

**DRAFT FOR CONSULTATION**

# **CRA Strategy 2020-2024**

## **Consultation Document**

Deadline to submit response: 26 September 2019

**CRA-PQ-SP-CON-001-19-00**

8 September 2019

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# Part I - Instructions for Responses

## Consultation Procedures

1. Interested parties/stakeholders are invited to respond to the questions included in this Consultation Document, providing their views and comments supported by relevant evidence. General views and comments on the overall Consultation Document are also welcome.
2. If a respondent is in disagreement with any proposed approach by the CRA, the respondent is requested to provide, in its response: (a) The reasons for disagreement; (b) Its alternative proposal in a clear and concise manner; (c) All assumptions, relevant justifications and references of all data sources behind its alternative proposal.
3. Any submissions received in response to this Consultation Document will be carefully considered by the CRA. Nothing included in this Consultation Document is final or binding. However, the CRA is under no obligation to adopt or implement any comments or proposals submitted.
4. Comments should be submitted by email to [crastrategy@cra.gov.qa](mailto:crastrategy@cra.gov.qa) in a format provided in Annex III of this document. The subject reference in the email should be stated as "Consultation on CRA Strategy 2020-2024". It is not necessary to provide a hard copy in addition to the soft copy sent by email.
5. The deadline for all respondents to submit their comments is 26 September 2019, as indicated on the cover page of this Consultation Document.

## Publication of Comments

6. In the interests of transparency and public accountability, CRA intends to publish the submissions to this consultation on its website at [www.cra.gov.qa](http://www.cra.gov.qa).
7. All submissions will be processed and treated as non-confidential unless confidential treatment of all or parts of a response has been requested.
8. In order to claim confidentiality for information in submissions that stakeholders regard as business secrets or otherwise confidential, stakeholders must provide a non-confidential version of such documents in which the information considered confidential is blacked out. The "blacked out" portion/s should be contained in square brackets. From the non-confidential version, it has to be clear where information has been deleted. To understand where redactions have been made, stakeholders must add indications such as "business secret", "confidential" or "confidential information".
9. A comprehensive justification must be provided for each and every part of the submission required to be treated as confidential. Furthermore, confidentiality cannot be claimed for the entire or whole sections of the document, as it is normally possible to protect confidential information with limited redactions.

10. While CRA will endeavor to respect the wishes of respondents, in all instances the decision to publish responses in full, in part or not at all remains at the sole discretion of CRA.

11. By making submissions to CRA in this consultation, respondents will be deemed to have waived all copyright that may apply to intellectual property contained therein.

**Questions and clarification of the consultation process**

12. For any queries or clarifications concerning the consultation process, please contact Mr. Mohammed Al Mousawi, Acting Planning and Quality Unit Manager, [malmousawi@cra.gov.qa](mailto:malmousawi@cra.gov.qa) ([cc.crastrategy@cra.gov.qa](mailto:cc.crastrategy@cra.gov.qa)).

## Part II - CRA Strategy 2020-2024

### 1 Introduction

13. This Consultation Document is a summary of the proposed five-year strategy of the Communications Regulatory Authority (“**CRA**”) of the State of Qatar (“**CRA Strategy**”). It is being shared with stakeholders for consultation and feedback. Following this consultation, the CRA Strategy will be finalized and presented to the Council of Ministers of the State of Qatar for approval.

14. The CRA Strategy targets the period 2020-2024 and the full CRA mandate: Information Technology (“**IT**”), Telecommunications, Access to Digital Media (“**ADM**”) and Post. The CRA strategy has been developed to further support Qatar’s national development objectives, as set out in the National Vision 2030<sup>1</sup> and two consecutive versions of the National Development Strategy (“**NDS**”).<sup>2,3</sup> It also takes into account the anticipated needs of the country in its preparation for hosting the FIFA World Cup™ in 2022.

15. The CRA Strategy builds on previous related policy and strategy initiatives. These include the National Broadband Plan<sup>4</sup>, the Strategic Sector Review<sup>5</sup>, the e-Commerce Roadmap<sup>6</sup> and the previous regulatory strategy for the sector, which ran from 2013 to 2016.<sup>7</sup>

16. The CRA Strategy development started in October 2018 with a comprehensive sector<sup>8</sup> review. This included an analysis of readily available data, a dedicated survey of IT companies and multiple face-to-face interviews with a broad range of stakeholders from both industry and government.

17. The CRA Strategy outlines a range of major initiatives to be undertaken by CRA during the strategy period in order to support Qatar’s transition to a digital nation. In addition to these, CRA will continue carrying out its existing portfolio of duties including spectrum management, type approvals, telecom services costing and tariff approvals, consumer affairs, complaints handling, sector data collection and analysis, Market Definition and Dominance Designation (“**MDDD**”), etc. These activities are a continuation of the current workload of CRA and are not covered in the CRA Strategy.

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<sup>1</sup> Qatar National Vision 2030, July 2008, <https://www.gco.gov.qa/wp-content/uploads/2016/09/GCO-QNV-English.pdf>

<sup>2</sup> Qatar National Development Strategy 2011-2016, March 2011, [https://www.psa.gov.qa/en/nds1/Documents/Downloads/NDS\\_EN\\_0.pdf](https://www.psa.gov.qa/en/nds1/Documents/Downloads/NDS_EN_0.pdf)

<sup>3</sup> Qatar Second National Development Strategy 2018-2022, September 2018 <https://www.psa.gov.qa/en/knowledge/Documents/NDS2Final.pdf>

<sup>4</sup> National Broadband Plan for the State of Qatar, ictQatar, 2013; <http://www.motc.gov.qa/sites/default/files/documents/Qatar%20National%20Broadband%20Plan-En.pdf>

<sup>5</sup> ictQATAR: Strategic Sector Review, 2014

<sup>6</sup> ictQATAR: Qatar National e-Commerce Roadmap, 2015; [http://www.motc.gov.qa/sites/default/files/e-commerce\\_roadmap\\_2015\\_en.pdf](http://www.motc.gov.qa/sites/default/files/e-commerce_roadmap_2015_en.pdf)

<sup>7</sup> ictQATAR: Regulatory Strategy: 2013-2016: <http://www.motc.gov.qa/en/documents/document/regulatory-strategy-2013-2016>

<sup>8</sup> The “sectors” referred to in this document are IT, Telecommunications, ADM and Post. The definition of these is discussed in more detail in Section 0. The term “sector” is also used to refer more broadly to the ICT and Postal sectors as whole.

18. The Consultation Document is structured in the following way:
- i) Section 2 outlines the Sector Review and Strategy Development undertaken to date by the CRA consistent with its mandate.
  - ii) Section 3 summarizes the sector definitions and delineations.
  - iii) Section 4 outlines a summary of the Sector Review and key strategic challenges; along with proposed strategic objectives, sector targets and proposed strategic initiatives to be undertaken by CRA during the strategy implementation.
  - iv) Annex I comprising the following tables:
    - a) Table 1 summarizes the strategic objectives, sector targets and options for KPIs across the sectors;
    - b) Table 2 gives an overview of the linkages between sector targets and strategic initiatives;
    - c) Table 3 presents cross-sectoral linkages by strategy initiatives and sectors.
  - v) Annex II summarizes the questions for consultation.
  - vi) Annex III contains a template for providing consultation responses.

## 2 CRA Strategy Development

### 2.1 Alignment with national and sector development strategies

19. CRA Strategy supports the Qatar National Vision 2030 (“**QNV 2030**”) set out in July 2008 with the aim of “transforming the country into an advanced country, capable of sustaining its own development and providing for a high standard of living for all of its people for generations to come”.<sup>9</sup> QNV 2030 has been supported through two consecutive versions of the National Development Strategy (“**NDS**”). The first one covered the period 2011-2016 and set out a plan of action to help fulfil the aims of QNV 2030.<sup>10</sup> The second and current NDS covers the period 2018-2022 (“**NDS2**”) and builds on the principles and lessons learned from the first NDS.<sup>11</sup> The FIFA 2022 World Cup Qatar™ provides an additional context to the strategic outlook for national development.

20. QNV 2030 defines four pillars of development: Human, Social, Economic and Environmental. The Information and Communications Technology (“**ICT**”) and Postal sectors play a key role in each of them. A theme running throughout the national strategy is the need for economic diversification and moving away from hydrocarbon dependency, as well as development of the SME and private sector. Again, the ICT sector is seen as a key enabler and its significance is expected to grow in the future.<sup>12</sup>

21. The importance of ICT in achieving the national development objectives is articulated in the NDS2 which defines one of the target outcomes in the following way:

*“Develop a sustainable and high-quality infrastructure that supports the national economy and is capable of keeping abreast of the latest smart technologies”<sup>13</sup>*

22. Beneath this main outcome, there is a desired intermediate effect of *“High quality and safe ICT infrastructure”<sup>14</sup>*

23. ICT and Post sectors are sources of economic growth and diversification in themselves. However, their importance goes beyond their direct contribution to the economy. They provide an enabling technology and service infrastructure that supports productivity improvement and growth throughout the economy. ICT and Post are important means of modernizing government

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<sup>9</sup> Qatar National Vision 2030, July 2008, <https://www.gco.gov.qa/wp-content/uploads/2016/09/GCO-QNV-English.pdf>

<sup>10</sup> Qatar National Development Strategy 2011-2016, March 2011, [https://www.psa.gov.qa/en/nds1/Documents/Downloads/NDS\\_EN\\_0.pdf](https://www.psa.gov.qa/en/nds1/Documents/Downloads/NDS_EN_0.pdf)

<sup>11</sup> Qatar Second National Development Strategy 2018-2022, September 2018 <https://www.psa.gov.qa/en/knowledge/Documents/NDS2Final.pdf>

<sup>12</sup> Ministry of Information and Communications Technology, eGovernment strategy 2020: <http://www.motc.gov.qa/sites/default/files/documents/Qatar%20e-Government%202020%20Strategy%20Executive%20Summary%20English.pdf>

<sup>13</sup> NDS2, p.78

<sup>14</sup> NDS2, p.80

and improving public service delivery.<sup>15</sup> They also have a significant human and social impact through digital transformation and enabling smart living.

24. The Government of Qatar has already made major strides in developing the ICT and Postal sectors. Its support of QNBN's fibre network rollout and its majority ownership of the two telecommunications service providers, Ooredoo and Vodafone, constitute a major investment in the sector. CRA also manages some communications infrastructure assets on behalf of the Government. These investments have resulted in ubiquitous network coverage and improvements in the availability and quality of telecommunications services.

