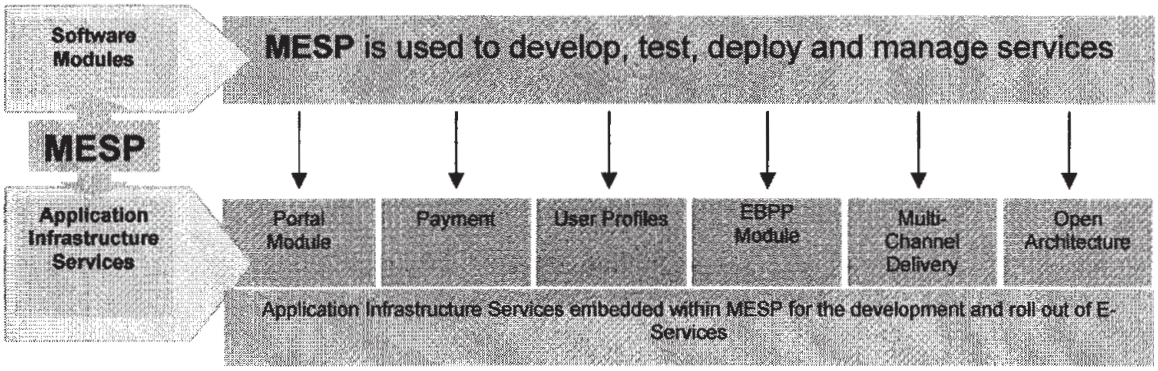
4. INFORMATION ON OUR GROUP *(Cont'd)*

4.4.3 Technology

Our services are based on the application products designed using our own Middleware, MESP. The products under the MESP are designed to run either on a standalone or modular basis. Its applications can cater for large organisations, be it a Government agency or a large corporate organisation whose requirements are to conduct voluminous transactions through the Internet/Virtual Private Network. In short, MESP is a Middleware designed and developed as a fully object-oriented, component-based architecture that enables software modules to be implemented in a flexible and step-by-step manner. These software modules will help us roll out services rapidly thus providing our customers with the scalability to grow as their business grows.



MESP is the platform on which we can develop, test, deploy and manage our services. Our developers can use ready modules within MESP to develop services. These modules include portal module, payment, user profiles, EBPP module, multi-channel delivery, and an open architecture that quickly integrates new technologies and components. MESP represents a new class of Middleware that makes extensive use of XML as the platform of choice for data transmissions. In addition, MESP supports open source protocols such as UDDI, WSDL and SOAP.

MESP has an intelligent tool that converts conventional services into web services, and thus provides accessibility of the web services to users on the Internet. External web services can also be registered in MESP making them accessible to service developers.

The unique feature of MESP is its support for XML which is a cross-platform, extensible, and text-based standard for representing data. When XML data is exchanged between parties, the parties are free to create their own tags to describe the data, set up schemas to specify which tags can be used in a particular kind of XML document, and use XML style sheets to manage the display and handling of the data. This provides total flexibility for us to create application infrastructure services that are customised and user-friendly.

