Access to Microfinance & Improved Implementation of Policy Reform (AMIR Program)

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The Regional IT Board For Bahrain, Dubai, and Jordan Feasibility Study

Final Report

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I. EXECUTIVE SUMMARY

1. Objective of Study

The objective of this Feasibility Study is to assess the demand for the Regional IT Board from the IT, Telecommunications and Media industries in the three countries and to assess the demand and views of the financial sector and other stakeholders.

2. Recommendations

- Indications of interest reveal that there is adequate demand for IT, Telecommunications and Media firms for the Regional IT Board in Bahrain, Dubai and Jordan.

- The Regional IT Board could attract in its first year at least eight listings from Bahrain, 10 to 15 from Dubai and 5 listings from Jordan.

- The financial sector sees the Regional IT Board as useful for exit strategies and a catalyst for deal flow.

- The three Stock Exchanges have synergies they can realize. All three exchanges have liquidity and depth problems. All want to increase listings.

- There are common goals for the three countries. Each is trying to develop the IT sector. The political leadership in each of the three countries is focussed upon developing the IT sector. Jordan has the human resources, Dubai the enabling environment for IT firms and Bahrain the financial connections.

- Based upon the demand from IT firms and the very strong positive support from the financial sector and other stakeholders in all three countries we strongly recommend that the three Stock Exchanges and the Securities Depository Center go ahead with establishing a Regional IT Board.

- The three Stock Exchanges should establish a separate legal company. The Free Zones in Dubai, the Bahrain exempt company status or the Aqaba Special Economic Zone in Jordan provide options for legal incorporation.

- Other stakeholders outside the three Stock Exchanges and the Securities Depository Center should be allowed to acquire an ownership share. This will provide the IT Board additional initial capital. Criteria for ownership by stakeholders could include them being broker member, custodians, information providers such as Reuters and Bloomberg, IPO under writers or entities such as EFA Software or NASDAQ.

- The Listings Rules should not have significant hurdle in terms of the company size, number of years operating and other such criteria. However, the Listing Rules should be of high standard on corporate governance, full disclosure and accounting standards. The NASDAQ SmallCap market Listing Rules are recommended as a model to be followed with the necessary and appropriate modifications.

- It is recommended that Broker Members in good standing with each of the three Stock Exchanges be allowed as members of the Regional IT Board as seen fit and proper by each Exchange.

- It is recommended that the currency of trading be in the US Dollar, but is certainly acceptable that a currency of one the three countries could be utilized as well.

- It is recommended that a trading system such as the EFA System be used. It noteworthy that NASDAQ stated that a NASDAQ trading system would have to be used if NASDAQ were to link with the Regional IT Board.

- It is recommended that the EFA clearing, settlement, registry and depository system be used by the IT Board. It is noteworthy that this system is being used by all three exchanges.

- An agreement and reconciliation of the laws and regulations between countries and the Regional IT Board should be simple and concluded quickly. Resources should be mobilized to make this happen immediately as part of the Business Plan.

- Launch a Business Plan that is a working document to serve several audiences. It is necessary that it is a continuing process updated for the reality of the findings as the process and implementation unfolds.

- A significant marketing effort should be undertaken to all participants to drive the process and insure success.

- The orientation should be local-regional-global to mirror the success of the worldwide IT market and business focus.

- Other components of a successful capital market should be reviewed as to how they can be mobilized to insure the success of the IT board. This should include government sponsored programs, public and private incubators, venture/institutional capital as well as start-up private capital as potential shareholders.

- A management team should be selected early on to craft as well as implement the Business Plan.

Next Steps:

- A legal company to be established by the three Stock Exchanges and the Securities Depository Center with co-equal shares and with initial capital. This IT Board company should have separate full time staff seconded from each of the three stock exchanges to serve as a projects staff for the Regional IT Board.

- The Regional IT Board will have to hire legal technical assistance to study and recommend various legal issues. Issues include whether the Company Law and Securities Laws of each of the three countries allows companies to list on the IT Board, types of instruments of each of three countries could list on the IT Board, settlement cycles, workdays for the IT board, trading hours and holidays will have to be agreed upon as well.

- The AMIR Program lends its full support to the creation of the Regional IT Board, in terms of finalizing this Feasibility Study and Business Plan development, and possible other assistance requested through the Amman Stock Exchange and Securities Depository Center.

- The AMIR Program will initiate a Business Plan with the permission of the three Stock Exchanges and the Securities Depository Center. The AMIR Program requests that the three Stock Exchanges and the Securities Depository Center exchange letters with copy to the AMIR Program expressing their commitment to go ahead with the Regional IT Board and to establish a legal entity.

- We recommend that the next meeting be in a month. The next meeting should include leaders of the IT industry in each country and financial firms in each country. The next meeting should review steps taken to establish the Regional IT Board progress on the Business Plan.

II. DEMAND FOR REGIONAL IT EXCHANGE

1. Demand For IT Telecommunications and Media

a. The IT Sector

The IT industry is one of the largest and fastest growing service industries in the world. New technologies and the convergence of previously distinct market segments such as telecommunication devices, software, computer technology and content-oriented industries like broadcasting and publishing have led to a substantial deepening and widening of the sector in recent years. Along with other sectors such as the Internet and e-commerce, software and IT is presently transforming entire industries from manufacturing to farming.

The world market for software and computing services topped $400 billion in 1998 and is expected to grow to around $620 billion by 2002. Annual growth rates exceed 10%. The United States is the single most important market amounting to almost half of this total.

Emerging economies, especially in Asia and including the Middle East, have experienced the highest market growth rates for software and computing services. Average annual growth rates between 1995 and 1997 were around 18%.

Customized software accounts for the largest share of industry sales (41.5% in the U.S. in 1998). However, packaged software has emerged as the fastest growing market segment with annual growth rates of some 15% between 1990 and 1998.

The Internet is expected to drive market growth in a wide range of related software and IT services. Internet Service Providers ("ISPs") will continue to experience expansion. The total market for Internet usage and value-added services is expected to increase to $154.5 billion by 2003. This will drive growth in ISP-related equipment and software services.

b. Profile of the IT Sector by Country

The **Arab World** has some 280 million people, about half of which is under the age of 20 and about a third of which is under the age of 15. It is estimated that there were some **700,000 Internet users** in the Arab World in 1998. This is estimated to have increased to some **1.5 million** by 1999, making for some 0.5% of the total Arab population.

It is estimated currently that there are 2 million Internet subscribers in the Middle East. There are some 60-plus ISPs. Additionally, the Middle East has about 10,000 commercial websites.

In the 12 months leading up to April 1999, Arab consumers are thought to have spent approximately $95 million on goods purchased over the Internet. Nine per cent of Internet users reported making an online purchase in 1999, up from 4% in 1997. More than 80% of purchases were made from international vendors, a reflection of the potential for developing further e-commerce capabilities among Arab e-vendors and a clear sign of the market potential for the region's IT firms.

Jordan, Dubai and Bahrain's resources and people are particularly well suited for an IT-based growth economy. The low start-up capital requirements of the industry make for fewer barriers to entry on the part of small players. The higher literacy and productivity levels are also a plus. Location has no bearing on transportation costs when it comes to international markets since products and services in the industry are delivered electronically. Bilingual Arabic/English language skills abound.

Each one of the three countries sponsoring the proposed IT board enjoys a certain set of assets that complement the other. For Jordan, it is the availability of skilled IT professionals. Dubai is evolving into a major regional distribution hub with excellent infrastructure and enabling environment. Bahrain enjoys a high degree of concentration of regional and international financial players.

Additionally, all three are formulating and implementing IT strategies that focus on the continued development of the software and IT services sector via the sustained implementation of a range of actions in a number of inter-related areas: more policy and regulatory strengthening, augmenting efforts to develop the industry's human capital, assuring continued Government support, engaging capital and financing sources, and continuing to improve IT-related infrastructure.

i. Jordan

The total size of the local IT market in Jordan in 1999 was estimated at $60 million. For the same year, Jordan registered some $16.2 million in local software sales, indicating an annual growth rate of about 30% with over 75% of software and IT services sold to the commercial rather than government market.

Jordanian IT firms exported around $12 million in software products in 1999, indicating an annual growth rate of 100%. Exports grew 138% between 1997 and 1998. Most exports were directed at the regional market.

Jordan is actively developing a vibrant, export-oriented IT industry. The Country's IT firms aim to leverage an existing set of advantages to establish a leadership position in the region. They are building capacity and are competing locally, regionally, and in several cases internationally.

Of the 400 plus companies that are registered as computer firms, most are either distributors of computer hardware or re-sellers of packaged software. **However, there are some 50 companies engaged in software, Internet web site and content development and related services**.

There is an emerging trend towards providing software and other IT-related services aimed at the global market. Five recent startups are successfully selling high-end products and services internationally. Some offshore development work is also undertaken for EU and Japanese clients.

Jordanian IT firms continue to focus on the following products as they have the strongest regional potential:

- Banking sector software and IT services
- General insurance, hotel, accounting, and manufacturing software
- Customized applications for insurance, education, multi-media, medical, Islamic banking and other niche markets
- Enterprise resource planning for manufacturing and telecommunications
- Web-authoring
- Military logistics
- IT consulting

- ‘Arabization’ and localization of North American and European software applications
- Hospital systems
- Health insurance claims
- Multi-media, educational software
- Games and other entertainment, currently PC-based but increasingly Internet-based
- Terminal and printer emulator and Arabization
- E-commerce
- Content development
- Web development
- Data warehousing and data mining

Substantial opportunities exist for the Jordanian IT industry in software development because of limited software development capacity in the regional market. Jordanian firms are able to offer low labor costs and along with the ability to execute larger projects on a timely manner with sufficient high quality and documentation standards.

Recently, a Jordan IT initiative took place with the goal of positioning Jordan favorably within the knowledge-based economy of the future. Supported by His Majesty King Abdullah II, this initiative galvanized various stakeholders in the private and public sectors and resulted in a focused strategy and action plan with full commitment from all concerned. The strategy rests on two basic elements: private sector leadership and a strong partnership between the private sector and the Government.

A new IT sector association, INT@J, was formed to spearhead this effort. INT@J cooperates closely with other institutions with IT roles in Jordan: Jordan Computer Society, Royal Scientific Society, the National Information Center, and the Higher Council for Science and Technology.

The industry is strengthening its ties with the Jordan Export Development Corporation and the Jordan Investment Board and new export and investment promotion programs are being formulated to augment existing efforts.

Since the key advantage of Jordan lies in its **human capital**, the industry's efforts to engage and partner with educational institutions warrant special attention. Efforts are under way to ensure that computer science education is more connected to industry needs. Mechanisms are being implemented to assure maximum commercialization possible for university activities, steps are being taken to create specialized IT institutions, and measures have already started to spread computer resources and awareness at all levels of the educational system.