25. The Government has been investing in satellite capacity through Es'hailSat and supporting the media sector development through the Media City initiative. In addition, the Government is committed to supporting the development of data centers and cloud infrastructure in Qatar to host its ambitious digitalization plan. The Government has also heavily funded Qatar Post's digital transformation and operational performance enhancement.

26. A continuous effort into strengthening the governance framework for the sectors has also been made. The Supreme Council for Information and Communication Technology (ictQATAR) was established in 2004, followed by the enactment of the Telecommunications Law of 2006.<sup>16</sup> In 2014, Emiri Decision No. 42 established the CRA<sup>17</sup>, followed by amendments to the Telecommunications Law in 2017.<sup>18</sup> Likewise, a Draft Post Law is currently under consideration by the Government. When enacted, it will establish the basis for regulating the postal sector.<sup>19</sup>

27. In addition, the Government has undertaken a wide range of initiatives to support the sector and the adoption of ICT throughout Qatar, including businesses, residents and government entities. TASMU Smart Qatar program and the Digital Incubator Centre ("**DIC**") of the Ministry of Transport and Communication ("**MOTC**") are both focused on promoting the development and adoption of ICT in Qatar. Local ICT entrepreneurs also get support through Qatar Development Bank's ("**QDB**") wide range of initiatives, products and services. Since 2011, the Ministry of Commerce and Industry ("**MOCI**") has run a "Single Window" scheme to make it easier for businesses to obtain commercial registration and licensing. This will soon be launched as an online platform, which will further reduce the barriers to entry for new businesses. The Government is also continuously supporting research and development of new technologies through academic institutions such as the Qatar Computing Research Institute ("**QCRI**").

## 2.2 CRA approach to Strategy Development

28. The CRA Strategy reflects the legal mandate of CRA and takes account of current and future developments in technology and market structure. In particular:

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<sup>15</sup> See Corrado and Jager, Communications Networks, ICT and Productivity Growth in Europe, December 2014 and Byrne and Corrado, ICT Services and their Prices: What do they tell us about Productivity and Technology, September 2017.

<sup>16</sup> Decree Law No. (34) of 2006 on the promulgation of the Telecommunications Law

<sup>17</sup> Emiri Decision No 42 of 2014 establishing the Communications Regulatory Authority

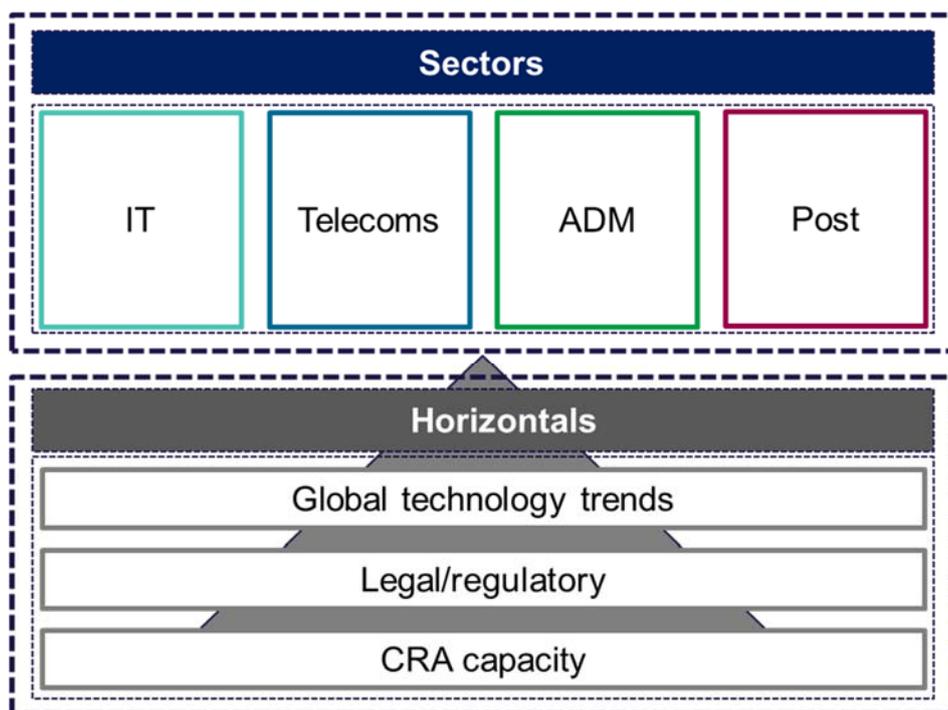
<sup>18</sup> Law No. (17) of 2017 Amending Some Provisions of the Telecommunications Law, Promulgated by the Decree Law No, (34) of 2006.

<sup>19</sup> Draft Law No. ( ) of 2017 on the Regulation of Postal Services

- i) It recognizes the importance of IT, Telecommunications, ADM and Post for the delivery of the national development vision and strategy.
- ii) It builds on CRA's experience in regulating and promoting competition in the telecommunications sector.
- iii) In addition to regulation, it also supports sector growth and development, promotes investment and innovation, technology adoption and better coordination between government and the private sector.
- iv) It recognizes and supports other government ministries and authorities in carrying out their mandates in relation to the sectors in scope.

29. CRA has taken a systematic approach to the development of this strategy. The first phase established sector definitions. This was followed by a Sector Review, in which data and information relevant to the ICT and Postal sector in Qatar were collected and analyzed. This phase also included extensive rounds of interviews conducted with a broad range of stakeholders. The performance of the IT, Telecommunications, ADM and Postal sectors were studied both in a national context and by comparing Qatar to other countries. This included a comprehensive review of the legal and regulatory framework, including both sector specific frameworks and relevant "horizontal" laws and regulations. It also looked at key global technology trends and identified key regulatory priorities for Qatar.

30. Based on the findings of the Sector Review, CRA has developed the strategy to address all relevant components of the sector. This includes four sectors: IT, Telecommunications, ADM, Post. It also includes the three horizontals: Global Technology Trends, Legal/Regulatory and CRA capacity. This approach is summarized in Figure 1.



*Figure 1: CRA Strategy development approach*

31. The CRA Strategy presents for each component a summary of the current status and identifies key challenges for development. For each of the four sectors included in the Sector Definitions (i.e., IT, Telecommunications, ADM and Post, see Section 3), it then defines a strategic objective and relevant targets. The objectives are formulated as broad statements that define the strategic direction for each of the sectors. The following criteria have been applied in selecting them:

- i) They are broad statements of objectives defined for each of the sectors.
- ii) They are aligned with the overall national vision, strategy and development objectives.
- iii) They are based on an objective assessment of how far the sectors can develop over the strategy period

32. Relevant sector targets for each objective are then defined. The targets measure progress towards meeting each objective and help to anchor the strategy in concrete achievements. They also create a transparent framework for monitoring the success of the strategy. The targets are limited in number, SMART<sup>20</sup> and broadly representative of the strategic direction, as defined in the objectives. The strategic objectives and the associated targets for each sector are presented in Table 1 in Annex I.

33. Progress towards achieving the targets will be measured through established Key Performance Indicators (“KPIs”). CRA will collect data based on the KPIs during the strategy

<sup>20</sup> Specific, Measurable, Achievable, Realistic and Timely.

implementation period in order to measure progress. Options for KPIs linked to each of the sector targets are also provided in Table 1 in Annex I.

34. The CRA Strategy defines initiatives for each of the three horizontals shown in Figure 1 (i.e., Global Technology Trends, Legal/regulatory and CRA capacity). These horizontals are an important dimension of the strategy but are not ends in themselves. The strategy therefore does not define objectives, targets and KPIs for them.

35. Further to this, the strategy details initiatives for each of the seven components. These are actions that CRA will undertake during the strategy implementation period and are designed to ensure progress towards meeting the defined objectives and targets. It is important to note that there are multiple linkages across the components of the strategy. Initiatives targeting one component (e.g., telecommunications) may also have an impact on other component (e.g., IT). These linkages have been taken into consideration during the development of the strategy and are presented in Table 2 and Table 3 in Annex I.

36. As part of the strategy development, a Strategy Implementation Plan will be developed. This will be a detailed work plan to cover all actions necessary to implement the strategic initiatives. The Strategy Implementation Plan is not included in this consultation as it is operational in nature.

37. Taken together, the Strategic Objectives, Sector Targets, Strategic Initiatives and the Strategy Implementation Plan form the CRA Strategy. It is designed to support Qatar's national development objectives, to build on previous success in developing the sector and to complement existing government initiatives.

38. The successful implementation of this strategy will depend not only on CRA. It will require continued engagement with all relevant stakeholders and this consultation is a part of that process. The strategy includes certain initiatives to facilitate this engagement throughout the entire implementation phase.

## 2.3 Consultation question

### Question 1.

**Do you have any comments or suggestions on the strategy development approach?**

### 3 Sector Definitions

39. Article 4 of the Emiri Decision establishing CRA<sup>21</sup> specifies the responsibility to regulate the following areas:

- i) Communications (“**Telecommunications**”) and Information Technology (“**IT**”) sector (combined, ICT);
- ii) Access to Digital Media (“**ADM**”); and
- iii) Postal sector.

40. ICT is made up of two sub-sectors: Telecommunications and IT. Post is a sector that is adjacent and closely linked to the ICT sector. ADM is a function that is undertaken by companies that operate in the ICT sector. Figure 2 below summarizes the Sector Definitions adopted for the purposes of the CRA Strategy. It represents the sector structure at sub-sector level and details the main activities that are undertaken within each sub-sector.

41. It should be noted that the established Sector Definitions may be challenged by the dynamics of technological development. In particular, the boundary between IT and Telecommunications is becoming increasingly blurred, as many traditional telecommunications companies are expanding into the provision of IT services. Similarly, some IT companies provide communications services. This raises challenges for sector regulatory authorities across the globe and requires them to continuously review existing regulatory frameworks to ensure that they remain relevant, as markets and technology evolve.

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<sup>21</sup> Emiri Decision N° 42 of 2014 establishing the Communications Regulatory Authority.

