

**Achievement of Market-Friendly Initiatives and Results Program
(AMIR 2.0 Program)**

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ASEZA E-Assessment Document

Final Report

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0 Document Control

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Changes From Last Issue

Version	Date Updated	Revision Author	Summary of Major Changes Made	Reviewed By	Review Date

Distribution List

0.1 Referenced Documents

Reference Number	Title	Note
1.	ASEZA IT Strategy Plan	
2.	ASEZA System Architecture Documents	
3.	ASEZA PDA Project Review Document	By Jim King
4.		

0.2 Abbreviations

AMIR	Achievement of Market-Friendly Initiatives and Results Program
ASEZA	Aqaba Special Economic Zone
ASYCUDA	Automated System for Customs Data
ATASP	Aqaba Technical Assistance Support Program
COE	Center of Excellence
COTS	Commercial Off The Shelf (a software package)
ERP	Enterprise Resource Planning System
GIS	Geographic Information System
GoJ	Government of Jordan
IT	Information Technology
LAN	Local Area Network
MIT	Ministry of Industry and Trade
MoF	Ministry of Finance
MoICT	Ministry of Information Communication and Technology
PC	Personal Computer
RFP	Request for Proposal
SGN	Secure Government Network
UNCTAD	United Nations Conference on Trade and Development

0.3 Glossary

This section defines the following terms that are used in this report:

Applications	Computer programs that are accessed by Jordanian citizens through the Internet Web sites of the different GOJ Ministries (also known as Internet applications or Web applications). Also includes computer programs that are accessed by civil servants through the SGN (also known as SGN applications or intranet applications).
ASYCUDA	ASYCUDA is a computerized customs management system which covers most foreign trade procedures. The system handles manifests and customs declarations, accounting procedures, transit, and suspense procedures. It is used by ASEZA and National Customs as well as 80 countries and regions worldwide.
Content Management System	A software package that allows information content to be created, edited, approved and published on an Internet or intranet Web site. A content management system (and the business processes implemented to support it) will aid the creation of high quality information content by helping to ensure that content is accurate and up-to-date. Because inaccurate content has been shown to discourage users from utilizing Internet and intranet Web sites, a content management system is important to the success of many Internet and intranet projects. Content management systems are often implemented as one component of an Enterprise Portal Architecture.
e-Government	A fundamental change in the way a government interacts with its citizens. This involves moving towards recognition of the citizen as a <i>customer</i> of government services and is implemented through the introduction of new channels (generally Internet and telephone-based) that are underpinned by fundamental redesign of the business processes within government institutions.
e-Government	A front-end software component that is provided on the Internet and

Portal Website	on intranets (such as the SGN) that acts as a gateway to make it easier for users to find information and services. Most Portals Websites offer a range of functions but the most important elements are a content management system (to ensure that the information content is of high quality), a search engine (to help the user find the information content that is of interest to them), and a directory of users.
e-Procurement	An Electronic Service allowing government to procure goods and services through the use of Internet Technology.
e-Service	(Electronic Service) Any government service that is delivered through the use of Internet technology, either over the Internet or across an intranet.
Internet - also known as the World Wide Web (www)	A worldwide network of linked PCs. Information is published to the public in graphical format on Internet Web sites for anyone to view. Many national governments now have one portal site to which users are initially directed, before being redirected (often by a search engine built into the portal) to the Web site of the government department that they are seeking. (For an example, see www.ukonline.gov.uk)
LAN	A network, restricted to government users that links PCs within a ministry. It uses protocols such as Token-Ring to share electronic files around the LAN. The format of these files is generally limited and will not usually include the graphical and enhanced formats that are available on an intranet.
Portal Website	A front-end software component that is provided on the Internet and on intranets (such as the SGN) that acts as a gateway to make it easier for users to find information and services. Most Portals Websites offer a range of functions but the most important elements are a content management system (to ensure that the information content is of high quality), a search engine (to help the user find the information content that is of interest to them), and a directory of users.
Secure Government Network	An intranet that is provided by the GOJ for the exclusive use of its civil servants. It will be provided with high levels of security to prevent any non-government users from gaining access to it. This type of network is also known as a Government Secure Intranet (GSI).
Web site	A technology that allows information in a wide range of graphical and enhanced formats to be made available on a network to any users who are connected to that network. The information is 'published' on a network Web server and this can then be accessed by users who are equipped with Internet Web browser software. A Web site is made up of one or more Web pages that contain information in graphical and enhanced formats. The network can be an intranet, extranet or the Internet.

