Bridge agreement with the UK which aims to increase coordination on regulation and help financial technology firms and investors gain access to each other's markets. By establishing links between the respective governments, regulators and private sector firms, the bridge reduces barriers to entry into Korea and links fintech businesses in both nations with opportunities for trade and investment.

Korea's fintech capability gap compared with the UK and the countries' close cooperation through the FinTech Bridge creates opportunities for British companies in the Korean market. The key areas of growth and potential for British businesses include digital payments, P2P lending and blockchain technologies but there are also opportunities in artificial intelligence (AI) applications for finance, robo-advisors and insurtech, among others. While deregulation is occurring, British companies looking to enter the market need to understand the local regulations around their solution or technology and through due diligence ensure they are working with the right customers and partners if they want to have the best chance of success.

2. Korea: An Overview

Key Points

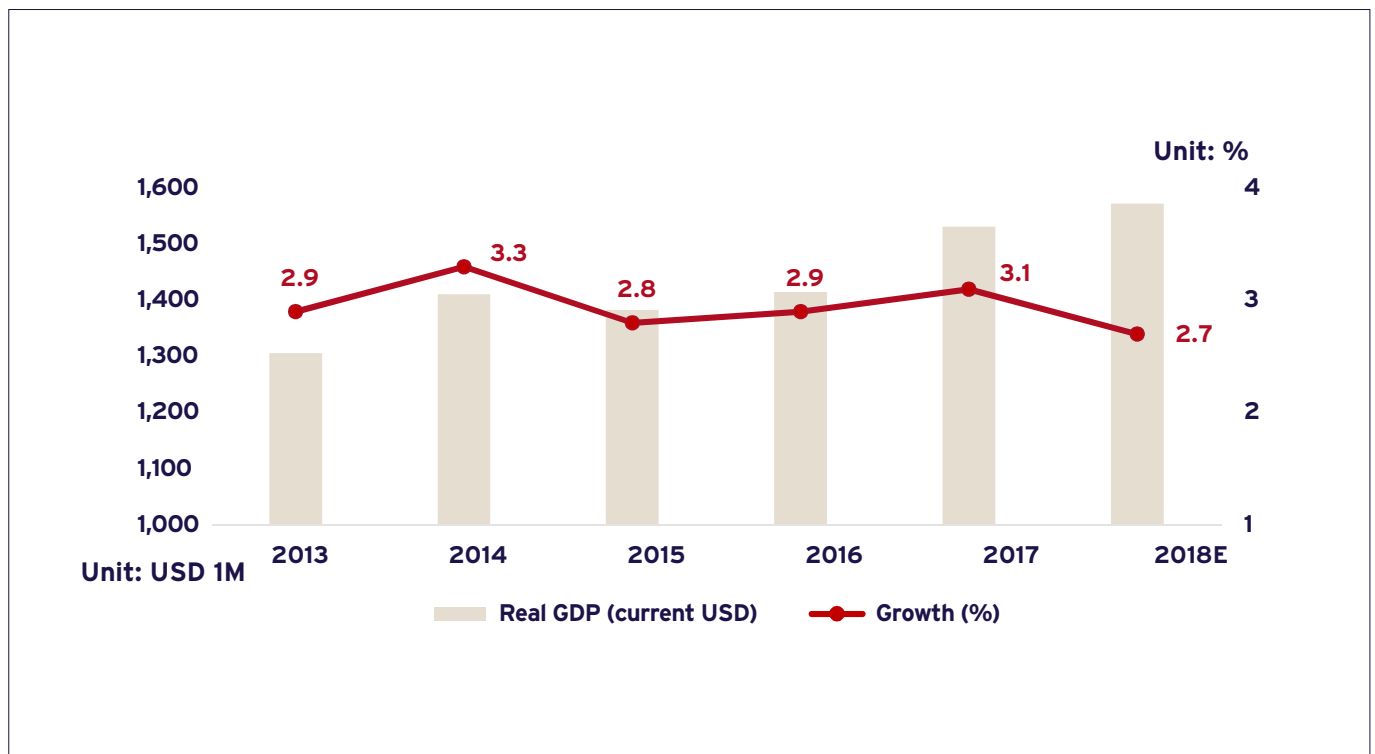
- Korea has climbed out of poverty to become a technology powerhouse over the last 60 years
- The country is the world's 11th largest economy with a GDP of just over GBP 1 trillion
- It has maintained an annual GDP growth rate of around 3% in recent years

In the space of just 60 years, Korea has transitioned from an agricultural economy to one driven by high-value industries such as automotive, shipbuilding and advanced manufacturing. Perhaps most remarkable of all is the country's success in the areas of electronics and information communications. As well as dominating the global semiconductor industry, Korea has leap-frogged its peers in terms of ICT infrastructure (smartphone penetration rate, broadband speed, etc.) and this fact, coupled with a demanding and technology-embracing population, means Korea is becoming an economy driven by creativity and innovation.

With a population of 51 million people, Korea boasts the 11th largest economy in the world, a GDP of GBP 1.2tn in

2018 and a per capita GDP of GBP 22,980 in the same year. Whilst not experiencing the growth witnessed in China, the country has maintained strong annual growth for a developed economy of close to 3% in recent years, outpacing its regional rival, Japan. Korea's trade dependency ratio is extremely high at over 80% and its economic performance is heavily affected by the economies of China, the US and Japan. Trade and investment flows between Korea and the EU are growing as a result of the FTA that came into effect in 2011. Trade between Korea and the UK specifically has grown rapidly over that period and both countries have expressed a strong desire to conclude a trade deal once the UK leaves the EU.