Efforts are also underway to focus on critical skills and attempts at promoting collaboration with overseas universities have started. Establishing a Center of Excellence-styled training institute for the software industry is in the works. Several Multinational IT firms have offered to set up local training centers and schemes.

Profile of Jordan IT Companies: Executive Summary of Questionnaires

- As part of the IT Board Feasibility Study, the AMIR Program together with the assistance of INT@J, Jordan's IT Association, sent out two questionnaires to all members of INT@J. The approximately 49 companies were asked for company specific information to help gauge the readiness and interest of Jordan IT companies in establishing and listing on a regional IT-exchange.

- Twenty-one out of forty-nine companies, or 43 percent of all members of INT@J, responded to the first questionnaire, which requested general non-proprietary information. Sixteen out of forty-nine companies or 33 percent of INT@J members responded to the second questionnaire, which requested more confidential information such as company turnover and projected turnover.

- Below is a summation of the information gathered from the two questionnaires:

<u>Results of Questionnaire I:</u>

Industries Sub-sector or segment within IT industry	Software development and application; hardware development; hardware automation; Internet/IT consulting; IT solutions provider; web application and development; Internet and media portal service technology; computer telephony solutions; telecom application; systems integrators and WAN equipment supplier; software outsourcing; new media and visual production; banking systems; computer training and consulting; others
Current Investors	• 18 companies – private investors • 1 company – Jordanian investors • 1 company – institutional investors • 1 company – EFG Hermes
Company Description **Products and Services**	Available upon request

Types of Customers	Application service providers; dot.com start-ups; medium-to-large accounts in Jordan and Middle East; industrial, commercial and service sectors; government; business organizations; automotive companies; travel agencies and hotels; IT companies, food companies, embassies, hospitals, restaurants; banking and financial institutions; universities and educational institutions, public utilities; business organizations; factories; small and medium enterprises; public and GSM network providers and operators; Telcos; ISPs; Armed Forces; Public Security; foreign software companies in Jordan; retail businesses; broadcasting networks; Jordan and international markets (Europe and USA); Motorola worldwide; among others
Platforms/Operating Systems	Windows NT; Unix; Windows 95, 98, 2000; Oracle; Linux; Solaris; DOS; Visual Basic; Java; AIX; others
Are you familiar with the Initial Public Offering Process?	• 13 companies – yes • 8 companies – no
Are you listed on any of the boards of the ASE?	• 21 companies – no
Would you list on a regional exchange?	• 13 companies – yes • 5 companies – maybe • 3 companies – didn't respond to this question
Did you attend the AMIR Program presentation to INT@J on the regional IT Board?	• 14 companies – no • 7 companies - yes

Results of Questionnaire II:

Number of Full-Time Employees	• 7 companies: between 1-24 employees (average = 14 employees) • 5 companies, between 25-50 employees (average = 33 employees) • 3 companies, between 50-100 employees (average = 74 employees) • 1 company, > 100 employees
Employees Working with a Contract	• 13 companies – no contracted employees • 2 companies - 2 employees • 1 company – 5 employees

Part-time Employees	• 8 companies – no part-time employees • 7 companies – between 1 and 5 part-time employees • 1 company – variable, depending on needs of company
Turnover/Annual Sales for 2000 (Domestic and Exports)	Domestic Turnover – 2000 • Domestic turnover of 12 respondent companies totaled US$ 29.8 million. • 3 companies had no domestic revenues in 2000 and one company did not respond Exports Turnover – 2000 • Export turnover of 13 respondent companies totaled $6 million • 2 companies had no export revenues in 2000 and 1 company did not respond
Projected Turnover/Annual Sales for 2001 (Domestic and Exports)	Projected Domestic Turnover – 2001 • Projected domestic turnover of 13 respondent companies totaled $37.2 million • 3 companies did not respond Projected Turnover from Exports – 2001 • Projected turnover from exports of 13 respondent companies totaled $13.5 million • 2 companies did not respond and 1 company said it would have no exports in 2001
Types of Partners Sought	• 9 companies responded as follows: venture capitalists; resellers and financial institution interested in wireless, internet and voice based e-commerce development; strategic partners; IT/Internet consulting; financial investors that are interested in the IT sector of Jordan; funding and content partners for new projects; joint venture; IT solution providers and venture capitalists; electronics devices consumers; • 5 companies did not respond to this question • 2 companies said “none”

Amount of Financing Sought	• 6 companies said either “N/A” “none” or did not respond to this question • 4 companies said between US$ 1-3 million • 3 companies said between US$ 500,000-$700,000 • 3 companies said between US$ 200,000-$375,000
Use of Funds	10 companies responded as follows: • 7 companies said they would use the funds to expand projects both domestically, regionally (in the Middle East), and internationally (especially in the US) • One company said it would use the funds to cover running operation costs and finance fixed assets • Another company said it would use funds for software development and packaging; • And another would use funds to establish a new division, among other things 6 companies did not respond to this question

ii. Dubai:

One way of viewing IT firms within the GCC countries would be as illustrated below:

	Startup	Expansion	Mature	
Saudi Arabia	Many	Very Few	10	
UAE	Many	Very Few	5	
Oman	Many	Very Few	3	
Bahrain	Few	None	0	
Qatar	Few	None	0	
Kuwait	Few	None	5	

The IT sector in Dubai is a recent phenomenon, as is the case in Jordan and Bahrain. New IT firms are sprouting up in Dubai on a weekly basis. In general, it is estimated that there are some 1000 IT firms operating out of the UAE. It is too early for any success stories to emerge not just out of the UAE and Dubai but also out of the Middle East as a whole.

In terms of geographic origin, in addition to local firms, companies or founders can be found from other Middle Eastern countries, Europe, India and Pakistan. Traditionally, Dubai offers several attractions to firms. These include: tax incentives, good infrastructure, competitive labor, easy access for visitors, and good location for distributing into the Middle East and the Indian sub-continent.

The question that is repeatedly being asked is whether the bulk of the IT talent is imported. **It is apparent that nationals of GCC countries are apt in the IT area** and tend to have a natural inclination towards this sector. This partially stems out of the fact that most of the young students going to study abroad end up in the United States. Hence, it is believed that there is real added value to be had by national IT talent.

Several types of IT firms can be found in Dubai. These include B2B and e-banking ventures, various IT firms catering to the big push towards e-government launched by Dubai, e-commerce ventures, distributors and value added distributors, content providers for both portals and cellular telephones, joint ventures with international IT firms, and software and application developers as value adding marketing arms for western and other developers.

Local content providers are active for clients that include banks and GSM subscribers. The UAE has a high cellular penetration rate of about 1 million subscribers compared to some 200,000 Internet subscribers (starting in 2001, Internet usage in the UAE will be free). Broadband SPs have also started to emerge.

Distributors of multinational brand names are "growing out of the box" and becoming value-added resellers within the IT sector. They are also becoming local service providers, integrators and in some cases consultants. These are usually part of some of the biggest and well-established business groups in Dubai and the GCC.

Software development does not seem to be a major asset of IT firms in the Dubai. It is usually contracted to firms in Jordan and India.

Some Dubai firms are discussing the possibility of joint ventures with well-known American IT players such as Yahoo to establish Yahoo Middle East or MSN Middle East, for example.

The UAE has one ISP. There are 5 e-commerce-enabled sites.

A major initiative of Dubai in the IT sector is the launch of the Dubai Internet City. The **Dubai Internet City** ("DIC") is composed of three components:

- **DIC**, which is an infrastructure developer;

- **Dubai Media City** ("DMC"), which services firms active in seven media market segments: advertising, marketing, broadcast, publishing, production, music, and content provision; and,

- **Dubai Internet Oasis** ("DIO"), which caters to investing in startups and functions as both a venture capital fund and an incubator. It aims to go public in the future.

The basic premise of DIC is to provide IT firms with an enabling environment: legal, technological, financial, and infrastructure related. This is aside from other advantages that such firms enjoy by setting up shop in Dubai. DIC firms are startups, ongoing local firms, and regional operations of international firms. Regional is defined to include not just the Middle East but also the Indian sub-continent.

194 IT firms are operating or licensed to operate out of DIC with another 120 firms on the waiting list (with some operating out of other locations). Most of these firms are from the Middle East. It is estimated that the waiting list will be accommodated during the 3rd quarter of 2001.

DIC has a filtering mechanism in place. Aspiring firms must submit a business plan and demonstrate that they have "captured" knowledge workers. All PC vendors, warehousemen or distributors are encouraged to go to another free zone: Jabal Ali.

DIO is currently incubating 5 businesses and has the capacity to incubate a maximum of 6 at one time, allowing for a 6-month cycle.

DIC and DIO launched an international competition last year billed an e-business challenge. It received 385 proposals from 34 countries, asked 154 to supply business plans and chose 3 to receive incubation support worth $150,000 each to execute the business models out of DIC. DIC is undertaking matchmaking efforts between the remaining 154 teams and various investors and potential strategic partners.

Dubai continues to focus on developing its international ties to the IT industry in more ways than one. The G-8 e-commerce task force meeting is scheduled to take place in Dubai this January.

iii. Bahrain

The IT sector in Bahrain is a relatively recent phenomenon. Traditionally, the country has had a history of being a regional and international center of capital. The quality of regulations and the clarity with which they are applied are an asset.

Bahrain recently identified the IT cluster as one that should be enhanced and embarked on a strategy to develop knowledge-based industries. The government's commitment to developing the industry and augmenting private sector efforts in this regard is clear. This will help create the critical mass needed to propel this sector forward.

His Highness the Crown Prince heads a recently formed IT development committee that aims to map out and implement an action plan for this sector. Conscious efforts at converting from a low-end to a high-end labor force are underway. Training centers are being set up and two incubators as well as an IT Park are in planning stages. Other efforts include the Bahrain Promotion and Marketing Board's project to bring Japanese IT firms to Bahrain to use the country as a regional hub.

Moves are also a foot in terms of infrastructure development and privatization. Apparently imminent is the opening up of the ISP market and bandwidth with the current monopoly, Batelco, being one of the providers. The government seems to be moving in the direction of no longer "crowding out" the private sector when it comes to IT.

Bahraini IT firms could be viewed from three angles. First, are the value-added distributors who have added some development components to their bundle of services. Second, are the pure IT plays. These are the prime candidates for listing on the IT board. And, third, are the startups.

Companies range from agencies for major brand names such as IBM and Oracle, to web page developers and hardware and software solution providers. India is considered the major software provider to Bahrain. However, it should be pointed out that many Bahraini citizens working abroad are actively involved in the IT industry (e.g. special effects for the film *Gladiator* were done by a Bahraini in the United States).

