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FEDERATION OF EURO-ASIAN
STOCK EXCHANGES



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Federation of Euro-Asian Stock Exchanges

Spring 2014



In the exchanges world, infrastructure really determines super structure

Technology innovation in exchanges - Future trends

Partnership between NASDAQ OMX and Borsa Istanbul: a dream project

Borsa Istanbul will be the technology and finance hub of the region

EGX Trading System

Country Focus: Georgia

Innovation in exchange technology

Technology innovation in exchanges

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The Federation of Euro-Asian Stock Exchanges (FEAS) was established with its headquarters in Istanbul on 16 May 1995 with 12 founding members, and it has grown to 34 members 17 affiliates in 31 countries as a not-for-profit organization. Membership in the Federation is open to exchanges in Europe and Asia as affiliate membership is available for post trade institutions and dealer associations in the same region. FEAS Organizational Structure is formed by General Assembly, Executive Committee, Working Committee and the FEAS Secretariat.

The mission of FEAS is to help create fair, efficient and transparent market environments among FEAS members and in their operating regions. FEAS aims to minimize barriers to trade through the adoption of best practices for listing, trading and settlement. Federation also supports promoting linkages among members for cross-border trading.

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- Belgrade Stock Exchange
- Borsa Istanbul
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- Mongolian Stock Exchange
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- Tehran Securities Exchange Technology Management Company (TSETMC)
- The Association of Capital Market Intermediary Institutions of Turkey (TSPAKB)
- Arab Federation of Exchanges (AFE)
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- The South Asian Federation of Exchanges (SAFE)

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FEAS Perspective



Mustafa Baltacı
FEAS Secretary General

Dear Friends,

We would like to present the 2014 spring issue of InterFEAS magazine with a theme that is globally accepted as one of the biggest challenges in the capital markets; 'Technology innovation'.

Stock exchanges must innovate to survive in today's competitive world. Progress deprived from competition is not enough to beat the consequences of the financial crisis that has triggered the structure of the price discovery.

With daily share volumes much below the peaks, consolidation rules the day. Institutions under mega mergers find themselves in regulatory glare. Regulatory changes force exchanges to implement more technology innovations.

There are several arguments on the short term and the long term effects of the technology innovations whereas the yield calculation of the tech investments is still a dilemma. However, there is one solid fact that the markets are primed for more innovation.

In this issue, we will access you with many different aspects of the IT innovation in the exchanges. You will read different approaches to technology approaches.

While Mr. Tahir Taslaman of Sarajevo Stock Exchange discussed the future trends in technology in his article, Dr. Shakira Abdel Shaheed from EGX contributed with an article about EGX's new trading system X-Stream.

Last but not least Mr Dariusz Kulakowski from Warsaw Stock Exchange wrote about their recently implemented UTP trading system.

Our sponsors deserve an account of appreciation hereby. Finans Asset

Regulatory changes force exchanges to implement more technology innovations.

Accordingly;

Mr. Jan Rondahl from NASDAQ OMX and Mr. Ali Coplu from Borsa Istanbul have been interviewed on the recent BIST, Nasdaq OMX partnership, exchanges' technology management and new aspects in the IT systems.

Mr. Philippe Carré of SunGard and Ms. Veronica Augusts son of Canoer shared their views on exchanges striking a balance on their technology; today's and tomorrows' markets and future of standardized markets.

Management and Is Investment have added value for making this publication possible. Our website has a contributor section at www.feas.org which presents advertorial pieces of the sponsors.

Allow us to thank again for your support and interest as we hope you will find the spring 2014 issue of the InterFEAS Magazine enjoyable.

Sincerely,

Mustafa Baltacı
Secretary General

Technology innovation in exchanges - Future trends

IT innovation comes from many sources - from technology startups with brilliant new ideas, to the research and development labs of major technology companies - and it must come from within the market and exchange itself too. We examine the technology innovations that could become important for future of exchanges, and analyse the issues around managing and delivering IT-enabled innovation.

Technology has contributed and created an invisible world where billions change hands in milliseconds reaching the speed of light. But the turn of trend in financial markets and intension of lowering the market costs, spreading the investments across different markets easily are altering the financial sector's landscape and technology's evolutionary journey is far from over. In fact, we are facing a new challenges, seeking for new technology innovations that can help up overcome the needs of investor's demands. New innovations are opening a new risks and we have to keep pace with surveillance demands as well.

Building blocks for innovations in exchanges are more or less already known. It is all a subject to how they are being connected among themselves.

Fortunately, the story of technology innovation within exchanges does not end with these challenges. Several rapidly accelerating trends are laying the groundwork for the emergence of a new business and IT paradigm that promises to change conventional thinking about the roles and capabilities of IT systems. Information technology is increasingly viewed as an integral business function for

financial services in opposition to conventional thinking seeing the information technology as supporting role rather than innovative engine in organization.

The definite trend and solution that is spreading across the whole financial industry in fact is not a technological abstraction. It consists of several key elements that has always been loadstar for technology development navigation. These are:

- Use low-maintenance platforms utilizing high automation and easy replication and customization
- Provide the ability to dramatically drive down processing costs based on actual usage
- Provide the ability to store, process, use and re-use information of all types from all sources quickly and make it accessible anywhere from any device possible using a proven industry driven standards
- Use a decomposition strategy to develop tightly integrated

systems based on state of the art components

- Seek for new pathways for increased performance and risk analytics
- Improve risk management with proactive and self learning "what if" scenarios and capabilities



Tahir Taslaman

Executive Director
Information Technology Department
Sarajevo Stock Exchange

Current trends in the industry are rapidly shifting views about what is feasible and how things can be accomplished. At the same time, they are the product of insights gleaned from lessons learned. In fact, general innovations in IT are generating the ideas for financial markets.

To be more precise, in considering how to move from vision to reality, a lesson in architecture is a good place to start. Building blocks for innovations in exchanges are more or less already known. It is all a subject to how they are being connected among themselves. In fact, a defined reference architecture creates the framework that contains the key values, principles, assumptions and relationships that tie together best practices, processes, workflows and functions. These are building blocks that sets out the rules for building and deploying systems and their enhancements.

Almost all the time, it is about the architecture. If a system's architecture is inflexible, it leads to barrier to meet market demands in time making it outdated as soon as market or regulatory demand changes.

Wise architecture to support solutions to today's business and technology challenges must meet several essential principles. First, reuse of all information technology assets which includes software,

a single multi-use platform, this highly integrated system has the scale and flexibility to dramatically drive down data costs. Thus, a standardized framework based on reuse, component-based and standardized concept can provide optimal flexibility and customization with remarkable efficiency, simplifying the process of regulatory and market driven customization opening the crucial time to be spent on further boost of ideas and innovations of development team.

are a definite advantage of pursuing a cloud-based strategy and speed trumps cost as cloud's strongest feature. Not only a cloud system can be deployed or redeployed rapidly, its speed also dramatically shortens calculation times.