1 Executive Summary

The AMIR Program has been asked to assist ASEZA with their project initiatives and establish commonality and determine where synergy is possible between ASEZA and national government initiatives. This study provides identification and assessment of the opportunities provided by the collaboration between AMIR and ASEZA. Further, this study provides a strategy assessment for each opportunity and identifies synergistic benefits to both AMIR and ASEZA. It is noted that any ASEZA initiative that does not provide a direct benefit to the national government does not exclude it from AMIR's assistance.

The basic utility of this study is to be utilized as a basis for discussion and further analysis in support of strategic decision-making and planning for future collaborations for AMIR and ASEZA. Currently, an AMIR-ASEZA planning meeting is scheduled for October 2002). Further, the findings and recommendations from the AMIR-ASEZA planning meeting and this report should be utilized as a basis for analysis preparation for AMIR in its annual planning sessions (currently scheduled for November 2002).

It is noted that none of the initiatives identified in this study are trivial in scope and even the smallest of the initiative would require a significant amount of resources and/or funding. The larger initiatives identified, if taken on a national scale, would be huge in scale. Because of this, it is highly recommended that AMIR provide a full-time manager to direct the strategic analysis and planning associated with each of the initiatives. This manager would also be the logical person to manage champion the implementation of each of these initiatives.

The analysis of the initiative identified in this study has concluded that the following three project areas be considered as high priority in planning: (1) **Cargo Inspection and Auditing**, (2) **Investment Facilitation and E-Permitting**, and (3) **Investment Tracking/ Customer Relationship Management**. The main factors in determining the prioritization of these initiatives over other initiatives are: (1) each of these projects has already been initiated by ASEZA, (2) each project is in need of resources beyond what is currently available to ASEZA, (3) they automate core functionality for operations at ASEZA organizations, and (4) there are direct and/or indirect benefits to the national government resulting from their implementation at ASEZA.

One tier below these three projects in priority is the **Document Management and Workflow** initiative. This project meets most of the prioritization requirements set above; however, the impact on automating core functionality varies between differing organizations. This project could potentially have a large positive impact on the efficiency of both ASEZA and GoJ organizations, however, the level of resources and risk associated with these implementations are also very large.

The other initiatives identified in this study should be considered lower priority. Some initiatives may provide mutually beneficial collaborative opportunities to both AMIR and ASEZA, and upon future analysis may have an impact on their prioritization: (1) **Data Warehousing**, (2) **Geographic Information System**, and (3) **E-Procurement**. Other initiatives which have already started and likely have no nation government implications are: (1) **Enterprise Resource Planning** and (2) **Sales Tax Revenue**.

Several AMIR e-government initiatives are currently being implemented can also be expanded to include ASEZA as needed. These projects are (1) **E-Government Portal**

Website, (2) Secured Government Network/Email, and (3) E-government Applications (current and future). Each of these initiatives can easily be expanded to include ASEZA with relatively small additional resources to what AMIR is currently investing in E-government.

2 Background

In August 2000 the Government of Jordan (GoJ) granted the Aqaba Special Economic Zone statutory Authority (ASEZA) to be financially and administratively independent. Since its inception ASEZA has worked to simplify all procedures related to licensing, registry, and approval of businesses set up in the area. Six ministerial-level commissioners have been delegated a major area of regulatory and operational activity. As such, the Authority has commissioned some significant re-engineering of the underlying business processes. They are now at a cross-point of automating some of these very processes. USAID has asked the AMIR Program for assistance helping ASEZA with their e-Government initiatives and determine where synergy is possible between initiatives in Aqaba and with national e-government initiatives.

This document provides a summary analysis of the following:

1. An assessment of ASEZA including the status of e-projects
2. High-level requirements from stakeholders
3. Definition of points of integration between national and ASEZA initiatives
4. Feasibility of integrating ASEZA initiatives with AMIR e-Government activities
5. General IS strategy for ASEZA

This study provides a high level analysis of commonalities between both the national GoJ and ASEZA programs and will set the direction for more detailed scoping at the individual project level in the future. This document should be used as a starting point for high level planning for future initiatives between AMIR and ASEZA.

The content of this study is based on analysis from information collected in interviews conducted between:

- Omar Qawas, ASEZA MIS Director (oqawas@aseza.jo)
- Mohannad Itayem, ASEZA Information Content Manager (mitayem@aseza.jo)
- Abed Shamlawi, AMIR ICTI (AShamlawi@AMIR-Jordan.Org)
- Oraib Toukan, AMIR ICTI MIS Specialist (OToukan@AMIR-Jordan.Org)
- Steve Wade, AMIR Program Chief of Party (SWade@AMIR-Jordan.Org)
- Jim King, ATASP/AMIR Customs and Taxation Consultant (JKing@AMIR-Jordan.Org)
- Amir Tahami, DevIS Senior Technical Advisor (ATahami@DevIS.Com)

In addition, a briefing on the possibility of AMIR/ATASP coordination on a wireless PDA application for ASEZA customs was held with Vince Ruddy, ATASP Chief of Party (VRuddy@ASEZ-Project.Com). Mr. Ruddy also provided input to this study via notes on a draft version.