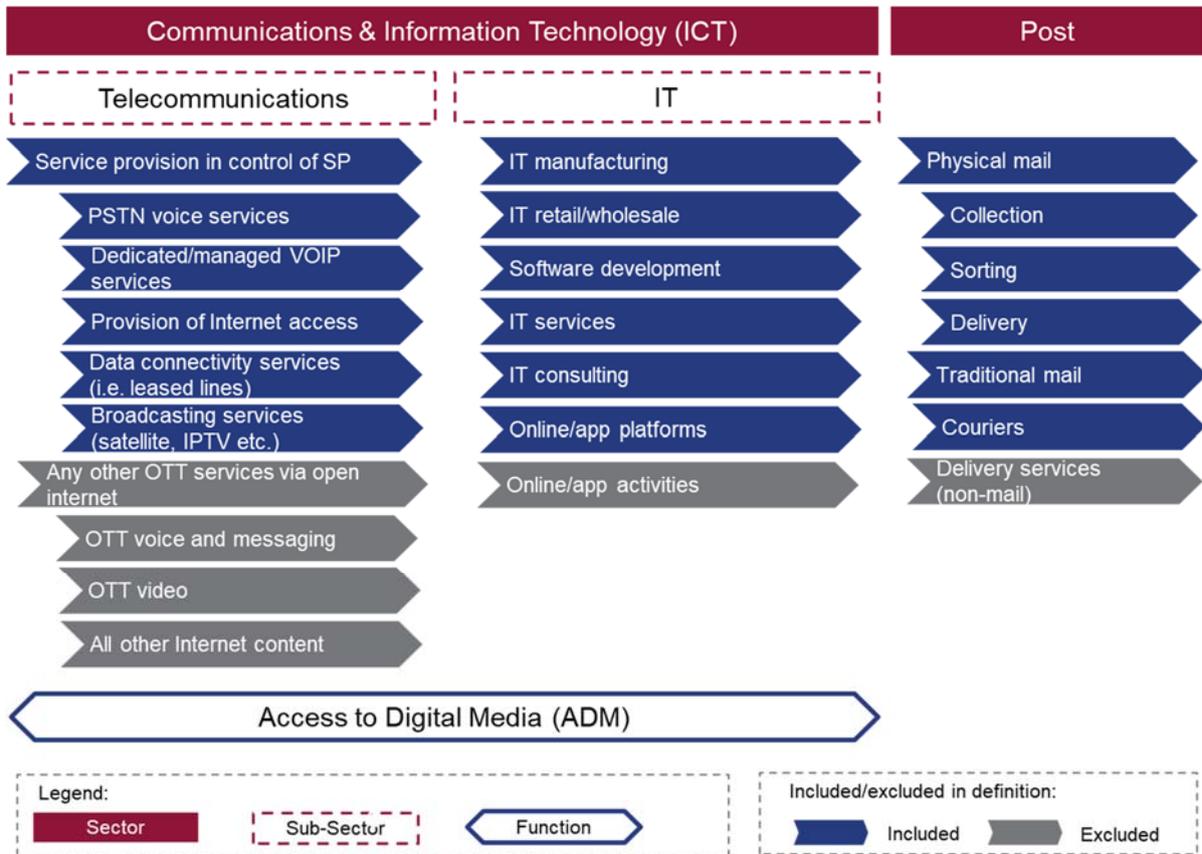


Figure 2: ICT and Postal Sector Definitions as per CRA's mandate

### 3.1 Consultation question

#### Question 2.

Are the Sector Definitions relevant and appropriate? Do you have any suggestions for changing them and what would be the justification for such changes?

## 4 CRA Strategy

### 4.1 CRA Strategy Overview

42. The CRA Strategy outlines 30 initiatives. They are summarized in Figure 3 below, together with the Strategic Objectives. The document further details the rationale behind each of the initiatives and explains the cross linkages across sectors and horizontals.

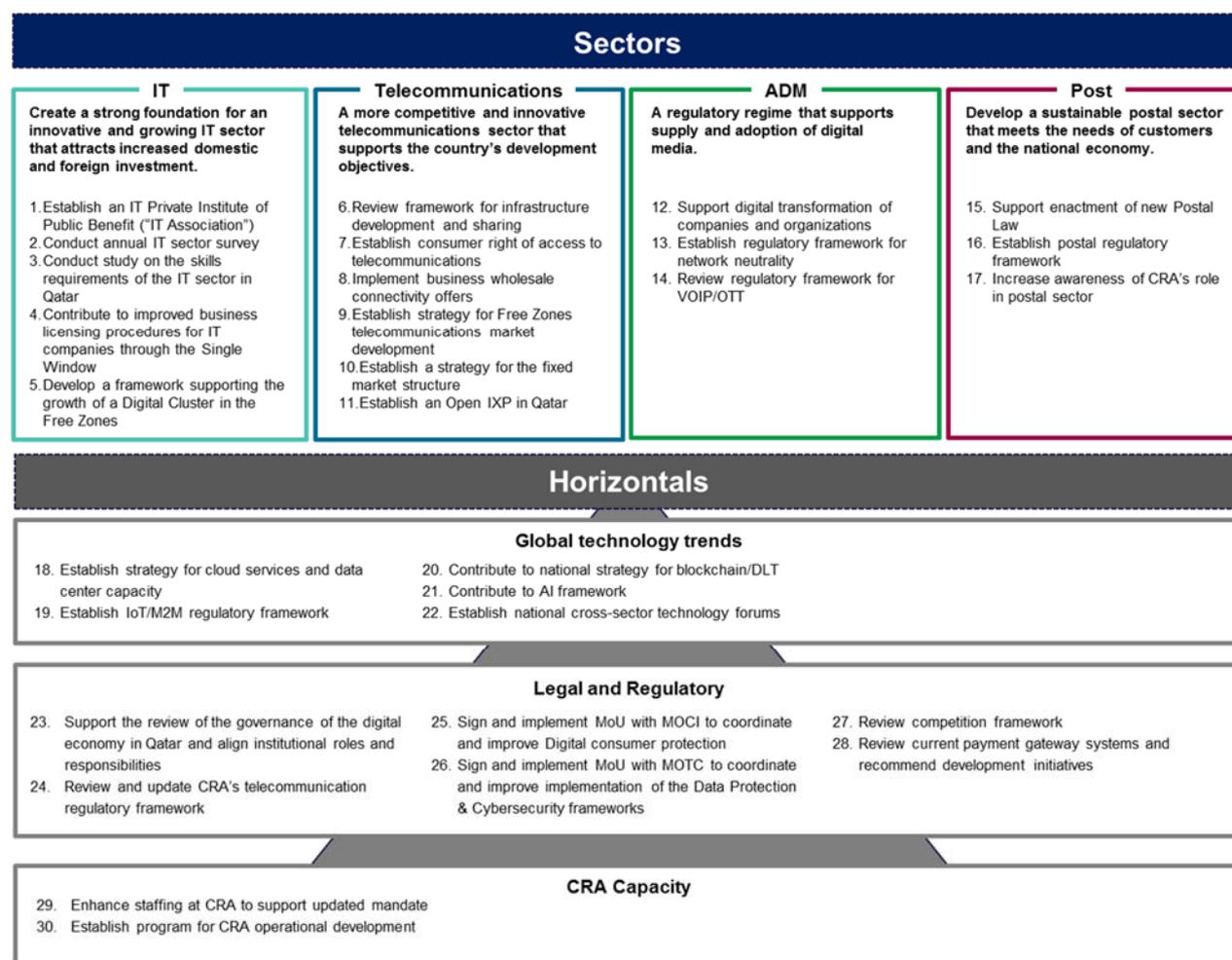


Figure 3: CRA Strategy Snapshot

43. The overall objective of this strategy is to support a growing and dynamic sector that contributes to Qatar's national agenda. This will involve expanding the sector overall and improving competitiveness, innovation and investment. Achieving this will contribute to key priorities within the national development strategy such as economic diversification, improved productivity, social and cultural development etc.

44. The role of the CRA in achieving this is to work within its institutional mandate to strengthen the regulatory foundations for the sector and to promote industry development. This will be done in close coordination with all the other government stakeholders involved in the sector.

45. An important aspect of the strategy is the breadth of its scope. There are strong linkages between the components of the sector and the performance of each of them affects the performance of others. For example, telecommunications services are a key input for IT companies. The performance of the Telecommunications sector therefore directly affects the performance of the IT sector. Linkages also exist between ICT and Post, particularly in the area of e-commerce, where successful development depends on the availability of efficient, high-quality post and courier services. The CRA Strategy takes a broad approach, accounting for the interrelationships between the sectors. Some strategic initiatives are specific to individual sectors. Others are broader and affect more than one sector. The overall strategic framework is illustrated in Table 1-3 in Annex I. The tables explain in detail how the initiatives address individual sector objectives, directly and indirectly.

46. Qatar’s ICT sector is small, accounting for 1-2% of the national economy, which is less than half the OECD average.<sup>22</sup> Even when hydrocarbons are excluded, the ICT sector makes up only around 2-3% of the GDP total.<sup>23</sup> Qatar’s ICT sector can therefore be considered to be underperforming other countries in terms of GDP contribution and this has been the case for many years.

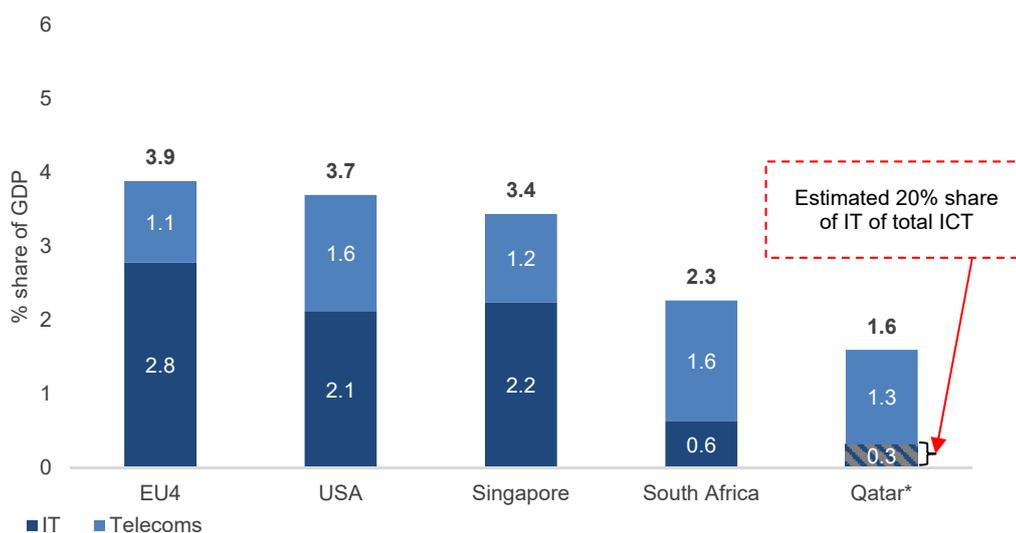


Figure 4: Telecommunications and IT contribution as a % of nominal GDP

Sources: OECD, <https://stats.oecd.org/>, SingStat, <https://www.singstat.gov.sg/modules/infographics/information-and-communications>, Stats SA, <http://www.governmentpublications.lib.uct.ac.za/news/information-and-communication-technology-satellite-account-south-africa-2013-and-2014>.