It is clear that for Bahraini IT firms, solutions and services are the two paths to future growth. In all, the IT market is growing by an average of 10% a year. Some firms are growing by some 20% a year. However, this is not sufficient for firms to break through the "ceiling of complexity" and adopt new business paradigms embracing larger regional or international markets.

The large number of banks makes for an attractive e-business and financial e-commerce proposition. There are some 180 financial institutions that operate out of Bahrain with an accumulated financing knowledge. A natural move would be towards solution provision for the banking and financial sector.

c. Potential for Listings:

One way of viewing demand for listing and trading of shares of IT firms from Jordan, Dubai and Bahrain is to think in terms of a matrix composed of three types of demand: latent demand; unfulfilled demand, and induced demand.

Latent demand could be defined in this case as the demand which may exist on the part of IT firms for listing and trading their shares but, for a number of reasons, was not accommodated historically by the existing supply of listing and trading services nationally and regionally.

Unfulfilled demand could be defined as the current demand on the part of IT firms for listing and trading their shares that cannot be accommodated nationally and regionally.

Induced demand could be defined as the additional demand for listing and trading of shares of IT firms that is attracted by the presence of new "demand generators." The listing and trading services are still rather under developed in this region, with a number of exchanges that do not measure up to international standards. A major new demand generator would be the presence of an IT board that is not only able to transcend regional generic and national exchange specific problems but also add value in and of its own via the bundle of listing and trading services that it proposes to offer.

A good indicator of **demand for listings** by IT firms in Dubai are the assignments recently undertaken by the Big Five accounting firms. These firms were asked to assist local IT firms to list on NASDAQ and other exchanges such as Techmark, AIM, Euronext, and the Neuer Market. The bulk of such assignments have to do with converting the accounting standards to US GAAP and strengthening corporate governance.

It is estimated that each of the Big Five accounting firms have been mandated to assist about 2-3 local TMT firms in this regard. At least one Big Five accounting firm has been asked to perform due diligence on a local IT firm on behalf of a foreign investor.

Input from other listing services providers seem to indicate that there are some 10-15 IT firms in Dubai looking to list. Additionally, it is estimated that 15-20 firms operating out of DIC will be eligible IPO candidates within 12-24 months.

It should be noted that IT firms in Bahrain have not approached the BSE nor any of the typical due diligence service providers such as accounting and law firms in regards to listings on the BSE or outside. There is one company listed on the BSE that has an IT component to it and that is Batelco.

As for Bahrain, there are about 8 IT firms that are active in this market and constitute the constituency for listings on the proposed IT board. With turnovers of between $500,000 and up to $5 million, these firms are actively considering various merger scenarios to augment their domestic position and provide for attractive IPO candidates. Several believe that through horizontal integration, revenues can grow substantially over the next five years.

Out of the 50 some IT firms operating out of Jordan estimates are that about 5 are good listing candidates.

For many of these firms, the issue of expanding the business seems to be intricately linked to the need for additional capital. Although this depends on where they are in their respective business paradigm, most IT firms interviewed in the three countries seem to have sufficient capital to maintain the *status quo.*

However, it has been said that in IT, maintaining the *status quo* means going down; growth is essential and it can only be achieved via a proper product mix coupled with volume. So, capital is mostly being sought by IT firms not for normal expansion programs, but for a big leap forward to establish a new paradigm. Growth is largely being sought for the sake of profitability and not for the sake of expansion.

This kind of paradigm shift induced growth is a high cost move. IPOs seems to be the preferred way of raising capital for such an exercise, even though it may be preceded by some kind of corporate restructuring that may include a some kind of merger or acquisition (it is noteworthy that cross border strategic alliances are being formed between IT firms).

These firms are keenly aware of the need for higher valuations. Hence, they are in a constant search for the right time to undertake an IPO and the right market on which to list.

Other reasons for going public and listing shares include the status that accrues out of being a public entity: being held to higher standards leads to a higher level of confidence by the general public, potential allies and partners, and consumers. An IPO can also help streamline ownership structures; and important issue for IT firms most of which are closely held and/or family owned entities.

2. Demand From Financial Sector

- An IT regional board brings several benefits to more than one stakeholder group. It would assist in consolidating a fragmented IT sector on a regional basis, combating an anti mergers & acquisitions mentality in the Middle East; act as one more catalyst to spur the emergence of an investment banking industry with a higher level of sophistication in terms of due diligence, valuations and underwriting; and, encourage the flow of local, regional and international direct investments and portfolio investments into Jordan, Dubai and Bahrain.

- Primary markets such as the U.S. and Europe are suffering acute labor shortages. Software and IT firms in those markets are outsourcing high value-added work to firms in other countries, generating investment and employment in software and IT firms in emerging and pre-emerging markets. Hence, at no other time in history has it been so important and so possible for developing countries such as Jordan, Dubai and Bahrain to position themselves favorably vis-à-vis the world economy and take advantage of the dramatic changes caused by technology. This creates considerable investment opportunities.

  The financial sector in Jordan, Dubai and Bahrain is becoming increasingly aware of such opportunities. The Middle East's IT services industry is experiencing rapid growth, becoming increasingly export-oriented, and developing the necessary capabilities to compete on a global basis. However, what the financial sector is looking for is deal flow and exit. The Regional IT Board is well suited to address both issues.

- For IT firms in Jordan, Dubai and Bahrain, funding requirements center around the lack of access to credit for start-ups, working capital and expansion needs. IT firms have a problem explaining themselves and their business models to potential funding sources in the Middle East. Banks do not easily relate to this knowledge-based industry given that tangible assets are limited.

An important characteristic of IT firms is that the higher up the food chain, the less is the cost differential. Hence, what should distinguish Jordan, Dubai and Bahrain in addition to sharing generic advantages vis-à-vis other Middle Eastern hubs, is access to capital facilitated by the presence of the regional IT board. Since Middle East finance still operates largely according to a hub-and-spokes paradigm, the proposed IT board would aim to bring one of those spokes back into the Middle East in addition to attracting international capital to the region.

- Another problem faced by IT companies in Jordan, Dubai and Bahrain in obtaining funding is the small size of their requested financial packages. This has led to mostly negative responses from established private equity and venture capital operators in the region and elsewhere. A regional IT Board will help address this issue as well.

- Put differently, the proposed IT board can mobilize capital on a regional basis. IT can also help attract IT venture capital and private equity funds and play an important role in developing innovative funding approaches.

- It is almost common knowledge within finance circles in the Middle East that individually, the national exchanges cannot provide the critical mass needed to propel any sector, including the IT industry, forward. Although calls can be heard daily for increasing liquidity and market depth throughout the Middle East, it is highly unlikely that the region will move towards one liquidity pool. What has a higher probability of happening is the creation of quasi-regional liquidity pools on a geographic or sectoral basis. The IT regional board will be one such liquidity pool.

  As for the three exchanges sponsoring the proposed IT board, they share similar problems and aspirations. Hence, certain synergies are expected to accrue out of pooling resources to address problems and strive to fulfill common goals. These synergies are expected to drive the success of the proposed IT board.

- The world is becoming increasingly small. Middle Eastern investors are investing outside the Middle East. Other markets offer better returns and stronger transparency and accounting standards.

It is difficult to assign a percentage to funds under management in terms of geographic focus but some industry observers put the percentage of funds invested by GCC nationals locally and regionally at 5-10% of total investments. Technological advances and the prevalence of on-line investing is also pushing in this direction. The Hub-and-Spoke model of asset management is likely to continue for the foreseeable future although the added value of local managers has been increasing of late.

Hence, there is not much Arab demand for Arab investments. In addition to the reasons stated above, diversification out of the region also drives investing abroad. Local markets are not trusted. They are viewed as not "institutionalized" enough and not well regulated. Additionally, the region has been relying on the commercial banking model for a long time and the history of investment banking is short. The lack of a vibrant mutual funds industry in all three countries is hampering the development of the national exchanges. The pension industry is also not fully developed.

The proposed IT board will help address some of these issues. By adopting high standards of transparency, disclosure and corporate governance, the board will help increase investor confidence in regional investments.

- There is a need to consolidate the somewhat fragmented IT sector on a regional basis to overcome size constraints and achieve economies of scale. One recent example in this direction is that of Batelco's purchase of 51% in two Jordanian ISPs. The two were merged and majority owned by a wholly owned Batelco subsidiary. The merged entity was subsequently listed on the ASE's Third Market. Whether such restructuring and consolidation efforts should take place before or after listing depends on several factors such as the industry segment within which the concerned IT firms operate. Regardless, many investment banking firms see the proposed IT Board as acting as a catalyst and actually facilitating this needed process.

III. IT EXCHANGE OWNERSHIP

1. Ownership Structure For IT Exchange

In addition to the Bahrain, Dubai and Amman Stock Exchanges and Securities Depository Center there may be several other stakeholders willing to be capital contributors and equity holders of the new Regional IT Board. Brokers and Underwriters, Custodians, information processors such as Reuters, Bloomberg, Atlas, are likely candidates. The Three Exchanges may do well in attracting legal consultation both in the form of local firms as well as international capital market experts to effect an integration of international "best practice" and regional custom. It would be preferred to blend the two disciplines in order to form an appropriate new Corporate Entity.

2. Listing Rules

The Middle-East Technology Market Listing Requirements

Requirements	Initial Listing	Continued Listing
Net Tangible Assets [1] Market Capitalization Net Income (in latest fiscal year or 2 of the last 3 fiscal years)	$100,000 $ 500,000 or $300,000	$250,000 $750,000 or $100,000
Public Float (shares) [2]	N/A	N/A
Market Value of Public Float	$200,000	$100,000
Minimum Bid Price	$2.00	$.50
Market Makers	Nil	Nil
Shareholders (round lot holders)[3]	50	50
Operating History [4] Market Capitalization [4]	1 Year $ 500,000	
Corporate Governance	7 Member Board of Directors (2 outside directors)	5 Member Board of Directors (2 outside directors)

1) For initial or continued listing, a company must satisfy one of the following to be in compliance: the net tangible assets requirement (net tangible assets means total assets, excluding goodwill, minus total liabilities), the market capitalization requirement or the net income requirement.

2) Public float is defined as shares that are not held directly or indirectly by any officer or director of the issuer or by any other person who is the beneficial owner of 10 percent or more of the total shares outstanding.

3) Round lot holders are considered holders of 100 shares or more.

4) If operating history is less than 1 year, initial listing requires market capitalization of at least $1 million.