What has been recently interpreted as a cloud weakness - data security can become also the strongest one in terms of control over sensitive, proprietary data. Such concerns just vanish by utilizing a „private cloud” environment. The best private cloud architectures outline standards for developers, limiting their access to the application's framework and providing a more automated security provision environment. By doing so, private cloud infrastructures can provide enhanced capacity capabilities, improved standardization and, most importantly, far greater data security.

Technology innovation is probably one of the most important forces in fueling the growth of new products, creating new financial markets, transforming industries, and promoting the global competitiveness of markets.

data and processes throughout the system where possible. Second, decomposition and component-based approaches to take precedence within all IT solutions and projects. There has always been “buy or build” dilemma like whether to have strong business team and outsource IT development or to have a strong IT development team and outsource everything else or just to mix and combine everything. Neither of three concepts are wrong or best choices. Decision depends on needed customization which is almost all the time reserved for standalone projects only. For example, if the regulatory environment is changing too fast, then insourcing could be the wise cost saving option. Also, as a more tangible result, insourcing could boost innovations inside the company itself.

In addition, standardization and for example integration interfaces based on well know industry driven standards such as FIX protocol should apply wherever possible. Resting on

At the end, it comes to integration of communication between exchanges, registry, regulatory and surveillance, investment funds, brokerage houses and issuers forming an unique financial technology eco-system and integrated solution such as order routing and common trading platforms linking the different markets and participants at the same time resulting in low costs of being on the market for investors. Here lies the remarkable power of cloud computing. Definitions of cloud computing may vary, but at its simplest, the cloud can be thought of as a low-cost parallel computer, working together to attain a common goal.

Infinitely scalable and efficiently repeatable, the cloud can simultaneously provide infrastructure, platforms and software applications as services. Standardization represents the cornerstone of cloud computing, enabling substantial reductions in development and operating costs. While lower costs

Technology innovation is probably one of the most important forces in fueling the growth of new products, creating new financial markets, transforming industries, and promoting the global competitiveness of markets. Now comes the final question, do we invest enough in technology innovation if we want to keep pace with future trends?

Partnership between NASDAQ OMX and Borsa Istanbul: a dream project



Jan Rondahl

Vice President of Delivery Services,
Market Technology, NASDAQ OMX

What are the new developments / aspects in world exchange technologies?

We have seen an increase in demand for integrated solutions both vertically and horizontally: vertically, along the transaction chain managing trading clearing, settlement and depository functions in same technology in an integrated fashion; horizontally, meaning cross asset classes covering trading and clearing, including risk management and netting of cash and derivative products in the same platform and potentially in the same order book. We also are experiencing demand for more sophisticated pre-, at and post-trade risk management, especially real time pre-trade risk management in a configurable and flexible way including support for sponsored access.

What is your perspective on exchanges managing their technology / IT base?

We're beginning to see an evolution in thinking where exchanges are taking a wider approach on their long-term IT strategy. Rather than replacing one system at the time - they're looking at the complete, holistic

picture. Additionally, they're utilizing more of the standard functionality provided which helps them in the short- and long-terms with lessening support & maintenance costs, and accommodating new industry trends. Still, many exchanges are strongly controlled by their members, and often these members are hesitant to change practices and technology - so frequently we see the resistance is beyond the technology itself and something deeper in the exchange's culture and dynamic.

How do the exchanges maintain a balance between procuring technology systems and managing the exchanges' main functions?

It is really important for the exchange to find a technology partner that understands the business; otherwise it will be hard to balance the need for external technology collaboration with the need for innovative business development. A pure technology provider can only provide technology and do what their exchange customers request them to do. By selecting a partner like NASDAQ OMX, the exchange can leverage the initiatives we do on our own markets and take advantage of our experiences in growing our business through technology enhancements.

How contributive / beneficial / supportive are NOMX products on the developing exchanges?

As the market leader we deliver exchange technology to more than 80 exchanges around the globe. In order to maintain this position, we need to have products that support all kinds of markets and all kinds of financial products. As an operator of 26 markets in the US and Europe, we have an incredibly diverse group of

exchanges that help us share best practices with customers of all shapes and sizes too.

On the technical side, some exchanges with a tradition of managing their IT development themselves want to maintain that competence even when selecting technology from a provider like NASDAQ OMX. We then need to be able to deliver an open architecture in our solutions where we can share future development efforts between ourselves and our customers. These types of customers are looking for a relationship where they can have full control of their business' development, while vendors like us can ensure state-of-the-art platform development and also provide core business functions.

What is your expectation of the partnership between NASDAQ OMX and Borsa Istanbul?

From a technology perspective this is a dream project for us. We're given the opportunity to deliver our full suite of integrated solutions along the whole transaction chain from the early pre-trade checks, trading, clearing settlement, risk management to market surveillance and across all asset classes. We'll also be working closely with the Borsa Istanbul team via their involvement in the day-to-day project activities, more than we tend to do with our customers. Because of this we'll gradually move the support and long-term development from NASDAQ OMX sites to Istanbul. We believe this approach will be effective with more customers in the future.

Borsa Istanbul will be the technology and finance hub of the region

What was the rationale behind the deal signed with NASDAQ OMX?

With the new Turkish Capital Markets Law and the formation of the Istanbul Financial Center Project, Borsa Istanbul is poised to become the new trading power house in Turkey and in the region. Borsa Istanbul was launched in 2013 generating a vertically integrated silo combining trading, clearing, and settlement functions under one leadership and covering the entire breadth of asset classes from gold and precious metals, to fixed income, derivatives, and cash equities.

Under the leadership of chairman Turhan, Borsa Istanbul is set out to develop its business to achieve an IPO in 2016. To accomplish this goal, and to establish a stable and prosperous capital market in Turkey and the region, the Borsa Istanbul board has decided to work with an international strategic partner. This partnership will entail the provision of the world leading NASDAQ OMX trading, clearing, risk management, settlement, and surveillance technologies, several business collaboration aspects, and advisory services to strengthen the business growth of Borsa Istanbul and help it achieve international standards and best practices.

Is Istanbul - and Turkey and general- poised to become a hub for the Eurasia region? If so why?

With the formation of Borsa Istanbul and the strategic partnership with NASDAQ OMX, Istanbul is extremely well positioned to become an important hub for capital markets within the Eurasian region. Turkey is one of the fastest growing economies

in the region, has strong political ties, and with Istanbul benefits from its unique and central location. As such, Borsa Istanbul can and will take a leadership role in the development of the Eurasian capital markets.

What are the biggest opportunities for the trading technology industry in Turkey?

Borsa Istanbul will substantially overhaul its entire technology stack and introduce best-in-class trading technologies compliant with international standards. As such, access to the Turkish Capital market will be greatly facilitated - especially from a technology perspective. Standard interfaces such as FIX, ITCH, and OUCH will be available, a state of the art data center will host the trading engines, and industry standard trading and business practices will be applied.