Figure 1: Korean GDP (2013 - 2018)



Source: World Bank

3. Korea's Fintech Ecosystem

Key Points

- Korea leads the Asia-Pacific region in terms of experience with digital finance as of April 2019
- Growth is strongest in digital payments, P2P loans and investments as well as blockchain technology
- The current Korean government is committed to driving deregulation in the fintech sector
- Key players include Naver Pay, Kakao Pay, Payco, Samsung Pay and Toss with over 30 services offered between them
- There are two online-only banks (K Bank and Kakao Bank) with one or two more set to open in 2019































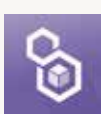





There were approximately 400 fintech companies active in the market as of 2018. There are 148 licensed banks in Korea, 52 of which are commercial, five are specialised, and the remaining 91 are mutual saving banks. The Bank of Korea is the country's central bank and the financial sector is overseen by the Financial Supervisory Service (FSS) and Financial Services Commission (FSC). The FSS regulates banks and implements financial policies established by the FSC.

There are seven fintech innovation labs operated by the country's largest financial players - Shinhan Financial Group, KB Financial Group, KEB Hana Bank, NH NongHyup Bank, Woori Bank, Industrial Bank of Korea, and Hanwha Life Insurance, and they are actively competing to secure their position as hubs for new technologies. Woori

Financial group just pledged KRW 130bn (GBP 86.9m) for startup investment, with NH NongHyup Bank and Shinhan Financial Group to follow shortly with announcements on fintech lab update plans.

As for Korean consumers, according to the Asian Digital Transformation Index, which compares the digitalisation progress of Asian countries, only 24% have no digital finance experience, the second-lowest result among the 18 surveyed countries, and much lower than the digital transformation leader of the region, Singapore (43.4%). The Bank of Korea recently reported that 57.9% of respondents to a recent survey had used mobile banking services in 2018 - an 11.9% rise from the previous year.

Figure 2: Korea's Fintech Ecosystem

Financial Institutions		Non-Financial Institutions	
Traditional Banks	Digital Payment Apps	Digital Payment Services	
    	       	              	
Online Banks		Finance Recommendations & Robo-Advisors	P2P Loans and Investments
 		 	   

Traditional Banks

Several top banks have made significant strides to develop technologies internally or partner with solution providers to increase the competitiveness of their services. They are concentrating heavily on digital banking, mobile payments, security as well as blockchain solutions for both customer-facing interactions and internal procedures. Korean banks are also the focus of potential new legislation that will make them open their payment systems to third-party fintech firms; a move that promises fee reductions of as much as 90%. They will also be able to acquire or invest in financial technology startups. This is set to further increase opportunities for fintech companies in the country.

Table 1: Korea's Top Banks in 2018

Bank	Net Profit*	Highlights
Shinhan Bank	1.53bn	<ul style="list-style-type: none"> ■ Korea's most profitable bank for 10 of the past 11 years ■ Won the local Hankyung 2018 Fintech Grand Award in the Service Sector for its mobile platform SOL ■ First to implement blockchain in financial procedures
KB Kookmin Bank	1.49bn	<ul style="list-style-type: none"> ■ Transforming major services into mobile-only ■ Biometric and blockchain-based authentication mobile app ■ Working with fintech startups on cloud-based platforms
KEB Hana Bank	1.41bn	<ul style="list-style-type: none"> ■ First to adopt a smartphone banking system ■ Partnered with LINE Corp to launch a digital banking service - LINE Bank in Indonesia ■ Joined Hyperledger and Enterprise Ethereum Alliance, global blockchain consortia to help launch its digital platform
Woori Bank	1.26bn	<ul style="list-style-type: none"> ■ Diversifying services beyond traditional banking services ■ Directly invested in 13 startups in 2018 alone ■ Signed an MOU with Banksalad, a personal finance management mobile app, to launch joint services
NH NongHyup Bank	823.5m	<ul style="list-style-type: none"> ■ Uses machine learning and visual data mining with SAS Viya to facilitate recommendations ■ Record net profit in 2018, an 87.5% rise from 2017

Online-only Banks

Korea's first online-only bank, K Bank, was launched in April 2017, followed by Kakao Bank in July of the same year. Over 20,000 users registered with K Bank on its first day and 680,000 users had registered by the first half of 2018. K Bank was formed with capital of KRW 250bn (GBP 166.9m) from 20 shareholders, including one of Korea's top five banks, Woori Bank. GS Retail, Hanwha Life Insurance and Danal each holds 10% respectively, and Korea Telecom owns 8% of the bank.

Korea's second online-only bank, Kakao Bank, managed to reach 187,000 customers on its launch date, 3.3m in the first month and 6.3m in the first year. This is not surprising, as one of Kakao Bank's shareholders is Kakao Corp (10%) - operator of the most popular social messenger in Korea, with more than 43 million users in a country with a population of 51 million people. Aside from Kakao Corp's 10%, 58% of Kakao Bank is owned by Korea Investment Holdings and 10% by KB Kookmin Bank.

Table 2: K Bank vs. Kakao Bank

Bank	Established	Users*	Total Capital Base**	Total loans extended**
K Bank	April 2017	890,328	234.5m	870.7m
Kakao Bank	Jul 2017	8,104,365	870.7m	3.9bn

Source: *As of 28 January 2019; **As of March 2018, Unit: GBP

Both K Bank and Kakao Bank are still recording net losses but continue to expand their customer bases. According to the FSC's Financial Policy Roadmap issued in March 2019, one or two additional online-only bank licences will be made available in May 2019. Toss, with overseas partners including US-based Altos Ventures, Brazil's Nubank and UK's Revolut, and Hana Financial Group with SK Telecom and Kiwoom Securities have already submitted their applications to the FSC.

In a move intended to open up the market further, the government is easing ownership regulations. Under the Separation of Bank and Commerce Law, non-financial companies could not hold more than 10% stock (4% voting stocks) in a financial institution. This cap has been raised such that information communication technology (ICT) companies are now able to own up to 34% in online-only banks. A January 2019 decision to allow overseas and gaming companies to open online-only banks in Korea will likely produce greater diversity in the market.