3. *Self Regulation*

Self-regulation is an important concept for securities markets. Self-regulatory organizations play three roles at the same time:

1. *first*, they are quasi-governmental bodies charged with implementing securities laws and their own regulations;

2. *second,* they are membership organizations that aim to represent the interests of their members; and,

3. *third*, they are marketplaces in competition with each other.

Hence, it is not difficult to ascertain the kinds of tensions embedded in such divergent roles. These include:

a. As membership organizations, exchanges may end up regulating the markets to the advantage of their members, prejudicing public interest.

b. As a marketplace, an exchange is composed of different types of traders and self-regulation may not be the most efficient way of working out differences between them.

c. A self-regulatory organization may be required to supervise traders who are not interested in the markets that the organization itself operates.

d. Additionally, having more than one self-regulatory organization could lead to duplication in terms of market surveillance and enforcement, with various stakeholders incurring unnecessary costs.

Self-regulatory organizations are different in terms of members, regulatory responsibilities, and economic power. Hence, it is difficult to draw an ideal self-regulatory structure. However, arguments in favor of self-regulation carry more weight:

i. Having market participants participate in regulation augments the abilities of regulatory authorities.

ii. Rules proposed by fellow market participants carry added legitimacy.

iii. Market participants have strong incentives to maintain and enhance the reputation of the markets they trade on.

iv. Private sector talent can contribute to public policy formation without the government having to pay high salaries and fees to obtain it.

v. Self-regulatory organizations tend to have flexible decision making procedures.

vi. Regulatory oversight of self-regulatory organizations helps alleviate conflicts of interest. This calls for public and member representation on the boards of directors of such organizations.

IV. TRADING, CLEARING AND SETTLEMENT

1. Currency

It is recommended that US Dollar be used as the currency of the exchange. The US Dollar is used for 90% of International transaction and would facilitate international investment to IT Board listed companies. An alternative would be to have the currency of one of the three Countries. However, it is probably important that the currency be stable against the US Dollar.

2. Trading System

It is recommended that the EFA trading system or the trading system of an exchange that would be a partner with the Regional IT Board be used. NASDAQ has stated that they would need a NASDAQ-like platform to be used if they where to be linked to the Regional IT Board.

3. Clearing and Settlement System

As each of the three exchanges have the EFA system it is recommended that the EFA settlement, clearing system to be used. There should be linkages to the depository to each of the three countries by the IT Board Depository as the Depositories in each of the three countries will have to authenticate ownership.

V. REGULATION OF IT EXCHANGE

There are two options:

The first option is that the securities regulator in the country where the Regional IT Board has its head quarters be the Securities Regulator. However, enforcement by such a securities regulator against brokers or listed companies that do not have domicile in the company of the regulator may be a problem. Another option is that the It Board sign an agreement with the Securities Regulator in each of the three countries. The IT Regional then would refer enforcement against a broker or company to the Securities Regulator of the country the broker or the company is registered in.

VI. LINKAGE WITH NASDAQ

Russell Diehl and Khush Choksy from the AMIR Program met with John Wall, CEO, NASDAQ International and Bob Aber, Vice President and General Counsel of NASDAQ International at the NASD offices in Washington, D.C. on December 15. The objective of the meeting was to brief NASDAQ on the Regional IT Board and solicit NASDAQ interest on establishing a potential linkage between the Regional IT Board and NASDAQ. Lee Congdon, one of NASDAQ's key Information Technology people joined from New York via a conference call.

Russell Diehl and Khush Choksy briefed NASDAQ on the following:

- The basic concept of the Regional IT Board and the rationale for focusing on IT, including media and telecommunications. In addition, we briefed NASDAQ on the rationale for starting the Regional IT Board with only three countries.

- We briefed NASDAQ on the meeting in Amman between the CEOs of the Amman, Bahrain and Dubai stock exchanges, the CEO of the Securities Depository Center, an ASE Board Member and others. We stated that the AMIR Program had been requested to provide a Feasibility Study. We mentioned that the AMIR Program had been requested by the three stock exchanges and the SDC to explore potential linkages with NASDAQ and any similar exchanges. We stated that a draft Feasibility Study would be prepared for the next meeting between the three countries. This meeting is scheduled for January in Dubai.

John Wall stated the following initial observations:

- NASDAQ was interested in establishing linkages on a selective basis. He stated that many exchanges wanted to link with NASDAQ and NASDAQ was very conscious of the value of their brand name.

- **NASDAQ was willing to engage in a serious discussion provided they felt the other parties could really get something going.**

- NASDAQ felt that countries needed to come together first in emerging markets in order to create an adequately sized market that would attract NASDAQ.

NASDAQ asked many questions pertaining to the potential demand and structure of the Regional IT Board. We stated that after the Feasibility Study these questions would be discussed.

The following impressed NASDAQ:

- That the three countries had come together quickly to review the possibility of establishing a Regional IT Board, had already signed a letter and was doing a Feasibility Study.
- That the three markets had a similar clearing and settlement system.
- That the focus on IT and having three countries intimated a rational to start small but establish something.
- That NASDAQ's preliminary thoughts of establishing a Middle East Exchange based on Israel, Egypt and Turkey may not be practical and those markets such as Dubai had more growth potential.

NASDAQ stated that they would be keen to review the findings of the Feasibility Study and meet again. NASDAQ stated that a linkage with the Regional IT Board may be with their European exchange or the NASDAQ SmallCap market. NASDAQ, however, stated that they would want to take an equity stake in the Regional IT Board, if they decided to establish a linkage, like they have in the Japanese and Canadian ventures. They would also seek to have their trading system used, as this would facilitate linkage.

We learned that the next NASDAQ Middle Eastern meeting would be in Malta.

Russell Diehl and Lee Congdon agreed to a meeting in New York on December 17. Russell Diehl and Lee Congdon met in New York and Russell briefed NASDAQ on the manner of share trading in Jordan and the other countries. Lee Congdon emphasized the underlying need for compatibility in the trading systems protocol as NASDAQ has had in the past, difficulties it will not be able to sustain in the future. The Platform adopted by the Regional IT Board must be able to migrate to a NASDAQ system.

The AMIR Program recommends:

- The Feasibility Study will have to document the number of potential listings and provide preliminary financials. It will have to demonstrate a serious potential.
- **That the three countries establish the exchange as a separate legal entity. NASDAQ or any other international exchange would not be interested if they cannot take an equity stake and have a role in management.**

- **Continue the momentum. This will demonstrate a serious intent that the Regional IT Board is not just a concept.**
- The AMIR Program has established contact with Robert Glauber, a NASD Board Member and the CEO of NASD and NASDAQ. Mr. Glauber has been chosen as Frank Zarb's successor. AMIR will build on this contact with Mr. Glauber as John Wall may not the person behind NASDAQ's international vision.

Appendix I: Other Exchanges:

STOCK MARKET COMPARISON FOR 2000

Stock Exchange	No. Listed Companies	Market Capitalization[1] (US$)	Trading Volume (US$)	Date of Establishment	New listings/IPOs in 2000
NASDAQ SmallCap (USA)	897	$19.5 billion[2]	$119.8 bn	August 1971	398 (all NASDAQ markets)
TechMARK (UK)	246	$865.7 billion	$1.1 tn	November 1999	71
Neuer Markt (Germany)	338	$114 billion	~ $100 bn.	March 1997	133
EASDAQ (Belgium)	172	$22.7 billion[3]	$19.8 bn.	November 1996	116
Newex (Austria)	92	$40-45 billion	N/A	November 2000	92

Indices Comparisons YTD 2000

	29-Dec-00	Closing High	Closing Low	Year 2000 % Change
NASDAQ Composite	2,470.52	5,048.62	2,332.78	-39.3%
TechMark 100-Index	2,564.05	5,743.30	2,467.75	-32.2%
Neuer Markt Index (Nemax 50)	2,729.86	8,522.27	2,626.74	-40.0%
EASI (All Share Index)	647.73	2,539.38	632.72	-56.7%

[1] All figures in US Dollars unless otherwise stipulated. Conversions of EU Euro and British Pound using December 30, 2000 exchange rates
[2] YTD November 2000
[3] The figure is for the 64 listed companies on Easdaq and not the entire 172 companies listed and traded

NASDAQ AND THE NASDAQ SMALLCAP MARKET
(National Association of Securities Dealers Automated Quotation)

I.

Profile:	US-based electronic exchange for growth companies. World's first electronic stock market. Fastest growing and second largest (by dollar volume) stock exchange in the United States. NASDAQ operates two markets: o NASDAQ National Market with over 4,800 listed securities o NASDAQ SmallCap Market, NASDAQ's market for emerging growth companies with approximately 1,800 listed securities NASDAQ has international affiliates in HongKong, Japan, Canada, and Europe
Ownership	In 2000, NASDAQ was restructured and is in the process of becoming a shareholder-owned, for profit company. Until the spin-off is complete, NASDAQ remains a subsidiary of the National Association of Securities Dealers (NASD), a self regulatory organization (SRO) whose operations are overseen by the Securities Exchange Commission
Establishment	August 1971
Number of listings	On November 30, 2000 NASDAQ had 5,125 issues and 4,795 companies On November 30, 2000 SmallCap had 926 listed companies
Market capitalization	On November 30, 2000 $3.8 trillion
Average market cap.	N/A
Trading Volume	Total NASDAQ share volume for 2000 was 439.6 billion shares, a 61% increase for the year. Average daily share volume was 1.7 billion
All-share index	Launched in August 1971 at 100. On December 29, 2000 the NASDAQ composite index closed at 2,470.52 down nearly 40% for the year.
Trading Platform	• ECNs (electronic communications networks) disseminate orders to third parties • OptiMark Trading System™ integrated in 1999 as third dimension to trading criteria • SuperMontage, new electronic system for collecting and displaying stock orders, approved by the SEC in January 2001

II. NASDAQ SmallCap Market Listing Requirements

- As the smaller capitalization tier of NASDAQ, the NASDAQ SmallCap Market's financial criterion for listing is not as stringent as for the NASDAQ National Market, although the Corporate Governance standards are the same.

The NASDAQ SmallCap Market Listing Requirements		
Requirements	Initial Listing	**Continued Listing**
Net Tangible Assets [4] Market Capitalization Net Income (in latest fiscal year of 2 of last 3 fiscal years)	$4 million or $50 million or $750,000	$2 million or $35 million or $500,000
Public Float (shares)[5]	1 million	500,000
Market value of Public Float	$5 million	$1 million
Minimum Bid Price	$4	$1
Market Makers	3	2
Shareholders (round lot holders)[6]	300	300
Operating History [7]	1 year or	
Market Capitalization	$50 million	N/A
Corporate Governance	Yes	Yes

NASDAQ Corporate Governance Listing Standards:

Among the most prominent of these are the following:

- Distribution of annual reports; making available interim reports
- A minimum of two independent directors
- An audit committee, a majority of which are independent directors
- An annual shareholder meeting
- Quorum requirement
- Solicitation of proxies
- Review of conflicts of interest
- Shareholder approval for certain corporate actions
- Voting rights

[4] For initial or continued listing, a company must satisfy one of the following to be in compliance: the net tangible assets requirement (net tangible assets means total assets, excluding goodwill, minus total liabilities), the market capitalization requirement, or the net income requirement.