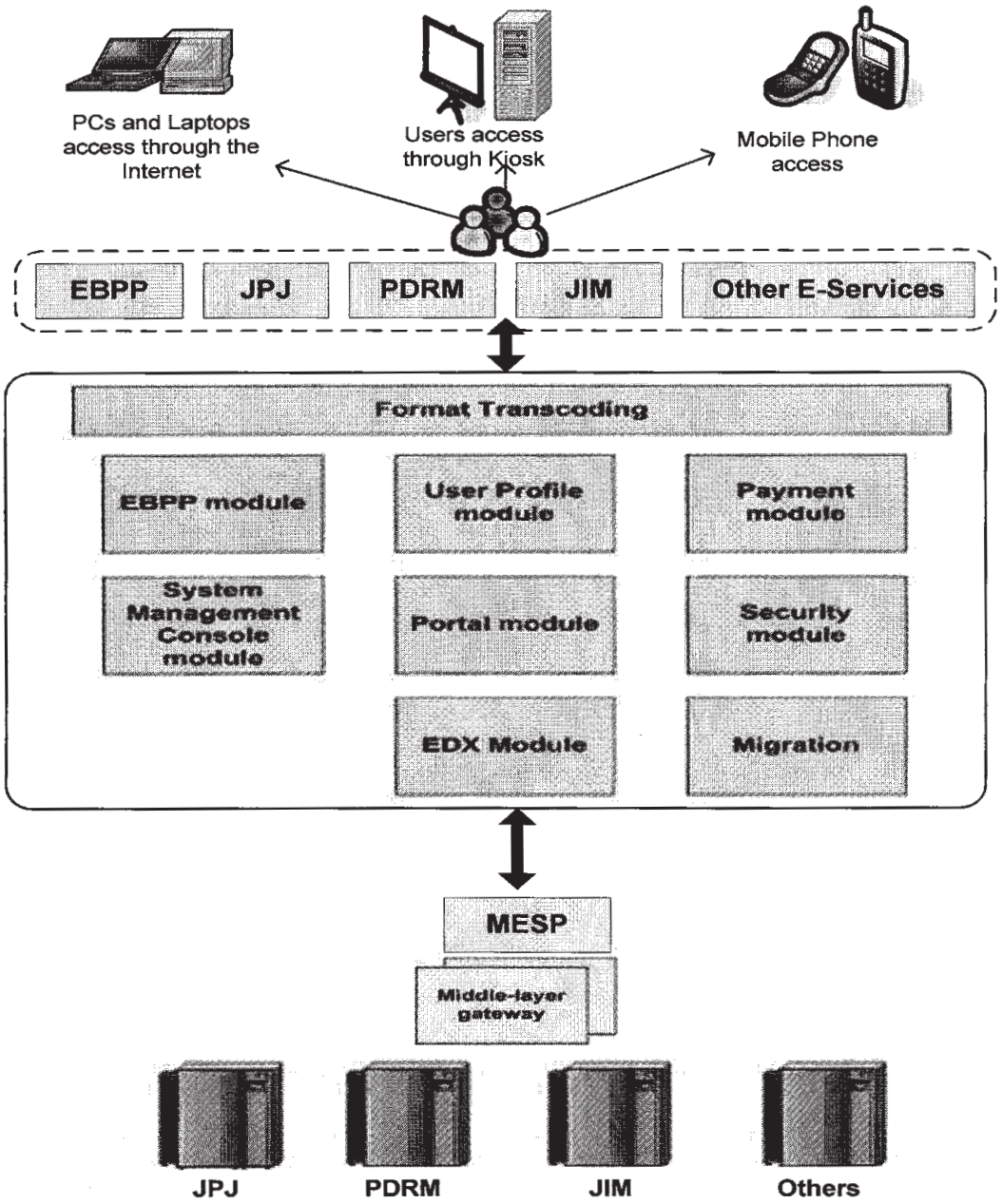
In addition, our adoption of open source protocols promotes cost efficiency as the licence for open source software is free. In addition, we are also in line with the Government's initiative towards the widespread adoption of open source software in the public sector as dictated in the Government's Open Source Software Master Plan 2004.

Open source software provides optimum performance and scalability for the foundation of business applications. The technology platform has proven quality and speedy delivery in approximately 30% of the typical resources used to deliver similar project targets. Business solutions that leverage on this technology platform will be an independent operating system on its own and are also able to run on Microsoft Windows, UNIX, Sun, IBM and Linux.

Examples of the web services developed using MESP are modules developed for DBKL, JIM, JPJ, PDRM, TNB and TELEKOM.