What kind of technology does Borsa Istanbul use?

Borsa is the fully integrated operator of capital markets in the Republic of Turkey. Borsa provides a fair, transparent, and efficient environment for the trading of a wide variety of securities including equities, Exchange Traded Funds ("ETF"s), warrants, government bonds, repo and reverse-repo agreements, foreign securities (Turkish Treasury

Borsa Istanbul will substantially overhaul its entire technology stack and introduce best-in-class trading technologies compliant with international standards.

Eurobonds), derivatives, selected commodities, sukuks, and corporate bonds. We have fully computerized on-line trading systems and surveillance with real-time data



Ali Coplu
Chief Information Officer, Borsa Istanbul

dissemination. In addition, the investor-based central securities depository, MKK, is a unique competitive strength. Through our controlling positions in Takasbank and MKK we are also the only provider of post-trade services to the securities markets in Turkey, namely, central clearing, settlement, and custody.

Borsa operates three different trading platforms, hitherto run by the predecessor company İMKB, for three different markets, namely equity market, fixed income market and derivatives market. In addition, the derivatives market trading platform

of TurkDEX belongs to the Company. Borsa owns the source code and the right to change the source code for all of its trading systems. Borsa Istanbul provides the members with

redundant links utilizing two separate networks of Turk Telekom. In order to maintain minimum network outage, an automated switching between the Networks has been implemented.

The technology platforms we use in our markets are as follows:

Equity Market

Fully automated Equity Market Trading System of Borsa İstanbul partially started on December 3, 1993 and became fully functional with all stocks tradable on an electronic environment after October 21, 1994. Trading system was purchased from a US Company called TCAM systems with the source code. During the course of time capacity in terms of number of transactions and latency has improved considerably. As of March 31, 2013, the throughput of the system is almost

Currently, Borsa trading system supports "multiple price continuous auction", "continuous auction via market making" and "single price auction" trading mechanisms. Block trade facility is also available in the equity market trading system. Borsa keeps its markets under continuous surveillance via a proprietary surveillance system to detect any market abusing activity such as market manipulation and insider trading. The in-house developed surveillance system, built for the requirements of Borsa and CMB, performs real-time account-based monitoring on transactions conducted on Borsa markets.

The Equity Market Trading System also supports another market segment called Emerging Companies Market (ECM) which has been running since August 18, 2009.

Many different subsections or markets are supported in the trading system. All submarkets operate on a multiple price continuous auction system. The system also supports Block Trades and IPOs.

Settlement of trades in the primary market and in the over the counter secondary market for the government debt securities is realized via the Electronic Securities Transfer System operated by and finalized through the Central Bank. Takasbank has a securities account with Central Bank in order to facilitate the settlement of trading in government debt securities which takes place at the ISE.

As an additional functionality, The Eurobond Negotiated Deals Platform has been launched on December 17, 2010 with an aim to increase the competitiveness of the ISE Eurobonds market through the advantages of both the organized and the over the counter markets.

The cash and security clearing and settlement operations of the Eurobond transactions on Foreign Securities Market are conducted by Takasbank, through the member accounts on Euroclearbank.

Fully electronic equity market trading system enables Borsa members to trade in stocks, rights coupons, exchange traded funds, warrants and certificates.

5,000 orders/second and the latency at the peak time of order flow is below 1 millisecond via FIX interface.

Fully electronic equity market trading system enables Borsa members to trade in stocks, rights coupons, exchange traded funds, warrants and certificates. Borsa conducts two separate sessions for Stock Market trading activities; one session in the morning and another in the afternoon. Buy and sell orders are submitted to the Stock Market Trading System (System) manually via trading terminals located at the Borsa İstanbul Trading Floor or electronically via Automated Order Routing System (ExAPI). As of today, more than 97% of the orders are coming through the API.

Fixed Income/Debt Securities Market

A different computerized order matching, reporting system called OTASS is employed in the Debt Securities Market on July 1999. The system has been developed upon the trading platform of an Australian company, CSL, which was later taken over by NASDAQ-OMX. Borsa İstanbul has the full source code and the right to change it for internal purpose. As is the case for equity market trading platform, trading members may enter their orders via terminals in their own offices or electronically via a special API.

Derivatives (Futures and Options) Market

The trading system for futures and options market has been built upon the trading system purchased from an Australian company, CSL, which was later taken over by NASDAQ-OMX. Borsa İstanbul has the source code and full authority to amend the code. The trading system supports continuous price auction as well as price fixing (call auction) mechanism. The system used by TurkDEX as the trading platform is a different version than the one used by Borsa İstanbul.

After the planned takeover of TurkDEX, two different versions will merge into a single trading platform.

Trading system infrastructure provides an online real-time connection with Takasbank and makes it possible to monitor all orders, transactions, margins and positions on account basis. Various types of orders including limit, market, keep remainder and market contingent (stop loss) orders are supported by the trading system.

The primary sub-systems are listed below:

1. Electronic trading and matching
2. Margin verification, position keeping and risk calculation
3. Market operations, exchange administration and monitoring
4. Information dissemination to data vendors
5. Market reporting and business intelligence
6. Surveillance and oversight
7. Member relationship management and billing
8. Automated report delivery and web services integration
9. Departmental decision support systems such as final settlement calculation, foreign exchange rate alerting, market maker reporting, etc
10. System Resource Monitoring, Automation and Alerting

Borsa Istanbul is also at the heart of Istanbul Finance Center (IFC) project and increased its efforts accordingly to place itself among the most prominent exchanges in the region and around the world.

Trading system is constructed on three tier hardware architecture. First tier is the server level where all back-end trading processes are performed. Second is the communication level where all network packets are routed among other levels and queries are answered. The third level is the client level. Third level accommodates member trading GUIs and trading APIs. All critical appliances are duplicated in case of an emergency, fault or disaster possibility. Operational data is also backed up in a different physical location. Highly available servers are utilized to ensure uninterrupted activity.

Gold and Precious Metals Market

Trading system of İAB has been developed by a local software vendor for İAB. After the establishment of Borsa İstanbul with immediate merger of İMKB and İAB, Borsa İstanbul has the source code and all reselling rights of the İAB trading platform.

With an integrated software architecture based on relational database, the trading platform of İAB is multi-faced, multi layered and has an ability for reporting and integration with other systems. "Remote Access System", "Internet Access and 24 Hours non-stop Session" features are also available.

Market orders are matching according to price and time precedence rules. Members are linked to the trading system using different means (PC, Notebook, PDA, mobile phones) through internet connection. Because of being internet based, all entrance or exit to system must have e-signature (SSL) according to security rules.

How will the Nasdaq OMX deal affect Borsa Istanbul?