[5] Public float is defined as shares that are not held directly or indirectly by any officer or director of the issuer of by any other person who is the beneficial owner of more than 10% of the total shares outstanding.

[6] Round lot holders are considered holders of 100 shares or more

[7] If operating history is less that 1 year, initial listing requires market capitalization of at least $50 million.

III. Other Recent Highlights/Initiatives:

- In recent months NASDAQ has increased its pressure on the London Stock Exchange (LSE) to consider an alliance which would combine the two exchanges to dominate retail trading and initial public offerings in Europe. The deal with the LSE is part of NASDAQ's global strategy to develop London as a European hub to complement its operations in the US and Japan and hence establish a 24-hour worldwide market. Should LSE refuse the deal, NASDAQ is expected to pursue alliance options with the Deutsche Börse.

- The Securities and Exchange Commission (SEC) approved NASDAQ's new comprehensive but also highly divisive stock trading system, **Supermontage**, on January 10, 2001. This development advanced NASDAQ's plan to create a central place to post orders for stocks that would be visible to all participants and show best bid and best offer prices almost instantaneously.

IV. Performance Highlights of NASDAQ SmallCap Market:

	Record Date	Record	1996	1997	1998	1999	YTD November 2000
Small Cap							
Share Volume (Billion)	12/99	19.0	13.4	11.7	15.0	19.0	17.7
Market Value ($Billion)	10/97	$76.0	$46.0	$63.6	$25.1	$33.7	$19.5
Dollar Volume ($Billion)	12/99+	$265.0	$76.0	$103.1	$47.6	$265.0	$119.8
Companies	12/83	3,225	1,409	1,331	1,149	1,001	926
Issues	12/83	3,785	2,013	1,822	1,454	1,193	1,070

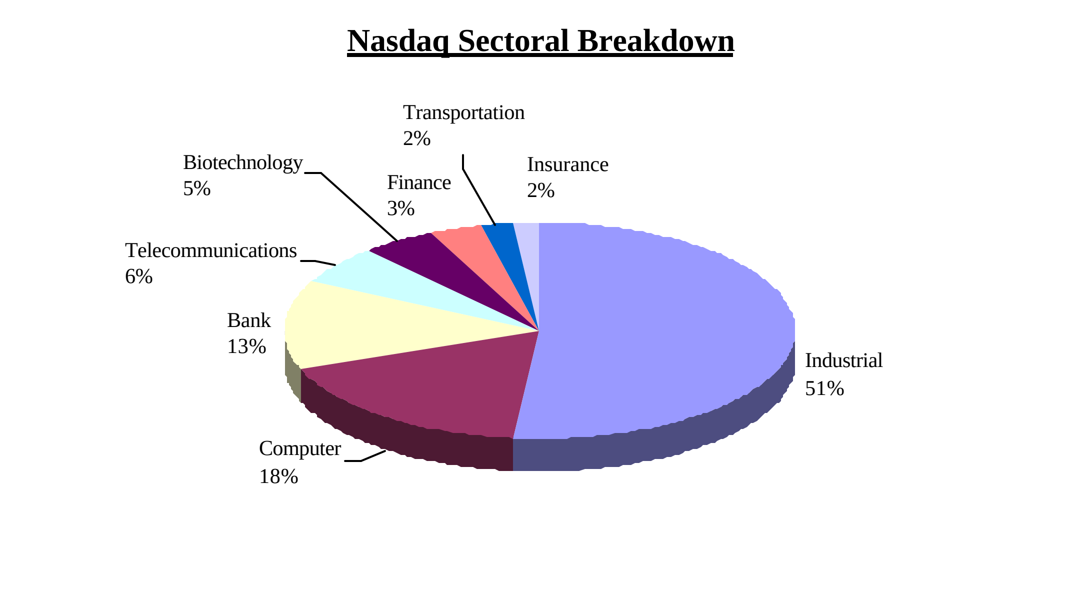
Average Per Stock between November 1999 and November 2000:

Price Per Share Traded	Quoted Spread	Percent Spread	Number of Market-Makers	Daily Share Volume	Daily Dollar Volume
$6.38	$.38	1.91%	7.9	72,943	$509,145.5

IV. NASDAQ and NASDAQ SmallCap Sectoral/Company Breakdown:

NASDAQ:

- 967 companies with a market capitalization > $ 1 billion, up from 49 stocks in 1990
- 221 IPO`s in the first half of 2000 raising approximately $31.6 billion
- 479 non-US based companies and 177 ADR`s and foreign issues listed in first six months of 200



Profile of NASDAQ SmallCap Market Companies

November 2000		
	Total (Millions)	**Average (Millions)**
Assets	$294,210	$328.0
Revenues	$201,870	$225.0
Equity	$95,726	$106.7
Net Income	$2,650	$3.0
Shares Outstanding	7,779	8.7
Public Float (Shares)	5,245	5.8
Market Value	$20,096	$22.4
	Total	**Average**
Number of Companies	897	N/A
Number of Market Makers	N/A	8.2
Average Share Price	N/A	$2.58

NEUER MARKT

I.

Profile:	Subsidiary of the Deutsche Börse for young innovative companies within growth areas (e.g. high-tech).
Ownership	Fully owned by the Deutsche Börse, which is owned by national banks (81%), the regional stock exchange (10 %) and by official and unofficial brokers (9%) The Neuer Markt operates as an independent trading segment within the regulated unofficial market of the Börse
Establishment	March 1997
Number of listings	On December 29, 2000, 338 companies (of which 16% or 55 were foreign companies)
Market capitalization	On December 29,2000, US$ 112.5 billion[8]
Average market cap.	On December 29, 2000 US$ 451 million
Trading Volume	Average daily turnover was US$ 451 million, almost 75% of total trading volume in growth stocks in Europe. Trading volume for December 2000 was US$ 8 billion
All-share index	The NEMAX All Share Index, the Neuer Markt's performance index was launched in December 1997 at 1000. The Index grew 500% since 1998 but suffered serious losses in the second half of 2000. On December 29, 2000, it closed at 2,729.86, down 40% for the year. The Neuer Markt operates 10 sectoral indices as well as the Nemax 50, which tracks the 50 largest companies on the Neuer Markt.
Trading Platform	• Xetra® trading platform (used by the Deutsche Börse) • Clearstream for clearing and settlement • Deutsche Börse Systems is internal technology supplier

[8] Based on December 29, 2000 exchange rate of .92936/.92986 median EU to the Dollar

II. Neuer Market Listing Requirements:

- Neuer Markt shares must be approved for listing in the Deutsche Börse's regulated market and fill additional criteria for admission that have been established by the Börse.
- The Neuer Markt is geared to facilitating dual listings of foreign issues. Foreign corporations may submit the listing prospectus in English, may use international accounting standards, and may also use the Börse's designated sponsor system.[9]

Admission/Listing Requirements	Neuer Markt
Legal Basis	• Neuer Markt Rules and Regulations • German Stock Corporation and Stock Exchange Acts[10]
Equity Capital base Market Capitalization Total Nominal Value	• 1.5 million excl. the capital increase necessary for IPO • No requirement as regards market capitalization • Total nominal value of at least 250,000
Volume Issued Minimum Number of Shares Share Classes Portion of Shares that are Widely Held	• Expected market value of the listed shares, with a minimum of EUR 5 million; over 50% of the total volume issued should result from the capital increase • 100,000 • Ordinary shares • Recommended: 25%; required: 20%
Market Maker	Two designated sponsors
Prohibitions on share sales	Six month lock-up period for existing shareholders[11]
Use of IPO proceeds	Financing growth
Minimum Age of Company	Three years

[9] Companies quoted on NASDAQ's OTC Bulletin Board, however, are not eligible for a second listing on Neuer Markt, unless they upgrade to NASDAQ's SmallCap or National Board.

[10] Shares in Neuer Markt are regulated according to private-sector law.

[11] The Neuer Markt is now under pressure to change its lock-up rules as once the six-month deadline has expired, original shareholders do not have to report any trading in their shares. Also, Germany has no register for shares thus making it relatively easy for some core shareholders in Neuer Markt companies to circumvent the lock-up rules. *(Financial Times, November 27, 2000)*

Neuer Markt Listing Requirements…cont'd

Language	German/English (solely English for foreign issuers)
Approval Documentation Accounting/Quarterly Reports	Offering prospectus in accordance with international standards, including all balance sheets and income statements for the last three financial years of since the company's founding, notes to the financial statements, a management report for the last financial year, a rendering of accounts according to the provisions of the Commercial Code (if legally pertinent) as well as IAS and US-GAAP.[12]
Capital Increase	At least 50% of the placed issuing volume
Decision-making Body	Deutsche Börse AG Executive Board
Other	Trade monitoring (Trading Surveillance Office); at least two designated sponsors for share trading
Corporate Governance	

III. Other Recent Highlights/Initiatives :

- For the Year 2000, the Neuer Markt was the leading European growth market with approximately 50 percent of the total market capitalization of all European growth markets in which almost 75 percent of the total trading volume in growth stocks in Europe were executed. For the first 10 months of 2000, 90 percent of all IPOs in Frankfurt were listed on the Neuer Markt.