3 AMIR's Role in ASEZA

The AMIR program has provided can fill several roles in assisting ASEZA to achieve the objectives identified in this study. AMIR has already supported substantial computer hardware and software procurement to ASEZA; ATASP has been asked by AMIR to assist in following up with ASEZA to ensure proper end-use of this hardware and software. Procurement of computer hardware and software can be provided for ASEZA in the future. Annex 1 provides an inventory of ASEZA hardware and software provided by AMIR.

A similar role for AMIR is to provide funding for initiatives for ASEZA. This can be done for projects specific to ASEZA or projects to be used by both AMIR and ASEZA. Funding could be provided with or without associated AMIR resources and/or capabilities. Further, ASEZA is in definite need of technical resources. AMIR has a network of subcontractors that could be tapped to help ASEZA as needed.

Also, there are opportunities to implement initiatives collaboratively, so that both AMIR and ASEZA can benefit at a cost savings. Further, there are benefits to each organization to learning from the experience of the other organization. ASEZA is much smaller and nimbler than the national government. There will be opportunities for national initiatives to be scaled down and implemented at ASEZA as a pilot project before national implementation. ASEZA specific projects may not necessarily scale up to nation implementations. This type of collaboration should be analyzed for any ASEZA projects targeted to the national government. In some instances, it may be possible to incorporate ASEZA into current AMIR initiatives with little additional effort or added resources. This provides immediate benefits to ASEZA at modest additional costs.

It is noted that there are several important constraints on the help that AMIR can provide:

- Any funding provided by AMIR must be done according to USAID regulations and must also conform to Chemonic's policy. RFP's that have already been issued will not be able to be funded using AMIR money.
- AMIR will not be able to join any initiative that would take resources that would interfere with current e-government initiatives that are scheduled for completion in the current planning year.
- ASEZA currently has a lack of certain resources and their capacity to absorb certain technologies may be a factor. This should be considered with each initiative.
- The desired timing for ASEZA initiatives may not correspond to similar initiatives for AMIR. The result is that either ASEZA or AMIR may have to adjust their desired time frames, or ASEZA may need to pursue the initiative on their own.

4 ASEZA IT Strategy/Assessment

The ASEZA organization operates in 11 functional buildings, 6 main ones and 5 ancillary. After wiring build-out, there will be 10 Mbps connectivity between the buildings. There are 800 Full-Time employees and an additional 600 non-FTE employees for a total of 1400 employees.

ATASP is in the 2nd year of its 3 year program to support the development of the Aqaba Special Economic Zone and its corresponding authority, ASEZA. The following details have had a major impact on the current state and future of IT projects at ASEZA:

- One of ASEZA's biggest challenges has been developing a concrete, justifiable work plan and subsequent budget that could be presented to its Board of Directors so that high level leadership can make capital planning decisions in terms of IT systems they want to support.
- The ATASP project was not designed to include a stand-alone IT component; IT-related support is subsumed under other primary components (institutional development and training, investment facilitation and promotion, etc.). As such, there is no full-time ATASP component leader. However, ATASP did provide an IT manager for 132 days to support ASEZA IT development. This manager has since departed from ATASP and has assumed a full-time position within ASEZA as its MIS director.
- ASEZA has limited resources and would stand to benefit from donations, grants, or concessional finance that might be available.
- ATASP has allocated substantial support in the past, and continues to do so:
 - Provided 132 person days support of an IT Manager (Omar Qawas, who upon completing his assignment under ATASP, assumed the position of MIS Director at ASEZA);
 - Provided 236 person days of high-level IT and ERP system support to ensure successful procurement of Enterprise Resource Planning system (ERP, support has included process mapping, re-design, RFP development, proposal evaluation advice, and implementation oversight);
 - Developing e-enabled system for investment licensing and permitting (includes process mapping, re-design, software development, implementation, testing and training);
 - Developed ASEZA web-site (including downloadable investment registration forms/information);
 - Provided back-office IT service support through sub-contractor Boss IT (response to telephone and email queries, other customer relation management support);
 - Procuring Customer Relation Management software (approx. \$40k, application will be used as an important tool for marketing and promotion officers to track investor leads and manage their sales and marketing activities and generate associated projections and reports);
 - Procuring IT Project Management Software (approx. \$20k, expected to use Rational);
 - Providing IT Project Management training (two ASEZA MIS staff have received this, 2 more proposed);
 - Coordinated with National bodies and facilitated ASEZA's ability to obtain/use specialized software for income tax administration;
 - Developed high level system architecture for all ASEZA IT systems;
 - Developed IT systems implementation priority plan;
 - Provided 20 days of Network Engineer Administration/Configuration Support;
 - Provided basic computer training to ASEZA staff