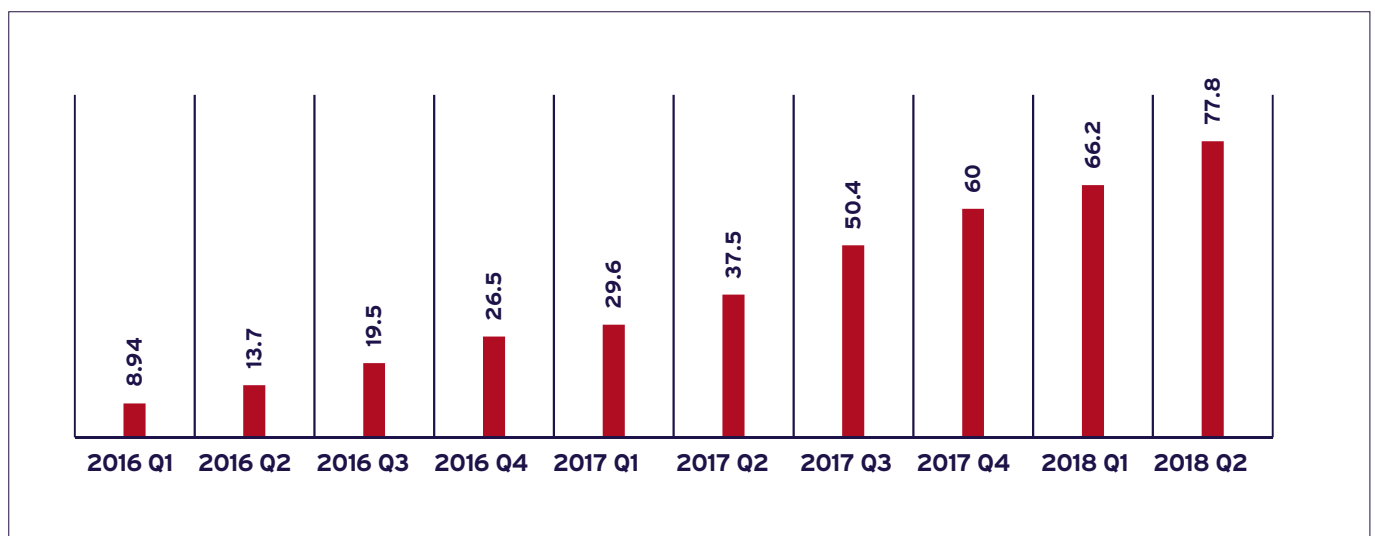
4. Korea's Fintech Markets

Korea's strong push towards digital payments has boosted growth in the sector, however the legacy of heavy regulation – or sometimes lack thereof – has hampered the growth of insurtech and regtech and slowed the momentum of P2P lending and investments. The government, aware of these issues, has been working on not only deregulating the financial sector in general and creating new policies, but also on providing incentives to companies to experiment with new, disruptive products and services.

Digital Payment Platforms

Digital payments is the largest fintech sector in Korea and continues to grow rapidly. According to the Bank of Korea, the daily total transaction value for electronic payment service usage in the second quarter of 2018 was KRW 117.42bn (GBP 77.8m) – 208% up from the same period in 2017 and 568% up from the same period in 2016. The average number of daily mobile payment transactions in the second quarter of 2018 amounted to 3.63m, a 153% rise compared to 2017 (2.14m) and 380% rise compared to 2016 (859,000).

Figure 3: Digital Payment Daily Transaction Value



Source: Bank of Korea, Unit: million GBP

Korea's well-organised, three-party payment network, coupled with the fastest internet speeds in the world creates an environment where credit cards are still considered more convenient than digital payment methods such as, for instance, QR codes. With no outstanding option currently available, some digital platforms such as Toss or Kakao Pay offer physical cards to boost offline payments. The cards are connected to the users' commercial bank accounts and include added benefits such as cashback services or automatic loyalty point collection for most locally available membership point programmes.

Korea is also one of the world's largest e-commerce markets, valued at KRW 24.11tn (GBP 16.17bn) in 2018. Mobile purchases amounted to 60.2% of the total online shopping transaction value and thirty-four percent of users completed their mobile purchases via social media payment gateways while 29% of users chose bank transfers.

The sector is dominated by mobile payment platforms started by established online service giants (Kakao Pay, Naver Pay, Payco), Korea's global conglomerates (Samsung Pay, Shinsegae's SSG Pay, and Lotte Group's L Pay) as well as startups (Toss from Korea's first fintech unicorn, Viva Republica).

Table 3: Main Players - Digital Payment Sector

Company	Trans. *	Users	Highlights
Kakao Pay	13.4bn	26m	<ul style="list-style-type: none"> ■ Launched in 2014 by DaumKakao and LG CNS ■ First fintech service to reach 10m users ■ Online-offline QR code payment launched in May 2018, now with 190,000 merchants ■ Remittance services competing with Viva Republica's Toss
Toss (Viva Republica)	18.72bn	11.1m	<ul style="list-style-type: none"> ■ Launched in 2015, Toss disrupted fintech in Korea ■ P2P payment app transformed into platform with 25 financial services (credit score, customised loans, insurance, stocks) ■ Raised 61.1m with Kleiner Perkins (previously with Google, Amazon, and Twitter) and PayPal with a GBP 916.6m valuation
Naver Pay	7.63m	26m	<ul style="list-style-type: none"> ■ Launched in 2015 by Naver Corp - largest search engine in Korea ■ Complete shopping experience from online search to purchase through partnered merchant stores using Naver login ■ User can check status, return or exchange products, and points ■ Facilitates the Naver Shopping ecommerce platform
Payco	4.02m	9m	<ul style="list-style-type: none"> ■ Debut in 2015 - NHN Entertainment's mobile payment system ■ Simple platform - added a 'finance' tab, recommendations and ecommerce functionalities ■ Used in Google Play and for in-game purchases ■ Partnered with Samsung Pay in 2018 for offline payments
Samsung Pay	11.96bn	13m	<ul style="list-style-type: none"> ■ Payments by users placing smartphone near a card reader ■ Built into Samsung and available on some Android devices ■ No. 1 in the local offline market and present in 24 countries
Zero Pay	-	-	<ul style="list-style-type: none"> ■ Payment method introduced by the Seoul Metropolitan Government in December 2018 ■ Aimed at creating 0% transaction fees for small vendors ■ Higher income deduction rate as main user incentive ■ Relunched in March after initial technological issues ■ Approximately 62,000 stores applied for it prior to launch

Source: Intralink Research, *Unit: GBP

The digital payments market is yet to see a truly dominant player emerge. Industry insiders predict that companies will focus on expanding their platforms by acquiring or collaborating with service providers from other segments to include a variety of products beyond simple electronic payments; a move to ensure high retention and engagement rates. The presence of multiple leaders in online payments means increased competition. This in turn, is likely to see companies be receptive to solutions that might give them a competitive advantage and so creates cooperation opportunities for British firms.