4. INFORMATION ON OUR GROUP *(Cont'd)*

An illustration of our overall system architecture is highlighted as follows:



The above diagram illustrates MESP and the flow of our overall system architecture. When a user is browsing a site on the Internet, he or she uses what is called a 'User Interface' to interact with the web site, in this case a web browser (such as Internet Explorer, Netscape, Mozilla or Opera). When a user sends a request, it goes through the format transcoding stage before reaching the client-server, in this case JPJ, JIM or PDRM. All the complicated process is handled by a middle-layer gateway developed by us but is invisible to the user. The request is then shown on the user's browser as simple web pages either in the form of plain text files, database records, or special files tagged with HTML or XML coding.

4.4.4 Patents and Trade Marks

We have filed the following trade mark application with the Intellectual Property Corporation of Malaysia:

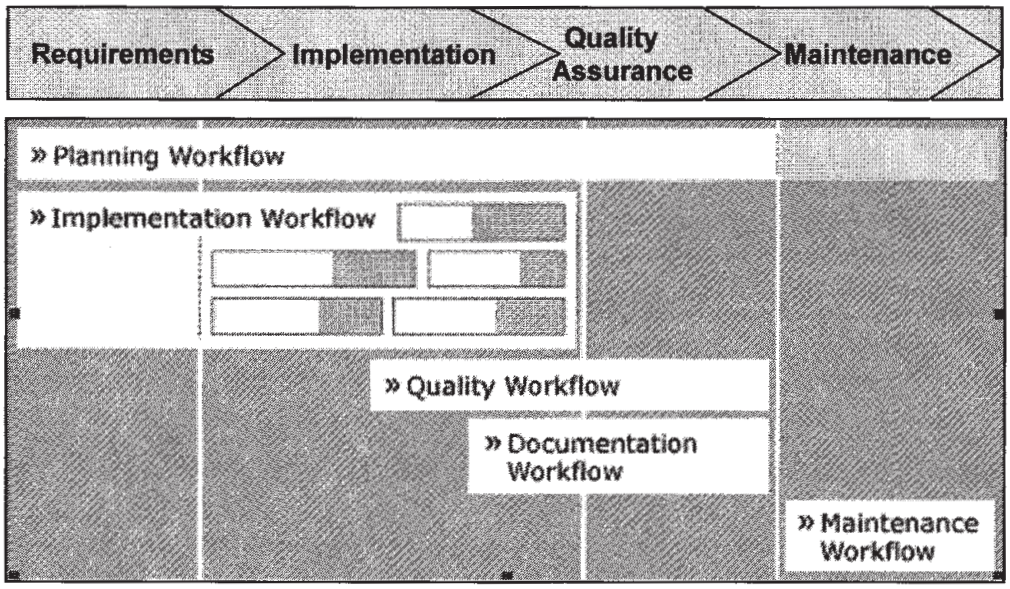
Trademark	Application No.	Filing Date	Status and Remarks
MYEG logo: 	05005102	6 April 2005	Pending registration

We plan to strategically build our in-house MYEG brand to spearhead our expansion into selected vertical markets. The application for the abovementioned trade mark was filed in the name of MYEG.

Save for the above, we currently do not hold any franchises from any third party nor any trade marks, industrial designs or patents registered with the Malaysian authorities. We also enjoy copyright protection for our entire line of software solutions under the general category of literary work pursuant to the Copyright Act, 1987.

4.4.5 Development Process

Our development process is an interactive process in which improvement, planning, production and quality control are interwoven throughout the development steps. In repeated short cycles, the product's changing requirements, experience and test results flow into the development process which is highlighted as follows:



4. INFORMATION ON OUR GROUP *(Cont'd)*

Development Stages	Details
Requirement Phase	Product managers, developers, consultants and clients come together and agree on the process objectives. The resulting details are laid down in the product specification documentation.
Implementation Phase	Our engineers construct a stable basic framework. This is then filled in, step by step, over multiple reviews, with the required functionalities. The architecture of the product is modular, which means that additional modules can be added over time without endangering the stability of the basic platform. Modules can be completely new elements, or be based on existing components supplied by third parties. The development process for each module reflects the process for the entire module, consisting of multiple sub-phases, each ending at a specific milestone. The milestones define deadlines and objectives that are to be met in each phase. When each milestone is reached, the team offers a "mini-release" of the module. This tested, documented version can be used and further tested by other departments or partners. Experiences, test result and knowledge then flows into the next review cycle.
Quality Assurance Phase	Check that the applications developed are free of technical problems.
Maintenance Phase	Consists of ongoing improvements to the product through the systematic identification and elimination of bugs.