Note: For EU4 and South Africa, this definition uses a full category of ICT as defined by OECD and therefore includes IT manufacturing and wholesale. For the USA and Singapore, IT excludes wholesale and manufacturing.

For Qatar, Information and Communication ISIC Section is used as the best proxy of ICT.\* 20% is the best CRA estimate available for the IT ratio relative to ICT. EU4: Germany, Italy, UK, France

<sup>22</sup> Organisation of Economic Cooperation and Development  
<sup>23</sup> Source: PSA 2018 Annual Bulletin, OECD Database, <https://stats.oecd.org/>

47. Qatar's IT sector is estimated to be only around 20% of the total ICT.<sup>24</sup> In comparison, in EU4<sup>25</sup>, USA, and Singapore, IT constitutes a much larger proportion of the ICT sector as a whole – around 55-70%. This suggests that Qatar's ICT sector underperformance is primarily being driven by underperformance of the IT sector. The postal sector in Qatar has also historically underperformed by international standards. It is still relatively small – constituting around 0.03% of GDP - although it has been developing over recent years.

48. Sections 4.2 and 4.3 below summarize the findings of the Sector Review and list the key strategic initiatives under each of the components of the strategic framework (Figure 1). Section 4.4 lists recaps the consultation questions.

## 4.2 Sectors

### 4.2.1 IT

#### Sector Review

49. As part of the Sector Review, CRA carried out primary research into the IT Sector in Qatar in order to obtain up-to-date and in-depth information. The research included an IT focus group, face-to-face stakeholder interviews and online survey of IT companies.

50. The survey indicates that most of the IT businesses currently operating in Qatar are relatively small, typically with around 50 employees. However, there is also a number of large IT companies. The IT sector in Qatar is focused primarily on importing IT goods and services and selling them mostly to government and government-related entities.

51. Although there are many SMEs operating in the IT sector in Qatar, the level of innovation and entrepreneurship is relatively low. The role of start-ups is quite limited and SMEs are frequently focused on reselling hardware and services, rather than driving innovation and exports. The survey showed that there are examples of new and dynamic IT companies in Qatar, but they are few in number and face significant challenges to their growth and development. Evidence from the IT company survey indicated that the current dynamics are unlikely to change without a proactive strategy by the Government.

#### Challenges

52. The IT company survey indicated that companies in Qatar face a number of significant challenges. Unless those are addressed, the industry is unlikely to develop in a way that is necessary to meet the needs of the sector and the country.

- i) **Lack of coordination between the IT sector and the government.** There is currently limited communication within the IT sector and between the IT sector and the Government. This leads to a lack of coordination – IT companies often do not know who to talk to within Government when they have an issue that they need to resolve. An example is the design

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<sup>24</sup> CRA estimate

<sup>25</sup> Germany, Italy, France, UK

of IT procurement rules which often create challenges for SMEs and start-ups. Conversely, the Government often has limited channels for communication with the IT industry, making it difficult to understand what is needed in terms of policy, strategy or regulatory changes for the sector.

- ii) **Difficulty in accessing IT talent.** IT is fundamentally a service industry and heavily dependent on skilled workers. There is a shortage of IT talent in Qatar and this is a key issue for IT companies across the range of company sizes and types. There are few Qataris with the relevant IT industry skills and the immigration and visa system create challenges for companies trying to obtain the right skills from overseas.
- iii) **Cost of business telecommunications services.** Telecommunications services are a key input for most businesses in the IT sector. The telecommunications infrastructure in Qatar is acknowledged to be of high quality. However, the cost of telecommunications services for businesses – particularly the cost of fixed line services – is perceived to be high and this is hindering the development of the IT sector as a whole. It is a significant issue for SMEs and start-ups in the IT sector. It is also a constraint on the inward investment by large IT companies into the country, which is heavily influenced by the cost of connectivity.
- iv) **Supply of post and courier services.** The local post and courier services are seen as needing improvement in terms of choice, reliability and value for money. This is particularly important for IT companies wanting to develop local e-commerce platforms.
- v) **General business regulations.** The general business environment in Qatar is found to be difficult for companies in the IT sector, particularly SMEs. This is currently improving as a result of initiatives such as the Single Window. However, some industry stakeholders still see the cost of the business registration process, as well as the process of obtaining the right licenses for the business and regulatory approvals in the IT sector as a challenge.
- vi) **Horizontal regulations.** Certain horizontal regulations, particularly around data protection and cybersecurity, are very important for IT businesses. Regulatory frameworks in these areas do exist in Qatar but, in some cases, companies are either unaware or uncertain about the detailed requirements of these rules. This is constraining the development and expansion of the IT sector.

## **Strategic Objective & Sector Targets**

### **Strategic Objective**

53. Create a strong foundation for an innovative and growing IT sector that attracts increased domestic and foreign investment.

## Sector Targets

- i) Growing IT Sector
- ii) Increased supply of data centers and cloud capacity
- iii) IT Association established.

## Strategic Initiatives

### Initiative 1: Establish an IT Private Institute of Public Benefit (“IT Association”)

54. **Description** The initiative covers the establishment of an IT Association – a Private Institute of Public Benefit – to represent the interests of the IT sector in Qatar. As a government authority, CRA may not be part of the IT Association. However, CRA would play a coordinating role in getting it established and would be a focal point between the body, the industry and the government.

55. **Outcome** The IT Association will provide a channel for communication within the IT sector in Qatar and improve the coordination between government and industry. It will promote industry development and support increased digitalization in Qatar through an engaged and more responsive IT industry. It will also support CRA and the government in addressing roadblocks for industry development and enhancing the policy-making and regulatory framework for the sector.

### Initiative 2: Conduct annual IT sector survey

56. **Description** CRA will design and conduct an annual survey to provide data and information on the performance of the IT industry in Qatar. CRA will execute the survey and publish a report based on the research findings annually.

57. **Outcome** The survey will generate data and insights on IT sector development to fill the gap of information on the industry not available through other sources. The survey data and analysis conducted will allow CRA to monitor the sector consistently and measure established KPIs to track strategy implementation and further fine-tune policy and regulatory efforts. It will also support the promotion of industry development and attract inward investment.

### Initiative 3: Conduct study on the skills requirements of the IT sector in Qatar

58. **Description** Access to IT skills is one critical constraint on IT industry development. CRA will carry out a baseline skills research for the IT sector in Qatar. The study will evaluate the industry’s demand for skills and identify potential skills sources from both within Qatar and from outside.

59. **Outcome** The study will complement other initiatives, such as the IT Association and the IT Survey. It will provide the Government with access to accurate and detailed information about

the requirements of the industry. Information collected will feed into decision-making on training, research and other ways of accessing skilled workers.

#### **Initiative 4: Contribute to improved business licensing procedures for IT companies through the Single Window**

60. **Description** The Single Window initiative under MOCI is taking major steps to make the process of commercial registration easier and quicker. CRA will work closely with MOCI to ensure that the process works effectively for companies in the ICT sector and that the regulatory and administrative constraints on investment and innovation are reduced to a minimum.

61. **Outcome** The initiative will address the barriers facing IT industry start-ups and SMEs arising from general business regulations in Qatar. Improved processes for commercial registration and licensing will make it easier for domestic and international investors to establish new businesses in Qatar. This will support the development of the IT industry which will, in turn, have a beneficial impact on the users of IT services in the country.

#### **Initiative 5: Develop a framework supporting the growth of a Digital Cluster in the Free Zone**

62. **Description** CRA will work with Qatar Free Zone Authority (“**QFZA**”) to develop a framework that targets the IT industry development within the Free Zones. It will cover a range of issues including, but not limited to: regulation of IT companies and a sandbox strategy, investment promotion, access to workers with relevant IT skills, supporting links with research and development initiatives within Qatar and financing for IT companies.

63. **Outcome** The Free Zones Digital Cluster, established by QFZA, is a mechanism for promoting IT industry development in Qatar. By working closely with the QFZA, CRA can ensure that the investment incentives and the regulatory environment for the ICT industry are aligned. This will accelerate industry development by attracting investment and promoting innovation.

### **4.2.2 Telecommunications**

#### **Sector Review**

64. The mobile market in Qatar is concentrated with Ooredoo having a subscriber market share of around 63% in 2018. Despite the high rate of concentration, it appears that the overall performance of the mobile sector has been very good: mobile broadband network coverage and services (3G and 4G) are almost universal. Data on mobile download speeds vary, but there is general agreement that Qatar performs well by international standards and significantly above the GCC average.<sup>26,27,28</sup> The recent introduction of 5G services are expected to further enhance

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<sup>26</sup> Akamai Speed Tests have stopped being published since Q1 2017

<sup>27</sup> [http://www.speedtest.net/awards/reports/2018/2018\\_Qatar\\_Ooredoo\\_Mobile.pdf](http://www.speedtest.net/awards/reports/2018/2018_Qatar_Ooredoo_Mobile.pdf)

<sup>28</sup> <https://opensignal.com/reports-data/global/data-2019-02/Opensignal-The-5G-Opportunity.pdf>

mobile speeds and customer experience. The consumer prices for mobile services have decreased and are broadly in line with regional averages.<sup>29</sup>

65. The fixed telecommunications market in Qatar is made up of three service providers. The retail market is a duopoly, in which Ooredoo is the incumbent and Vodafone Qatar is the challenger. QNBN is the third service provider and is primarily a wholesale provider of passive fixed connectivity services. Its main wholesale customer is Vodafone who buys access from QNBN in parallel with building its own fixed network and utilizing elements of the network managed by the government. QNBN also sells services to the government and to other institutions with multiple sites for internal communications purposes (e.g., universities and hospitals).