Industry Insider's Thoughts

“Overseas fintech companies can bring value to the Korean market by contributing to the digital payment segment – it is still a hot topic and there is much to be done as Korea is pursuing openness in the banking industry, especially in promoting account-to-account payment.”

Jaeseo Min, CFA, Senior Manager of the Future Visioning Team at K Bank

Additional opportunities lie in foreign remittance, as local mobile platforms are now able to partner with overseas companies for such services. Samsung Pay launched international wire transfers in January 2019, and other large players are expected to follow. From June 2019, non-financial institutions will also be able to offer overseas payments - until recently, foreign exchange was limited to banks and licensed financial firms.

Industry Insider's Thoughts

Cross-border payments will become more important in the near future, which creates new partnership opportunities between Korean and overseas fintech firms, such as those from the UK.

Alex Ryu, CEO of Kakao Pay

P2P Loans and Crowdfunding

The P2P loan market is growing quickly with additional support and security measures provided for by the government as a result of a number of scandals early on. Accumulated lending reached KRW 5tn (GBP 3.39bn) by the end of 2018, a more than eight-fold increase from 2016. Since 2016, the number of P2P platforms rose from sixteen to 150 currently. Sixty percent of all loans are serviced by the top five companies in the field, while the number of individual investors has exceeded 250,000.

Despite this growth, insufficient regulations initially meant the market experienced difficulties, with some large players, such as Roof Funding – the third largest P2P company in Korea, facing a fraud investigation, and many smaller companies filing for bankruptcy. In reaction to the scandals, the government worked with market leaders to pass new laws designed specifically for the P2P market. Many laws are focused on real-estate related products, as these constituted 65.1% of total lending as of May 2018.

Industry Insider's Thoughts

In recognition of the unique and innovative character of the P2P sector, the Korean government decided to create new, tailored laws, rather than revise ones established for related industries. By doing so, it ensures protection for both borrowers and investors in a consistent way and declares its support for the industry and intent to help nurture it.

– Hyunsang Jo, Chief Strategy Officer and TeraFintech (TeraFunding)

At the same time, the Korea P2P Finance Association established self-regulatory measures, such as requiring all members to set up separate accounts for management of investor funds and borrowers' interest payments. Businesses not tainted by scandal were able to successfully repay lenders' investments, pay out profits, and thus establish trust, which enabled further expansion of offered products. For instance, PeopleFund, Korea's first marketplace lending platform fully integrated with a commercial bank for consumer loan processing, reached an accumulated loan volume of KRW 334bn (GBP 224.5m) at the end of 2018.

Industry Insider's Thoughts

The focus this year is to continue to diversify products and expand our customer base by partnering with other financial platforms as they adopt a vertical market approach. It is clear that marketplace lending services are addressing a social problem by creating loan and investment opportunities for people who do not have access to traditional channels due to tight banking regulations. More importantly, we are being actively supported in our efforts by the government as fintech has been identified as a new growth driver the nation's economy.

– Joey Kim, Founder and Chief Executive Office of PeopleFund



Similarly, equity crowdfunding is becoming more relevant with market size estimates at KRW 120bn (GBP 80.6m) in January 2019. Online capital foundation was legalised by Korea's National Assembly in 2016 by amendments to the Capital Market Act. Wadiz, Tumbbug and Naver's Happybean are some of the most popular local crowdfunding services, and a total of 14 platforms had been registered with the FSC as of October 2018. Wadiz was the first crowdfunding platform to facilitate over KRW 100bn (GBP 676m) in investments in 2018 and reported a 113% growth in comparison to 2017.

In recognition of this new form of investment, the government increased the annual public offering limit to KRW 2bn (GBP 1.34m) from KRW 2m (GBP 1,342). Individual investors are now able to invest up to KRW 5m (GBP 3,359) in a single company and a total of KRW 10m (GBP 6,718) annually using this method. The FSC expressed its intent to further assist market growth by reforming existing laws to enable small and medium-sized enterprises to secure investments through crowdfunding as well.

Recent activity around reshaping the regulatory framework in Korea to facilitate the robust growth of the P2P sector is a signal to action for local and overseas business alike. The market is growing and while there are a number of established players present, industry insiders suggest that there is a constant need for innovative services, which would be able to offer middle-rates and possess unique know-how related to calculating customers' credit ratings. Companies are searching for new ideas and solutions to dominate the market and British companies with expertise in the field should look to seize existing and future opportunities.



Blockchain

With an impressive number of cryptocurrency exchanges, Korea has long been at the forefront of blockchain technology. The government identified blockchain as a third area for growth in the fintech space, behind digital payments and P2P lending. It has announced its intention to promote blockchain technology to secure data transactions and the sharing economy and has pledged to invest up to KRW 10tn (GBP 6.67bn) over the next five years in support of related plans.

Blockchain-based Cryptocurrency

Koreans are among the most progressive with regards to cryptocurrency adoption. In 2017, Korea became one of the top global cryptocurrency markets and continues to be one of the largest markets in the world even after the January 2018

crisis, constituting thirty percent of global cryptocurrency trading.

In reaction to the build-up of an unsustainable bubble, a ban on all initial coin offerings (ICOs) was passed in September 2017 and, in January 2018, the Korean government banned anonymous trading on domestic exchanges by implementing a real-name system which requires users to establish accounts under their legal names. However, high expectations for the technology remain.