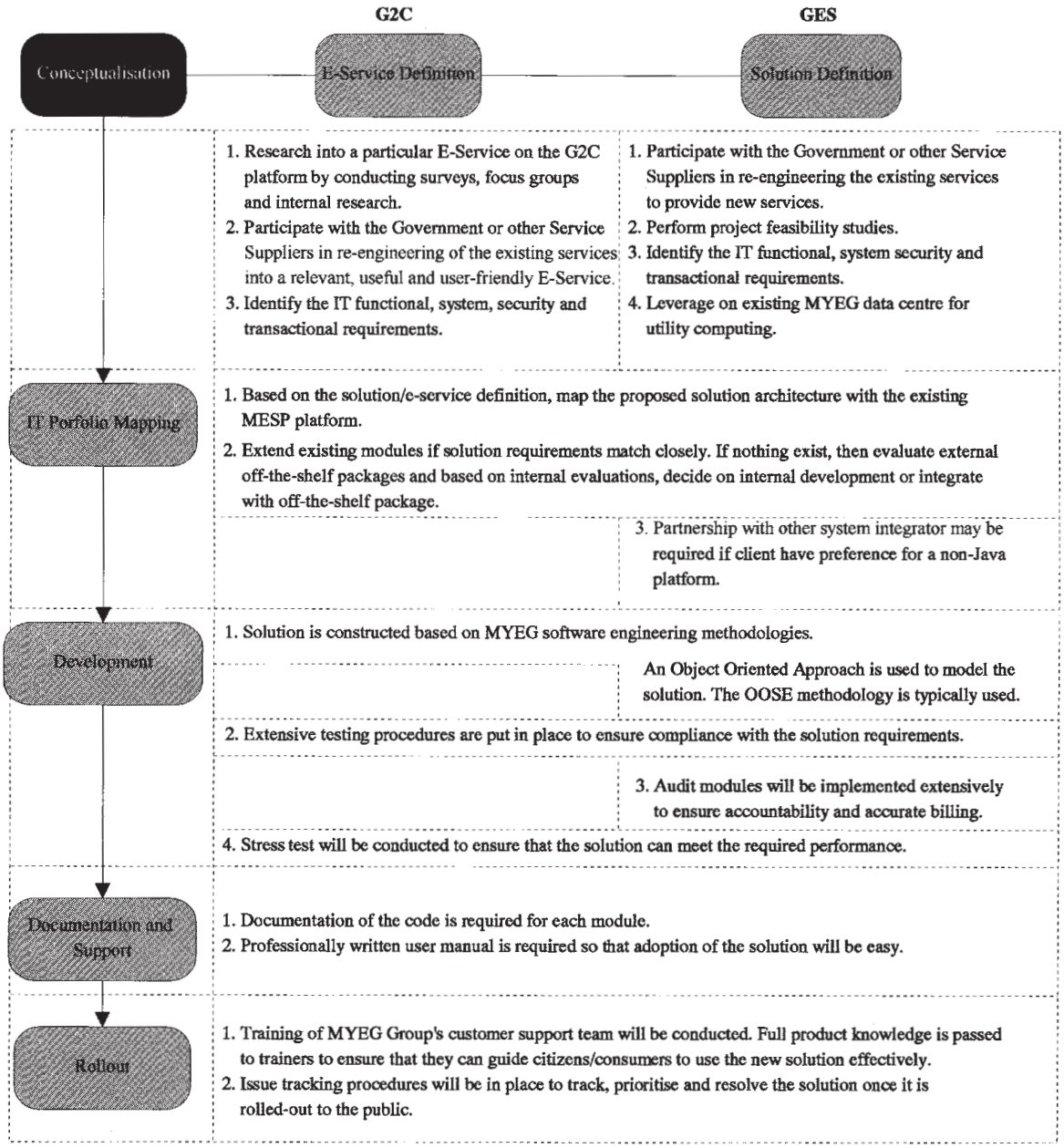
Our actual workflow spans across a number of phases. In the planning workflow, project plans are developed which are then refined gradually. Within the implementation workflow, specifications are revised and expanded as the project progresses. Prototype codes is written and developed into its final code. All codes are tested and documented. In line with the principle of multiple iterations during software development, the implementation workflow consists of many repeat cycles of producing, testing and documenting. The result of the implementation is the alpha release of the application.