66. The quality of the fixed network infrastructure in Qatar is high. Ooredoo's Fiber-to-the-Premises/Home ("FTTP/H") network connects about 99% of premises in the country, which puts Qatar close to the top of the global rankings for FTTP/H penetration rates.<sup>30</sup> In February 2019, Ooredoo announced an increase in fixed broadband speeds for residential subscribers by a factor of up to five, with a minimum of 50 Mbps.<sup>31</sup> This is likely to significantly improve Qatar's global ranking on fixed broadband speeds. In addition, Vodafone has also engaged in a comprehensive rollout of fiber infrastructure<sup>32</sup> and the CRA is monitoring closely its progress in terms of coverage. Likewise, Vodafone offers fixed products to customers that are competitive in terms of pricing and speeds. It is however too early to assess their impact on the market. There is no data currently available that allows a comparison of the full customer experience (e.g., network latency, etc.), but the lack of a local IXP in Qatar, and the limited number of direct international connectivity routes, indicates that latency is likely to be higher than if there were one present.

67. Prices for fixed broadband services in Qatar are high compared to many other countries. Based on Strategy Analytics Price Benchmarking Study data, CRA has compared the prices of telecom services in Qatar with GCC and OECD levels. When comparing the price levels in USD across fixed broadband baskets, prices in Qatar for business customers are 7 times higher than the OECD average (Figure 5). Ooredoo has recently upgraded the fixed broadband speeds for its residential customers, which may have an effect on the benchmark in future. Views expressed in the IT company survey, supported by other CRA data and analysis, indicate that prices for domestic and international leased lines and for other business connectivity services in Qatar are very high by international standards.

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<sup>29</sup> Strategy Analytics, Teligen Telecommunications Retail Price Benchmarking November 2018

<sup>30</sup> IDATE for FTTH Council Europe, February 2018, [https://www.ftthcouncil.eu/documents/FTTH%20GR%2020180212\\_FINAL\\_2.pdf](https://www.ftthcouncil.eu/documents/FTTH%20GR%2020180212_FINAL_2.pdf)

<sup>31</sup> This is likely to improve Qatar's global ranking on fixed broadband speeds.

<sup>32</sup> Vodafone updated fixed license requirements (March 15, 2018) include specific fiber roll out obligations, <https://cra.gov.qa/Regulatory-Framework/Licensing/Individual-Licenses>

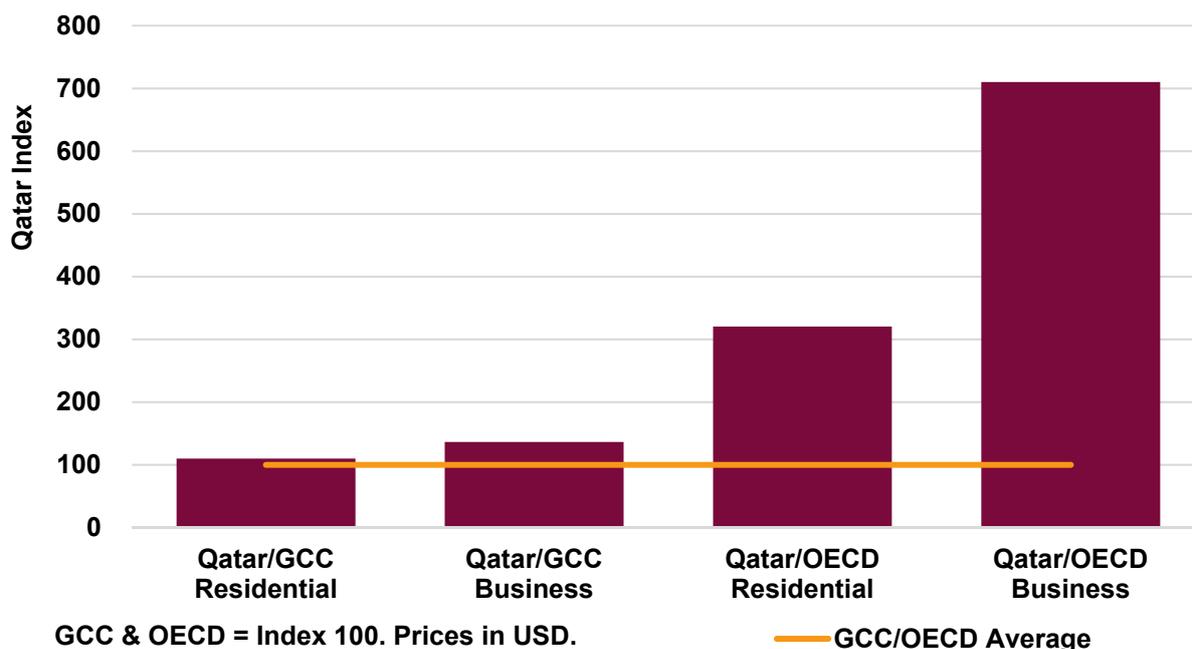


Figure 5: Fixed Broadband baskets, price level in Qatar in USD compared to GCC and OECD averages

Source: Strategy Analytics, Teligen Division, November 2018 Benchmarking for CRA. A report for the study will be published on CRA's website in September 2019.

Note: The average prices in USD in Qatar have been divided by average prices in the GCC and OECD and multiplied by 100 in order to present the comparison as indexes. If the index value for Qatar would be 100, then the price level in Qatar would be the same as the GCC/OECD averages. The index value of 700 for Qatar/OECD Business is higher than 100, which means that prices in Qatar are 7 times higher than OECD averages for Fixed Broadband to Business customers, when compared in USD. If prices are compared in USD/PPP, then prices in Qatar are 13 times higher than OECD averages.

68. In addition to the fixed and mobile network operators, there are also four operators with satellite licenses in Qatar. Es'hailSat is authorized to offer all satellite-based telecommunications services including TV satellite services and Very Small Aperture Terminal (“**VSAT**”) services. SpeedCast Salam, QSat Communications, and RigNet have licenses to provide VSAT services to closed user groups. VSAT technology is commonly used for specific purposes such as providing connectivity in hard-to-reach locations where there is no terrestrial fixed or mobile networks coverage. In Qatar, this is primarily related to oil and gas facilities and for transport.

## Challenges

69. The sector faces the following key challenges:

- i) **Mobile infrastructure deployment.** The major challenge the mobile operators in Qatar are currently facing is the need for a successful and timely rollout of 5G networks and services across the country. This is likely to require the establishment of many additional mobile sites, which will require significant investment from service providers.

- ii) **Mobile competition.** Competition in the mobile sector has been effective to date in driving investment and regulating prices. However, the relatively static market shares of the two operators over a period of time is an indication of potential future challenges that market competition may face (e.g. anti-competitive blocking or reducing the quality of certain types of content).
- iii) **Quality and price of fixed business connectivity services.** In the fixed business segment, limited choice of suppliers and high prices are a major challenge. This affects IT businesses and many other sectors of the economy which are dependent on communications.
- iv) **Fixed competition.** Competition in the fixed market is less developed than in mobile. Ooredoo's extensive fixed network and investment in FTTH/P has made it difficult for other service providers to gain significant market share. The situation has improved since 2018 following the introduction of wholesale duct-access offers, which has made it possible for Vodafone to build its own fiber network. Vodafone is also competing in the fixed market by offering fixed solutions via its mobile network. Going forward, challenges remain. There are barriers to expansion for challenger operators due to the high cost of network rollout and difficulties persuading residential customers to switch. Duplication of infrastructures could also drain resources from the service providers. Moreover, anti-competitive blocking or reducing the quality of certain types of content could affect access to digital media eventually affecting the growth of the IT sector.

### **Strategic Objective**

70. A more competitive and innovative telecommunications sector that supports the country's development objectives.

### **Sector Targets**

- i) 100% coverage and widespread adoption of 5G mobile
- ii) Increased percentage of premises connected by fiber
- iii) Reduced prices for business connectivity services
- iv) Establish an open IXP in Qatar.

### **Strategic Initiatives**

#### **Initiative 6: Review framework for infrastructure development and sharing**

71. **Description** CRA will develop a framework to promote infrastructure development and sharing in the ICT industry. This will cover a broad range of issues including telecommunications infrastructure strategy, sharing arrangements, standards, building processes, and site selection. CRA will also work closely with the Ministry of Municipality and Environment to ensure that

telecommunications infrastructure is developed and deployed as efficiently as possible, while also ensuring effective competition among service providers.

72. **Outcome** This initiative will help to reduce the costs of telecommunications infrastructure development through efficient planning, more sharing and better coordination between government and the private sector.

#### **Initiative 7: Establish consumer right of access to telecommunications services**

73. **Description** CRA will support the development of new legislation to provide all residents of Qatar with a legal right to access telecommunications services.

74. **Outcome** This initiative will strengthen the rights of customers to access licensed telecommunications services of their choice in Qatar. It will help to improve competition by reducing barriers to expansion for competing networks and will also reduce barriers to customer switching. The initiative will have a positive effect on sector outcomes through better quality of service and lower prices.

#### **Initiative 8: Implement business wholesale connectivity offers**

75. **Description** Following the existing regulatory processes, CRA will introduce a set of wholesale offers for business connectivity and associated facilities and services. Service providers that are dominant in the relevant markets will be required to offer these services on a wholesale basis to other service providers.

76. **Outcome** Regulated wholesale offers for business connectivity services will promote competition in the retail market, reduce prices and improve quality of service for customers. This will have a positive impact on the IT sector, where the cost of telecommunications services is currently a major constraint. If the price of business connectivity does not decrease quickly and significantly enough, CRA will contemplate additional measures to reach the target.

#### **Initiative 9: Establish strategy for Free Zone telecommunications market development**

77. **Description** Under existing law, CRA will introduce a liberalized telecommunications framework for the Free Zones. This will be implemented through class licensing and/or authorizations under Article 4(1) of the Telecommunications Law to permit new entry in these areas. This would allow self-provisioning of telecommunications services, including access to capacity at cable landing stations, installation in data centers and unlicensed provision of various cloud services (including OTT services). This initiative would not change the licensing regime for services provided outside the Free Zones.