The governor of Jeju Island, an island just south of the Korean mainland, formally requested that the government designate the holiday destination a special economic zone to foster the development of blockchain and cryptocurrency. Busan, the second largest city in Korea, followed suit. The final review by the Special Economic Zone Commission

on Regulatory Freedom is scheduled for June 2019. In December 2018 the FSC also announced that as part of its efforts to regulate the sector sensibly, six cryptocurrency-related bills have been submitted to the National Assembly, focusing on user protection and transaction safety, anti-money laundering policies and prohibition of market manipulation.

Recent events prove that cryptocurrencies are also being endorsed by large market players and that they may become a popular payment method. One of Korea's major duty-free stores, Shinsegae Duty Free, recently partnered with Bithumb, the largest cryptocurrency exchange in Korea, to facilitate online purchases using cryptocurrencies. Samsung Electronics introduced its own blockchain wallet service, Blockchain Key Store, with its latest Galaxy S10 phone released in March 2019.



Blockchain-based Technology

Blockchain is well-established in Korea and the variety of applications towards which the technology is being tested is rapidly increasing. Local financial industry specialists consider smart contracts to be one of the most valuable aspects of blockchain, rather than cryptocurrencies themselves. Smart contracts are self-executing contracts with terms of agreement between parties directly written into the code and resistant to modifications, allowing for credible transactions to take place without the need for third parties. This technology is of real interest to financial institutions looking to prevent fraud and provide additional layers of safety and error protection, as well as lower transaction costs.

Shinhan Bank has established an internal research body, the Blockchain Lab, and started implementing blockchain-based solutions for interest rate swaps and derivative transactions. In the race to stay relevant, KEB Hana Bank joined global blockchain consortia Hyperledger and Enterprise Ethereum Alliance in January 2019 as part of the bank's efforts to launch the Global Loyalty Network digital finance platform.

ICON, a project founded by Korea's fintech giant Dayli Financial Group - a diversified fintech group offering solutions related to blockchain, AI, robo-advisors and cryptocurrency - created the world's first blockchain-based authentication service, built for the Korea Financial Investment Association in October 2017 and has collaborated on similar projects with companies in the education, insurance, and healthcare sectors. One of its most recent partnerships is with LINE Corp, the Japanese subsidiary of Korea's Naver Corp, with a view to building the company's blockchain ecosystem.

Industry Insider's Thoughts

Currently, Korea has very well developed 'hardware' – the underlying structure of fintech, what we lack is good 'software'. Local blockchain and AI companies do not have the necessary core resources, which creates an opportunity for successful overseas solutions to thrive on the market.

- John Lee, Senior Manager of the Digital Innovation Department at KB Card

British companies should explore this field by engaging with Korean banks, other financial institutions, technology companies and systems integrators to pinpoint bottlenecks that exist in the market and look to explore the opportunities that are opening up in the field.

AI in Finance

Artificial intelligence in its various forms is becoming widely used in financial services in the Korean market. Not unlike other major economies in Asia, Korea has been investing heavily in AI. Korea's government has released a well-funded AI strategy and is aiming to be among the world's four AI powers by 2022. As such, it is building AI capabilities through education. This process will take time, however, meaning that in the near term at least, there are opportunities for firms from the UK with clear value propositions.

Banks offer chatbot services that apply AI technology to conduct conversations with customers via text to automate simple and repetitive tasks. K Bank offers voice banking through KT's Giga Genie, an AI Speaker. Users are able to check their account balance, perform easy money transfers, and access product recommendations.

Shinhan Bank recently released a new feature, the 'SOL-mate Orora' bot as a part of its SOL mobile app services. Its uniqueness lies in the personalised responses based on customer's preferences and behavioral analysis. Kakao Bank offers features such as video tutorials in addition to basic text communication.

KB Kookmin Bank's deep-learning based AI robo-advisory service called KBotSAM (Safe Asset Management) offers asset management services which apply AI algorithms for market situation analysis - such as economic risk and customer investment propensity - and optimal portfolio recommendations. The personal robo-advisor solution, Kosho, applies deep learning for market history analysis to provide its users with insights for investment decisions.

Despite heavy investment in AI, Korea faces challenges to growth. The country lacks a mature venture capital ecosystem and can boast few AI startups. There still exists an engineering gap for skilled AI talent, which the country is addressing by starting at least six new AI schools by 2020. The sheer volume of investment coupled with a deficit of skilled individuals and the need for new technologies makes Korea an attractive target for British companies in all forms of AI.

Major conglomerates, such as Samsung, LG and Hyundai, are developing and investing in new applications for artificial intelligence, however, they alone will not be able to satisfy the country's hunger for innovation in the field. AI is generating interest in all sectors of technology, from automotive, electronics and robotics applications to e-commerce, digital media and finance. Financial services leaders in particular are keen to adapt AI in multiple forms, ranging from chatbots to utilising the technology to estimate costs and calculate the premium on regular insurance products.



Insurtech

While still conservative, the Korean insurance market includes companies that are adopting new technologies and creating new business models to address modern customers' needs. Mobile transactions are seen as an obvious convenience in Korea and insurance providers recognize the need to join the trend. This fact, paired with the need for cuts in operating costs due to Korea's rapidly ageing society and, in the longer-term, a shrinking customer base, is expected to further boost innovation in the field.

Kyobo LifePlanet is the country's first online-only insurance company, set up as a subsidiary of Kyobo Life. In January 2019, it announced a partnership with the major insurer, Samsung Fire & Marine, as well as Toss to develop its insurance offerings. Hanwha Life, another major insurer in the region intends to launch the first online-only non-life insurance service in 2019. Kakao Pay intends to integrate IT-based insurance products into its service as part of its current platform expansion plan. The company also started working with insurance purchase platform, Inbyu for overseas travel insurance packages.

The FSC has recently announced its intention to grant preliminary approval to an additional online-only insurer to stimulate growth. Additionally, two fintech insurance companies are among the 19 services selected for priority review to be launched under the new regulatory sandbox policy and will be able to begin operations in May 2019. Digital payment and remittance entities are also joining the fold. Viva Republica's Toss offers customized insurance plans and voiced its intention to acquire an insurtech platform to help broaden its user base.