Most of ASEZA's systems are currently under development. There has been trouble with budgeting and staffing that has prevented full transition into stage 2, as defined below. As noted above, the inability of ASEZA to prepare long-term capital planning has resulted in this system 'evolution' of systems based on short-term need, rather than an 'engineered' system architecture. There are 42 systems in total between the different stages:

Stage 1: Infrastructure. These include systems for infrastructure to support core processes for ASEZA. These systems include E-mail, network servers, basic office automation, LAN/WAN, architecture standards, IT SOPs...etc.

Stage 2: Data Repositories. This stage is the development of electronic data and related structures to support ASEZA.

Stage 3: Information Systems. Stage 3 is the development and implementation of Information Systems that progressively optimize ASEZA's business processes by increasing operational efficiency and quality of service to its constituents.

In early 2002, ASEZA developed a short-term IT strategy covering a 24 month period. A summary timeline of their strategy plan is provided below (source: ASEZA IT Strategy-Summary):

1-4 months, Foundation

- Centralize IT/IS management and assign responsibility for IT assets, operational systems performance, projects technical supervision and new systems acquisition
- Build an effective MIS department by recruiting and retaining qualified staff
- Interconnect all ASEZA divisions and nodes to build functional Local and Wide Area Networks
- Enable office automation capability for e-mail, shared network resources, enterprise agenda and address book and Intranet
- Implement instructions and procedures for Internet usage, IT Security and end-user systems usage
- Establish an IT training program to address the required skills for end users and MIS staff
- Conduct needs requirements, market research and vendor evaluation for implementation of ERP/Core systems
- Get a fulltime ATASP IT/IS advisor to assist in the implementation of the stated strategy and coordinate efforts with other ATASP advisors in their respective roles (note: this has not been agreed by ATASP).

4-9 months, Growth

- Implement the following priority "Core" systems:
 1. Core ERP (Financials) system to cover Accounting, HR, Assets, and Procurement
 2. Sales and Income tax control
 3. Enterprise registration and permitting
 4. Investor tracking
 5. Document archiving, management and workflow
 6. Data warehousing
- Build ASEZA Intranet and integrate with ERP/Core system(s)

9-12 months, Delivery

- Continue implementation of remaining systems

- Build pilot ASEZA portal
- Complete systems documentation and mapping to deliver executive information
- Define e-service delivery channels and ensuing action plan

12-18 months, e-Inception

- Fully Develop ASEZA portal and e-delivery channels

24+ months, Maturity

- Assimilate MIS staff to a skeletal, highly skilled team, but maintain an efficient technical support/IT Helpdesk team.

Note: Change management and training permeates throughout and is considered an integral component for success.

This strategy plan – specifically the schedule – is likely to be revised in light of the impacts sustained so far and new factors introduced by AMIR/ATASP/ASEZA.

5 Analysis and Recommendations

5.1 ASEZA Initiatives: AMIR-ASEZA Project Collaboration

The initial review of identified projects at AMIR and ASEZA has indicated that there are common functional areas to be addressed. In most cases, the points of commonality differ in respect to prioritization of the projects. For example, Document Management is an area that would potentially provide huge utility to both GoJ and ASEZA, however the implementation of a Document Management System at ASEZA would be much easier and smaller in scale than at the national level. This scenario is common among many of the initiatives. Noting this, where collaboration is desired, one organization may have to change their expectations for the sake of this collaboration.

The activities at ASEZA can be considered a small subset of similar activities that occur at the national level. For the most part requirements for ASEZA project would normally be smaller in scope than with the GoJ. Necessarily similar technologies would take more time and effort at the national level. However, the advantage to this situation is that there will be opportunities to use ASEZA as a test-bed for implementing e-government technologies before rolling out to a national level. This type of process will allow ASEZA to work out the bugs in their simpler environment before attempting the more complex implementations. A common theme that can be seen across many of the collaborative initiatives is that ASEZA can be used as a “laboratory” while implementing initiatives and after they are proven, they can be rolled out at the national level.