Borsa İstanbul is also at the heart of Istanbul Finance Center (IFC) project and increased its efforts accordingly to place itself among the most prominent exchanges in the region and around the world. Having completed horizontal consolidation, it signed a strategic partnership protocol with Nasdaq OMX to renew its technological infrastructure. The partnership will provide the exchange with state of the art technology and increased efficiency will attract more and diverse investors to our platforms. Borsa İstanbul, through developing joint product schemes and connectivity projects, strengthens its relations with international exchanges as well. As a result, the exchange will be the technology and finance hub of the region, which not just provides a highly diversified pool of products with high speed and efficiency but also is an entry point to investment opportunities available at other exchanges.

Why should investors be interested in the Turkish market? What opportunities does Turkey have to offer?

Having capitalized on ten years of single-party majority government and consistent economic policy, Turkish economy has grown 5% on average since 2002. The IMF foresees that economy will achieve an average growth rate of 4.2% in next 6 years. In parallel to this economic performance, regulatory changes including the new Capital Market Law (CML) and Turkish Commercial Code have been completed, which are intended to facilitate investments and support capital markets grow. In consideration of this growth and transparency, Fitch and Moody's raised Turkey's credit rating to investment grade in November 2012 and May 2013 respectively. These developments amongst others are indicators of trust in a sustainable investor-friendly environment in Turkey. As economic growth and profitability of Turkish companies continue, Turkish market will be the main focus of local and international investors.

Turkey has been working towards the restructuring of its capital market as well. With new CML, Borsa Istanbul has become a joint stock company, a move that aims to improve its operational efficiency and corporate governance. Moreover, separate exchanges at which trading of various asset classes takes place were brought under the umbrella of Borsa Istanbul. The Exchange is now a one-stop shop for all kinds of financial instruments and investors have the opportunity to trade in a wide range

The exchange will be the technology and finance hub of the region, which not just provides a highly diversified pool of products with high speed and efficiency but also is an entry point to investment opportunities available at other exchanges.

of products which include equities, fixed income instruments, derivatives and commodities. Such product range serves to investors which have different risk-return preferences.

Borsa Istanbul is also at the heart of Istanbul Finance Center (IFC) project and increased its efforts accordingly to place itself among the most prominent exchanges in the region and around the world. Having completed horizontal consolidation, it signed a strategic partnership protocol with Nasdaq OMX to renew its technological infrastructure. The partnership will provide the exchange with state of the art technology and increased efficiency will attract more and diverse investors to our platforms. Borsa Istanbul, through developing joint product schemes and connectivity projects, strengthens its relations with international exchanges as well. As a result, the exchange will be the technology and finance hub of the region, which not just provides a highly diversified pool of products with high speed and efficiency but also is an entry point to investment opportunities available at other exchanges.

Turkey has achieved consistent economic growth since 2001 thanks to political stability and visibility, with average annual growth of 5.1% and is now the World's 16th and Europe's 6th, biggest economy, with PPP adjusted GDP of some USD 1.2

trillion. However, historically, Turkish corporations' financing has been coloured by the pre-2000's legacy of favouring indebtedness over equities as a source of capital, due both to investor preferences within a high interest-rate environment and to limited liquidity associated with the old fragmented securities framework. Going forward, we feel we will benefit from a change in this backdrop, leading to a greater supply of domestic equity issues and higher float proportions therein, a shift in investor interest towards equities due to lower interest rates, and a rising domestic savings pool from private pensions.

Our future roadmap includes broadening our existing products (for example increasing the number of commodities covered), extending our product configurations (for example more single-stock options), transposing debt-related instruments for local contexts (for example Islamic sukuk), initiating new business areas (for example energy and commodities), and driving increased efficiency of Borsa from greater integration and substantial upgrading of our technological platforms. We also aim to increase the scope of post-trade services by moving to clear OTC products, by configuring Takasbank as a CCP, and by setting up an OTC trading repository.

How is technology changing Turkey's financial services, banking infrastructure and lifestyle for consumers? Are technologies such as mobile, internet and ATM important in Turkey?

Over the past decade, Turkey has experienced structural changes which have led to substantial economic advances. As consequence of sound macroeconomic strategy in combination with prudent, Turkey was the 16th largest economy in the world and the 6th largest economy in Europe in 2011.

In Turkey, the Internet changed the way people and companies interact, but the omnipresent mobile Web is revolutionizing those interactions, in financial services, in banking. Online communication is no longer a one-way street where industries broadcast their products to customers who may or may not buy them. As more customers use online and mobile channels, the challenge for a broad range of industries, including banks, is to find clever ways to get in touch with their customers.

The availability of mobile broadband Internet and smart devices and the broad use of Web applications are used to incorporate customers deep into the value chain. Smartphones and tablets have merged computing power with mobile broadband data connections.

How will the Borsa Istanbul attract investors to Turkey? What can the Borsa do to contribute to the Turkish economy?

The number and diversity of listed companies play a significant role in the success of any exchange. Aware of this solid fact, Borsa Istanbul has been working to increase the number of companies traded on our platforms. Currently, 417 companies with a market value of around USD 300 billion are listed and the Market Cap/GDP is equal to 39% as of end of 2012. Our aim is to raise the number of traded companies to 1,000 and Market Cap/GDP to 70% by 2023. In line with IFC vision, we also started ListingIstanbul project in order to attract foreign companies for listing at Borsa Istanbul. Accordingly, we will be a major funding source for both Turkish and foreign companies and support Turkey's growth on years to come.

The demand for services of an exchange is directly proportional to the size of its product range. As more financial instruments are offered and the exchange fully responds to needs of various investor classes, the success is inevitable. Borsa Istanbul, in order to appeal to investors with different risk-return preferences, started new markets and products. Options and future contracts based on equities and indices are now traded on our platforms. Such tools

not just give the opportunity to involve in leveraged transactions but also are key elements in risk management. At a time of huge investments made in Turkey's infrastructure; Sukuk, a financial instrument especially popular among the investors of capital-rich Gulf countries is offered by Borsa Istanbul. The Exchange plans to initiate trade in electricity and natural gas contracts in near future as well.

Our investment considerations are as follows;

New Legal Empowerment

In December 2012, the Turkish capital markets were substantially re-structured by Parliament. Hitherto separate businesses, some mutual, were brought under one joint-stock company, Borsa Istanbul, with the Treasury as 49% shareholder.

Fully Integrated Operator

Borsa is fully integrated, both horizontally and vertically. Its activities include listing, registration, and trading of fixed income, equities, derivatives, and structured products, as well as the trading of precious metals. Operations also fully cover clearing, settlement, custody, and depository services.

Monopoly Status

We are the only licensed operator of capital markets in Turkey, regulated and supervised by the CMB.