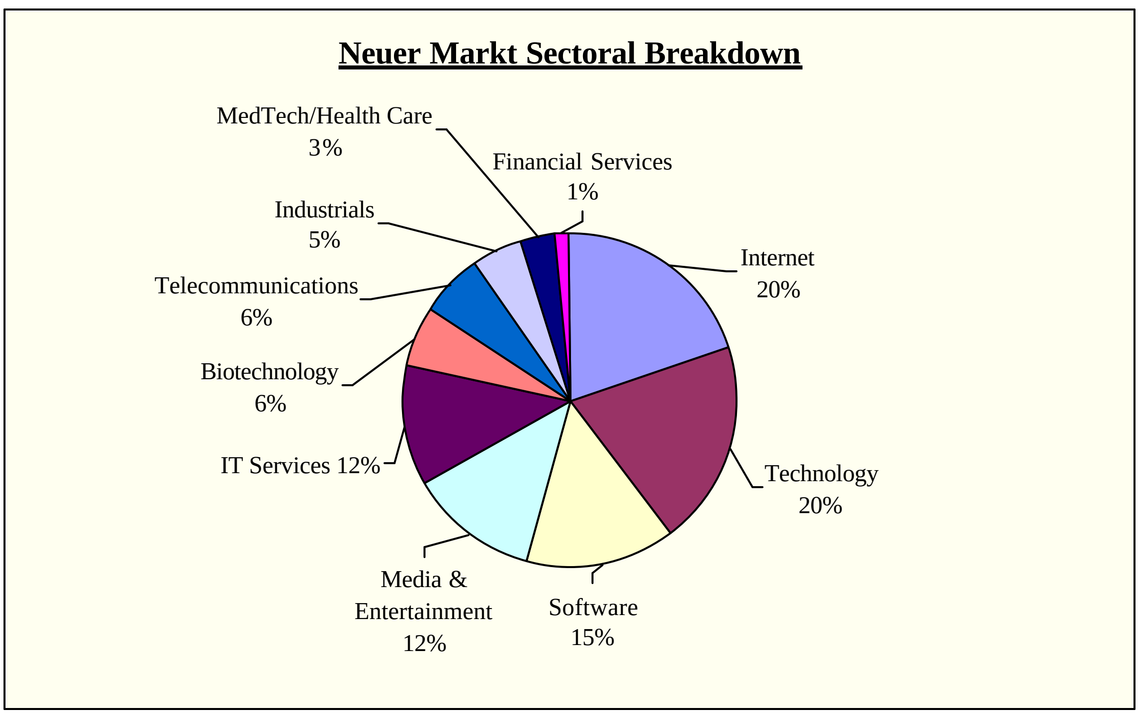
- At the end of 2000, the Neuer Markt came under scrutiny for the poor performance of its IPO listings (where only 42 of the 135 IPOs listed in 2000 were trading above their issue price). As a means to restore investor confidence the Markt initiated measures beginning January 2001 to improve the flow of company information to investors by requiring companies to disclose all sales or purchases of its sales by management, supervisory board members and the company itself as well as standardize quarterly reports. (see footnote below)

[12] As of January 2001, Neuer Markt rules were changed where quarterly reports must additionally contain the balance sheet for the reporting period as well as information on the number of issuer's stock held by the members of the issuer's boards. In parallel, reporting will be standardized according to the respective industry. The Deutsche Börse will publish all violations of the regulatory framework and sanctions it has imposed. And as of March 1, 2001, companies will be obliged to immediately inform the market about buying or selling transactions of individual members of their boards.

- The Neuer Markt is planning both to merge with Britain's Techmark and establish a joint venture with NASDAQ to form a new pan-European market for growth stocks. This will concentrate about 80 percent of Europe's trading volume in these securities thus concentrating liquidity on a single platform and affording greater transparency and comparability.

IV. Neuer Markt Sectoral/Company Breakdown:

- Ten sectored indices introduced by Deutsche Börse in mid-2000 represent all the companies traded on the Neuer Markt.
- Companies in the fast-growth sectors of technology, media, and telecommunications or TMT, dominate listings on the Neuer Market.



EASDAQ: (European Association of Securities Dealers Automated Quotations)

I.

Profile:	Brussels-based pan-European exchange for high-growth internationally oriented companies. • Screen-based, quote driven market using a multiple market maker system • Own dedicated trading platform for seamless trading and settlement across the European Union
Ownership	EASD (the European Association of Securities Dealers) oversees EASDAQ and is independent of any government or stock market or exchange. EASDAQ's members number over 166 member organizations from 15 European countries, the United States, and Canada. Shareholders are investment banks, venture capital firms, insurance companies.
Establishment	November 1996
Number of listings	On December 29, 2000, 172 companies with 64 listed securities and 108 traded securities
Market capitalization	On December 29, 2000, US$ 22.2 billion
Average market cap.	On December 29, 2000, $357.7 million per listed company
Trading Volume	The number of shares traded was 674 million in 2000, an increase of 113% over 1999. Average daily turnover for 2000 was $79.6 million
All-share index	The EASDAQ All-Share Index (the EASI) was launched in July 1998 at 1000. On December 29, 2000 it closed at 647.73 down 57% for the year.
Trading Platform	• Clearstream and Euroclear for settlement • Trax, for on-screen quotations (operated by the International Securities Market Association) • Plans to launch ETS electronic trading system in 2001 for Easdaq members

II. EASDAQ Listing Requirements:

- Easdaq is a regulated market under the Investment Services Directive and has two distinct facilities to which Issuers can be admitted: Listing on Easdaq and Trading on Easdaq. Both facilities exist within Easdaq's single regulated market structure which is based on a single Rule Book, a single trading platform and a single integrated clearing and settlement system.

- Privately-held companies seeking for the first time access to capital markets or publicly-held seeking to raise additional capital or have an additional listing are eligible to list on EASDAQ.

The Company and its financial instruments	Initial Admission	Continued Admission
Issuer is duly incorporated	Yes	Yes
Issuer is legally entitled to offer its financial instruments to the public	Yes	Yes
Issuer's financial instruments are freely transferable within the European Union	Yes	Yes
Issuer's financial instruments are not suspended from trading, quotation or listing	Yes[13]	Yes[14]
Operational history	No	N/A
Language of disclosure	English	English
Undertaking to comply with EASDAQ Legal Framework	Yes	Yes
Adoption of Dealing Code	Yes	Yes
Financial and Disclosure Standard Requirements	**Initial Admission**	**Continued Admission**
Total Assets	EUR 3.5 million	EUR 2 million
Equity and Reserves	EUR 2 million	EUR 1 million
Accounting Standards	IAS, US GAAP or domestic GAAP with reconciliation to IAS or US GAAP	IAS, US GAAP or domestic GAAP with reconciliation to IAS or US GAAP
Auditing Standards	International Standards or Auditing	International Standards of Auditing
Consolidation Policy	In line with accounting standards	In line with accounting standards
Reporting	N/A	Quarterly, Annual and release of information that may be considered price sensitive

[13] The Market Authority of EASDAQ has discretionary powers over such requirements.

[14] Same as above.

Easdaq Listing Requirements…cont'd

Minimum Related Requirements	Initial Admission	**Continued Admission**
Commitment of two EASDAQ Members as Market Makers	Yes	Yes
Minimum free float	20%	20%
Minimum number of shareholders	100	No minimum requirement
Corporate Governance Requirements	**Initial Admission**	**Continued Admission**
Two independent directors	Yes	Yes
Audit committee	Yes	Yes
Remuneration Committee	Yes	Yes

III. Other Recent Highlights/Initiatives:

- As a pan-European stock market, EASDAQ has a unified infrastructure with a single rulebook, a single membership, a dedicated trading platform and seamless cross-border trading and settlement. EASDAQ is a screen-based, quote driven market, which uses a multiple market maker system.

- In October 2000, Easdaq was approved by the Belgian government to trade in derivatives of high growth stocks. Easdaq also recently initiated trading of non-EASDAQ listed growth and technology stocks already listed on other markets (in Europe, Israel and US).