Another important consideration in the collaboration of systems is setting standards. GoJ is currently setting standards for its technical architecture including development languages, network standards and protocols, etc. Both AMIR and ASEZA will need to compare and determine the impacts of the differences in their standards when discussing solutions. Beyond architectural standard, both groups will need to reconcile standards at the data level to ensure that common solutions can accommodate the data requirements in both environments.

One of the largest issues between AMIR and ASEZA will be the reconciliation of priorities and timing for each organization. As a whole the goals of GoJ and ASEZA are similar, however, ASEZA's priorities involve a smaller subset of business transactions than the GoJ. Further, modifying procedures and implementing systems at ASEZA may be much easier than that at the national level. Objective than can only be addressed in the long-term by the GoJ, may be easily achieved by ASEZA in the short-term. Many of these situations are also likely to have political implications that overshadow the technical merits of such solutions. Because of these factors, an important recommendation of this study is to appoint a full-time manager to evaluate and work through the risks, resources, political implications and issues associated with each of these initiatives.

5.2 ASEZA Initiatives: Points of Integration

The following is a discussion on ASEZA initiatives and how they may integrate with national e-government initiatives. This is a high level evaluation of the initiatives at ASEZA, there has been no analysis of the supporting systems underneath the major functional areas. As noted before, this analysis should be considered a starting point for detailed analysis underneath each functional area.

5.2.1 Enterprise Resource Planning System

ASEZA is currently planning on procuring a Commercial off the Shelf (COTS) Enterprise Resource Planning (ERP) system. The ERP functionality being considered focuses on Financial, Human Resources, and Project and Asset Management. ASEZA is using consultants to develop RFP. Bids from RFP have been submitted and are currently being reviewed and evaluated.

Recommendation:

The GoJ Minister of Finance has indicated that they are planning on procuring a standard ERP system for government. They have instructed all other ministries to not buy any ERP systems until they are finished with their plan. There is no plan to put the entire GoJ under a single ERP implementation though.

ASEZA is a much smaller organization, much like a small company. ASEZA's overall functions are a much smaller subset of what the national governments are and likely would have a much narrower set of functional requirements. Further, the timing of the decision and planning at MOF would delay ASEZA plans for implementing ERP beyond what is desired. There is no apparent added value to pushing the MOF system on ASEZA. In fact pushing the system would likely have a negative impact on ASEZA and delay ASEZA's schedule. Additionally, it is unknown whether there would be cost savings to ASEZA as no national ERP has been announced. ASEZA would likely be better served continuing with their current ERP selection and

Recommended AMIR Role: None**Reasons:**

1. ASEZA ERP RFP already under review
2. GoJ ERP decision in future, may not benefit ASEZA

5.2.2 Investment Facilitation and E-Permitting

ATASP (along with Al Jidarah) is currently developing an application to automate the process of registering and licensing businesses in AQABA. ATASP (along with CDG -Community Development Group) performed the initial Business Process Mapping, and then Al Jidarah along with EnviroConsult (ECO) and International Business Legal Associates (IBLA) performed the Business Process Re-engineering prior to the design and development of the system in order to streamline the registration/licensing procedure. The system is being built upon the "One Stop Shop" concept, where business owners can go to one place to submit and process all the paperwork to legally conduct business. The system is scheduled for launch in October 2002.

Recommendation:

This is one area where ASEZA is well ahead of AMIR. This initiative is very similar to the Ministry of Industry and Trade (MIT) Center of Excellence (COE) technology strategy that will eventually make MIT the single point of contact for business registration/license. In this plan, all documentation will be submitted to MIT and electronically passed to associated ministries for approval. Essentially, the whole process will allow business owners to submit applications on line and follow their approval process on a secured web account. The time frame for the MIT strategy is a phased approach that will take several years to implement. It is much more complicated that the ASEZA process as many more ministries and many more types of businesses are involved.

There are unlikely to be many technology touch points in this area. ASEZA processes are likely to be much more streamlined than the national government and it is likely that the applications being built in Aqaba will not scale to fit the national government in size and complexity. However, as far as redesigning processes and procedures, the AMIR program can probably learn a lot from studying how processes were redesigned at ASEZA. There will likely be ideas for changes in national policy that would greatly streamline processes. There are also likely lessons to be learned from studying how the associated technologies are implemented to provide the desired automation.

Recommended AMIR Role: Shared Learning**Reasons:**

1. ASEZA project schedule for production in October 2002
2. AMIR's completed automation is several years away

5.2.3 Sales Tax Revenue

BusinessOne/STS is building a Sales Tax Revenue system for ASEZA. This system is funded by ASEZA and should be operational in November, 2002.

