

The Hashemite Kingdom of Jordan



Ministry of Information and Communications Technology
STATEMENT OF GOVERNMENT POLICY 2011
ON THE
INFORMATION AND COMMUNICATIONS TECHNOLOGY
AND POSTAL
SECTORS

DRAFT

Contents

1	Introduction	5
1.1	Responsibilities of the Ministry of Information and Communications Technology	5
1.2	Relationships of this Policy Statement with other documents	5
1.3	Background	6
2	The telecommunications sector	7
2.1	Moving towards a competitive converged market	7
2.2	Mitigating the effects of dominance.....	7
2.2.1	Promoting consumer choice.....	7
2.2.2	Requiring cost-oriented pricing	7
2.2.3	Preventing anti-competitive behaviour	8
2.2.4	Maintaining appropriate net neutrality	8
2.2.5	Opening next generation networks to new applications and content	8
2.3	Facilitating market growth.....	8
2.3.1	Simplifying licensing requirements.....	8
2.3.2	Removing unnecessary restrictions	9
2.3.3	Simplifying approval procedures	9
2.3.4	Having enough numbers and addresses	9
2.4	Facilitating network development.....	9
2.4.1	Making rights of way available	9
2.4.2	Using underused public sector assets.....	10
2.4.3	Using underused private sector assets	10
2.4.4	Establishing an internet exchange point	10
2.4.5	Developing next generation core networks.....	11
2.4.6	Developing next generation access networks	11
2.5	Managing the radio frequency spectrum	12
2.5.1	Making spectrum available	12
2.5.2	Taking account of convergence	12
2.5.3	Administering spectrum.....	13
2.6	Working for consumers	13
2.6.1	Achieving universal service	13
2.6.2	Encouraging internet adoption	14
2.6.3	Providing consumer protection	14
2.6.4	Maintaining critical national infrastructure.....	15
2.7	Enhancing the institutional framework	15
2.7.1	Maintaining the independence of the regulator	15
2.7.2	Developing the capability of the regulator.....	15
2.7.3	Maintaining the public accountability of the regulator	16
2.7.4	Ensuring transparency in decision making by the regulator	16
2.7.5	Making competition policy consistent and complete.....	16
2.8	Developing a culture of regulatory compliance	17

2.8.1	Taking action in response to complaints	17
2.8.2	Enhancing the capability of the courts.....	17
2.8.3	Enforcing the law	17
3	The information technology sector.....	18
3.1	Achieving economic benefits from new technologies	18
3.2	Advancing technology and innovation	18
3.2.1	Taking part in international activities	18
3.2.2	Advancing IT research and development	19
3.2.3	Fostering green ICT	19
3.2.4	Exploiting the content potential of new technologies	20
3.2.5	Exploiting technical advances in IT-enabled services	20
3.3	Improving the business climate.....	21
3.3.1	Removing unnecessary obstacles	21
3.3.2	Promoting investment	21
3.3.3	Promoting exports.....	22
3.3.4	Encouraging economies of scope and scale	22
3.3.5	Monitoring competitiveness	23
3.4	Stimulating supply in Jordan	23
3.4.1	Developing commercial services and applications	23
3.4.2	Providing e-government applications	24
3.5	Stimulating demand from organisations in Jordan	24
3.5.1	Raising business awareness of IT	24
3.5.2	Increasing the use of IT by businesses	24
3.5.3	Increasing the use of IT by Government entities.....	25
3.6	Stimulating demand from individuals in Jordan	26
3.6.1	Involving and educating the general public.....	26
3.6.2	Adapting Knowledge Stations.....	27
3.7	Improving expertise.....	27
3.7.1	Broadening and deepening IT skills	27
3.7.2	Making the most of the diaspora	28
3.8	Creating a safe and trusted environment.....	28
3.8.1	Facilitating e-commerce	28
3.8.2	Safeguarding access to content.....	29
3.8.3	Maintaining cybersecurity.....	29
3.8.4	Protecting the natural environment	29
4	The postal sector.....	30
4.1	Continuing postal reform	30
4.2	Improving public postal services	30
4.2.1	Providing universal services	30
4.2.2	Providing additional services	31
4.2.3	Separating the roles of the stakeholders	31
4.2.4	Changing the performance contract	32
4.2.5	Avoiding dependence on subsidies.....	33

4.2.6 Increasing private sector participation	33
4.3 Stimulating private sector investment.....	33
4.3.1 Developing services besides universal services	33
4.3.2 Reducing the scope of reserved services	34
4.3.3 Simplifying licensing requirements.....	34
4.3.4 Enforcing the law	34
4.4 Developing the contribution of the postal sector to the economy	34
4.4.1 Encouraging interconnection	34
4.4.2 Establishing the national address system.....	35

1 Introduction

1.1 Responsibilities of the Ministry of Information and Communications Technology

- (1) The Ministry of Information and Communications Technology ('Ministry of ICT') has responsibilities to provide general policy for the Information and Communications Technology (ICT) and postal sectors, to be approved by the Council of Ministers. In particular:
- Article 3 of the Telecommunications Law No. 13 of 1995 and its amendments ('Telecommunications Law') assigns to the Ministry of ICT the responsibility to prepare general policy for the telecommunications and information technology sectors for approval by the Council of Ministers; and
 - Article 3 of the Postal Services Law No. 34 of 2007 ('Postal Law') assigns to the Ministry of ICT the responsibility to prepare the general policy for the postal sector for presentation to the Council of Ministers.
- (2) The Ministry of ICT will, besides taking the specific actions assigned to it in the Policy:
- Work with other potential implementors of the Policy to devise managed action plans such as those envisaged in Article 4 of the Deployment of Information Technology Resources in Government Organization Law No. 81 of 2003 ('NITC Law').
 - Co-ordinate the activities of other Government entities, when appropriate;
 - Oversee the implementation of the Policy;
 - Convene quarterly meetings of relevant senior officials from all of the Government entities involved in the implementation;
 - Convene annual public meetings in which potential implementors of the Policy describe and discuss progress in the implementation.
- (3) Implementing several articles in this Policy requires activities in Government entities besides the Ministry of ICT. The Minister of Information and Communications Technology will report annually to the Council of Ministers on the steps taken to implement these articles and other articles having widespread relevance.

1.2 Relationships of this Policy Statement with other documents

- (4) The setting of policy has important implications for the information of stakeholders in sectors within the ICT and postal sectors and for others that might consider entry to, or investment in, those sectors. However, this Policy Statement also sets the context within which the Telecommunications Regulatory Commission (TRC) must meet its obligations under the Telecom Law and the Postal Law. In particular:
- Article 6 of the Telecommunications Law assigns to TRC the responsibility to regulate telecommunications and information technology services in accordance with the established general policy; and
 - Article 9 of the Postal Law assigns to TRC the responsibility to regulate postal services in accordance with the general policy set by the Council of Ministers.

- (5) This Policy Statement also introduces recommendations and requirements for other entities. In particular:
 - Article 7 of the NITC Law assigns to the National Information Technology Centre (NITC) the duty to adhere to the set strategies and plans; and
 - Article 8 of the Postal Law assigns to Jordan Post Company (JPC) the duty to adhere to the general policy set by the Council of Ministers.
- (6) This Policy Statement should be read in conjunction with the Telecommunications Law, the Postal Law and the NITC Law. Those define the roles of the Ministry of ICT, TRC and NITC, which are administratively and financially independent. Nothing in this Policy Statement is intended to detract from that independence.
- (7) This Policy Statement is intended to replace the 2007 Policy Statement. Upon its approval by the Council of Ministers, this Policy Statement will be the exclusive Statement of Government Policy on the Information and Communications Technology and Postal Sectors, and the 2007 Policy Statement will no longer be in effect. However, nothing in this Policy Statement is intended to detract from or affect the validity of any regulatory decisions or actions taken during the period that the 2007 Policy Statement was in effect.
- (8) In acting on this Policy Statement, the Government will work toward the achievement of the commitments in international agreements to which Jordan is a signatory, such as the general undertakings made as part of the World Summit on the Information Society (WSIS) plans and the United Nations (UN) Millennium Development Goals.