Regulatory barriers still exist in Korea's insurtech space and can slow growth in the otherwise promising sector. British companies looking to get involved in the space should ensure they monitor recent developments in the insurance market in Korea and may expect further deregulation.

Regtech

Regulation technology or 'Regtech' solutions are aimed at ensuring compliance with existing laws, monitoring financial transactions for unusual activities through AI data analysis, and easing regulation-related workload through the use of IT technology. Regtech in Korea manifests itself through the government's regtech platform, the Financial Security RegTech Portal launched in December 2018, continuously updated to fit financial institutions' requirements. The FSS also intends to introduce a data-based regtech ecosystem to assist companies in reducing operational costs and automate transmission of reports to the institution.

The general attitude towards regtech in the financial industry appears to be welcoming towards innovative solutions as compliance-related procedures are cumbersome, due to how heavily-regulated the financial sector has been. Some financial institutions have already taken their first steps towards integrating regtech into their businesses. Shinhan Bank announced in December 2018 that it designed an information security regtech system for digital financial security and global protection compliance purposes. Applications include digitisation of the on-site information management inspection system for Shinhan's domestic head office and branches.



5. Regulations

Key Points

- Financial regulations have held back Korean fintech to date, but deregulation is on the horizon
- Personal data laws, transaction security and data storage localisation requirements can cause difficulties for foreign firms and place them at a disadvantage versus their domestic competitors
- Cryptocurrency ICOs are still banned as a result of multiple cases of fraud, but there are signs that new regulation may be under way that will boost innovation, while providing security in the field
- A Data Adequacy agreement between Korea and the EU (expected in 2019) will improve market access for EU firms (On leaving the EU, a similar agreement with Korea should be achievable, assuming the UK tracks closely to the EU's personal data regulations)

Numerous laws safe-guarding the finance industry have traditionally made Korea a difficult market for fintech to flourish. However, the current government recognises the importance of the sector and the fact that regulations are limiting innovation as well as placing Korea at a competitive disadvantage. The government is actively looking to ease regulations making it possible for banks and fintech companies to develop solutions and forge new technology partnerships.

Financial activities fall under the FSC's and FSS's supervision. These include, among others, the transfer, issuing and management of electronic funds as well as electronic payment services, electronic payment issuance, supervision, agency services and depository services of transactions, etc. At the moment, electronic issuance and management of currencies must be licensed under the FSC. Financial transaction security is protected under the Electronic Financial Transaction Act (EFTA).

Industry Insider's Thoughts

If there's a government drive, things can move very quickly. Recent improvements in flexible certification approvals and other liberalisation measures show change really is happening in Korea.

- Head of Big Data Center at leading domestic credit card company





Data and Transaction Security

Personal data protection in Korea falls under the Personal Protection Information Act (PIPA). PIPA is widely considered to be one of the strictest personal data protection regimes in the world. The regulations specify that for electronic transactions the data subject must be informed of and agree to the purpose and items collected as well as the duration the information will be kept. It must also be stated that the data subject may refuse to share the information and what the consequences of such a refusal are. Personal data should not be kept for longer than is necessary to fulfil the purpose for which it was originally collected, and prior consent must be secured before a data subject's data is transferred abroad.

Data Adequacy

Korea initiated the process of getting an EU adequacy decision in 2015 and is hoping to secure it in 2019. If data adequacy is agreed, it will become easier for EU fintech firms to collect, store and process customer data outside Korea and should reduce the need to set up Korea-specific infrastructure. Korea's proposal to the EU for data adequacy was based on its PIPA. The law created a Personal Information Protection Commission (PIPC) that is a data protection authority with independence but

without enforcement powers of its own meaning that the Ministry of the Interior and Safety (MOIS) has the power to enforce PIPA but lacks independence, while the PIPC satisfies the independence standard, but lacks enforcement power.

It is the UK's stated position that "the EU's adequacy framework provides the right starting point for the arrangements the UK and the EU should agree on data protection" and the UK's Data Protection Act 2018 strengthened UK standards in line with the EU's GDPR and the Law Enforcement Directive. Continued close alignment with the EU should allow for a swift agreement on data adequacy between the UK and Korea.

Data Localisation Requirements

The rapid move from storing data locally to storing data in full or in part on the cloud has been one of the key elements of digital technologies development in recent years. Until early 2019, Korean financial institutions, including banks, insurance companies and investment firms have not been allowed to store identifiable customer information in the cloud. From this year however, based on new legislation formed by the FSC, such information may be stored on cloud servers, provided they are located in Korea.

The necessity of storing certain information on cloud servers located in Korea can cause difficulties for foreign fintech firms wishing to enter the market. Although the fintech market is growing, foreign firms that make use of regional or even global servers might decide that the Korean market is not large enough to warrant Korea-specific arrangements in order to service customers.

Cryptocurrencies

As a result of multiple cases of fraud and to protect users, in September 2017, the FSC implemented a ban on all cryptocurrency ICOs in Korea. Only in early April 2019 did senior governmental officials signal a readiness to lift the ban. According to Heekyong Song, the co-president of the 4th Industrial Revolution Forum at the National Assembly, "the government has misunderstood virtual currency and tried to meet real currency standards, so there are various problems" and lighter-touch regulations are expected in the near future.

In February 2019 a bill was proposed which aims to protect users from abuse and hacks by proposing definitions for virtual currency, its handling, brokerage, issuers, and management. The bill also proposes measures to protect crypto-users through restricting transaction methods, which should lead to increased confidence in the field and certainty of investment, boosting innovation and opportunities.



6. Government Initiatives and Policy Roadmap

Key Points

- The Regulatory Sandbox Program is set to ease companies' ability to test and roll out solutions
- The UK and Korea signed the FinTech Bridge and a Regulatory Cooperation Agreement in 2016
- The FSC intends to amend the Credit Information Act to facilitate the use of big data in the sector
- The government pledged GBP 6.67bn to create a platform economy over the next five years with a focus on promoting big data and AI, and developing blockchain technology

Regulatory Sandbox Program

Possibly the most important policy introduced to spur the development of the fourth industrial revolution and new growth industries such as fintech is the Regulatory Sandbox Program, which came in to effect on 1 April, 2019. This focuses on encouraging local and overseas companies to innovate and prove out a product or service by providing an environment in which solutions can be tested free from specific regulations.