Recommendation:

The only known Sales Tax System planned for the National Government is at the Ministry of Finance. It is intended to be a G2G and G2C application that enables businesses to submit their sales revenues, and allow the government to process it. Deloitte and Touche is currently in the analysis stage and no documentation has been provided yet. Ownership and funding has not yet been defined. The document will be forwarded to AMIR by the MoICT as soon as it is completed (date unknown).

Due to the timing of the ASEZA initiative, there is no real opportunity for AMIR to assist ASEZA on their current initiative. Even if an overlapping initiative existed, the current ASEZA initiative would be in production before AMIR could provide support.

In the future, there may be an opportunity to utilize the ASEZA system within the national government. Deloitte and Touche could review the capabilities of the ASEZA project and determine if there is any overlap and/or possible reuse of technology to aid GoJ.

Recommended AMIR Role: None**Reasons:**

- 1. ASEZA system operational November, 2002, before AMIR could assist**
- 2. Possible GoJ system in early conceptualizing stages**
- 3. Possible reuse of technologies of ASEZA technology for future GoJ initiative**

5.2.4 Document Management and Workflow

ASEZA has put the implementation for a Document Management and Workflow system on their radar. They are currently in the RFP building stage and are looking for funding. The implication here is that all paper documents that come into ASEZA are electronically scanned when received. All subsequent document processing and approving is performed electronically, rather than by passing physical papers between departments. The effect is that the process is not only faster, but also automatically managed and controlled. For the customer, this is a huge benefit in quality and time of service.

Recommendation:

This type of automation is usually a large investment, particularly in engineering and configuration tasks. If engineered correctly, they provide a huge payback. These implementations are usually complicated as they require a lot of business analysis and re-engineering to be configured to achieve efficiencies. The rate of implementation failure is

high, as there are a lot of Document Management System implementations that sit in organizations unused. However, when done properly, they can provide huge benefits.

There are currently no Document Management and Workflow initiatives targeted by the AMIR program. This is not generally considered to be a core technology, but rather one that is implemented in organizations after they've streamlined their operations. However, a ministry could consider Document Management and Workflow as the catalyst to streamlining their operations. The danger is that this approach is a big paradigm shift for the organization which could be very risky in a ministry environment.

Outside of the single ministry implementation, implementation of Document Management and Workflow could be effective in processes that require exchange of information between ministries. The flow and tracking of forms can be managed completely electronically, thus improving quality, speed, and control of processes. The risks and reward noted above apply to this situation.

The recommendation is for AMIR to closely collaborate with ASEZA in this area. They should look for a technology that could be implemented within ASEZA and at the national level. ASEZA would be prepared to implement this well before AMIR could have any ministries ready to implement. The ASEZA implementation could be used as a model for future GoJ implementation.

AMIR should target a specific Ministry as model for their first implementation. A good candidate would be the Ministry of Industry and Trade since they are currently undergoing several BPR initiatives already. Re-engineering would be a good starting point for implementing Document Management and Workflow. Lessons learned from the ASEZA pilot program would ease the implementations for the national government. Collaborating on Document Management and Workflow would provide savings in costs, could solve funding problems, and provide technological capabilities that could vastly improve government back-office functionality.

In addition, in the future, it may be possible to leverage the Content Management System that is being employed for the E-Gov Portal. This system, FileNet CMS, is currently being merged with FileNet's existing Document Management tools. After the initial Portal is implemented and matured, AMIR should explore the capabilities of the new FileNet technology offering and determine if it can be leveraged in this area.

Recommended AMIR Role: Collaborative Initiative

Reasons:

- 1. Initiative will benefit ASEZA and national government**
- 2. ASEZA can be used as model implementation**

5.2.5 Investor Tracking/ Customer Relationship Management

Investment Tracking is a “pipeline” system that tracks the movement of potential investors from lead to investment. It provides functionality to manage investment contacts generated from promotional activity leads generation to status and location tracking of all investment applications in the approval pipeline. Customer Relationship Management provides tool to track and manage all investor related activities and provides “help desk” functionality for the Investment Directorate in serving investors. It is scheduled to be procured and installed before the end of 2002.

Recommendation:

The AMIR program is currently in the discovery phase of what organizations provide investor tracking and determining what systems could support this. It is known that there are varying pieces within different organization and that there is no one coherent data store. Further, this type of system combined with the Investment Facilitation and E-Permitting system above, provide the similar functionality of the long-term MIT COE technology strategy as described in section 5.2.2 above. The ASEZA solution is a COTS system, whereas, the AMIR system will be custom to participating ministries and built on top of the MIT Business Registration and Licensing system.