1.3 Background

- (9) In 1994 Jordan embarked upon a progressive reform of its ICT and postal sectors. In the following years, a Telecommunications Law was issued, Jordan Telecom was privatised, TRC was instituted, two mobile operators were licensed, a Postal Services Law was issued, Jordan Post Company (JPC) was made into a corporation, private sector Courier, Express and Parcels (CEP) services started, and the JPC Performance Contract was formulated.
- (10) In 2003, in recognition of the important role played by the ICT and postal sectors, the Government adopted a “Statement of Government Policy on the Information and Communications Technology and Postal Sectors”. Under that 2003 Policy Statement another mobile operator was licensed, the National Broadband Network (NBN) was established and the e-government programme was started.
- (11) In 2007 the Government replaced the 2003 Policy Statement by the 2007 Policy Statement. Under that 2007 Policy Statement, individual telecommunications licences were unified, markets were reviewed for dominance, the numbers of telecommunications and postal licensees rose considerably, several new wireless operators received frequency bands and started competitive operations, certain frequency bands were made exempt from licensing, mobile telephony take-up rose very fast, internet adoption grew very significantly, and the e-commerce legislation was initiated.
- (12) The Government considers that a new Policy Statement is needed because:
 - Continuing rapid changes in technology, society and the economy give rise to new goals; and
 - Changes in emphasis are needed to reflect the success of actions under the 2007 Policy Statement.

2 The telecommunications sector

2.1 Moving towards a competitive converged market

(13) For telecommunications, the overall concerns of this new Policy Statement are:

- Mitigating the effects of dominance, by promoting competition if possible and adopting regulation if necessary;
- Facilitating market growth, by reducing barriers to doing business and avoiding shortages of numbers and addresses;
- Facilitating network development, by releasing underused assets, encouraging the establishment of an internet exchange point and assisting with next generation networks;
- Managing the radio frequency spectrum, by making enough spectrum available and taking account of convergence;
- Working for consumers, by furthering broadband internet access and informing consumers about services and about regulation;
- Enhancing the institutional framework; and
- Developing a culture of regulatory compliance.

2.2 Mitigating the effects of dominance

2.2.1 Promoting consumer choice

(14) The Government requires TRC to enhance the ability of consumers to choose their operators by taking steps such as:

- Ensuring that mobile call termination rates are not likely to inhibit consumers from changing their operators;
- Introducing mobile number portability as soon as possible;
- Enforcing the acceptance of Mobile Virtual Network Operators (MVNOs);
- Requiring that all charges, including international roaming charges for mobile voice and data services, be published clearly;
- Publishing prominently and regularly comparisons between operators of pricing and of quality of service indicators;
- Publicising good and bad characteristics of the pricing plans and contract terms of operators, according to clear specifications of such characteristics; and
- Encouraging consumers to download and run applications that test the speed and other performance characteristics of broadband internet access.

2.2.2 Requiring cost-oriented pricing

(15) The Government requires TRC to determine which operators are dominant in particular markets, by performing market reviews if necessary. TRC has recently made such determinations; it should do so again when it considers that the degree of substitution of one service for another is likely to have changed very significantly.

- (16) The Government requires TRC to implement without delay remedies to mitigate the dominance of an operator that TRC determines to be dominant in a market. Such remedies may make wholesale services available to competitors to the operator on cost-oriented non-discriminatory terms. They may include interconnection and access arrangements.

2.2.3 Preventing anti-competitive behaviour

- (17) The Government requires TRC to determine regularly or in response to complaints whether there is anti-competitive behaviour in a market by an operator that TRC determines to be dominant in that market.
- (18) The Government requires TRC to take steps to prevent any anti-competitive behaviour by an operator that TRC determines to be dominant and behaving anti-competitively in a market. Such steps may include accounting separation, functional separation and structural separation.

2.2.4 Maintaining appropriate net neutrality

- (19) The Government requires TRC to monitor the behaviour of each dominant operator to check whether some applications or internet sites receive more favourable network handling or user charging than other applications or internet sites having similar functionality. Offering more favourable network handling or user charging could be anti-competitive and violate net neutrality.

2.2.5 Opening next generation networks to new applications and content

- (20) The Government requires TRC, when considering the plans of operators to exploit the complex capabilities of next generation networks, to investigate any possible anti-competitive behaviour directed against suppliers of applications and content. When doing so TRC should not undermine business cases for exploiting these capabilities and the associated convergence between fixed and mobile services.

2.3 Facilitating market growth

2.3.1 Simplifying licensing requirements

- (21) The Government requires TRC to simplify the licensing system, so all applicants can gain prompt access to the market with minimal registration requirements. Such minimal registration requirements could be, for example, the provision of contact details and business registration details.
- (22) The Government requires TRC to remove progressively all distinctions between class licences and individual licences, while being fair to all operators. This could be done by, for example:
- Reducing the difference in initial operating licence fees annually until the difference in fees is eliminated, and
 - Keeping other distinctions between the licences until the difference in fees is eliminated.
- (23) The Government requires TRC to reduce significantly initial operating licence fees. This could be done together with removing the distinction between class licences and individual licences.

2.3.2 Removing unnecessary restrictions

- (24) The Government requires TRC, where market conditions allow, to amend or withdraw regulations. Doing so will reduce the burden on new entrants to the market and help to ensure effective use of skilled people in TRC.
- (25) The Government, through the Ministry of ICT, will take steps to ensure that TRC may forbear from applying regulation when market circumstances permit.

2.3.3 Simplifying approval procedures

- (26) The Government requires TRC to build on its achievements in simplifying its approval procedures for equipment, radio installations and other items by introducing further simplifications. In particular it should eliminate any need for repeated approvals of identical items.
- (27) The Government requires TRC to operate systems that permit citizens, businesses and Government entities, to have immediate electronic access to all information that is not commercially confidential about ongoing applications for, and grants of, approval for equipment, radio installations and frequency bands. The Government entities that need such access include the Institute of Standards and Metrology, the Customs Department, Airport Security Clearance and municipalities.
- (28) The Government requires TRC to:
 - Inspect new and changed radio installations, as at present, to ensure that electro-magnetic radiation is below the permitted limits;
 - Remove the requirement on operators to obtain approval from TRC for proposals for new or changed radio installations; and
 - Introduce a requirement on operators to notify TRC when radio installations are new or changed.

2.3.4 Having enough numbers and addresses

- (29) The Government requires TRC to reserve capacity in the National Numbering Plan to accommodate 10 billion numbers that might be used for machine-to-machine communication.
- (30) The Government recommends NITC and other internet service providers to develop awareness in the industry as a whole of the need for IPv6 and its interoperation with IPv4.

2.4 Facilitating network development

2.4.1 Making rights of way available

- (31) The Government, through the Ministry of ICT, the Ministry of Municipal Affairs and the Greater Amman Municipality, will resolve problems concerning the procedures and payments by which operators can access and use rights of way and obtain permits for network constructions (such as masts) on public land. It will base its approach on:
 - Compensation or automatic acceptance of applications for rights or permits for failing to decide on the applications in a timely manner;
 - Fair payment for receiving rights or permits; and
 - Rights of appeal against rejection of applications.

2.4.2 Using underused public sector assets

- (32) The Government, through the Ministry of ICT, will develop a programme to ensure that relevant infrastructure assets owned by Government entities can be bought or leased by the private sector on cost-oriented non-discriminatory terms. The programme should not involve creating a shareholding by a Government entity in any private sector company. The relevant infrastructure assets include masts, ducts, poles and dark fibre, even if they are owned by the Government through electricity transmission or other companies.