78. **Outcome** This initiative will create a more competitive market for telecommunications services for business customers in the Free Zones. It will reduce the barriers to entry for new service providers in the zones, allowing them to compete with the existing services providers on a level playing field. The new regime would allow large IT companies to be licensed and build their own infrastructure. It will also provide enhanced access to submarine cable infrastructure, resulting in increased bandwidth availability and reduced prices to customers. The initiative will

have a direct positive impact on Qatar's attractiveness for IT industry investors. It will also signal the government's intention to open and grow the economy and build an innovative IT sector.

#### **Initiative 10: Establish a strategy for the fixed market structure**

79. **Description** A review of the options for the future of the fixed market will be undertaken. It will involve a comprehensive analysis and decision-making on key aspects such as network architecture, designing a sustainable business model and the approach to regulation, among other things. These would need to be considered in detail in order to evaluate the best options for the market.

80. **Outcome** The initiative aims to create a more competitive fixed market, particularly in the area of business connectivity, and a more efficient deployment and utilization of the fixed network infrastructure in the country. It would aim at significantly expanding the reach of competing service providers, reduce infrastructure duplication and improve choice and quality of fixed services. This would have a direct positive impact on the IT industry and the economy more broadly by reducing cost and improving quality of service for a key input (i.e., telecommunications services).

#### **Initiative 11: Establish an open IXP in Qatar**

81. **Description** CRA will continue leading and further promoting the initiative to establish an open carrier-neutral IXP in Qatar.

82. **Outcome** The establishment of an IXP in Qatar will create an open and non-discriminatory platform for service providers to exchange traffic. It will reduce costs and improve the performance of communications services in Qatar. It will localize and reduce inefficient transit of data traffic currently taken out of the country, helping to reduce latency.

### **4.2.3 Access to Digital Media**

#### **Sector Review**

83. Overall, internet penetration in Qatar is high. Results from a recent MOTC survey indicate that, as of 2018, internet penetration was 94% among households. The survey also reports 100% smartphone penetration among households, very high penetration of computers (88%), with the majority of households having laptops (80%) and smart TVs (56%).

84. Patterns of internet usage vary across population groups within the country but the overall level of usage is high. The recent MOTC survey indicated that 96% of people in Qatar use the internet at least once per day. Digital engagement is also high, with Qatar ranking 2<sup>nd</sup> most digitally engaged country in the world.<sup>33</sup> The MOTC survey indicated that 74% of individuals had used the internet for participating in social networks during the previous 3 months.

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<sup>33</sup> GSMA Intelligence, Consumer Insights: Evaluating mobile engagement, February 2018, <https://www.gsmainelligence.com/research/?file=e608440880a26e2d36bd073a1245d26c&download>

85. There is a notable contrast between the high levels of digital engagement among citizens and residents in Qatar and the underdeveloped local IT industry. Its small scale and lack of innovation in both technology and content mean that most of the digital media services are supplied from overseas. Some components of the intermediate supply chain, such as payment gateways, are often provided from outside of Qatar. This further restricts innovation, efficiency and quality of service.

86. In contrast to the residential segment, digital adoption by businesses in Qatar lags behind and many companies based in the country have not adopted advanced ICT services. For example, a recent MOTC survey indicated that only 5% of companies were using cloud computing.

### **Challenges**

87. The challenges faced by the ADM sector in Qatar include the following:

- i) The telecommunications market in Qatar has been successful in providing access to digital media for the consumers in the country. This has been primarily through mobile broadband, which has widespread adoption and usage. Going forward, the challenge will be to ensure that this situation is maintained. The duopoly structure of the mobile market creates the potential for anti-competitive blocking of digital media content by service providers. The challenge will therefore be to ensure that no barriers to access are introduced at any point in the supply chain.
- ii) The situation with businesses and other organizations is different – the gaps in adoption of digital services indicate that barriers do exist. The high cost of business telecommunications services is likely to be one factor. The limited local supply of IT services is also likely to contribute to low levels of adoption, since it means that more IT services have to be brought into the market from outside the country. Finally, many businesses do not see the advantage of adopting digital services. For example, a recent MOTC survey found that 77% of businesses which did not have an online presence felt that there was no need for one.

### **Strategic Objective**

88. A regulatory regime that supports supply and adoption of digital media.

### **Sector Targets**

- i) Increased level of adoption and usage of digital media by consumers
- ii) Increased digital transformation of businesses and organizations.

## Strategic Initiatives

### Initiative 12: Support digital transformation of companies and organizations

89. **Description** CRA will develop a program to support current initiatives undertaken by MOTC and other ministries to promote digital transformation for companies and other organizations in Qatar. This will be complemented by efforts to develop the supply side of the digital value-chain in the country, so that businesses and other organizations are able to obtain services locally rather than importing them from abroad.

90. **Outcome** Enhanced digital transformation of companies and organizations will improve the efficiency of their processes and procedures, which is an essential part of modernizing the economy and the country more broadly. The process of digitization also creates demand for IT services, which will further stimulate the development of the local IT sector.

### Initiative 13: Establish regulatory framework for network neutrality

91. **Description** CRA will develop a network neutrality regulatory framework to ensure that there is no undue discrimination by telecommunications service providers in relation to providers of digital media services. It will apply to all stakeholders involved in the provision of digital media services and will support effective competition throughout the supply chain. The regulations will allow exceptions for security reasons and for reasonable traffic management purposes. CRA will monitor traffic management to ensure operator compliance with the regulations.

92. **Outcome** Enhanced non-discrimination regulatory rules will protect digital media companies from undue discrimination by telecommunications service providers and other elements of the digital supply chain. This will benefit digital media companies and the local IT sector. It will send a signal to potential foreign investors in Qatar that the sector is open and competitive. It will benefit customers by ensuring that they are able to get non-discriminatory access to digital media.

### Initiative 14: Review regulatory framework for VOIP/OTT

93. **Description** CRA will review and update the regulatory framework for VoIP services and OTTs more broadly. The framework will specify VoIP uses that do not constitute a telecommunications service requiring a license and will address relevant requirements (e.g., emergency calling, lawful interception etc.).

94. **Outcome** With this initiative, CRA is aiming to provide clarity to all stakeholders involved and will help to ensure that customers are able to enjoy access to a broad range of digital services. It will also serve to provide a signal to foreign investors that Qatar is competitive and open to new technology development.

## 4.2.4 Post

### Sector Review

95. The Postal sector currently has a range of players, including Qatar Post as well as national and international couriers. Based on available data, the size of the postal sector in Qatar is small by international standards; the sector contribution to GDP of Qatar is around 0.03%, compared with an average of 0.44% in the EU.<sup>34</sup>

96. Awareness and usage of Qatar Post services among the population is relatively low. According to a recent MOTC survey, as of 2018, 51% of the Qatar residents have not used any Qatar Post services in the last 12 months. The quality of postal services and customer satisfaction appear to be improving – the same MOTC survey indicates that the proportion of people that are satisfied with Qatar Post services has increased over the last 5 years.

### Challenges

97. The postal sector in Qatar, as in other countries, faces major challenges with the continuous trend of reduced demand for traditional postal services due to increasing digital communication. This disrupts the national operator's traditional business model, which needs to adapt to the new market environment. In addition to this, some specific challenges for the sector in Qatar stand out:

- i) There is currently no postal law governing the regulation of the postal sector in Qatar. This creates a legal vacuum, as no government body currently has a detailed mandate for sector governance.
- ii) With no law in force, no postal regulatory framework has been implemented. This means that there is no set of sector-specific regulatory rules which postal service providers are required to follow, and customer protection is limited to general consumer protection law rather than anything specific to the postal sector.
- iii) With framework and sector legislation not yet finalized and activated, there is a lack of awareness of the CRA mandate for the postal sector, with many stakeholders not yet clear of CRA's role in governance and regulation.

### Strategic Objective

98. Develop a sustainable postal sector that meets the needs of customers and the national economy.

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<sup>34</sup> PSA Annual Bulletin of Transport and Communications 2016, [https://www.psa.gov.qa/en/statistics/Statistical%20Releases/Economic/TransportCommunications/2016/Transport\\_Communications\\_AnBu\\_AE\\_2016.pdf](https://www.psa.gov.qa/en/statistics/Statistical%20Releases/Economic/TransportCommunications/2016/Transport_Communications_AnBu_AE_2016.pdf), OECD Database, <https://stats.oecd.org/>

## Sector Targets

- i) New postal law enacted
- ii) New comprehensive regulatory framework established

## Strategic Initiatives

### Initiative 15: Support enactment of new Postal Law

99. **Description** CRA will support the legislative process of the new Postal Law.

100. **Outcome** The law will provide the foundation for a postal sector regulatory framework that will ensure sustainable sector development over the medium-term. Once the Postal Law is enacted, it will provide clear guidance to the sector on mandate, roles and responsibilities, particularly for CRA.

### Initiative 16: Establish postal regulatory framework

101. **Description** Further to the enactment of the Postal Law, CRA will develop the relevant regulatory framework for the postal sector. This will include defining market structure, clarifying the scope of regulations, developing the licensing framework and issuing licenses for service providers, establishing the licensing regime, setting quality of service standards, creating a postal consumer protection mechanism, establishing a postal complaint resolution process, market monitoring, developing cost and tariff models, setting up access and interconnection arrangements, developing a dispute resolution procedure and working on the postal addressing system.

102. **Outcome** The postal regulatory framework will create a clear and transparent set of rules and regulations for the postal sector. This will promote investment and competition, as well as improve quality of service and create formal mechanisms for dispute resolution and consumer protection. A more advanced postal sector will also benefit the local IT sector by making it easier for e-commerce companies to do business in Qatar.

### Initiative 17: Increase awareness of CRA's role in the postal sector

103. **Description** CRA will work on raising awareness of CRA's mandate and role in the postal sector among stakeholders, including service providers, residents, businesses and government.

104. **Outcome** Increased awareness of CRA's role in the postal sector is an important part of establishing the regulatory framework and will also facilitate its implementation.

## 4.3 Horizontals

### 4.3.1 Global Technology Trends

105. The ICT sector is subject to rapid technological developments which drive change in the supply of services and market structure. Emerging new technologies bring new players entering

the market at a global level and competing with local service providers. This is creating significant commercial challenges for traditional telecommunications network operators. The new technologies are also creating opportunities for IT companies to provide services to both public and private customers. These are areas in which the IT industry can grow and develop at both national and international level. However, technology developments have a much broader impact than just the ICT and Postal sector. They create new ways for organizations to increase productivity and generate new value-added services for their customers. Similarly, the public sector can use new technologies to improve processes and public service delivery.