ASEZA is clearly ahead of AMIR in its ability to analyze and implement a solution in this area. Because of the large scope of requirements for the GoJ, it may be unlikely that the ASEZA solution could be utilized at a national level. However, in term of business process re-engineering, AMIR could learn from analyzing the processes at ASEZA and also learn from a review of technology implemented as ASEZA.

Recommended AMIR Role: Shared Learning

Reasons:

- 1. ASEZA system operational in December, 2002**
- 2. AMIR solution will be custom built upon e-government solution**
- 3. ASEZA timeframe well in advance of AMIR**
- 4. Both organizations can learn from others implementation**

Timeframes: ASEZA = 4-9 Months; AMIR = Long-term Initiative

5.2.6 Data Warehousing

In implementing their core systems, ASEZA is planning on implementing a Data Warehousing capability; in order facilitate future Business Intelligence and OLAP capabilities. It will provide one central repository for all data that is collect by ASEZA. This is a wise decision since systems are currently being implemented and it is much easier to create a data warehouse with new systems as compared to legacy systems. Future queries on ASEZA-wide data will be very easy as the data warehouse is implemented.

Recommendation:

Creating a Data Warehouse at ASEZA is a comparatively easy task since they are putting in new systems now and can easily architect their data warehouse to accommodate the systems. It will serve them well in the future. There should be no attempt to create a data warehouse at the national level. At a national level, this would be an enormous undertaking in costs and resources and the benefits of doing this are dubious. There are few standard systems and technologies even within ministries, let alone across ministries. Creating linkages would be extremely difficult.

In some instance, it may make sense to create Data Warehouses within certain ministries with certain sets of data. This would be in very select cases. It should be considered in new places that are implementing new applications and technologies. These opportunities should be investigated at the ministry level on a case by case basis.

Any potential integration points between the ASEZA data warehouse and any ministry data warehouses would likely be in the sharing of knowledge or data warehousing technologies. Data warehouses are typically customized to client's particular data stores, therefore a data warehouse implementation could be considered customized to each organization.

Recommended AMIR Role: Funding or None

Reasons:

- 1. National Data Warehouse not reasonable (low benefit, huge technical effort)**
- 2. Can provide funds and/or resources for ASEZA**

Timeframes: ASEZA = 4-9 Months; AMIR = Long-term Initiative

5.2.7 Cargo Inspection and Auditing System

ASEZA is currently using an older version of the ASYCUDA system for customs handling automation. It covers all the custom clearance processes at the customs offices but lacks coverage at the inspection processes sites, where there are no computer terminals. Having PCs on-site is impractical due to geography and job function.

ASEZA is currently investigating the use of hand-held PDA devices for cargo inspection automation. These devices would collect inspection information on the cargo floor and electronically submit this data to a central back-end system. This type of automation will provide great efficiency to the cargo inspection process and reduce the flow of paperwork. It is believed that only Hong Kong employs this type of system. AMIR is currently helping ASEZA prepare an RFP for this technology.

Implementation of this initiative is more than just buying and plugging in the hand-held devices. It is crucial to re-engineer the inspection and auditing processes to take advantage of the new technology. Further, the back-end systems might need to be modified at some level to accept data from the device. This potentially could be a large undertaking. It is known that ASEZA currently operates an older version of the ASYCUDA system and it could potentially be difficult to modify as required. Alternatively, an upgrade to the new

ASYCUDA World system could result in an architectural environment that facilitates development of the desired solution. More insight is required from UNCTAD on this matter.

Recommendation:

The Jordanian National Customs Administration would likely benefit from hand-held technology as much as ASEZA. Both ASEZA and National Customs should synergistically work together to find a technology that will work for both. By working jointly, they can learn from each others implementation to continually improve their own procedures. Further, since ASEZA is smaller and more nimble, they can be used as a test-bed to implement the technology before it gets rolled out to National Customs.

However, relations between the ASEZA and National Customs have not been cooperative since ASEZA's foundation, and are not expected to improve in the near future. As such, the most realistic scenario may be one in which the organizations pursue separate, independent initiatives. ATASP currently expects ASEZA customs to be better prepared for going in this direction and succeeding. However, ATASP does not currently have a large enough budget to support the \$200k + estimated cost of systems development, implementation, and training.

**Recommended AMIR Role: Collaborative Initiative and/or Fund ASEZA
Reasons:**

- 1. Both ASEZA and National Customs would benefit from technology**
- 2. ASEZA could be pilot implementation likely to stimulate National**

5.2.8 Geographic Information System

ASEZA has implemented a Geographic Information System (GIS) utilized mostly by the Planning Directorate. The GIS is intended to be utilized mostly as a value-added information service to ASEZA Directorates. The intent is to integrate the GIS with other systems in order to provide graphical representation of data relative to its geographic location, relevant to the business unit producing that data.