2.4.3 Using underused private sector assets

- (33) The Government requires TRC, when determining wholesale remedies for dominant operators, to consider the needs of service-based competitors for access to facilities. When doing so TRC should not undermine business cases for developing further facilities.
- (34) The Government requires TRC to investigate telecommunications infrastructure assets (such as cable landing points, radio access networks, masts, ducts, poles and trenches), to determine which, if any, operator has shareable assets. Such shareable assets are portions of telecommunications infrastructure assets that:
- The operator is not likely to use during the following three years; and
 - Other operators might be able to use.
- (35) The Government requires TRC to oblige an operator to make certain shareable assets available to all other operators on reasonable terms. This should be done only with shareable assets that:
- Can be used in the implementation of a service in a market in which the operator is dominant;
 - Use scarce resources that can lead to significantly lower implementation costs than do any unassigned scarce resources; or
 - Form parts of infrastructures that were originally developed for purposes other than telecommunications (such as those for electricity, water and drainage).
- (36) The Government considers that a decision to require an operator to make shareable assets available to others on reasonable terms should be deemed to have a major market impact.
- (37) The Government considers that an agreement between operators to share the use of network infrastructure assets should not, on its own, be deemed to be anti-competitive behaviour.

2.4.4 Establishing an internet exchange point

- (38) The Government, through the Ministry of ICT, will work with the private sector to ensure that there is an internet exchange point for national traffic to which all operators have access on non-discriminatory terms and at which all dominant operators are obliged to connect.
- (39) The Government, through the Ministry of ICT, will encourage Government-sponsored internet segments, such as those of the National Broadband Network (NBN) and the Jordanian Universities Network (JUNet), to connect at such an internet exchange point.

2.4.5 Developing next generation core networks

- (40) The Government requires TRC to request information from the operators (both fixed and mobile) on their plans for implementing next generation core networks, which use the Internet Protocol (IP) in their cores but provide conventional telephony services to end users. This information should enable TRC to determine:
- Any needs for interconnecting operators to change the locations of the points of interconnection;
 - Any needs for interconnecting operators to change the interconnect data format from the conventional telephony representation to IP;
 - The principles to be applied when compensating interconnecting operators for the costs arising from the changes, bearing in mind that those operators might themselves find such changes advantageous; and
 - The feasibility of developing a co-ordinated national plan for next generation core networks that would reduce cost and expedite implementation.

2.4.6 Developing next generation access networks

- (41) The Government requires TRC to request information from the operators (both fixed and mobile) on their plans for implementing next generation access networks, which provide IP broadband services, with download speeds well above 10 Mb/s, to end users. This information should enable TRC to determine:
- Any needs for revised regulations about emergency calls and messages arising from the use of Voice Over IP (VOIP);
 - Any needs for unbundled access services (such as those for passive optical networks) going beyond local loop unbundling and related cost-oriented wholesale services that assume conventional telephony delivery;
 - Any needs for revised spectrum plans to ensure that enough spectrum can be made available in those areas where wireless access is preferable;
 - Any needs for regulatory changes to ensure that infrastructures (including those for next generation access networks themselves) can be made available as shareable assets to all operators;
 - The feasibility of exploiting parts of existing infrastructures (including those for electricity, water and drainage) to reduce cost and expedite implementation; and
 - The extent to which market forces are likely to make next generation access networks available outside limited urban areas over the next four years.
- (42) The Government, through the Ministry of ICT, working with TRC and other relevant Government entities, will introduce appropriate measures to channel market forces into making next generation access widely available. Such measures might include:
- Facilitating co-operation agreements between the owners of multi-dwelling buildings and next generation access network operators to improve access to buildings and minimise network duplication;
 - Reducing payments from next generation access network operators for accessing and using rights of way and obtaining permits for network constructions;

- Requiring the installation of next generation access fibre in areas of new building;
- Procuring commitments by multiple sectors (such as electricity distribution and health care) to use next generation access networks;
- Imposing obligations on different operators in different areas to provide next generation access networks;
- Remitting portions of licence fees for operators that provide good access in rural and remote areas; and
- Establishing a universal service fund to which the operators would contribute in cash or in kind.

2.5 Managing the radio frequency spectrum

2.5.1 Making spectrum available

- (43) The Government requires TRC to ensure that enough spectrum is made available for all current and potential applications, including 4G technologies. The ways of doing this might include:
- Transferring unused frequency bands to civilian control; and
 - Exploiting the "digital dividend" available from removing analogue terrestrial television.
- (44) The Government requires TRC to control the management of the radio frequency spectrum. In particular, the Government, through the Ministry of ICT, will assist TRC in:
- Implementing the memorandum of understanding between TRC and the armed forces on the use and evacuation of frequency bands;
 - Identifying unused and underused frequency bands that are likely to be particularly valuable for civilian purposes; and
 - Evacuating, and transferring to management by TRC, such frequency bands, with payment of compensation only for relevant equipment upgrades, well ahead of market demands.
- (45) The Government requires Jordan Radio and Television Corporation (JRTV) to devise and implement a plan that entails converting television over the next four years from terrestrial broadcasting to satellite broadcasting, if doing so is more economical than adopting digital terrestrial television.

2.5.2 Taking account of convergence

- (46) The Government requires TRC to take account of convergence by removing in fair ways restrictions on the use of spectrum. Removing such restrictions might entail, for example, refarming the WiMAX frequency bands (to allow mobility) and the 2G frequency bands (to allow 3G services).
- (47) The Government requires TRC to make both new and existing assignments of spectrum neutral in relation to technologies and services, while trying to be fair to all stakeholders that have, or wish to have, licences for existing assignments, by combining actions that might include:
- Splitting existing assignments;

- Extending the lifetimes of existing assignments;
 - Making new assignments preferentially to stakeholders that do not have comparable existing assignments; and
 - Establishing principles to be applied if operators are to be compensated for evacuating frequency bands.
- (48) The Government requires TRC to investigate, and implement if appropriate, the possibility of permitting operators to exchange or reconfigure their assignments of spectrum without requiring any payment to TRC or preventing any payment between the operators.
- (49) The Government requires TRC to ensure that the frequency bands which are commonly exempted from licensing in other parts of the world are similarly available in Jordan, with no unnecessary transmission power or other restrictions.
- (50) The integrated licensing regime of TRC was introduced because, with the convergence of the fixed, mobile and internet sectors, licensing should be common to all types of service. The Government, through the Ministry of Finance, will apply this same principle to taxes and fees and to revenue sharing in the telecommunications sector. Accordingly in the future such taxes and fees should reflect the value of the authorised scarce resources, not the technology or service.

2.5.3 Administering spectrum

- (51) The Government requires TRC to use market-based valuations for spectrum, such as auctions and administrative incentive pricing.
- (52) The Government requires TRC, in its use of market-based valuations for spectrum, to consider consumer welfare more than the expected immediate revenues.
- (53) The Government requires TRC to investigate, and implement if appropriate, the possibility of using private or non-profit spectrum management organisations to act on behalf of groups of users. Doing so would reduce the burden of spectrum administration on TRC.
- (54) The Government requires TRC to take prompt, but proportionate, steps to investigate interference complaints, stop illegal spectrum use and address other interference issues.

2.6 Working for consumers

2.6.1 Achieving universal service

- (55) The Government, through the Ministry of ICT, working with TRC, will review the universal service policy every four years, to ensure the availability and affordability of basic communications services to all citizens. When doing so it will aim to avoid distorting competition.
- (56) The Government considers that mobile telephony and broadband internet access should now be basic communications services for the purpose of universal service.
- (57) The Government, through the Ministry of ICT, working with TRC, will introduce appropriate measures if within the next two years market forces do not make broadband internet access with a download speed of 1 Mb/s. available on non-time-related tariffs in all places having over 300 permanent inhabitants. Such measures might include:

- Listing inhabited places having inadequate broadband internet access;
- Proposing priorities for improved access based on practicality and need;
- Finding which operator is best placed to improve access in which priority areas; and
- Agreeing the financial bases for such improvements.

(58) The financial bases for improvements might include:

- Remitting portions of annual spectrum licence fees for operators that provide good coverage in rural and remote areas; and
- Establishing a universal service fund to which the operators would contribute with money or by providing services.

(59) The Government considers that facsimile services are now used too little to be regarded as basic communications services for the purpose of universal service.