Our forward strategy includes plans to continually enhance the quality of our service to our investors and issuer customers, going forward,

We will be a major funding source for both Turkish and foreign companies and support Turkey's growth on years to come.

via upgraded technology and global access. Even against the possible backdrop of MTFs vying for volume, with consequent effect on market share, our monopoly position in post-trade allows us an advantageous positioning to continue generating superior margins.

Efficient Technology Platform

We are currently in advanced discussions to choose a new IT infrastructure and associated platforms.

The chosen supplier will be providing a multi-asset, multi-currency platform, integrated into all post-trade functions, with customary key features such as connectivity and risk management. As of March 2013, our order processing capacity has been raised two-fold to 5,000 per second. With our prospective new platform, through 2013-2014, we aim to fundamentally change our IT infrastructure standards to further increase competitiveness. The medium term target is to raise the throughput capacity to over 30,000 orders/second.

Favourable Investor Attitude Shift

The relative attractiveness of equities as an investment, in the eyes of domestic investors both institutional and retail, has risen meaningfully in the last decade due to marked reductions in inflation and interest rates. The consequent expected

The relative attractiveness of equities as an investment, in the eyes of domestic investors both institutional and retail, has risen meaningfully in the last decade.

relative shift in demand towards higher-fee-generating equities would mechanically raise revenues and margins.

Expanding Savings Pool

Turkey has put into force several pension fund regulations in last two years to promote domestic savings. Net asset value of pension funds in Turkey was USD 11 billion in December 2012 compared to USD 4.6 billion at the end of 2008. The substantial forward potential is indicated by the still low level of pension fund assets/GDP, currently around 2%, compared to a European average around 40%. During the same period, the number of investors participating in pension system rose to 8 million from 5 million. Of the 3 million new entrants, almost 1.5 million investors did so during 2012 alone.

Growth Vectors

Our future roadmap includes: (a) accelerating the equitization of the Turkish economy by facilitating equity issuance and by enlarging the investor base, (b) broadening existing products (e.g. wider range of commodities, more single stock options and corporate bonds, increase in sukuks, introduction

of energy), (c) initiation of new business areas (e.g. co-location, OTC clearing, corporate services), (d) internationalization of the issuer base, (e) volume impact of connectivity with other exchanges in trading and post-trade. These would be additional to the mechanical growth vectors arising from Turkey's continuing strong growth, from the Borsa merger and consequent synergy effects, for example from placing cash and derivatives on a common platform, and finally from the leverage effect of Takasbank's upcoming CCP status.

Investment-Grade Rating for Turkey

The Investment-Grade rating of BBB- accorded to the Turkish Republic by Fitch, the BB+ rating accorded by S&P, and the expectation that other agencies will follow suit, is expected to engender portfolio realignment by global funds towards greater weight for Turkish securities.

EGX Trading System

In May 1998, EGX contracted with "EFA", a Canadian software company (which was first bought by the Australian Computershare company and later acquired by the leading international technology provider OMX), to provide a new trading system. EGX implemented this system in May 2001, after applying a locally developed automated trading system for almost 9 years.

In 2001, EGX modernized the complete technology infrastructure. This plan encompassed hardware platform and a new trading software, network and communications infrastructure internal application systems, and the establishment of industry best practice and standard in terms of protocols and rules adopted by the international financial industry information technology worldwide.

The hardware solution in place ensures a scalable open high capacity server capable of handling up to 60,000 trades a day, expandable to 100,000 transactions. A "Shadow" server acts as a hot backup in case of failure of the main server. History is archived on a third server with a terabyte storage capacity, expandable. Transition processing is memory geared for best performance.

Trading terminals traffic is well balanced among several "hubs" or communication servers to ensure equal order turnaround time for all

terminals whether on LAN or wide area private network. A minimum of 64 kbps leased line is requested for any terminal to be part of the wide area private network.

The communication infrastructure is redundant, with local balancing and intelligent traffic routing. A complete security solution has also been implemented with firewalls, intrusion detection and alerts, and other measures.

Back-up procedures are maintained on a daily, weekly and a monthly basis with disaster recovery testing every week to ensure backups validity. An advanced TSM solution ensures executing the back-up plan timely and efficiently. EGX have a disaster recovery site in Alexandria, which is around 230 kilometers away from the main site in Cairo.

In its endeavor to keep abreast with technological advancements, EGX has upgraded its trading platform to Nasdaq/OMX high performance "X-Stream" solution in 2008, replacing the old "Horizon" trading.

The new trading system "X-Stream" is one of the Nasdaq OMX International Group's products, which has been operated in more than 15 countries all over the world, including China, Switzerland and Indonesia and recently in GCC.



Khaled Amer

IT Division Deputy Director, The Egyptian Exchange (EGX)

The new trading system "X-Stream" has numerous advantages over the old one; providing a much larger capacity as well as allowing simultaneous trading of numerous products such as equities, bonds, ETFs, futures and options.

Furthermore, X-Stream system allows the introduction of the market makers system, together with the possibility of having a price discovery session to determine the opening prices.

EGX successfully integrate multiple support systems with "X-stream" such as validate with CSD to minimize the deliver risk and with Investor identification system as we as surveillance provided by MIT.

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Country Focus: Georgia

Working Committee Meeting and Executive Board Meeting

are held in Tbilisi on May 7, 2014, hosted by Georgia SE

Advantages of Georgia

- Efficient, pro-business and corruption-free government
- Enlargement of market size by Free Trade Agreements
- Competitive cost of labor and energy
- Entry gate in the region
- Solid sovereign balance sheet
- Stable and conservatively managed banking sector
- Very low crime-rate

Sovereign Ratings

- Standard & Poor's: BB - Stable
- Fitch Ratings: BB - Stable
- Moody's Investor Service: Ba3 Stable

Doing Business in Georgia

Country's impressive progress in improving business climate has been well documented in a number of international indices:

- Ease of Doing Business (Rank): 8 (Up from 112 in 2005)
- Index of Economic Freedom (Rank): 22 (Up from 99 in 2005)
- Forbes Tax Misery & Reform Index (Rank): 4 (Least tax burden after Qatar, UAE and Hong Kong)
- Global Corruption Barometer (Percentage of users paying a bribe in the past 12 months): 4%

Some Economic Indicators (2013):

- GDP (2013, est.): USD 16 billion (more than 3x increase from USD 5 billion in 2004)
- GDP per capita (2013, est.): USD 3,550 (more than 3x increase from USD 1,188 in 2004)
- Inflation (Jan 2014): 2.9%
- Public Debt/GDP: 30%
- Fiscal Deficit (2014, proj.): 2.9%



Liberal Trade Regimes

Preferential trade regimes

- FTA with CIS countries: Ukraine, Belarus, Azerbaijan, Armenia, Russia, Moldova, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan
- FTA with Turkey
- DCFTA (Deep and Comprehensive Free Trade Agreement) with EU - negotiations concluded
- GSP+ with EU (7,200 products to the EU market duty free or with lower tariffs)
- GSP agreement with USA, Norway, Switzerland, Canada, Japan
- Member of WTO

Customs

- Very simple and service oriented customs policy and administration
- Almost no custom duty: 90% of goods free from import tariffs
- No quantitative restrictions

Opportunity - Market Size

- Population of Georgia: 4.5 million
- Existing FTA: + 350 million
- DCFTA: + 0.5 billion
- Total: up to 0.9 billion

Foreign Direct Investments

- Georgia has bilateral treaties on investment promotion and protection with the 32 countries
- Negotiations on such agreements are launched with 24 countries

Investment Opportunities in Georgia

Hydro Power Hub

- Significant hydro power potential
 - Installed capacity of > 2,700 MW
 - Additional potential > 4,500 MW
 - Generation cost among the lowest in the region, circa 50% lower than target market Turkey.
- Export Capacity
 - The only net electricity exporter in the region, with rapidly growing consumption rates
 - Construction of new 400 kW power transmission line from Georgia to Turkey was completed in 2013.