The quality workflow begins with the implementation phase and continues until the finalisation stage. Software engineers check the quality of the output by defining the test cases and installation routines, adding them to the test specifications. The test plan also includes automatic and manual test that are carried out using software tools. Bugs in the product are systematically identified and prioritised, then eliminated and documented. Our software engineers will engage in project management review every week to review the bug rate and adjust the development process in response, if necessary. After completion, each module is released by installing it automatically in the network, running it on the broadest range of support platforms and then, tested both manually and automatically. The test management system records all test behaviours and saves it for later analysis.

Within the document workflow, the documentation for our Group's services is progressively recorded. The maintenance workflow starts the moment the first version of the module goes online. We have a support team to ensure that our clients/users get expert support for technical problems. In addition, the technical problems and bug fixes are logged and recorded for review by our R&D team. Information on significant updates, known problems, fixed bugs, and other issues are addressed in release notes circulated to customers on a periodic basis.

4. INFORMATION ON OUR GROUP *(Cont'd)*

The conceptualisation process of our G2C and GES services are as illustrated below:



4.4.6 Development Methodology

We embrace Object Oriented Solution Engineering (OOSE) in all our development projects to ensure high quality of project delivery. Object Oriented Solution Engineering is a collection of process patterns that has been proven to have the following advantages:

- Successfully deliver applications using object technology
- Develop applications that are easy to maintain and enhance
- Quality of the services are controlled

The Object-Oriented Solution Engineering based software development process comprises the following 4 phases:

Phase	Description
Initiate	▪ The foundation of a project ▪ Consists of definition and validation of initial requirements, managing documents, definition of project infrastructure - Initial requirements enable us to start the software development process - Managing documentation enables us to manage the project in a systematic way - Project infrastructure enables us to put in place a collection of documents that describe the tools that the project team uses, how they use it, the standard that the team follows, how their work will be evaluated and the deliverables that they must produce during the project
Construct	▪ Goal: Build an easy to maintain and enhance application ▪ Requires modelling the application via traditional object-oriented techniques such as Cyclical Redundancy Check modelling, use case, class diagrams, etc. ▪ Programming is written using JAVA, an industry standard ▪ Project team modelling and programming efforts are verified using techniques such as use-case scenario testing, design walk-through, class testing and user acceptance testing.
Deliver	▪ Goal: Deliver a working, high-quality and well-documented application to client ▪ Additional testing: system testing, installation testing, stress testing and user acceptance testing ▪ Provide training to users ▪ Conduct internal project review to capture lessons learned during project implementation.
Maintain & Support	▪ Goal: Keep application running and up-to-date ▪ Provide training to user, off-site support ▪ Bug fix ▪ Change-control process: identify any defects and improvise it for future release

4.4.7 Development Modules

Our development tools in the implementation of our G2C and GES solutions are listed as follows:

(i) Format Transcoder

Part of the vision of a service-oriented economy is to deliver services to customers via their medium of choice. The Format Transcoder module in MESP makes this possible by allowing services deployed using MESP to be delivered over multiple channels, which include mobile channels and SMS alerts.