2.6.2 Encouraging internet adoption

(60) The Government requires TRC to assist in increasing internet penetration by ensuring that various internet services are available to, affordable to and understood by, consumers. Ways of doing this include:

- Regarding broadband internet access as a basic communications service for the purpose of universal service;
- Ensuring that enough spectrum is available to support good quality of service for demanding applications;
- Remitting portions of annual spectrum licence fees for operators that provide good coverage in rural and remote areas;
- Removing barriers (such as restrictions on the uses of the WiMAX and 2G frequency bands) to the rapid extension of wireless internet coverage by multiple operators;
- Removing unnecessary power and other restrictions on the use of WiFi spectrum for services to the public and in public spaces;
- Helping consumers to understand, and have realistic expectations of, the speed and other performance characteristics of broadband internet access;
- Taking enforcement action against telephony service providers that fail to interconnect with suitably licensed Voice Over IP (VOIP) service providers;
- Requiring the introduction of local loop unbundling; and
- Assessing the demand for, and if appropriate requiring the introduction of, cost-oriented wholesale services besides local loop unbundling, such as ‘wholesale line rental’ (in which the internet service provider resells both telephony and broadband internet access).

2.6.3 Providing consumer protection

(61) The Government requires TRC to extend its activities to inform consumers by, in particular:

- Publishing prominently and regularly comparisons between operators of pricing and of quality of service indicators; and

- Publicising good and bad characteristics of the pricing plans and contract terms of operators, according to clear specifications of such characteristics.
- (62) The Government requires TRC to find ways of letting consumers express themselves on ICT and postal matters by, in particular:
- Providing simple summaries of consultation papers to which consumers and consumer representative groups can respond;
 - Providing web logs or other online spaces in which consumers and consumer representative groups can comment on consultation papers; and
 - Setting up a consumer representative committee to advise it on ICT and postal matters, including ways to stimulate demand.
- (63) The Government, through the Ministry of ICT, working with TRC, will work towards ensuring that operators throughout the Arab region:
- Introduce and publicise tariffs that progressively lower international roaming charges for mobile voice and data services without raising domestic tariffs; and
 - Provide free of charge information on international roaming charges for travellers before and after arrival in the relevant country.
- (64) The Government requires TRC to help consumers to understand, and have realistic expectations of, the speed and other performance characteristics of internet services in different places at different times by, in particular:
- Encouraging consumers to download and run applications that test the speed and other performance characteristics of broadband internet access; and
 - Introducing a code of practice for descriptions of internet access services by their providers that prevents exaggerated or vague claims.

2.6.4 Maintaining critical national infrastructure

- (65) The Government requires TRC to:
- Review regularly the security and resilience of telecommunications in relation to emergencies, as at present; and
 - Provide guidance to operators, as at present, on improving security and resilience.

2.7 Enhancing the institutional framework

2.7.1 Maintaining the independence of the regulator

- (66) The Government, through the Ministry of ICT, will take every possible step to maintain the independence of TRC to make its own decisions in accordance with the Telecommunications Law, the Postal Law and general Government policy.

2.7.2 Developing the capability of the regulator

- (67) The Government requires TRC to make its conditions of employment more responsive to the needs of the market, by, in particular, offering all employees the option of having individual contracts of employment, to the extent consistent with general Government policy.

2.7.3 Maintaining the public accountability of the regulator

- (68) The Government requires TRC to include in its annual report, as at present, specific descriptions of the respects in which its activities, achievements and future plans relate to general Government policy and this Policy Statement.
- (69) The Government requires TRC to maintain a regular dialogue with all stakeholders about the implementation of this Policy Statement. This dialogue should be conducted when TRC makes its strategic plans and should include considering legal and regulatory changes for:
- Removing unnecessary restrictions;
 - Simplifying approval procedures;
 - Improving the level of competition in the ICT sector;
 - Improving the level of protection for consumers in the ICT sector; and
 - Eliminating barriers to the rapid introduction and use of new technologies.

2.7.4 Ensuring transparency in decision making by the regulator

- (70) The Government requires TRC, as at present, to make publicly available, for each decision that is likely to have a major market impact:
- A consultation paper;
 - The responses to that consultation paper, omitting material that the authors state in writing to be confidential; and
 - The decision, setting out its justification, the underlying legal analysis and, if all the necessary data on costs and benefits is available to TRC, the underlying economic analysis.
- (71) The Government considers that decisions resulting from tenders and auctions that have followed duly published procedures need not be deemed to have major market impacts.
- (72) The Government requires TRC to conduct consultations not merely by awaiting responses to published consultation papers but by providing web logs or other online spaces in which anyone with internet access can comment openly and anonymously on individual sections of the consultation papers.

2.7.5 Making competition policy consistent and complete

- (73) The Government, through the Ministry of Industry and Trade, will strengthen the memorandum of understanding between the Competition Directorate and TRC. When doing so it will ensure that the Competition Directorate refers to TRC any necessary analysis of competition in the telecommunications sector.
- (74) The Government, through the Ministry of Industry and Trade, will review the memorandum of understanding between the Competition Directorate and TRC every two years to ensure that it satisfies changes in requirements.

2.8 Developing a culture of regulatory compliance

2.8.1 Taking action in response to complaints

- (75) The Government requires TRC to investigate complaints by operators against other operators, and to take any necessary remedial action without delay, particularly when the complaints concern about possible anti-competitive behaviour.

2.8.2 Enhancing the capability of the courts

- (76) The Government, through the Judicial Council, will ensure that courts have access to greater expertise in ICT sector issues, by such actions as:
- Enabling TRC to call expert witness evidence without regard to any other party and for the evidence to be admissible; and
 - Encouraging members of the judiciary to take high-level qualifications relating to regulation of the ICT sector.

2.8.3 Enforcing the law

- (77) The Government, through the Ministry of ICT, will strengthen the enforcement powers of TRC by increasing the ceiling on fines to 20 million JD.

3 The information technology sector

3.1 Achieving economic benefits from new technologies

(78) For IT, the overall concerns of this new Policy Statement are:

- Advancing technology and innovation, to ensure that Jordan stays at the forefront of advances in IT, by taking part in relevant international activities, forming public-private partnerships for research and development, realising the “green” potential of ICT, and developing applications for personal IT devices;
- Improving the business climate by removing obstacles, taking structured steps to boost investment and exports, and improving international competitiveness;
- Stimulating supply in Jordan, by identifying and satisfying unfulfilled demand, through “buying Jordanian” whenever possible;
- Stimulating demand from organisations in Jordan, by transferring technology to suitable sectors and getting the Government to lead by example;
- Stimulating demand from citizens in Jordan, by building on the commercial success of personal IT devices and involving citizens more in IT use and development;
- Improving expertise, by strengthening links between industry and education and exploiting the skills and knowledge of the diaspora; and
- Creating a safe and trusted environment.

3.2 Advancing technology and innovation

3.2.1 Taking part in international activities

(79) The Government, through the Ministry of ICT, working with the Ministry of Planning and International Co-operation and the Ministry of Higher Education, will seek to ensure that Jordanians play a full part in international IT activities for the common good in the areas of this Policy Statement. This will both keep Jordan abreast of relevant international developments and strengthen its global reputation as a source of IT solutions and as a destination for FDI in IT. Jordanian roles might involve, for example:

- Offering leadership to regional bodies such as the Arab Information and Communication Technologies Organisation (AICTO) and the Arab Regulators Network (AREGNET);
- Taking part in, and providing feedback from, framework-setting bodies such as ITU-D and WSIS;
- Making strong contributions to developing international standards through technical bodies such as ITU-R, ITU-T, the Internet Corporation for Assigned Names and Numbers (ICANN) and the Internet Engineering Task Force (IETF); and
- Attending both academic and commercial conferences, and international trade events, to exchange ideas and strengthen links.

3.2.2 Advancing IT research and development

- (80) The Government, through the Ministry of ICT, working with the Higher Council for Science and Technology, will invite applications from universities to operate new programmes for boosting IT research and development and transferring results to commercial exploitation. Each such programme might involve, for example:
- Developing close ties between a university and at least one major or minor company;
 - Developing and evaluating concepts or prototypes in the university for timely transfer to industry;
 - Publishing in patents, technical papers, official standards or open access journals some of the successful outcomes; and
 - Revising faculty appraisal criteria to take account of activities with industry under the programme.
- (81) The Government, through the Ministry of ICT, will examine, and develop plans for increasing if appropriate, national investment in IT research, development and implementation related to the specific sectors of agriculture, environment, transport, energy and health.
- (82) The Government, through the Ministry of ICT, will work with IT sector industry associations to provide an online clearing house for matching the demand by businesses for small projects with the supply by universities of students who can implement them.