Country Focus: Georgia

• Opportunities

- Several large-scale projects (>100 MW)
- ~70 small and medium projects (< 100 MW)

Tourism

• Fast Growing Sector

- Tourism contributes 6.7% of GDP
- Number of visitors increased 38% reaching 2.8 million in 2011 and by 56% in 2012 reaching 4.4 million
- Majority of visitors come from: Turkey (34.9%), Azerbaijan (21.2%), Armenia (20.5%), Russia (11.6%), and Europe (9.4%). Tourist number from Europe in the first six months of 2013 increased by 30%.
- Average duration of stay: 5 nights
- Average spend: USD 650
- Already operating international brand hotels: Sheraton, Radisson, Marriot, Holiday Inn (under construction: Kempinski, Hilton, Rixos, etc.)

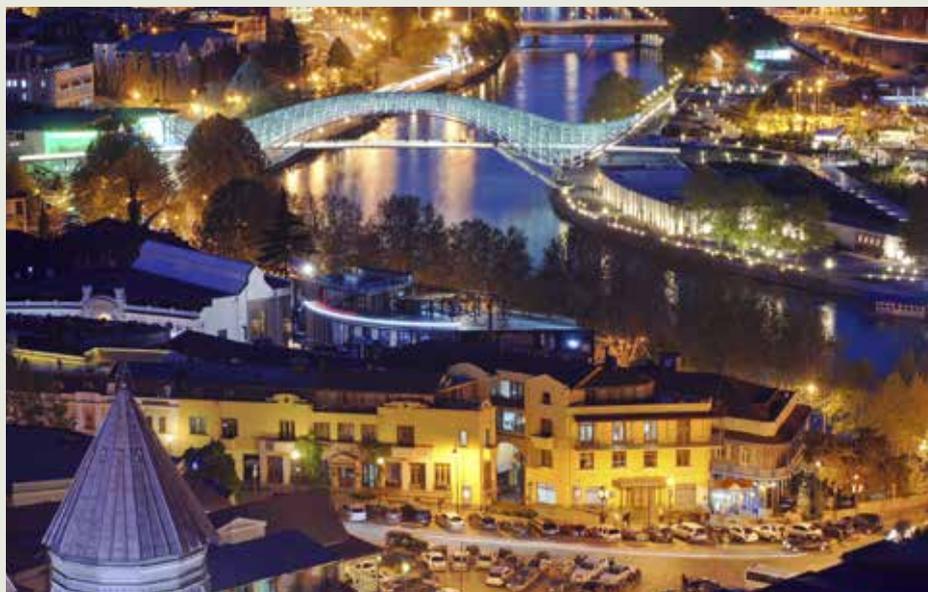
• Potential

- Youth Olympics in 2015
- Free Tourism zones - summer resorts
- Availability of gambling business
 - gaming is partially or completely banned in Russia, Ukraine, Azerbaijan, Kazakhstan, Turkey, Israel
- 8 National Parks
- 2,400 springs and mineral waters

Agriculture

• Overview

- Over 21 micro-climates - a wide range of grain, vegetables, hard and soft fruits, meat and dairy could be produced
- Agriculture accounts for 8.4% of GDP. It contributes circa 53% of employment mostly in subsistence farming (avg. farm size of 1.55 ha)
- Traditionally Georgia has strengths in wine, hazelnuts, fruits which account for more than 60% of agriculture exports.



Georgia serves as an entry gate to the Caucasus and Central Asia as well as a stepping stone to the region.

• Opportunities

- Import substitution opportunities: meat, dairy products, vegetables, fruits, etc.
- Export opportunities: wine, walnuts, hazelnuts, citruses, fruits, sheep meat, etc.
- Productivity gain opportunities: tomatoes, apples, cucumbers, potatoes, stone fruits, citrus etc.

Regional Transport Corridor

• Trans Caucasian Route

- Strategic location: Georgia serves as an entry gate to the Caucasus and Central Asia as well as a stepping stone to the region
- Around 80% of Port cargo and 60% of freight rail are transits. Transit flows through the corridor are:
 - Europe-Turkey: 6.7 million tons
 - Central Asia-Caucasus: 14.3 million tons

- Great potential of better integration and development of the Region
- Transport Infrastructure
- Rapidly developing road infrastructure
- Ports are cost competitive vs. alternative routes
- FDI inflows in the logistics sector have primarily targeted transport infrastructure

• Opportunities

- Deep-sea port (Panamax)
- Containerization and logistical centers
- Direct connection with European and Central Asian railway networks (BTK project)

Sources: <http://www.investinggeorgia.org>;
<http://nbg.gov.ge>; <http://www.geostat.ge>;
<http://www.doingbusiness.org>

Innovation in exchange technology



Veronica Augustsson
CEO of Cinnober

The move to standardized markets

Over a period of roughly ten years, between 1998 and 2008, the exchange industry made a great developmental leap. It went from merely replicating hundreds of years of floor trading in electronic systems, to the widespread adoption of standardized protocols and market models.

The Internet and market deregulation in the US and Europe spurred competition among exchanges and drove a massive technology development. High frequency trading and fragmented markets became part of the new reality. Today exchanges compete on the attractiveness of their business models rather than on a unique market model, and the FIX protocol standard has had a positive effect on market participants' mobility and ease of connecting to new markets.

Tomorrow's markets

Looking at how quickly exchange trading platforms have matured, we can be certain of two things in the near future. The pace will be even faster, and the systems surrounding the core trading functions will take the same path to standardization.

Looking at functionality, post-trade functions and risk management have moved to the center of attention. The need for pre-trade risk management with minimal impact on execution latency, to ensure clearing certainty and to safeguard investors from erroneous algo machines, is a given.

Tomorrow's technology

Being able to fulfill future requirements on well-functioning markets will demand continuous innovation in financial IT. The answer to the classic question "build or buy?" is increasingly self-evident: "Buy, and share the costs of innovation with others".