(ii) EBPP - Electronic Bill Presentment and Payment Module

EBPP module provides comprehensive customer access to account information via the Internet. This EBPP module provides clients with a single platform and repository that manages 'content' and provides a channel for electronic presentment and payment of bills.

The key features are:

- One repository for archive and electronic presentment
- Email delivery and notification options
- Access to a robust, secure and scalable infrastructure
- Operational expense - no upfront capital
- Flexible electronic presentment (PDF, HTML or XML)

(iii) SMC - System Management Console

SMC is a one-stop console used for administering all the modules within MESP using a standard web browser. The SMC employs a privilege-based system based on the Security Module to determine if a user can access a particular function.

(iv) User Profiling

Users are able to save multiple user profiles for auto-completion of electronic forms. It can also be extended seamlessly as the user profile is specified through a series of XML based configuration file.

(v) Payment

Service developers can select the payment modes required for use within a service. It allows payment to flow to banks based on standards such as MEPS.

(vi) Security

Service developers can select the level of security required for use within a service rather than develop security features from scratch. It provides both a role and capability based security model.

(vii) Vetting and Migration

MESP provides a unique structured testing service to ensure quality application delivery before deployment. There are four environments within the MESP to ensure quality service delivery - development, testing, quality assurance and production (where the services are finally deployed).

(viii) EDX - Electronic Data Exchange

MESP decouples the front and back offices with regards to service delivery. Services are no longer built on the operating system of the Service Provider but on the MESP. The services are then connected back to the database of the Service Provider or to any other database within or even beyond the organisation. The module that connects with databases or other back office systems is the EDX. Data is exchanged in XML format, and for security, is transmitted over in both HTTP and HTTPS.

This enables organisations to launch multiple services and share services across departments and divisions without having to reintegrate to its back end system each time a new service is launched.

4.4.8 Quality Assurance

Prior to implementation of the various modules hosted on MESP, the software application will undergo three levels of testing and review for the system and services:

- Unit-level testing
- System-level testing
- User acceptance testing

(i) Unit-level testing

Unit-level testing confirms the functionality and error-free execution of the software application and appropriate codes. During this testing process, potential production errors are initiated, documented and tracked to verify that the error handling function performs properly and that the error messages are displayed to the user. This test encompasses a range of test cases and expected results. If improper processing or functionality is found, modifications are made and a new test plan is created for the programme containing the changes. The programme will undergo this level of testing until improper processing or functionality is eliminated.

(ii) System-level testing

System-level testing creates a simulated production environment that is scheduled and monitored by experienced systems engineers. This level of testing will verify that outputs and processes of the comprehensive application functions properly. Also included in the system testing are quality assurance measures. Before testing, each component's function and method of validating it is identified. Test cases are prepared, and anticipated results are documented. Once testing begins, team members compare expected and actual results. If errors are found, the correction process similar to that performed during unit-level testing will be used. When all functions are determined to be operating correctly, the application is released for user-acceptance testing.

(iii) User acceptance testing

User acceptance testing is an organised testing process that provides a framework for evaluating the navigation, validity of content displayed and accuracy of internal and external system interfaces. We will meet with the appropriate Government personnel to review the test plan which consists of components and processes to be tested, processes to validate test data and method of documenting identified errors and proposed solutions. We will work with the liaison officer to refine data to test all aspects of the system. Forms may be developed and loaded to test reference file integrity. Changes will be entered using screens specifically designed to update only the test files. All team members will participate in this testing process to build the team's understanding of the system processes prior to implementation. The key activities during this testing process are to test the manual and automated functions as well as external interfaces.

4.4.9 Estimated Market Coverage and Position

As there are only 3 players involved in the E-Services project, our positioning will be carried out based on the assumption that the aggregate revenue of the three players constitutes the entire E-Services market size, which amounted to RM26.7 million in 2005.

In terms of market share, we ranked first with a market share of 45.2% of the total market size of the E-Services project in 2005.