3.2.3 Fostering green ICT

- (83) The ICT industry can contribute greatly to tackling environmental challenges. The Government, through the Ministry of ICT, will work with universities to contribute actively to international groups that confront these challenges, such as the ITU-D study groups on:
- ICT and climate change;
 - The utilisation of ICT for disaster preparedness, mitigation and response; and
 - The proper disposal or reuse of ICT waste material.
- (84) The Government, through the Ministry of ICT, will stay abreast of developments in green ICT and offer Jordan as a test-bed where appropriate. Valuable contributions could be made by, for example:
- Trialling the latest technology in the management of Jordanian water resources, and the Dead Sea, and feeding back findings to countries with less extreme water shortages;
 - Helping to develop low-cost renewable energy solutions which are well adapted to desert or mountain areas, such as solar or wind power for use in mobile phone base stations; and
 - Helping to develop machine-to-machine applications for specific sectors, including applications for moderating energy use (such as smart metering) and improving energy efficiency (such as smart grids).

3.2.4 Exploiting the content potential of new technologies

- (85) As new IT devices, especially mobile ones, diffuse more widely, there are increasing opportunities for Jordanian software companies to sell suitable content (including games and other forms of entertainment). The Government will support the IT sector in building on earlier successes in this area. In particular, the Government, through the National Library, working with purveyors of publications in Arabic, will ensure that Jordan makes all suitable content available in electronic form on a profitable basis.
- (86) Personal IT devices require content that adjusts to small screens, different input techniques and, for mobile devices, limited and variable bandwidth. The Government, through the Ministry of ICT, will:
- Ensure that the legal and regulatory framework is fit for purpose (for example, by providing strong protection for personal data, including location data);
 - Adapt existing Government online content to mobile use, through public-private partnerships with Jordanian suppliers if possible; and
 - Devise new Government “apps”, through public-private partnerships with Jordanian suppliers if possible.
- (87) Jordanian women may be able to provide insights into the content preferred by women users of personal IT devices in the Arab region. Such women form a market of growing potential. Accordingly the Government, through the Ministry of ICT, will work with IT sector industry associations to explore the potential for using the insights of women in developing applications for this market.
- (88) Using mobile phones for transactions has significant potential to stimulate e-commerce (and more broadly the economy). It can also help people who do not yet have bank accounts. Its most basic form involves simple money transfer and payment from prepaid accounts on mobile phones. The Government, through the Ministry of ICT, working with TRC and the Central Bank of Jordan, will ensure that the legal and regulatory framework for this basic form of "mobile money" will allow users confidence in the security of transactions while facilitating use. In particular, it might permit financial transactions below certain monetary limits to be subject to lighter forms of regulation than are applied to traditional banking.
- (89) The Government, through the Ministry of ICT, working with the Central Bank of Jordan and industry associations, will set up a working group for the successful adoption of further forms of mobile money. The activities of the group will include:
- Inviting contributions from experts in technical and regulatory aspects and from the mobile operators, financial service providers and major merchants;
 - Carrying out pilots of particular forms of mobile money for certain applications;
 - Agreeing on standards and guidelines for the wider introduction of these forms of mobile money; and
 - Designing a legal and regulatory framework that takes into account other relevant frameworks, such as that for simple money transfer and payment from prepaid accounts on mobile phones.

3.2.5 Exploiting technical advances in IT-enabled services

- (90) IT-enabled services such as business process outsourcing hold considerable potential. Smaller countries like Jordan can gain particular advantage from cloud computing, which makes huge processing power available without a corresponding

initial investment. The Government, through the Ministry of ICT, will work with IT sector industry associations to ensure that Jordanian business process outsourcing companies are kept informed of relevant technical advances.

3.3 Improving the business climate

3.3.1 Removing unnecessary obstacles

- (91) The Government intends to apply open market principles to the IT sector and to avoid restrictive rules except as indicated in this Policy Statement.
- (92) The Government, through the Ministry of Finance, working with the Ministry of ICT, the Ministry of Industry and Trade and the Jordan Investment Board (JIB), will review rules so as to lighten regulation and tax burdens on all economic activities, and especially on IT. Reviews should ensure that regulation is imposed only when it is clearly useful and that it is then as simple as possible. Subjects for review will be prioritised according to evidence presented in recent reports on the international competitiveness of Jordan in the IT and other sectors.

3.3.2 Promoting investment

- (93) The Government will continue to promote Foreign Direct Investment (FDI), through the work of the JIB and others. Areas to promote, for both foreign and domestic investment, include:
- Call centres and other IT support;
 - Business process outsourcing of specific kinds;
 - Content, especially in Arabic and for mobile phones, with particular emphases on gaming, education, banking and machine-to-machine applications;
 - The exploitation of technological and multi-lingual skills, such as those for web site design, repurposing of IT documentation and online training; and
 - The enhancement or customisation of IT services and applications to make them suitable for the Arab region.
- (94) The Government, through the Ministry of Industry and Trade, working with the Jordan Enterprise Development Corporation (JEDCO), will aim to ensure that promising IT business ventures, inside or outside an incubator scheme, have appropriate financing and insurance arrangements in their early stages. When doing so it will investigate the adequacy of current arrangements and supplement them as necessary for the programmes in this Policy Statement by, for example:
- Establishing "revolving" funds for small grants or loans on preferential terms to qualifying ventures in the IT sector, with a particular emphasis on promoting innovation; and
 - Facilitating private backing for risky undertakings, such as developing new products or exporting to new markets.
- (95) The Government, through the Ministry of ICT, will work with IT sector industry associations to assemble an "experience bank" of both successes and failures in IT innovation and enterprise that could be drawn on by anyone contemplating a new venture.

3.3.3 Promoting exports

- (96) The Government, through the Ministry of ICT, will pursue structured marketing of exports by:
- Keeping abreast of new developments in international IT markets, and researching specific items of interest in more depth;
 - Ensuring that contacts in other countries, including embassies and relevant expatriates, have the knowledge and materials required to promote Jordan worldwide as a source of IT solutions and as a destination for IT investment, and can seek and feed back general export intelligence and specific supply opportunities for Jordanian companies;
 - Working with IT sector industry associations to ensure that domestic companies are kept aware of international developments, export intelligence and supply opportunities through, for example, electronic newsletters and alerts;
 - Drawing on the expertise of successful exporters (such as producers of games and online content) to focus attention on these subsectors in countries that have already proved to be major export markets, and in selected other countries with which there are trade agreements; and
 - Investigating whether selected emerging markets outside the Arab region would find Jordanian sales propositions particularly attractive (because, for example, some form of Arabic is known widely).
- (97) The Government, through the Ministry of ICT, working with IT sector industry associations, will ensure that international companies with Jordanian branches are kept fully aware (through these branches) of the advantages of using Jordanian business process outsourcing in their own areas of activity.
- (98) The Government, through the Ministry of ICT, working with int@j, will establish an internationally recognised IT quality certification in Jordan and encourage companies with export ambitions to become appropriately certified.
- (99) The Government will investigate, and implement if appropriate, more incentives to employ Jordanians working in IT in certain development zones, in view of the incentives already offered to foreign companies in such zones.

3.3.4 Encouraging economies of scope and scale

- (100) The IT sector in Jordan largely comprises smaller companies which will not be globally competitive without mergers, acquisitions and consortia. Accordingly the Government, through the Ministry of ICT, will work with IT sector industry associations to identify, and if necessary train, merger brokers who are independent of any Government entity and familiar with the IT sector. These brokers will have technical, commercial, financial and legal skills, and be tasked with, for example:
- Seeking out and putting together partners;
 - Proposing terms of engagement;
 - Resolving partnership disputes;
 - Negotiating funding; and
 - Guiding merged enterprises through their early stages.