When a company registers a new service, the government will now first provide information on existing regulations which currently pose limits to its implementation. If the company does not receive a response in 30 days, it can assume that there are no prohibitions to launch the business. If such limiting regulations are in place, the government will now be able to grant exemptions for the company to be able to test its product or service on a live audience, in a controlled environment. If the application is reviewed favorably, the government can grant either a temporary approval or special approval for the particular case, while it seeks to adjust relevant regulations.

This approach enables companies to develop products while also providing security to users. It is also hoped that the initiative will increase investment in the companies themselves, since the government is supervising the operation. Under the regime, fintech companies approved

by the FSC will be able to test for up to two years, with a one-time, two-year extension possible. Once a system obtains a licence after successfully completing the testing period, the company can acquire exclusive operating rights for up to two years, which will prevent other operators from launching the same services in that period. By February 2019, 88 companies with 105 new services had applied: 15 finance companies and 73 fintech companies. The government selected 19 services as a priority, and they are expected to launch operations in May. The remaining proposals will be reviewed in June.

More broadly, Korea is moving from a positive-listing approach to a negative-listing approach to regulation in new growth industries. Until now, Korea's innovation has been stymied as companies needed to secure licencing and permits for products, services or business models for which no specific laws existed due to the fact that these are new, disruptive solutions. This meant waiting for the government to analyse and set regulations for the new venture. Under strong pressure from industry, the current administration has pledged to move to a negative-listing approach whereby if there are no regulations specified for a product, service or business model, companies will be free to move forward without seeking government consent beforehand.

Figure 4: Regulatory Sandbox Application Process

1. Submit application for regulatory sandbox



2. Ministry of Science and ICT (MSIT) accepts and notifies related authority



3. Related authority processes application within 30 days and notifies if regulatory prohibitions exist or laws are not precise



4. Prohibited services are eligible for a special permit; if laws are imprecise, services are eligible to receive a temporary permit



*4A. To be granted temporary permit, services might be required to undergo security testing



5. MSIT introduces the case to the Deliberation Committee



6. Deliberation Committee considers the application and decides



7. Upon acceptance, MSIT grants temporary or special permit



8. MSIT and related authority supervise and control the service



9. Related authority reviews legal system with a view to readjust where necessary

Source: Government Regulator Sandbox Program guidelines available on sandbox.or.kr

UK-Korea FinTech Bridge

In 2016, the UK and Korea signed the UK's Financial Conduct Authority's FinTech Bridge regulatory cooperation framework. The main purpose of the cooperation agreement is to share information related to the industry (such as service innovation for specific segments), regulatory issues and market trends, as well as reducing entry barriers between both countries.

Korea has been focusing on developing a regulatory environment that supports rapid growth of the fintech sector. Through growing cooperation with an industry leader, such as the UK, the country is hoping to emulate Britain's success in the field and grow its domestic market rapidly. Korea's regulatory sandbox and open banking policies have been modelled on existing UK regulations, meaning working in Korea should prove somewhat familiar to British businesses. The Bridge with the UK should also facilitate Korean startups' entry into the global market place.



Open Banking

The FSC is looking to increase innovation in the financial system and encourage the participation of fintech firms by establishing an open banking system to foster development and competition. Even though a framework intended to enable non-financial entities to build solutions around financial ones has been in place since 2016, access is limited.

Fintech companies currently need to establish separate partnerships with each bank to be able to provide payment services, and usage fees are high - approximately KRW 300-500 (GBP 0.2-0.33) per transaction. Under a revised policy, currently being negotiated by the government and major banks in Korea, these fees would be lowered to approximately KRW 40 (GBP 0.027). The new system would require traditional financial institutions to allow their users to share data with third parties, including fintech companies, granting access through Application Programming Interfaces (APIs). While the government states that banks have agreed to the policy in principle, the reduced fee level is still being discussed as of April 2019.

One of many potential applications is companies being able to adjust their services and suggest customized financial products after analysing customer information. Open banking will also enable traditional banks to access more customers as they will be able to process other banks' account-based transactions as well - currently, they are limited to using their own data. The reform should further increase convenience for consumers, who will be able to use one service, rather than download separate apps for each bank.

The open banking IT system is expected to be finalised in 2019 and amendments to the related Electronic Financial Act finalising the regulatory framework will be proposed in the third quarter of 2019.

MyData

The MyData service initiative was announced in July 2018 and the FSC intends to implement it in 2019. The Korean government recognises that data will be a key foundation of the fourth industrial revolution and in order to address the importance of information it designed MyData, a system intended to assist users in controlling their data.

At the moment, the discussion about data utilisation is led by companies and thus benefits them more than the user. The new MyData platform is to enable individuals to manage their own information, spread across different institutions and companies. If they wish, users will be able to grant third party companies access to select data for those companies to design innovative, customized

and diversified services such as data-based credit management, credit information inquiry services, financial status analytics, product recommendations or financial advisory services.

P2P Lending

Taking into consideration the specific characteristics of P2P loans, rather than re-adjusting the rules related to traditional lending, the FSC announced in February 2019 that it plans to create new legislation to help ensure that P2P lending regulations do not hinder innovation, while at the same time protecting investors and borrowers and enhancing investor trust. An additional five bills on P2P lending are pending in the National Assembly. The first three bills propose new legislation to the system, while the remaining two aim to revise existing regulations.

While the P2P lending sector has seen rapid growth since 2016, little was done to establish a legal framework for the sector, and it went largely unregulated. In 2018, some major members withdrew from the Korea P2P Finance Association and seven companies came under investigation for fraud and embezzlement. In response the association took self-regulatory measures and mandated that all association members have to share credit history through a credit information company.