106. Based on a comprehensive analysis, four key trends have been identified and prioritized for the CRA Strategy.

### **Data centers/Cloud Computing**

107. Cloud computing is growing in importance around the world, as well as in Qatar. The cloud model of data storage and processing has become integral to the way in which businesses operate and is likely to become more so in the future. It harnesses economies of scale in storage and processing and many IT services are now available only using a cloud model. Any country which does not ensure that both government and companies are able to gain ready access to such services is likely to be placing a constraint on its economy and society. Similarly, cloud computing is an opportunity for businesses to grow and serve the domestic market and also export services.

108. An integral part of the cloud computing model is the provision of data center capacity. In order to meet the needs of the trend towards cloud computing, data center capacity in Qatar will need to grow. Currently, there are very few Tier 3 data centers<sup>35</sup> in the country, indicating lower capacity compared to other countries in the region. This will not be sufficient, given the country's vision, ambition and projected sector development.

109. Increasing the supply of data center capacity in Qatar will require a proactive approach by the government in order to ensure that sufficient infrastructure is built and that the data center and cloud services market is working effectively. Further, the success of the cloud computing model is affected by the regulatory framework around data protection and cybersecurity. These are all key areas that the CRA Strategy needs to address.

### **IoT/M2M**

110. IoT is an important driver for future growth of both the IT and Telecommunications industries, particularly with the advent of 5G networks that will support enhanced IoT functionality. IoT is also essential for delivering the vision articulated in Qatar's national development plans and sector strategic initiatives. For example, major national-level themes

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<sup>35</sup> A Tier 3 data center provides at least:

- 99.982% uptime;
- No more than 1.6 hours of downtime per year;
- N+1 fault tolerant providing at least 72-hour power outage protection / Redundancy in power and cooling.

such as sustainable economic development, education, smart cities and connected environments require increased connectivity of devices, efficiency improvements, smart buildings, better urban management, environmental control, etc.

111. In order to create an IoT ecosystem that is able to meet these national development needs, the government and CRA need to address significant policy and regulatory implications in areas such as cybersecurity, licensing, data protection, numbering, spectrum, competition and access. There is currently no regulatory framework for IoT and this requires significant focus in the CRA Strategy.

### **Blockchain/Distributed Ledger Technology (“DLT”)**

112. The emergence of Distributed Ledger Technology (e.g., blockchain) has the potential to make a significant impact on how businesses and governments operate around the world. A wide range of use cases are currently being developed and implemented globally, including logistics, supply-chain management, agriculture, identity management, etc. Some initiatives are already underway in Qatar too, including supply chain management, strategic asset management and hospital records. The telecommunications service providers are also looking at blockchain as a potential new service offering to customers.

113. Blockchain regulation is likely to evolve on a sector-specific basis. For example, it has already taken place in the financial services sector, where QCB is in charge of regulation. Similarly, in health and agriculture, sector-specific regulatory responses may be required. However, from technology perspective, a national strategy towards blockchain would facilitate technology adoption across government by creating a coordinated approach.

### **Artificial Intelligence (“AI”)**

114. Following global trends, businesses and academic institutions in Qatar are already implementing various AI applications and several initiatives are underway. Qatar University College of Engineering recently launched its AI National Competition – intended to stimulate development and demonstration of AI use cases related to the 2022 FIFA World Cup.<sup>36</sup> In late 2018, Qatar Computing Research Institute (“QCRI”) established a dedicated AI unit – Qatar Centre for Artificial Intelligence (“QCAI”)<sup>37</sup>. In February 2019, the Centre released its Blueprint for a National AI Strategy for Qatar<sup>38</sup>.

115. AI raises a wide range of policy, regulatory and ethical issues. These are typically long-term issues that will need to be addressed over time as AI becomes more mature and widely embedded in the economy and society. The most important and immediate regulatory challenge related to AI is likely to be issues that arise indirectly such as data protection, consumer protection and cybersecurity. A national AI framework would help to guide the development and

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<sup>36</sup> Qatar University launches Artificial Intelligence National Competition, 2018, <http://www.qu.edu.qa/newsroom/Engineering/Qatar-University-Launches-Artificial-Intelligence-National-Competition>

<sup>37</sup> Qatar Computing Research Institute, Qatar Centre for Artificial Intelligence, 2018, <https://www.qcri.org/our-research/qcri-qcai>

<sup>38</sup> QCAI, QCAI releases Blueprint of “National AI Strategy for Qatar”, 2019, <https://qcai.qcri.org/index.php/2019/02/07/qcai-releases-blueprint-of-national-ai-strategy-for-qatar/>

adoption of the technology in Qatar and establish a framework for approaching regulatory issues.

## **Strategic Initiatives**

### **Initiative 18: Establish strategy for cloud services and data center capacity**

116. **Description** CRA will develop a strategy on the supply of data centers and cloud services within Qatar. This strategy will be broad-ranging and will look at both supply and demand factors. It will evaluate current and future bottlenecks to the growth of data centers and cloud services, such as investment, innovation, security, regulation and coordination with government.

117. **Outcome** The outcome of this initiative would be an increased supply of data center capacity and a better offering of cloud services to government and private sector institutions. This will have a major benefit to Qatar's economy as a whole.

### **Initiative 19: Establish IoT/M2M regulatory framework**

118. **Description** CRA will establish a comprehensive regulatory framework to support the development and deployment of IoT and M2M devices and services in the country. This framework will be broad and cover the full range of issues relating to the technology including (but not limited to): licensing, spectrum, numbering, introduction of IPv6, roaming, non-discrimination, wholesale access and tariffs.

119. **Outcome** A clear and well defined regulatory framework for IoT will support the growth of this critical technology in Qatar. It will encourage innovation, competition and adoption of IoT services as a means of enhancing the delivery of public services and creating opportunities for the private sector, including the IT industry. It will provide clarity to investors, entrepreneurs, telecommunications service providers and IT companies about how IoT is to be regulated. It will also eliminate any bottlenecks in the supply of IoT services to ensure a competitive market.

### **Initiative 20: Contribute to national strategy for blockchain/DLT**

120. **Description** CRA will lead the development of a national blockchain/DLT strategy for Qatar. To deliver it, it will work closely with stakeholders in government, private sector and academia. The strategy will include use cases, potential impact on government and the economy, guiding principles, common working definitions and governance structures.

121. **Outcome** The strategy will create systematic foundations for government's approach to blockchain. It will also set out a clear and positive outward signal to firms and entrepreneurs looking to invest in blockchain technologies in the country. By improving how the government uses blockchain, it will also create opportunities for the local IT sector to create applications and serve local customers.

### Initiative 21: Contribute to AI framework

122. **Description** Working with MOTC and other stakeholders, CRA will develop a national AI framework. This will build on work done already (e.g., the AI blueprint by QCRI/QCAI) to establish national-level guidelines, including (but not limited to) the regulatory implications, including ethics, privacy, data security, market power and cybersecurity. It will also cover issues, such as access to public data-sets, barriers to data sharing.

123. **Outcome** This initiative will establish a framework that lays out the global and local regulatory issues to identify the best approach for Qatar, setting a clear position to investors, researchers and innovators in the field.

### Initiative 22: Establish national cross-sector technology forums

124. **Description** CRA will take the lead in establishing regular national-level cross-sector technology forums. These shall involve stakeholders from government, private sector, academia and international organizations. The focus will be on creating a platform to discuss the adoption and diffusion of global technologies and explore solutions for growth of the local IT industry.

125. **Outcome** This initiative will create a communication channel for all stakeholders to share views on the implications of new technologies for regulation and their impact on the economy and society as a whole. It will support the government and the industry in finding solutions for challenges facing CRA capacity.

## 4.3.2 Legal and Regulatory

126. A well-functioning legal and regulatory framework for the ICT and Postal sectors is a key determinant of sector development and performance. The challenges relating to the legal framework for the Postal Sector are discussed in Section 4.2.4. The framework for the Telecommunications sector in Qatar has been in existence for over a decade. The key elements of this framework are:

- i) **Licensing.** Qatar has separate fixed and mobile licensing regimes. In practice, Qatar has issued individual licenses for fixed, mobile, passive fixed, satellite and VSAT. The terms and conditions are provided within each individual license rather than in a regulatory instrument of general applicability.
- ii) **Access regulation.** There is a wholesale access regime defined in the regulatory framework in Qatar, but the current wholesale access requirements are limited in scope. There is also a lack of clarity on some key regulatory issues such as infrastructure sharing and network neutrality.
- iii) **Tariff regulation.** A new tariff approval framework has been introduced in 2019, following the issuance of the Retail Tariff Instruction on 26 November 2018. This is a significant improvement on the previous arrangements. Going forward, this framework may need to be adapted as new services and retail strategies are introduced by operators.

- iv) **Spectrum.** The existing spectrum arrangements are currently working well for the main uses (i.e., mobile operators). However, globally the challenges facing spectrum regulators are becoming more complex, as the demands and complexity of spectrum are increasing. In particular, IoT raises new questions for spectrum management such as licensing and refarming.
- v) **Numbering.** The issue of numbering is becoming more complex, driven by technological and market changes. Particular challenges include new requirements for numbering arising from IoT/M2M and related technologies, provision of e-SIMs and ensuring ease of switching, accessing emergency numbers via OTT calling applications.

127. In addition to sector specific regulations, there are also other “horizontal” regulations, which have an important impact on its development:

- i) **Competition regulation.** There is a general ex-post competition regulatory framework in Qatar which applies to all sectors of the economy.<sup>39</sup> The competition authority in Qatar is the Committee for the Protection of Competition and Prevention of Monopolistic Practices at MOCI (“**The Competition Committee**”). In addition, the Telecommunications Law requires CRA to act as the competition authority for the telecom sector, and, amongst others, “monitor and prohibit any abuse of market power or dominant position and anti-competitive practices in accordance with this Law”<sup>40</sup>. Likewise, CRA is required to develop a Competition Policy<sup>41</sup>, including the approval of transfer of control.<sup>42</sup> This Policy was published on October 21, 2015, together with a comprehensive competition framework.<sup>43</sup>
- ii) **Data protection and privacy.** There is a data protection and privacy regulatory framework in place in Qatar.<sup>44</sup> However, there are some areas in which there is a lack of clarity about the rules and institutional responsibilities. In particular, there are issues relating to exemptions from the rules and institutional responsibilities for policing the framework, the concept of data minimization, the processing of “sensitive data” and rules around data localization. These issues, and the data protection regulatory framework in general, are critical for the development of the IT industry in Qatar. Most IT companies provide services which are affected by these regulations. More globally, ICT growth is depending on the “Data economy”. Deficiencies in the framework result in a significant constraint on future industry growth and development.
- iii) **Consumer protection.** Strong consumer protection regulation is required to facilitate a digital economy. ICT consumer protection is covered by the provisions of the

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<sup>39</sup> Law No. 19 of 2006 Concerning Protection of Competition and Prevention of Monopolistic Practices Act (the **Competition Law**) governs competition economy-wide.