(101) The Government, through the Ministry of ICT, will work with IT sector industry associations to form an umbrella organisation that is independent of any Government entity. The organisation will have technical, commercial and managerial skills, and be tasked with, for example:

- Managing sales, marketing and customer accounts throughout the Arab region (and elsewhere if suitable opportunities arise);
- Bringing together expertise and manpower from different small companies as needed to compete for large contracts, taking advantage as appropriate of public-private partnership and revenue-sharing options; and
- Project managing bids and awarded contracts.

3.3.5 Monitoring competitiveness

(102) Competitiveness and e-readiness reports indicate areas where future focus should improve the standing of Jordan, especially in the IT sector. Accordingly The Government requires TRC, working with NITC and int@j, to collect statistics and monitor progress in e-readiness. The statistics collected should as far as practicable include those that are commonly used in relevant international comparisons, such as the ITU Measuring the Information Society report and the World Economic Forum (WEF) Global IT report.

3.4 Stimulating supply in Jordan

3.4.1 Developing commercial services and applications

(103) The Government, through the Ministry of ICT, will work with IT sector industry associations to identify potential and unfulfilled demand in Jordan, and support steps towards fulfilling this demand, with the goal of producing solutions inside Jordan that can serve the Arab region and beyond. Such steps might include:

- Repackaging existing solutions for different market segments;
- Commissioning innovative product development from existing Jordanian companies (possibly drawing on the revolving venture capital fund); and
- Setting up new partnerships (among domestic companies or between domestic and foreign companies), bringing together the skill sets and resources needed to address specific development challenges.

(104) The Government, through the Ministry of Finance, working with the Ministry of Industry and Trade and the Central Bank of Jordan, will clarify the rules for offering 'distance services' (when online) to the Jordanian market, with the aim of providing the most favourable possible tax treatment to internet service providers and content providers.

(105) The Government recommends NITC and other Government entities to adopt procurement policies which require Jordanian IT suppliers to be considered whenever a Government contract involves IT. The policies should also ensure that, when international suppliers fulfil Government contracts involving IT, their offers include partnerships with Jordanian IT suppliers and significant training for local personnel. Nonetheless all Government procurement should be in accordance with published procedures, including clear prequalification requirements.

3.4.2 Providing e-government applications

- (106) The Government will continue with plans for:
- Compelling coordination and cooperation between Government entities to achieve the e-government strategy objectives;
 - Strengthening the role of NITC to assist the growth of e-government, in particular through issuing common standards; and
 - Encouraging public-private partnerships in providing e-government services.
- (107) The Government, through the Ministry of ICT, will set priorities for new and improved e-government services with the aim of maximising take-up.
- (108) The Government, through the Ministry of ICT, will ensure that current and future e-government service development focuses first on business process re-engineering to simplify and reduce the inputs, outputs and processes required. Such re-engineering could help to remove significant impediments to economic growth.
- (109) The Government, through the Ministry of ICT, will ensure that current and future development of e-government services intended for use by citizens (as opposed to businesses or the Government) will enable user access from mobile phones and other mobile devices as well as from personal computers.
- (110) The Government, through the Ministry of ICT, will work with relevant stakeholders to publicise vigorously fully operational e-government services. Stakeholders who will profit from the use of the services (such as network operators) should be particularly willing to publicise them.

3.5 Stimulating demand from organisations in Jordan

3.5.1 Raising business awareness of IT

- (111) The Government, through the Ministry of ICT, will work with non-IT sector industry associations to
- Understand the characteristics of specific non-IT sectors where increased use of IT could be particularly beneficial; and
 - Reach micro, small and medium enterprises in those sectors with targeted messages about how IT can help their businesses.
- (112) The Government, through the Ministry of ICT, will work with IT sector industry associations to establish annual prizes for achievements in creating, spreading and using IT.
- (113) The Government will ensure that affordable IT awareness training targeted at micro and small businesses in each area is provided through Knowledge Stations, together with appropriate support for those who go on to use IT in their businesses.

3.5.2 Increasing the use of IT by businesses

- (114) The Government, through the Ministry of ICT, will work with industry, trade and civil society organisations including micro-finance institutions to examine, and develop plans for increasing if appropriate, the affordability of IT equipment for workers. Lower prices could be achieved, for example, by bulk discounts, or low-interest financing arrangements.

- (115) IT is important for the role of women in Jordanian society and the economy, especially because IT work is physically light and can often be done at times and in places that suit the worker. Accordingly the Government, through the Ministry of ICT, will work with IT sector industry associations to promote the participation of women in the IT and IT-enabled services sectors by, for example, exploiting telecommunications to facilitate work at home. Doing this could open new areas of enterprise, such as remote teaching of Arabic and other subjects in which Jordan has specialist expertise.
- (116) The Government, through the Ministry of ICT, will work with the Jordan Enterprise Development Corporation (JEDCO) and industry associations to identify, and if necessary train, opportunity spotters who are independent of any Government entity and familiar with the IT sector. These spotters will have technical and commercial skills, and be tasked with, for example:
- Seeking out organisations in particular sectors needing IT services or applications which exist and will be useful with little or no tailoring ("off-the shelf" or nearly so);
 - Inviting IT suppliers to bid, applying for any needed seed funding from the funds established by the Ministry of Industry and Trade; and
 - Selecting IT suppliers, and overseeing implementation, including end-user training.
- (117) The Government, through the Ministry of ICT, working with JEDCO, will invite applications to operate new collaborative IT transfer programmes. Such a programme might involve, for example:
- Developing close ties between an IT supplier and a user organisation in another sector needing "bespoke" IT services or applications (including business process outsourcing services like those provided by call centres);
 - Obtaining development funding from the funds established by the Ministry of Industry and Trade;
 - Enhancing or customising existing basic IT services or applications to meet the requirements of the user organisation; and
 - Planning to make versions of the resulting IT services or applications available for export to a large market (such as the Arab region).
- (118) The Government, through the Ministry of ICT, will work with industry associations to:
- Examine the appropriateness of the existing e-government applications to specific sectors, identifying gaps, and changes which would facilitate take-up;
 - Select sectors having strong incentives to adopt ICT (by saving time or money) and few barriers to adoption; and
 - Target the selected sectors with customised e-government applications, which may be attractive enough to tip the balance towards ICT adoption.

3.5.3 Increasing the use of IT by Government entities

- (119) The Government recommends NITC to examine, and develop plans for increasing if appropriate, how far Government entities are using ICT internally and in their relations with citizens, business and other Government entities. Universal use of ICT by Government entities is an important step towards the wider adoption of ICT in society.

- (120) The Government recommends all Government entities that conduct public consultations to do so not merely by awaiting responses to published consultation papers but by providing web logs or other online spaces in which stakeholders, including members of the general public, can comment openly and anonymously on individual sections of the consultation papers.
- (121) The Government recommends all Government entities that have databases containing information needed by citizens, businesses or other Government entities to make them available with immediate electronic access, through public-private partnerships if appropriate.
- (122) The Government recommends NITC and other Government entities to consider using open source software whenever this could be the cheaper course of action in the long term.
- (123) The Government requires TRC to set an example by using ICT for making information publicly available for all aspects of its operations, including consumer protection, numbering management, spectrum management, licensing, type approval and radio installation approval. When doing so TRC should respect specific and genuine requirements for commercial confidentiality.

3.6 Stimulating demand from individuals in Jordan

3.6.1 Involving and educating the general public

- (124) Mobile phones are the IT devices of choice for many people, and their take-up needs no market intervention. Smart phones, in particular, can offer many capabilities of laptop computers with the appeal of fashion, convenience and lower prices. The Government, through the Ministry of ICT, will work with IT sector industry associations to devise, and procure the implementation and marketing of, simple mobile phone applications related to Government.
- (125) The Government, working through concerned stakeholders, will ensure that all young people leave school equipped with basic IT skills. In doing so it will emphasise the widespread adoption of IT systems that can be available and affordable in all schools, and that can be used effectively in teaching and learning. Schools and other bodies that work with young people will encourage the sharing of mastered IT skills with older family members and friends.
- (126) Social networks and other many-to-many applications of the internet have already been adopted by some Government entities. The Government, through the Ministry of ICT, will use all appropriate media to spread messages about IT use, and to listen to feed back, by, for example:
 - Involving young people, appointed as Government "IT champions", to stimulate online discussion of problems and interests, such as how to get IT jobs; and
 - Providing web logs in which members of the general public can comment on current issues.
- (127) IT has immense potential to help to overcome disability, enable disabled people to lead full and productive lives and provide equal opportunities to disabled people. Accordingly the Government recommends NITC and other Government entities to:
 - Promote the principle of "inclusive design", whereby all new products and services are designed from the outset for accessibility and ease of use by the

- widest possible range of people, including those with common sensory impairments;
- Lead by example, ensuring that Government web sites and e-government facilities always conform to the current best accessibility standards; and
- Use their influence and procurement powers to foster improved practices by all providers of services and content.