No one has a market model today that is so special that they can't use a reasonably flexible third-party trading platform. As electronic markets have matured and become increasingly standardized, exchange systems have become somewhat of a commodity.

The next generation of traders won't care about national borders. Connectivity will be a key to success.

There will be a need to process transactions in real time and avoid any type of silos, as investors won't be willing to lock in collateral at certain markets or clearinghouses. And anything other than real-time settlement will be viewed as reactionary in the future.

Globalization is another key aspect. The next generation of traders won't care about national borders. They have grown up in a world where everything is connected and where the Internet is the biggest city. Connectivity will be a key to success.

The same reality will soon catch up to clearing, settlement and payment models; 90% of the functionality will look the same for most market players in a few years.

A parallel can be made with the development of accounting systems. Nobody thinks about building their own accounting system today, but in the 70s and 80s that was standard. Within five years, exchange shareholders won't accept the idea of spending money on in-house development, just to invent the wheel one more time.

Another advantage of buying exchange technology from a specialized vendor is the rigorous quality assessments and audits constantly being carried out on their technology and processes. These companies are fully dependent on delivering well-functioning systems. They are specialists, and the incentives to deliver quality are direct. For an exchange to build and maintain a proprietary system without such intense scrutiny can be risky and costly. In the end, it creates serious risks for market participants as well as shareholders.

There are examples of start-up marketplaces that successfully operate with their own systems, and with lean organizations. But as the years roll, on carrying the costs of constantly developing the system on their own not only becomes a heavy burden; exchanges that pursue this option will most likely not be in the forefront of technology. The code base of a trading platform needs to be constantly renewed in order to stand up to ever-changing and tougher requirements - coming from markets, investors and regulators. The good thing about "commodity" exchange technology is that costs can be shared among many players.

Clustering innovation

Sweden, where Cinnober is based, has been a leader in developing pioneering financial IT solutions since the very start of electronic trading, and has a strong tradition of innovation. Both the academic space and financial technology companies actively nurture this tradition. This fall, the world's first specialized university education within financial IT is starting at Umeå University in Sweden, the result of collaboration between the university and industry.

We firmly believe in the power of clustering competence, rather than outsourcing it. Studies indicate that innovation demands more than merely competent employees and individuals; another important factor is the entire environment that surrounds a company or institution. We are proud to be part of a financial technology cluster and work closely with academic institutions to ensure a future supply of competent talent. By surrounding ourselves with other financial technology academics and entrepreneurs, our innovation is fostered not only by our own creative ideas, but also by those of other leading-edge, passionate actors in our field.

As with all production, financial IT systems will become cheaper to produce thanks to continuous streamlining. Over a period of thirty years the car industry increased efficiency by 75%; today four cars can be produced in the same time it used to take to produce one. This development is inevitable wherever there is competition.

This is how we see the future unfolding, with standardization, streamlining and clustering of talent forming the foundation that will allow innovation and quality to prosper in cost-conscious marketplaces.

The good thing about "commodity" exchange technology is that costs can be shared among many players.

Technology innovation in exchanges



Philippe Carré

Global Head of Connectivity, Capital Markets, SunGard

Philippe Carré argues that exchanges must strike a balance in their use of technology - to ensure that they match the latest standards in innovation but do not lose sight of their primary purpose.

Exchanges have changed tremendously in recent years. The concept of a public market for trading securities has continued to evolve ever since the first exchange was established in 13th century Europe, but the technology-inspired transformation that has taken place in the just the last 15 years has surpassed any of the developments made in the last 500 years.

Electronic trading is ubiquitous, often algorithmic and frequently conducted in milliseconds. Meanwhile, market data is disseminated and distributed at record speeds around the globe. In many ways, these changes simply reflect the impact that technology has made on every aspect of modern life, particularly from the internet. However, it is increasingly evident that exchanges are exceptional in this regard and are now as much

as a technology shop as they are a commodities marketplace.

This evolution raises an inevitable question - does the increasing use of technology enhance an exchange's effectiveness by attracting an ever-wider variety of trading participants, or does it in fact detract from its primary purpose which is to act as a source of funding for public companies and a marketplace for physical securities?

The issue is how exchanges achieve a balance between innovative use of technology and not technology for technology's sake; similarly how they enable trading at greater speeds from a wider variety of participants and in a wider variety of ways but do not become just about trading for trading's sake.

It is a complex argument and one that is exemplified by the different attitudes to the rise of high-frequency

trading (HFT). Beyond the difficulty of sometimes differentiating between algorithmic trading and HFT, some perceive a predominance that is both unfair and harmful to market integrity. While others will contend that HFT adds valuable liquidity and keeps the market efficient and the same algorithmic techniques are now used across the market by a vast variety of participants.

The different approaches taken by regulators illustrate the different attitudes to HFT. For example, German regulators have imposed a code of conduct and capital requirement on HFT firms while the UK, home to the largest number of HFTs, has taken

comparably little action and the Securities and Exchange Commission in the US is still considering what rules to introduce.

Force for good

It is abundantly clear that technology has largely been a force for good for exchanges. Great computing power has allowed them to increase their trading capacity, extend connectivity around the globe, enable sophisticated trading techniques to have a global reach and to ensure that markets are fair and orderly and more democratic. The days of trading floors and continuous auction have been replaced by electronic trading, all but eliminating human error and vastly reducing the chance of fraud.

The changes have not been limited to trading. Technology has also transformed the use of market data making it instantly available to a global

Just as technology has enabled greater global connectivity, this has imposed a certain operational standard on exchanges.

audience, including an increasing number of retail traders. And automated clearing and settlement has made the markets far safer, markedly reducing the number of failed trades.

Just as technology has enabled greater global connectivity, this has imposed a certain operational standard on exchanges. Users want a consistent trading experience regardless of where they are trading. This means all exchanges have to be fast, reliable, with exceptional matching capabilities, a high sub-set of execution functionality, instant provision of market data and accessibility to a wide variety

of participants from high-frequency traders to occasional retail traders.

Technology innovation has also allowed global regulators to realise their ambitions of creating multiple venues for same listings (MiFID) through smart order routing technology which addresses the risk of market fragmentation. This, in theory, should lower costs for participants and make exchanges more innovative and competitive.

Examples of technology innovation

Co-location, whereby trading firms are able to situate their own matching engines as close as physically possible to those of the execution venues, is now a pre-requisite for the vast majority of exchanges and a clear example of the heightened expectation that market participants have of the technology standards on display at their chosen execution venues. High frequency trading is commonplace in more than 80 international exchanges and the number is constantly expanding as exchanges look to cash in on the demand for ever lower latency. To some, however, co-location embodies the so-called arms race between exchanges and the pursuit of a benefit for a minority of participants at the expense of the wider majority.