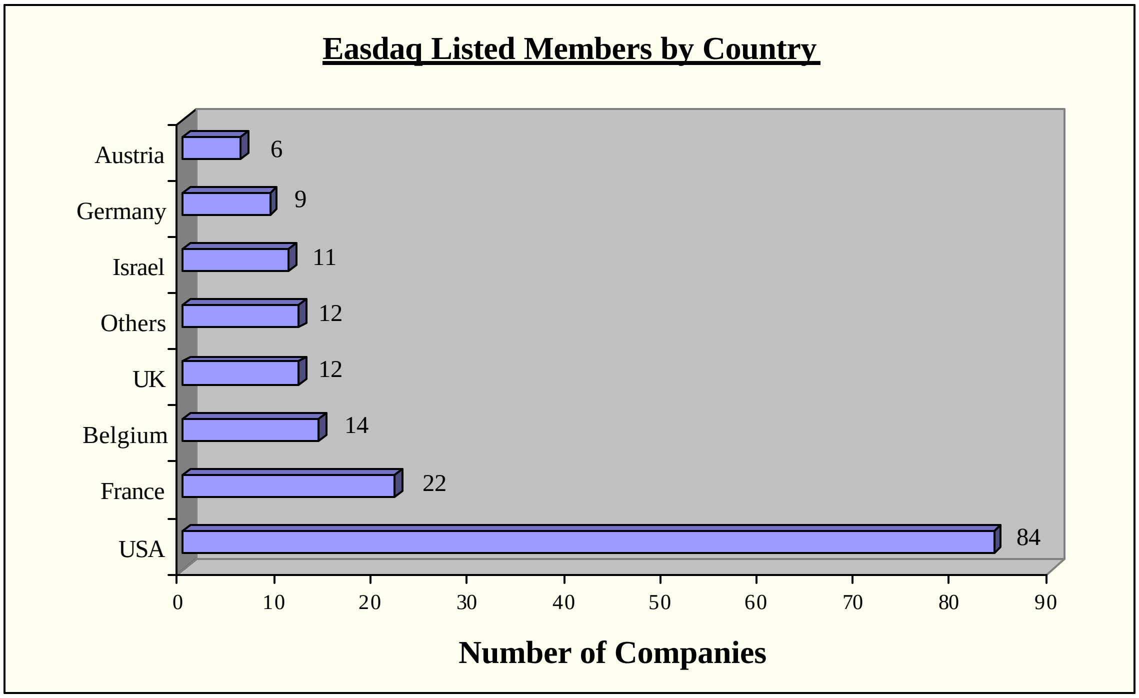
IV. Performance highlights of EASDAQ

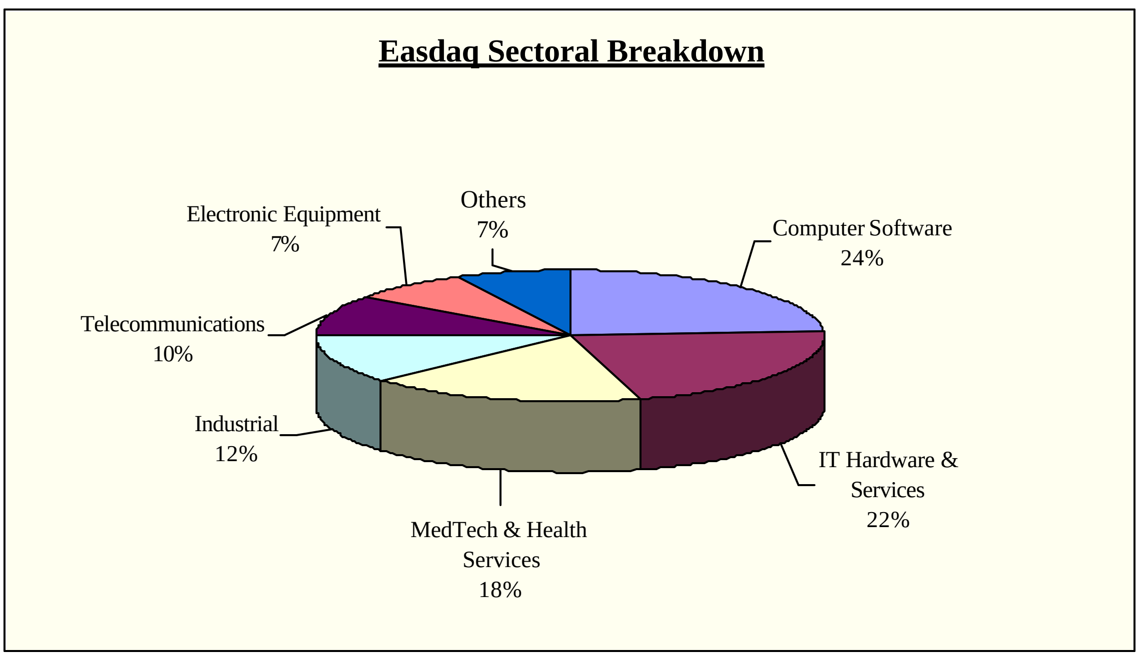
	December 2000	**December 1999**	**Change**
Securities	172	56	+116
- Securities Listed	64	56	+8
- Securities Traded	108	-	+108
New Securities	-	1	
Market Capitalization of listed securities in billion Euro	24	43	-43%
Turnover in million Euro	398	1,004	-60%
Shares Traded in million	31	66	-52%
Average Transaction Size in Euro	35,317	43,981	-20%
Average Daily Turnover in million Euro	21	48	-54%
EASI Value	647.73	1,495.96	-57%

Average weekly figures since establishment of EASDAQ: Year-end 2000

Turnover	**Share Volume**	**Number of Transactions**	**Average Transaction Size**
EUR 143,179,246	5,989,024	3,524	EUR 40,634

V. EASDAQ Sectoral/Company Breakdown:





NEWEX:
(New Europe Exchange)

I.

Profile:	Vienna-based new special exchange for securities from Central and Eastern Europe (CEE) with the aim of becoming the central trading and financing platform in CEE securities for international market participants and issuers • Newex currently has 20 trading market members and participants, and three clearing members.
Ownership	Subsidiary of Deutsche Börse AG and Wiener Börse AG, based in Vienna
Establishment	Launched on November 3, 2000
Number of listings	92
Market capitalization	Total market capitalization of all listed stocks is between US$ 40 – $45 billion
Average market cap.	N/A
Trading Volume	Newex currently trades in shares, share certificates, and any other types of equity eligible for international settlement
All-share index	Launched on November 3, 2000, NX.Plus the main index for Newex, mirrors the Neuer Markt for fast-growing companies. Eight companies (from Russia, Hungary and Austria) with a debut total market capitalization of US$14 billion are listed on NX.plus. As of January 1, 2001 the market capitalization of NX.plus was $9.4 billion.
Trading Platform[15]	• Deutsche Börse's Xetra® trading platform • Clearstream for settlements.

15 As Newex is still in its project stage, its success will be based on the quality and efficiency of the exchange's trading and infrastructure and its market supervision.

II. Newex Listing Requirements:

- Most Newex listed stocks are in the basic segment, which comprises of the official market, semi-official market, and unregulated market and is regulated by the Austrian Stock Exchange Act and the Capital Market Act. Newex also operates two higher tier "quality" segments: NX.one and NX.plus are organized under private law and are purported to have more stringent listing requirements.

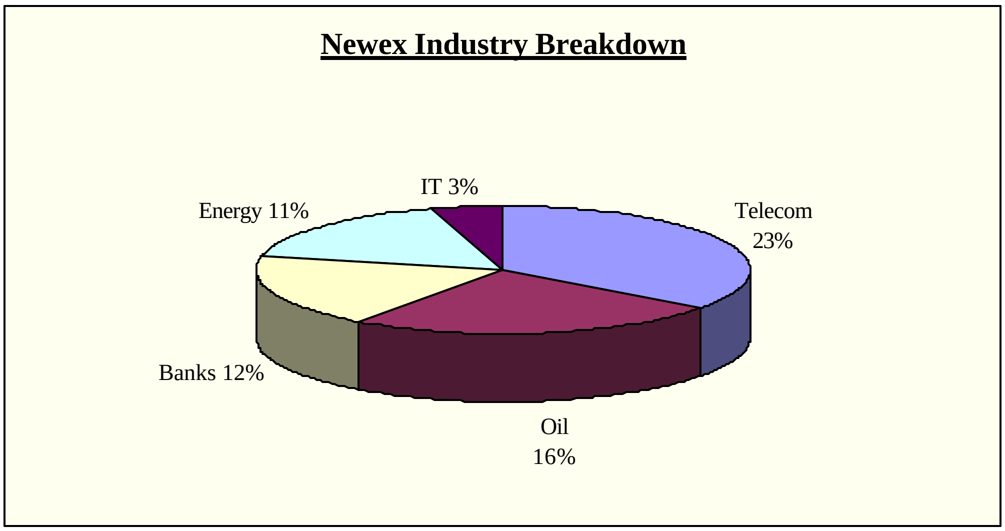
Admission Criteria for Segments NX.One and NX. Plus

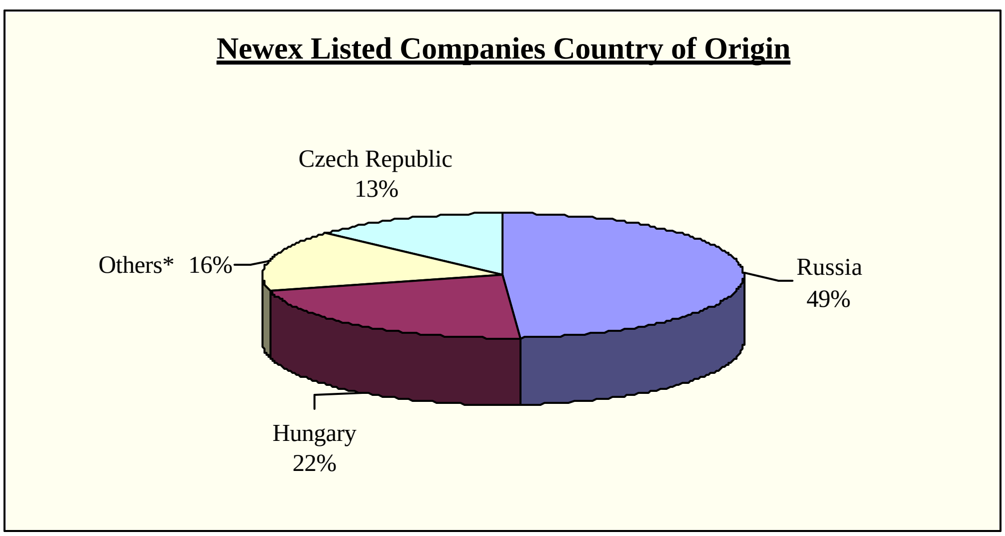
	Segment NX.One	Segment NX.Plus
	At least 50% of issuing volume from capital increase for contributions in kind	Dual listings (prospectus is not required, not a public floatation)
Period of Existence of Company	3 years	2 years
Allocation According to Stock Exchange Act	Official Market/Semi-official Market	Unregulated Market
Market Capitalization	Min EUR 20 million	Min. EUR 10 million
Minimum Free Float	25% and as a minimum securities having a projected market value of EUR 5 million	25% and as a minimum securities having a projected market value of EUR 2.5 million
Issuing Prospectus	Mandatory	Only in the case of an IPO
Prospectus Language	English and German	English and German
Reconciliation from National Accounting to IAS/ US GAAP	Not Accepted	Not accepted
QUARTERLY REPORTS		
Language	English	English or German
Accounting Requirement	IAS or US GAAP	IAS or US GAAP
Delivery Deadline	At latest 3 months after the end of reporting period	At latest 3 months after the end of reporting period
ANNUAL REPORTS		
Language	English	English or German
Accounting	IAS or US GAAP	IAS or US GAAP
Delivery Deadline	At the latest 4 months after the end of reporting period	At the latest 4 months after the end of reporting period
CORPORATE ACTION TIMETABLE	Mandatory	Mandatory
Language	English	English or German
Period of Time	Annually	Annually
Delivery Deadline	3 months after beginning of current business year	3 months after beginning of current business year
INVESTOR EVENTS	Mandatory, annually	Mandatory, annually
Ad-Hoc Disclosure	Pursuant to Articles 82ff of Stock Exchange Act	Pursuant to Articles 82ff of Stock Exchange Act
Lock-Up Period	9 months	In the case of an IPO or capital increase: 6 months
Liquidity Provider	At least one liquidity provider for 12 months	At least one liquidity provider for 12 months

III. Other recent highlights/initiatives:

- Newex aims to capture a large part of secondary trading in Polish, Czech, and Hungarian stocks, and expects to have about 30 IPOs from regional companies by the end of 2001. It is also expected to pursue partnerships and cooperation projects with other exchanges in Central and Eastern Europe. Already the 90 companies listed on Newex cover about half of the $92 billion market value in the region.