3.6.2 Adapting Knowledge Stations

- (128) Knowledge Stations can provide a first encounter with IT, as well as the only continuing affordable access, for many people living in poor areas. However, the increase in household internet adoption, and the availability of commercial elementary IT awareness courses, lead to changes in the funding and use of knowledge stations. The Government recommends NITC to review, and adapt as appropriate, the locations and roles of knowledge stations in the light of market trends and the changing needs and priorities of the target users. When doing so NITC should consider whether Knowledge Station functions could best be provided in some places in other ways, such as having free community WiFi from schools and some laptops available for community use.

3.7 Improving expertise

3.7.1 Broadening and deepening IT skills

- (129) The Government, through the Ministry of Higher Education, will work with the universities to ensure that all students have up-to-date laptop computers, for example by the universities passing on bulk buying discounts and offering easy financing arrangements to students to spread the costs over entire courses.
- (130) The Government, through the Ministry of ICT, working with the Ministry of Higher Education, will invite applications from universities to operate new collaborative IT education programmes. Each such programme might involve, for example:
- Developing close ties between a university and major companies;
 - Hiring industry IT practitioners as part-time university staff and student mentors;
 - Providing industry IT experience to full-time university staff;
 - Developing course material and student projects in collaboration with industry;
 - Arranging periods of industry experience for students; and
 - Revising faculty appraisal and student assessment criteria to take account of activities with industry under the programme.
- (131) The Government, through the Ministry of Higher Education, will work with universities to ensure that:
- College councils have members with strong knowledge of the IT industry who can help syllabuses to match what is needed in industry by IT developers and IT users;
 - IT syllabuses and faculties are assessed against international standards;

- The high quality course material and recorded lectures already abundant on the Internet are exploited wherever appropriate;
 - Advanced IT training is available throughout the careers of Jordanian professionals; and
 - There are standard online tests for basic, intermediate and advanced IT students which have recognisable value to prospective employers.
- (132) The Government, through the Ministry of ICT, will expand and extend the successful IT internship scheme to ensure that no bodies that could host an intern to mutual benefit are excluded from its coverage.
- (133) The Government, through the Ministry of ICT, will work with IT sector industry associations to assist in developing IT expertise by, in particular, promoting web forums for sharing IT knowledge and concerns among communities of practice.

3.7.2 Making the most of the diaspora

- (134) The Government, through the Ministry of ICT, will work with IT sector industry associations to ensure that relevant expatriate Jordanians are kept aware of changing investment and employment opportunities in the Jordanian IT sector by, for example, running special interest social networks.
- (135) The Government, through the Ministry of ICT, will ensure that relevant expatriate Jordanians can seek (in their countries of activity) and feed back (for the benefit of Jordanian companies) specific supply opportunities. Jordan will thereby benefit not just from the remittances of expatriates but also their interest in, and attachment to, the home country.

3.8 Creating a safe and trusted environment

3.8.1 Facilitating e-commerce

- (136) Growth in e-commerce requires users to be competent in choosing and using services and confident in their ability to avoid risks, because they are appropriately educated, fully informed and adequately protected. The Government, through the Ministry of ICT, working with the Ministry of Industry and Trade, will ensure that the recently proposed general consumer protection law has all the necessary provisions to foster e-commerce, including:
- Easily accessible and affordable alternative dispute resolution; and
 - Strong consumer rights when placing orders online and receiving goods or services.
- (137) The Government, through the Ministry of ICT, will introduce a Data Protection Law. This law should guarantee privacy for data used or stored electronically and prohibit unsolicited commercial communications ("spam").
- (138) The Government, through the Ministry of ICT, working with TRC, will complete the subordinate regulations and instructions under the Electronic Transactions Law related to Certification Authorities.
- (139) The Government, through the Ministry of ICT, working with the Central Bank of Jordan, the Ministry of Justice and the Ministry of Finance, will implement the Electronic Transactions Law so as to promote the use of e-commerce services.

(140) The Government, through the Ministry of ICT, will review the implications of services provided by new technologies, including cloud computing and location-based services, for the Information Systems Crime Law, the Electronic Transactions Law and the Data Protection Law.

3.8.2 Safeguarding access to content

- (141) The Government will not subject content on the internet or in new media to regulation.
- (142) The Government, through the law enforcement agencies, will work with internet service providers and hosting companies to ensure that content on the internet that is hosted in Jordan and that violates the criminal law is removed in ways consistent with applicable procedures and rights.
- (143) The Government, through the Ministry of ICT, will work with internet service providers and hosting companies to provide users with advice on the safe use of the Internet and the protection of children.
- (144) The Government, through the Ministry of ICT, will ensure that Intellectual Property Right (IPR) legislation and enforcement accord with international obligations.

3.8.3 Maintaining cybersecurity

- (145) The Government, through the Ministry of ICT, will work with relevant stakeholders to establish a Computer Emergency Response Team (CERT) to provide coordinated warnings of software and other ICT risks which could prejudice continuity of service and resilience.

3.8.4 Protecting the natural environment

- (146) The Government recommends NITC and other Government entities to adopt procurement policies, and NITC to review the type approval standards, to require appropriate use of natural resources. In particular, power consumption and cooling requirements should always be as low as possible.
- (147) The Government, through the Ministry of the Environment, will work with industry associations to develop a regulatory framework for the disposal of waste electronic and electrical equipment, covering such matters as:
- Covering the costs of the collection, treatment and recycling of waste equipment (perhaps through the manufacturers and importers);
 - Provision of collection points (perhaps by the distributors);
 - Limits on the proportions of hazardous substances in equipment; and
 - Provision of information to consumers.

4 The postal sector

4.1 Continuing postal reform

(148) Under the 2003 and 2007 Policy Statements the Government has taken actions to implement its programme of postal reform by, in particular:

- Separating the institutional roles of the policy maker, the regulator and the Public Postal Operator (PPO), played by the Ministry of ICT, TRC and JPC respectively;
- Establishing and implementing a legal and institutional framework for the postal sector by defining the roles and responsibilities of sector institutions and market entities and passing the current Postal Law;
- Stimulating action by JPC, as a public corporation, to renew its business strategies, implement reporting and accounting systems, and implement obligations for universal and reserved postal services;
- Working on e-government and e-commerce;
- Initiating development of a national address system;
- Establishing a licensing system for postal operators;
- Supporting the development of a cost accounting system for universal and reserved postal services;
- Establishing provisional price adaptation guidelines with support for further development and implementation;
- Liberalising the postal market in Jordan progressively; and
- Taking steps to decrease the share of ownership of JPC by the Government.

(149) This Policy Statement builds on these earlier actions by pursuing the objectives due to the 2003 and 2007 Policy Statements of:

- Improving public postal services;
- Stimulating private sector investment; and
- Developing the contribution of the postal sector to the economy.