(Source: Independent Market Research Report)

4.4.10 Principal Markets

We are principally involved in the E-Government and E-Services industry. Presently, E-Government services provided by us under the E-Government Initiative encompass the electronic delivery of driver and vehicle registration, licensing and summons services and utility bill payments. The overall E-Government Initiative focuses on allowing Malaysian citizens to access their personal data held with the various Service Suppliers through the Internet and other electronic means. The main Service Suppliers that currently employ our E-Government services and solutions are DBKL, JIM, JPJ, PDRM, TNB and TELEKOM.

Besides that, we provide GES services such as software solutions and maintenance services, test taking and ancillary services as well as transmission of vehicle insurance data to commercial markets as well as bankruptcy and liquidation status searches. The target markets for such services are driving schools, driving institutes, insurance companies, financial institutions and law firms, amongst others.

4.4.11 Mode of Marketing/Distribution

Our marketing philosophy is based on relationship marketing and brand building.

We focus on building and sustaining long-term relationships with our customers while providing services to citizens by emphasising on security, convenience and efficiency. Our Directors practice a hands-on approach in marketing for the purpose of enhancing customer relationships as well as developing relationships with targeted customers. Leveraging on our existing customer base together with the combination of good rapport and customer satisfaction in terms of service and portal efficiency are likely to result in business referrals.

With the intention of successfully penetrating the local markets further, we shall establish our brand name in the industry to enable end-users to differentiate us from the other competing companies in the market. If successful, we may leverage on this attribute, extending it to cover other future products in the pipeline. It also provides an intangible advantage over other competing products in the market, such as raising the barrier of entry for potential new entrants, increase product differentiation, reducing marketing costs and the ability to command a certain degree of brand loyalty among customers.

We are committed to establishing our portal as user-friendly and the provision of good after-sales service and support. To increase brand awareness, we plan to carry out promotions and shall participate in trade shows/IT fairs and presentations. In addition to advertising our products and services, we will also be able to establish new business contacts and meet customers through this avenue. Direct marketing through our kiosk will also serve to enhance our visibility and public awareness of our brand name.

A summary of our marketing strategies is highlighted as follows:

- Evaluate the global technology road map and market acceptance trends;
- Continuously observe the implementation of laws and intellectual property rights;
- Actively promote the use of technology and brand into citizens' minds;
- Explore and understand competitors' technology, strengths and weaknesses prior to the release of our own products and services;
- Participate actively in international trade exhibitions and in building market presence at peer level;
- Provide training to our customers such as driving schools and insurance companies in operating our Group's systems; and
- Provide convenient services to customers by bundling related services together (e.g. to offer E-Cover Note with road tax renewal, registration of vehicle number plate, etc.).

We strive to foster good working relationships with driving schools and driving institutes nationwide. As at the LPD, our customer base consists of about 79 driving schools and driving institutes. In order to compete with other players within the same industry, we provide favourable credit terms to these driving schools and driving institutes. We also provide technical support and training to driving schools' and driving institutes' staff, to familiarise them with our system and software.

E-Services are currently delivered to the Malaysian community over several innovative delivery channels namely Internet PCs and kiosks with future additional delivery channels such as SMS. These delivery channels will be targeted at users of varying Internet skills and at different locations. The Web will be used to deliver E-Services where users have Internet access at home or in the office. On the other hand, kiosks (similar to the ATM machines used by banks) will be strategically placed across the cities and in towns in all Malaysian states to allow users without ready Internet access to tap on the convenience of E-Services. The kiosks will also be upgraded with bar code reading capabilities to read various bills and accept payments from credit cards and bank ATM cards.

Citizens will be able to pay their bills and services using credit cards, ATM cards, debit cards and smart cards such as GMPC/PMPC. The level of security for payment and confidentiality of information will be at the highest level possible, as our security architecture needs to comply with the security standards of various organisations such as Visa, MasterCard, MEPS and our local banks.