IV. Newex sectoral/company Breakdown:





*Others: Austria, Poland, Slovakia, and former Soviet Union countries

AppendixII: List of Interviews

1. *Mr Alwaleed Kamal, BMB Investment Bank, Bahrain.*
2. *Mr Qays Zu'bi, White & Case, Bahrain.*
3. *Mr Ubaydli Ubaydli, Al-Nadeem Information Technology, Bahrain.*
4. *Mr Hatim Zu'bi, Al Mahmood & Zu'bi, Bahrain.*
5. *Mr R. Srinivasan, Almoayyed International Group, Bahrain.*
6. *Mr C.V. Ramana Murthy, Almoayyed International Group, Bahrain.*
7. *Mr Mohammed Almoayyed, Almoayyed International Group, Bahrain.*
8. *Mr Akram Miknas, Promoseven Holdings, Bahrain.*
9. *Mr Khalid Shaheen, Bahrain Development Bank, Bahrain.*
10. *Mr Ajay Khanna, Offset, Bahrain.*
11. *Mr Jamal Jawad, NCR, Bahrain.*
12. *Mr Mazin Al-Shehabi, Mazin Computer Center, Bahrain.*
13. *Mr Adel Al-Safar, Computer World, Bahrain.*
14. *Mr Ali Ahmed Radhi, Ministry of Commerce, Bahrain.*
15. *Mr Mohamed Altareef, HiTech, Bahrain.*
16. *Mr Jameel Al Najjar, HiTech, Bahrain.*
17. *Mr Sharif Monfaradi, Bahrain International Bank, Bahrain.*
18. *Mr Ahmad Nazir, Bahrain International Bank, Bahrain.*
19. *Mr Yousef Al-Essa, Amwal, Inc., Bahrain.*
20. *Mr Ali Salman Thamer, Bahrain Stock Exchange, Bahrain*
21. *Mr Hani Al Mandeel, Bahrain Stock Exchange, Bahrain.*

22. *Mr Tariq Kazim, Arabian Network Information Services, Bahrain.*
23. *Mr James Abernathy, Investcorp, Bahrain.*
24. *Mr Rishi Kapoor, Investcorp, Bahrain.*
25. *Ms Khulood Al-Qattan, Bank of Bahrain & Kuwait, Bahrain.*
26. *Mr Ebrahim Al Sayed, TAIB Bank, Bahrain.*
27. *Mr Subhash Kumar Gupta, Indo Gulf Financial Services, Bahrain.*
28. *Mr Esam Janahi, Gulf Finance House, Bahrain.*
29. *Mr Salah Dashti, Gulf Finance House, Bahrain.*
30. *Mr Mohamed Aljasim, Gulf Finance House, Bahrain.*
31. *Mr Roy Gilmour, Bin Hindi Informatics, Bahrain.*
32. *Mr Karim Aman, Bin Hindi Informatics, Bahrain.*
33. *Mr Ziyad Arekat, Securities & Investment Company, Bahrain.*
34. *Mr Shahid Hameed, Securities & Investment Company, Bahrain.*
35. *Mr Khalil Al Binali, Ministry of Finance and National Economy, Bahrain.*
36. *Mr Zakaria Hejres, Ministry of Finance and National Economy, Bahrain.*
37. *Mr Michael Lee, EMP, Bahrain.*
38. *Mr Salah Nooruddin, Trust Securities, Bahrain.*
39. *Mr Jamal Al-Hazeem, Supreme Council for Economic Development, Bahrain.*
40. *Mr Tamim Refai, Dubex, Dubai*
41. *Mr Edward Quinlan, Ernst & Young, Dubai*
42. *Mr Rajen Samuel, HSBC, Dubai*

43. *Mr Samir Ahmad, Dubai Financial Market, Dubai*
44. *Mr Tamer Bazzari, Dubai Financial Market, Dubai*
45. *Mr Rasheed Al-Omari, PriceWaterhouseCoopers, Dubai*
46. *Mr Moustafa Nagi, PriceWaterhouseCoopers, Dubai*
47. *Mr C. N. Mujumdar, Emirates Financial Services, Dubai*
48. *Mr Imran Shiwani, Emirates Financial Services, Dubai*
49. *Mr Husam Hourani, Al Tamimi & Company, Dubai*
50. *Mr Sharad Agarwal, Cyber Gear, Dubai*
51. *Mr Denis Sabourin, SSGA, Dubai*
52. *Mr Raed Kanaan, ABN-AMRO, Dubai*
53. *Mr Ehab Bakri, ABN-AMRO, Dubai*
54. *Mr Avi Bhojani, Dubai Ideas Oasis, Dubai*
55. *Mr Khalil Jaouni, Arthur Andersen, Dubai*
56. *Mr Waddah Salah, Arthur Andersen, Dubai*
57. *Mr Azhar Zafar, Arthur Andersen, Dubai*

Appendix III: Other Issues

- Almost all interviewed agreed with the need to "widen" the proposed Board's scope and the need to define the type of firms that will be encouraged to list in terms of business focus and country of origin.

  Recommendations centered on expanding the definition of IT to include TMT firms, with a relaxed definition as to what a TMT firm is. Interviewees also suggested that all TMT from the Middle East be allowed to list and trade. Additionally, it was suggested that TMT firms from the Indian sub-continent be also allowed to list and trade on the proposed Board, given the historic trade and business ties between GCC countries and that region. Companies and entrepreneurs from the Indian sub-continent are setting up shop in the Dubai Internet City and Bahrain. They also provide talented TMT labor at competitive costs and are looking for capital.

- The proposed Board's scope in terms of securities listed and traded should be defined: Will it only be shares of TMT firms or also corporate bonds, commercial paper, tracker stocks, etc.? This is especially relevant since some of the IT or TMT plays in Dubai and Bahrain are part of larger business groups and not stand alone firms.

- Interviewees also emphasized the need to design an up-to-date listing and trading board that can transcend hurdles that may be present in the sponsoring national exchanges. Suggestions ranged from the need for the Board to accommodate custody and trustee concept, DVP implementation, and other G-30 recommendations.

- Fund managers typically invest according to and are measured against benchmarks. While there are over 120 such indices not many Middle Eastern countries are included in such benchmarks. One should distinguish investment indices and those constructed for theoretical purposes. There is a need to analyze how this will impact investor appetite for stocks listed on the proposed Board and recommend ways that would address the current situation. For example, will our effort include the building of an index for TMT stocks in the Middle East? The proposed Board should make every attempt to ensure that it is somehow part of a recognizable investment index.

- The Board's business or market development department should engage as many direct and indirect stakeholder groups as possible. In addition to meetings in Jordan, Dubai and Bahrain, meetings with fund managers and investment bankers in the UK and USA is crucial. These are the ones who will underwrite the listings of and take the decisions to invest in listed Middle Eastern IT/TMT firms.

- There is a need to illustrate to companies contemplating listing what value/s will accrue to them out of listing on the proposed Regional TMT Board versus listing on one of the national exchanges in the Middle East or on a bigger market such as NASDAQ. Interviewees asked if the proposed Board be "sold" to listing candidates by having it as the step to be taken before listing on a bigger exchange.

- Two initiatives have been recently talked of in the GCC. One has to do with a group of private investors setting up a GCC-wide exchange. The other has to do with Oman and Qatar both taking the lead on such a project. Interviewees suggested that we take a close look at both initiatives.

  NASDAQ seems to have been the preferred listing ground because of the high valuations that could be had, until recently. Valuation is an important issue for TMT firms generally. Illiquid markets tend to have lower valuations.

  Although no IT Company has listed on any major stock market yet, it should be noted that regionally, this trend is gathering momentum with the Egyptian Company Yallah announcing final preparations to list on NASDAQ recently. This seems to emphasize the potential of Egyptian TMT firms where some 20-plus firms have received funding form venture capital and private equity providers this year. A visit with such firms in Egypt is highly advisable.

- Interviewees advised us to look at the existing dual listing agreements between Middle Eastern exchanges to find out how such agreements may hinder or facilitate the functioning of the proposed Board and learn from the mistakes that were made in this regard.

- US funds are concerned about the financial standing of depositories and about the potential lack of independence from the exchange. US funds would like to be able to look at the capital and soundness of the depository, separate from the exchange. This should be taken into consideration when designing the proposed IT board's microstructure.

- The UAE Company law and current listing requirements present several issues that are not easy to address. Issues such as foreign ownership limits, the need for a two-year track record as a pre-requisite to listing, contradictions between the company's law and the securities law are some of these. A way should be identified that would enable firms listed on the proposed Board to address these, and other, issues.

  Interviewees agreed with the idea that UAE TMT firms should establish a sister company or a wholly owned subsidiary within one of the free zones to be able to list on the proposed Board. The relevant laws exclude companies within the free zones from the UAE companies' law. There are several free zones in the UAE and others could be established if the need arises. The Dubai Internet City ("DIC") is one of these free zones. Companies within such zones cannot conduct business within the UAE and must sign agreements with the Mother Company to do so.

  There are three types of firms that are allowed to operate within the Dubai free zones: branches of foreign companies, free zone establishments (one shareholder type entities), and a free zone company (more than one shareholder). There is a need to amend Free Zones regulations to meet the listing requirements of the proposed Board. For Example, the creation of public shareholding companies within the Free Zones, the ability of Free Zone firms to list other products on the proposed Board such as corporate bonds, and tracking shares for divisions of large local or regional companies. Again, this is easy to do since companies within the free zones fall outside the scope of the UAE Companies' Law.

  Additionally, the involvement of the UAE Central Bank can be easier to obtain because of the free zone status. The central bank will want to review any situation that involves UAE nationals investing money.

- Bahrain also has a mechanism to address issues pertaining to the Companies Law and the securities law and regulations (part of the Commercial Law). A new company can apply to the Ministry of Industry to obtain an Exempt Company status, which basically exempts it from certain clauses of the relevant laws.

- The role of commercial banks in the UAE is particularly troubling to brokers. Commercial banks can establish brokerage arms owned by the banks themselves and undertake brokerage activities in the secondary market for their clients at very competitive rates. This may drive some brokers out, negatively impacting such things as research and investor education. There also seems to be confusion as to which entity should regulate the brokerage activities of commercial banks.

  Additionally, banks cannot own more than 5% of the issued capital of a listed company in the UAE. This hampers their efforts at performing custody/trustee services for their clients. Approvals are required.

- The UAE Ministry of Industry and Trade has the right to price any IPO, a method previously used and now abandoned in Jordan. This is inhibiting underwriting activities.

- There are special problems pertaining to patents and copyright issues: How to effectively patent products that are developed by IT firms in Jordan, Dubai and Bahrain? How well can these patents be defended? For example, there is no unified system for patents in the UAE and since a Dubai TMT firm's market is the whole world, the issue of protecting proprietary products is a crucial one. As a matter of interest, it is only recently that the European Union put in place a uniform system for patents within the EU.

- All interviewees agreed with the idea of making listing requirements easier while strengthening disclosure requirements and corporate governance standards. It is also advisable to have listed firms adopt US GAAP from day one.

- The issue of where the Board should be incorporated has been emphasized several times. This not only has to do with such things as laws under which it will operate but also of name association and location and how these can impact the development of the proposed Board.

- The workweek is not uniform for all institutions in the three countries. In Dubai, for example, Government departments operate Saturday though Wednesday with Thursdays and Fridays off. This creates problems not only in terms of being in sync with western markets but also in terms of settlement, especially for foreign investors. The DFM alternates its employees by giving some staff off-days on Thursdays and others on Saturdays. It is advised that the proposed Board adopt the Jordanian model.

- Dispute settlement is an area of intense interest to TMT firms in Dubai. There is a lack of clarity as far as dispute settlement for companies operating out of the DCI. The DCI has its own committee to settle disputes. However, these resolutions have not been tested in UAE or Dubai courts.

- Dubai has a particular situation whereby public shareholding companies cannot list, even if they came to be via public offer, unless they establish a track record of two years. This turns the investment paradigm on its head, as is the case in Jordan. Such firms should be required to list so that they cannot escape the price control mechanism embedded in a market price for their shares.