4.2 Improving public postal services

4.2.1 Providing universal services

(150) Sustainable postal reform must be based on comprehensive definitions of universal postal services. Accordingly the Government, through the Ministry of ICT, working with TRC, will take steps to adopt clear and precise definitions that set down what are the universal and reserved postal services and what are the postal services that require regulation. These definitions will cover, in particular:

- The universal postal services according to Universal Postal Union (UPU) Policy Guidelines and Regulations, along with-
- The reserved postal services, specified as ordinary letter mail services, and

- The mandatory postal services, such as parcel services, in line with UPU policies;
 - The required quality of service of collection and delivery for universal postal services; and
 - The required parameters for universal postal services (such as density of postal service points, as well as locations of and access to street letter boxes, post office boxes, post office counters and other counters offering postal services) in terms of socio-geographic criteria per area and per inhabitant.
- (151) The Government, through the Ministry of ICT, will establish a clear and effective postal regulatory framework for the provision of universal postal services and in this way give further guidance to the implementation of universal service obligations by JPC and the monitoring of the implementation by TRC.
- (152) The demand for postal services is lower than in many national postal markets. Accordingly the Government, through the Ministry of ICT, working with TRC and JPC, will take steps to raise progressively the requirements for the provision of universal postal services, with the intention of raising demand by improving the quality of all postal services and increasing access to universal postal services.

4.2.2 Providing additional services

- (153) Postal services occupy a unique position in three important business flows (information, goods transfers, and financial transactions) and there are postal service points in a variety of locations throughout Jordan. Accordingly the Government requires JPC to:
- Strengthen its commercial activities in co-operation with other service providers to capitalise on its unique nationwide network;
 - Provide distribution and collection facilities for documents required by Government services;
 - Offer postal financial services and retail services in all postal service points where demand, staff capabilities and security permit;
 - Provide access to internet and other telecommunications facilities in all postal service points where demand, space and security permit; and
 - Develop postal services that combine postal services with telecommunications and other services.
- (154) The definition of postal service points in policy and law enables JPC to provide postal services in other premises besides post offices, using staff who are not full-time employees of JPC. Doing this would improve access to, and provision of, postal services. The Government requires JPC to investigate, and implement if appropriate, the possibility of using such premises and staff.

4.2.3 Separating the roles of the stakeholders

- (155) The Government considers that for increasing private sector participation in the PPO there should be sharp distinctions between the roles and responsibilities of:
- The policy maker, which is the Ministry of ICT.
 - The regulator, which is TRC.

- The shareholder (holding any Government interest in postal operators), which in many countries is the Ministry of Finance,
- The public postal operator designated by the Government, which is JPC.

(156) The Government requires TRC to:

- Ensure the provision by the PPO of adequate universal postal services, with a focus on-
- The cost of universal postal services,
- The periodical pricing adaptations needed to provide sustainable universal postal service provision, and
- The actual quality of services as assessed by the PPO using quality measurement systems and surveys with citizens and large mailers;
- Maintain the rights of the universal service providers in relation to reserved postal services;
- Ensure that other postal operators may provide any postal services if they do not violate the rights of the universal service providers in relation to reserved postal services;
- Ensure fair competition, particularly in relation to interconnection arrangements for operators providing universal postal services;
- Impose reporting obligations on the provision of universal postal services;
- Impose reporting obligations on the provision of other postal services by operators in general;
- Publish regularly an overview of market developments in the sector, especially in relation to the provision of basic and universal postal services;
- Safeguard the interests of consumers;
- Monitor reporting on actions by the PPO in response to customer complaints about universal postal services; and
- Establish ways of consulting large mailers using universal postal services.

(157) The Government, in its role as shareholder, will not compromise or challenge the independence of TRC.

4.2.4 Changing the performance contract

(158) The Government, in its role as shareholder, will replace the Performance Contract with requirements for JPC to:

- Have, and comply with the requirements of, a licence just like that for other operators providing postal services outside the scope of universal and reserved postal services;
- Provide a business plan that is renewed at least every five years;
- Provide an annual report on its postal and other activities, with-
- Properly audited accounts, including a profit and loss account and a balance sheet, and
- An update of achievements and implementation of the business plan; and

- Fulfil such reporting obligations as TRC, as its regulator, may impose on the provision of universal postal services and on the provision of other postal services.

4.2.5 Avoiding dependence on subsidies

- (159) The Government, in its role as policy maker, will ensure that JPC competes fairly without cross-subsidies between reserved postal services and other services.
- (160) The Government, in its role as shareholder, will ensure that JPC avoids reliance on any Government subsidy.
- (161) The Government, in its role as shareholder, will appoint to the Board of Directors of JPC persons that will:
- Provide wide ranging financial, commercial and operational expertise; and
 - Strengthen the corporate management and staff capabilities of JPC so that it can operate in all areas as a commercial enterprise.

4.2.6 Increasing private sector participation

- (162) Increased private sector participation has proven to be an effective means of increasing the efficiency and productivity of postal operators in other countries. Accordingly the Government requires JPC to take further steps towards commercialisation so as to provide opportunities and incentives for increased private sector participation, in co-operation with JPC if possible.
- (163) The Government will increase private sector participation in JPC as quickly as permitted by:
- Prevailing market conditions;
 - Economic circumstances;
 - The introduction of safeguards for fair competition and the maintenance of adequate universal postal services.
- (164) The increased private sector participation in JPC might be achieved by, for example:
- Separating the transport function of JPC into a different undertaking;
 - Sharing the transport facilities with private sector operators;
 - Franchising some or all of the services of JPC;
 - Outsourcing the management and operation of JPC in some areas or throughout the country;
 - Selling some or all of the shareholding in JPC; or
 - Implementing joint ventures and alliances with private sector operators in express, logistics, financial and retail services so that there can be new services using the postal network.

4.3 Stimulating private sector investment

4.3.1 Developing services besides universal services

- (165) Services other than reserved postal services should be provided on a "level playing field" with fair competition, whether they are provided by JPC or provided by other

operators. The services related to the postal network add value to, and increase the efficiency of, the network. Accordingly the Government requires TRC, for all operators providing the same services, to:

- Establish a common process of licensing and regulation; and
- Remove any barriers to developing the market.

4.3.2 Reducing the scope of reserved services

- (166) The reserved postal services are designed to compensate for any losses incurred in the provision of universal postal services. However, the provision of universal postal services is expected to become more efficient. Accordingly the Government, in its role as policy maker, working with TRC, will take steps to restrict universal postal services to a minimum set of services having specified quality and meeting specific needs.
- (167) The Government requires TRC to monitor the financing of universal postal services based on transparent cost accounting processes that avoid cross-subsidies between reserved and other postal services.
- (168) The Government requires TRC to develop tariff-setting proposals for universal postal services based on bringing costs and prices for these services into progressively closer alignment through efficiency and productivity increases in the universal service provider.

4.3.3 Simplifying licensing requirements

- (169) The Government considers that for postal services (such as express and courier services) other than universal postal services, commercial laws and market forces will determine the conditions of service provision.
- (170) The Government requires TRC to remove barriers to market entry and competition in such postal services by, in particular:
- Eliminating any regulation of postal services other than universal postal services that is not needed for consumer protection; and
 - Simplifying any requirement for reporting to the minimum necessary to develop overall statistics concerning postal market development.

4.3.4 Enforcing the law

- (171) The Government, in its role as policy maker, will take steps to ensure that:
- TRC can take action when there are infringements of the Postal Law; and
 - TRC can impose fines having significant deterrent effects.

4.4 Developing the contribution of the postal sector to the economy

4.4.1 Encouraging interconnection

- (172) The Government requires TRC to encourage interconnection arrangements between all postal operators in the provision of basic and universal postal services. Such interconnection arrangements include:
- Collection from public letter boxes;
 - Delivery to post office boxes in post offices;

- Delivery to home and business addresses;
- Transport;
- Redirection;
- The use of, and updates to, the postcode and postal address system; and
- Upstream access to the postal system besides collection and transport to outward sorting centres.

4.4.2 Establishing the national address system

- (173) Postal services can best support the growth of e-commerce and e-government through the provision of efficient and dependable postal services with appropriate collection and delivery mechanisms. Accordingly the Government requires JPC to:
- Provide a service of delivery of parcels to each established national address; and
 - Provide a service of delivery of parcels for collection at all postal service points where space and security permit.
- (174) The Government, through the Ministry of Municipal Affairs and Greater Amman Municipality, will develop priorities for, and ways of, funding the establishment of the national address system throughout Jordan.
- (175) Home delivery (or, more generally, delivery beyond the post office box) is likely to increase the cost of universal postal services. The Government requires JPC to implement a pilot of home delivery in restricted areas to assess the impact on the cost and quality of universal service provision.