Real-time compliance is another pre-requisite for today's exchanges. Just as technology has allowed for faster trading, so it has raised the need to be able to guard against market manipulation and malpractice. Technology has forced exchanges to monitor, detect and act on any suspicious trading activity - from insider trading to spoofing to market manipulation or even genuine mistakes courtesy of human error or malfunctioning automated trading engines. As the pace of trading

increases, exchanges need to be able to react quickly to protect the integrity of the markets and they need the tools to achieve this - to monitor transactions, analyse patterns, detect any abnormal activity, generate alerts and enact the necessary checks.

An exchange is now a technology shop

In general, exchanges have become great users of technology. In many ways, exchanges have always been based on competition (which has the most liquidity, the most prestigious stocks) and an element of national pride (New York vs. London vs. Frankfurt, etc.). Now this competition is being fought in terms of technology (who has the lowest latency and the most sophisticated trading platform).

Technology has also changed the nature of exchanges from national-based venues focused on single asset classes to multi-market entities. Connectivity advances have enabled large exchanges to pursue acquisition ambitions but also allowed smaller exchanges to integrate (the ASEAN Link and the MILA program are two examples) thereby offering investors a greater range of securities to invest in.

Technology also offers smaller, regional exchanges a chance to compete with larger more established exchanges by virtue of the fact that they are not beholden to legacy technology and fixed telecom infrastructure and can move directly to the latest technology as the base for their trading platform.

Achieving the balance

Technology is not an end in itself and exchanges must continue to explore the best way to exploit its advantages. This means finding a balance - recognising the need to have high speed trading but avoiding an endless pursuit of low latency whereby it costs

an increasing amount of money to make ever smaller improvements in trading speed.

The use of technology must be more innovative, particularly for smaller, local exchanges as they will come under renewed pressure from new phenomena linked to new technologies like we have seen in recent years with the growth of peer to peer lending and crowdfunding. Websites such as Kickstarter have used the internet and social media to great effect as an alternative way to finance projects; individuals can directly pitch their projects on-line and individuals can donate in exchange for a share of the potential profit.

These sites should increasingly come to compete with smaller exchanges as a way to raise finance, not least because of the lower cost when banks and brokers are not involved and the potential for greater returns on offer; a revolution might very well be required for these exchanges to remain competitive. By making similar use of the internet and social media, they can offer a more insured and formalised way to engage in peer to peer funding. In addition, whereas there is a risk of the unknown in the likes of these new offerings, an exchange can offer an organised infrastructure, protection against abuse and a mutualisation of risk.

In essence, smaller exchanges must continue to use technology as a way to innovate and explore new opportunities but also to underline their core value as an organised marketplace for investors and entrepreneurs, as was the case back in the 13th century.

FEAS Region Statistics

Domestic Market Capitalization (USD million)

Exchange	2014		
	January	February	March
Amman Stock Exchange	27,462	26,791	26,711
Bahrain Bourse B.S.C	19,183	20,334	20,100
Baku Stock Exchange	29	0	0
Banja Luka Stock Exchange	2,366	2,385	2,328
Belgrade Stock Exchange	2,360	2,456	2,395
Borsa Istanbul	199,310	204,893	226,342
Bucharest Stock Exchange	23,585	23,759	23,276
Bulgarian Stock Exchange	7,257	7,732	7,858
Damascus Securities Exchange	817	802	0
Egyptian Exchange	65,187	70,762	67,663
Georgian Stock Exchange	931	953	905
Iran Fara Bourse	27,420	25,516	26,641
Iraq Stock Exchange	9,612	9,633	9,759
Kazakhstan Stock Exchange	26,919	24,108	23,660
Kyrgyz Stock Exchange	170	161	168
Lahore Stock Exchange	60,000	57,332	63,548
Macedonian Stock Exchange	2,299	2,165	2,078
Montenegro Stock Exchange	2,602	2,704	2,707
Muscat Securities Market	37,701	37,779	36,916
NASDAQ OMX Armenia	49	0	0
Palestine Exchange	3,534	3,496	3,342
Tehran Stock Exchange	163,467	157,614	150,902
Tirana Stock Exchange	0	0	0
Total	682,261	681,375	697,297

Value of share trading (USD million)

Exchange	2014		
	January	February	March
Amman Stock Exchange	436	317	287
Bahrain Bourse B.S.C	76	85	85
Baku Stock Exchange	136	0	0
Banja Luka Stock Exchange	3	3	1
Belgrade Stock Exchange	53	9	11
Borsa Istanbul	34,533	25,762	27,395
Bucharest Stock Exchange	153	124	124
Bulgarian Stock Exchange	122	51	32
Damascus Securities Exchange	0	1	0
Egyptian Exchange	2,078	2,616	3,455
Georgian Stock Exchange	1	1	1
Iran Fara Bourse	719	363	971
Iraq Stock Exchange	23	79	104
Kazakhstan Stock Exchange	25	22	17
Lahore Stock Exchange	8	7	7
Macedonian Stock Exchange	0	4	5
Moldovan Stock Exchange	0	0	4
Montenegro Stock Exchange	7	5	62
Muscat Securities Market	818	550	422
NASDAQ OMX Armenia	0	0	0
Palestine Exchange	61	54	51
Sarajevo Stock Exchange	2	3	0
Tehran Stock Exchange	2,715	1,435	1,847
Tirana Stock Exchange	0	0	0
Total	41,970	31,491	34,881

Number of listed companies

Exchange	2014		
	January	February	March
Amman Stock Exchange	239	237	239
Bahrain Bourse B.S.C	47	47	47
Banja Luka Stock Exchange	672	663	660
Belgrade Stock Exchange	8	8	8
Borsa Istanbul	263	263	263
Bucharest Stock Exchange	82	82	83
Bulgarian Stock Exchange	379	377	376
Damascus Securities Exchange	22	22	0
Egyptian Exchange	236	236	237
Georgian Stock Exchange	3	3	3
Iran Fara Bourse	102	104	106
Iraq Stock Exchange	68	70	71
Kazakhstan Stock Exchange	81	80	80
Kyrgyz Stock Exchange	20	20	20
Lahore Stock Exchange	433	433	433
Macedonian Stock Exchange	0	116	116
Moldovan Stock Exchange	9	9	9
Montenegro Stock Exchange	62	63	64
Muscat Securities Market	115	116	116
NASDAQ OMX Armenia	15	0	0
Palestine Exchange	49	49	49
Sarajevo Stock Exchange	0	0	0
Tehran Stock Exchange	315	316	317
Tirana Stock Exchange	0	0	0
Total	3,119	3,211	3,196

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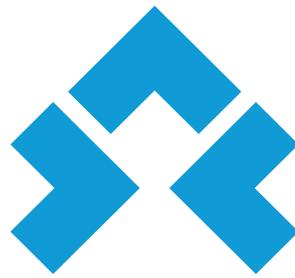
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