Recommendation:

AMIR has not identified any GIS applications in any of its programs. However, there is potential for benefits for certain ministries. Analysis should be made by AMIR to consider the value proposition toward regulatory and management uses GIS systems for the GoJ. Ultimately, GIS can be a powerful tool for such things as policy making, planning, and resource management.

GIS should be on AMIR's radar for evaluation, however practical implementation may make sense at a later stage as other initiatives for GoJ would likely be deemed more important. GIS is not a core technology for e-government in Jordan. ASEZA, being much smaller, will likely be at a stage to employ GIS well before any of the GoJ ministries. An exception to this may

be within some of the trade organizations, such as JAED, where they may determine that GIS is beneficial. However, in the near term these organizations are much better served using resources to improve their back-end databases rather well before considering the implementation of GIS.

Recommended AMIR Role: No Funding/Support

Reasons:

- 1. ASEZA timeframe sooner than AMIR's**
- 2. GoJ organizations may need to improve many databases prior to GIS**

5.2.9 E-Procurement

ASEZA had started investigating an E-Procurement system in order to streamline purchases through the internet. This project has been stalled and likely will not pick up.

Recommendation:

The MoICT has had a closed cabinet workshop with the Italian mission regarding e-Procurement recently. AMIR's role in future E-procurement systems has not been defined at this time. The decision making on this initiative is still being formulated and the key stakeholders are still being defined, including AMIR. The scope and magnitude of this project is still vague.

ASEZA could benefit from a national E-Procurement system, particularly if ASEZA has to follow the same procurement rules as the rest of the government. If this is the case, ASEZA could essentially use the national E-Procurement system. If AMIR becomes involved in the E-Procurement initiative, AMIR could bring ASEZA into project and possibly be a pilot site.

Recommended AMIR Role: None or include in possible future initiative

Reasons:

- 1. E-Procurement not yet on AMIR Agenda**
- 2. Would make sense to do at national level and include ASEZA**

5.3 AMIR Initiatives: Points of Integration

The AMIR program is currently developing e-government initiatives that they could incorporate ASEZA into with little additional effort and without impinging the

implementation of these initiatives. These initiatives are scheduled for live implementation for October 2002. These are initiative from AMIR that could immediately provide benefit to ASEZA with very little investment.

5.3.1 E-Government Portal

AMIR is currently creating an e-government portal website. This website provides deliver of information about government services to Citizen, Businesses, and Government Employees via the internet. The technology used for this portal allows for non-technical staff at each GoJ department to update their organization's information with have to program. Currently, IT vendors are collecting and organizing information from all ministries as the implement the site. The site will be live in October 2002 with expected continuing through January 2003.

Recommendation:

AMIR can incorporate ASEZA into the GOJ e-government portal. A good starting point would be to port the existing www.aqabazone.com website into the GoJ portal. The benefit to ASEZA is that they would not have to host their website and would not have to rely on a 'web-master' to keep the site up to date. However, ASEZA would have to appoint "content-providers" from within the organization responsible for keeping portal information up-to-date. Currently, AMIR is developing a publishing workflow for the GoJ to allow 110 content-providers at its ministries/departments to supply and update their own web-content. ASEZA procedures would likely follow a similar workflow model; however, the system does provide flexibility in tailoring the workflow as needed.

5.3.2 Secure Government Network and Email

AMIR is currently implementing a Secure Government Network and Email capabilities for GoJ. It is being rolled out to different groups of ministries in various stages. ASEZA has already implemented a secure network and has email capabilities.

Recommendation:

AMIR and ASEZA can easily link their network and Email systems together. They are both using common networking and communication technologies and protocols, so this would be easy. There is benefit to both as ASEZA and GoJ could have common access to resources available across the larger network. We anticipate work on the SGN for ASEZA to be initiated in November 2002.

5.3.3 E-Government Applications

The AMIR program will continually identify and implement applications to support its e-government initiatives. These applications can be specific customized applications to general off-the-shelf solutions.

Recommendation:

There will always be possibilities for applications to be sharable and useful between AMIR and ASEZA. A procedure should be put in place to communicate potential projects between the two organizations. This dialog should center on the usefulness of the project to both organization. The need for a project between both organizations may outweigh the need for another project for one organization. It is noted that any work on E-government applications for ASEZA can begin only after AMIR finishes the current phase on E-government work through December 2002.