The association has also been making monthly announcements regarding loan balances, loan sizes and default rates of member companies since October 2016. These efforts, combined with the continuous success of the leading members, as well as partnerships with fintech giants such as Samsung Pay, Toss, and Kakao Pay, have ensured the continued growth of the sector.

Regtech Platform

The Financial Security Institute has built a common financial regtech platform to help local companies operate in accordance with financial security laws. 179 companies from the banking, financial investment, credit card and insurance sectors took part in the trial phase of the project from November to December 2018 and the service has now officially launched.

The programme's main goals are supporting: 1) automation of compliance management, 2) automatic financial security reporting, 3) intelligence regulation search, 4) notification, as well as 5) financial security business support. It is currently only available in Korean through regtech.fsec.or.kr for registered local companies.

7. Market Entry Strategies

Key Points

- Direct sales into the large conglomerates is possible but on-the-ground support is strongly advised
- Using a sales team based outside of Korea is difficult due to language and cultural barriers and high expectations of after-sales support
- Partnering with local systems integrators or value-added resellers is advisable for foreign companies
- Foreign companies can apply to participate in government-led projects but there are barriers:
 - Culture, language, business environment, etc.
 - Preference towards local businesses adding at least some value to products or services

Korea offers many opportunities for UK businesses, with many large Korean corporations, financial and non-financial, actively developing fintech solutions or partnering with other companies for innovative services. The government's dedication to become a leader of the fourth industrial revolution and a rapidly-developing local fintech market create a solid foundation for foreign businesses to test and introduce their fintech technology. However, UK businesses looking to engage in a strategic partnership or introduce their technology to Korea should take into account both business-related and cultural factors. UK businesses can approach the Korean market through direct sales from the UK, by appointing a partner or by setting up an office in Korea.



Direct Sales from the UK

The simplest market entry option is for UK companies to sell or license a particular fintech technology directly to Korean end-users. The main downside of a direct sales approach is the lack of local language and time-zone support, as Korean companies tend to be particularly demanding of their partners. This can be mitigated by using a local agent or business development consultancy, such as Intralink, capable of bridging time-zone, language and cultural gaps without the long-term commitment of local incorporation and hiring. Market-specific factors to consider include:

- Do we have a strong differentiator - something that sets us apart from our competitors in the market?
- Do we have a strong track record in other major markets? Korean companies are not easily convinced to use a new, disruptive technology as a first-mover without case studies
- Are we willing to localise the product for the market and/or for local regulations, if necessary?
- Are we ready to provide a Proof of Concept (PoC) at little or no cost to the customer? Korean companies will look to drive the price down and will not commit before proving the value through testing
- How do we provide after-sales support? Korean customers expect high-quality, local-language support

Appointing a Reseller or Distributor

A more common way to approach the market is to seek a partnership with an established local company which complements your product, has experience in the target sector and can help navigate the legal environment. A local channel partner, perhaps a systems integrator (SI), can provide services such as pre-sales, sales, consulting, installation, technical training, service maintenance, technical support and system integration in the Korean market. Even large multinationals take this route in the early stages of market entry. Market specific factors to consider when seeking a partner include:

- Does the partner already serve the type of customer that we do?
- Does the partner have a good understanding of the market in general and my particular application?
- Does the partner already offer solutions similar or complementary to our offering?
- Is the partner focused on short-term wins or will they be able to drive our business in the long run?
- Does the partner have specific experience with public sector projects?
- Are we comfortable communicating with the local partner and are they transparent with us?



There are broadly three ways of establishing a local presence:

- (1) a liaison office,**
- (2) a branch office or**
- (3) a local corporation through foreign direct investment (FDI).**

Establishing a Local Presence

Setting up a liaison office is a simple process; but a liaison office can only perform non-profit generating activities in Korea such as market surveys, research and development and quality assurance. Setting up a branch office can be a complicated process that requires documentation to be translated, but it allows for sales activities and the exchange of revenues with the head office. The most common process for an overseas company to open a branch office in Korea is through FDI, where an initial investment exceeding approximately GBP 68,000 is made by the head office, which in return owns stock in the branch. The local corporation leads independent activities and is authorised to perform direct transactions. Market-specific factors to consider when establishing a local presence in Korea include:

- Is our business generating enough revenue in Korea to consider a local presence? Businesses usually consider establishing a local presence after several years of sales (either direct or through a partner)
- Is Korea a strategic market for us, either in terms of securing use-cases or securing further funding?
- Do we need to engage in profit generating activities?
- Will we transfer staff from our head office or hire local staff? In Korea, visas can be difficult to secure for foreign employees and social insurance contributions and severance pay must be paid to all staff that complete one year of employment. An employer's share of these costs equates to 18% of salary
- What location shall we pick for our local presence? Scouting, negotiating, and conclusion of contracts are time-intensive processes that often are hard to conclude without local support

Associations and Exhibitions

Table 4: Associations and Exhibitions

Organisation	Description
 한국핀테크지원센터 Fintech Center Korea fintechcenter.or.kr	Established by the government, provides consulting services for fintech startups and pre-startups. During the monthly Demo Days, selected companies present and demonstrate their solution to finance companies
 KORFIN Korea Fintech Industry Association korfin.kr	Promotes the development of the fintech industry and the use of fintech. 296 member companies, including main players such as Kakao Pay, Viva Republica (Toss), PeopleFund, Rainist, etc.
 한국P2P금융협회 Korea P2P Finance Association p2plending.or.kr	Shares mutual loan history of its members to prevent financial fraud. Develops and studies legislation and systems related to P2P lending and crowdfunding in Korea
 Startup GRIND powered by Google for Entrepreneurs Seoul startupgrind.com/seoul	Seoul branch of the largest independent startup company. 1910 local group members. Startup Grind Seoul hosts monthly meetings in Seoul in partnership with Asan-Nanum Foundation
 INSIDE FINTECH CONFERENCE & EXPO insidefintechconference.com	Originally launched as Inside Bitcoins. Conference which explores blockchain technology and other decentralized solutions for financial processes

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