<sup>40</sup> Telecommunications Law, Article 40.

<sup>41</sup> Telecommunications Law, Articles 40 to 46; Telecommunications By-Law, Articles 72 to 76.

<sup>42</sup> Telecommunications Law, Article 47; Telecommunications By-Law, Articles 77 to 85.

<sup>43</sup> CRA Competition framework can be accessed through the link: <https://cra.gov.qa/Regulatory-Framework/Regulations/Competition-Framework>

<sup>44</sup> Law No. 13 of 2016 Concerning Personal Data Protection; Telecommunications Law, Article 52.

Telecommunications Law<sup>45</sup>, the e-Commerce law<sup>46</sup> and the general consumer protection law. The most significant issue in the area of consumer protection is the absence of a clear institutional structure for the enforcement of the various consumer protection standards.

- iv) **Cybersecurity and cybercrime.** The Cybercrime Law<sup>47</sup> prohibits specific crimes in the digital ecosystem. However, stakeholders are not aware of the cybersecurity guidelines, such as prescribing technical and organizational security requirements for critical infrastructure, requiring incident reports to Q-CERT or other bodies, or providing rules with respect to information sharing among providers relating to incidents, including confidentiality requirements. The framework could be improved by clarifying the institutional role of CRA for the ICT sector as a whole<sup>48</sup> and establishing a legal and regulatory framework for cybersecurity.

## Challenges

128. The challenges for the legal and regulatory framework in the sector include:

- i) **The existing telecommunications regulatory framework needs enhancement and modernization** to address the issues of today's technology development and digital markets across a range of issues such as licensing, access regulation, spectrum and tariff regulation. These issues will become more prominent as technology trends, such as cloud computing and IoT become more established in Qatar.
- ii) **A need for a clear allocation of regulatory capacity, power and processes among relevant institutions.** One of the key challenges facing the horizontal regulatory framework in Qatar relates to its enforcement and, in particular, the arrangements between various institutions with responsibilities in the sector. Lack of clarity about which institution is responsible for horizontal regulations for ICT and Post may be a significant inhibitor for future sector development.

## Strategic Initiatives

### **Initiative 23: Support the review of the governance of digital economy in Qatar and align institutional roles and responsibilities**

129. **Description** CRA will review the governance of digital economy in Qatar, including institutional roles, responsibilities and powers under the current legislative framework. This will cover IT, ADM, e-commerce and other areas of the digital economy. This review will form the basis of necessary revisions to the sector framework, focusing on issues such as clarity, effectiveness and consistency in the institutional governance of the sector.

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<sup>45</sup> Telecommunications Law, Articles 48 to 52; Telecommunications By-Law, Articles 86 to 105.

<sup>46</sup> Electronic Commerce and Transactions Law, also known as "e-Commerce Law" No. 16 of 2010.

<sup>47</sup> Cybercrime Prevention Law No.14 of 2014.

<sup>48</sup> As per the Telecommunications Law, Article 59 the role of the CRA is to issue orders and instruction to telecom service providers to implement the requirements of the security authorities of the State.

130. **Outcome** A complete, effective and consistent framework will reduce legal and regulatory uncertainty, ensure effective and proportionate intervention, where appropriate in light of market and technical conditions, and support development of digital economy and vibrant local ICT market. It will fill gaps in regulatory provisions on IT, ADM, e-commerce, where applicable, and strengthen the regulatory environment for digital services, resulting in improved supply and demand.

#### **Initiative 24: Review and update CRA's telecommunications regulatory framework**

131. **Description** CRA will review and update the current regulatory framework, including regulations and other instruments for which it is responsible under its legal mandate. This will include completing required initiatives and updating regulatory instruments, where appropriate. CRA will also consider the broader legal framework in light of strategic objectives, technical developments, and international trends.

132. **Outcome** This initiative will ensure that the ICT regulatory framework is effectively implemented and continuously updated to further support the requirements of a modern and dynamic ICT sector and international best practices. It reflects CRA's commitment to implement its legislative mandate and support increased sector investment and development.

#### **Initiative 25: Sign and implement MoU with MOCI to coordinate and improve the Digital consumer protection**

133. **Description** CRA will strengthen its cooperation with MOCI in the area of digital consumer protection, including clarifying roles and responsibilities and improving coordination (i.e., through preparation of an MoU). This would ensure that CRA's consumer protection powers in telecommunications are harmonized with MOCI's digital consumer protection regulations. It will aim at providing a clear institutional structure for uniform enforcement of consumer protection standards.

134. **Outcome** This initiative will improve coordination between government and businesses engaged in digital commerce, clarify channels of communication for relevant government agencies and ensure seamless administration of digital consumer protection initiatives across the ICT sector. By developing coherent and effective digital consumer protection across IT, Telecommunications and ADM, coordination will facilitate a vibrant digital economy, promoting consumer trust in e-commerce, resulting in increased uptake of digital services.

#### **Initiative 26: Sign and implement MoU with MOTC to coordinate and improve implementation of the Data Protection & Cybersecurity regulation**

135. **Description** CRA will strengthen cooperation with MOTC in the area of data protection, including signing an MoU on setting out the objective of working on higher data protection standards (i.e., towards EU adequacy) and improving alignment between data protection in the telecommunications sector and with respect to digital content. Likewise, CRA will strengthen cooperation through an MoU with MOTC/Q-Cert and the Security Committee in the area of cybersecurity to set out respective institutional roles and responsibilities.

136. **Outcome** The initiative will support the government authorities responsible for data protection in Qatar to ensure effective implementation and enforcement of the regulatory framework. This will improve the regulatory environment for digital commerce and facilitate the IT industry development and inward FDI by global technology firms. It will improve technical and organizational security requirements for critical infrastructure, facilitate information sharing regarding security incidents and ensure accountability for breaches. Importantly, the initiative will also enhance Qatar's overall national security, protecting critical infrastructure and consumers from dangerous or predatory use of the digital ecosystem.

#### **Initiative 27: Review Competition framework**

137. **Description** CRA will support strengthening the regulatory environment to ensure a competitive ICT sector, including IT, Telecommunications, ADM and closely related markets. CRA will continue its engagement with MOCI to ensure the effective application of competition principles and enforcement across the sector and ancillary markets, including revising existing legislative and regulatory framework.

138. **Outcome** Effective and consistent enforcement against anticompetitive conduct (e.g., cartels and abuse of dominance) and prevention of anticompetitive mergers across IT, ADM and telecommunications will support sector competition, improving choice, quality and price to the benefit of consumers. In particular, improved competition framework will provide a better regulatory environment for SME entry into the IT sector in Qatar, increase uptake of digital services and promote investment by global tech companies.

#### **Initiative 28: Review current payment gateway systems and recommend development initiatives**

139. **Description** CRA will review the current arrangements for electronic payment gateways in Qatar and their impact on the development of IT, ADM and e-commerce. Based on the review, CRA may make recommendations for enhancements in order to support the development of the sector.

140. **Outcome** This initiative will have a beneficial impact on both consumers and businesses, especially SMEs, particularly in e-commerce. It will lead to increased demand and uptake of digital services and facilitate IT investment. It will also improve the conditions for digitalization and support the transition to Smart Qatar.

#### **4.3.3 CRA Capacity**

141. The strategy implementation will require significant additional staffing and capabilities for CRA. These will be required to support the implementation across various areas to cover the full CRA mandate. Some areas are new (outside the telecommunications sector) – particularly those related to digital technology policy and regulation, IT industry development and postal regulation. The CRA Strategy therefore includes initiatives to enhance the staffing and capabilities within the CRA and strengthening of the operational processes of the organization. This will be done in cooperation with ADLSA and other relevant government institutions.

## Strategic Initiatives

### Initiative 29: Enhance staffing and capabilities at CRA to support updated mandate

142. **Description** CRA will need to enhance its technical capabilities at the intersection of regulation and policy of global technology, as this will be a significant new role for CRA during the next five years. The rapidly evolving international technology landscape also means that CRA will need to strengthen its links with international bodies working in these areas.

143. **Outcome** Enhanced staffing and capabilities at CRA will provide the institutional capacity to meet the needs of its expanded mandate and the continually change market. The additional resources will support CRA to be more effective in its roles of regulation, industry development and technology advice.

### Initiative 30: Establish program for CRA operational development

144. **Description** As part of its strategy for accelerating the ICT and Postal sector development, CRA needs to improve its own processes and procedures in order to serve its mandate and the needs of the country more effectively. The strategy therefore includes designing and implementing a program of continuous process improvement, including digitization, automation and process optimization.

145. **Outcome** Improved CRA processes and procedures will benefit all stakeholders within the sector – government, businesses and consumers and, more broadly, the development of Qatar as a whole.

## 4.4 Consultation questions

### Question 3:

Are there any significant sector performance considerations and/or strategic issues missing in the sector review summary that should be reflected in the CRA Strategy?

### Question 4:

Are the proposed objectives and targets for the CRA Strategy reasonable and relevant? Do you have any suggestions for additions or changes to the proposed set of objectives and targets?

### Question 5:

Do you agree with the proposed strategic initiatives? Are there any other initiatives that you think should be included in the CRA Strategy? Do you have any thoughts on the timeline and importance of the individual strategic initiatives?

### Question 6:

Do you have any comments on the options for KPIs (presented in Table 1 of Annex I)?

### Question 7:

Do you have any suggestions for areas in which the CRA should focus its capacity building?

## **Annex I Tables**

**Table 1: Strategic Objectives, Targets and KPIs**

IT	Telecommunications	ADM	Post
<b>Objectives</b>			
Create a strong foundation for an innovative and growing IT sector that attracts increased domestic and foreign investment.	A more competitive and innovative telecommunications sector that supports the country's development objectives.	A regulatory regime that supports supply and adoption of digital media.	Develop a sustainable postal sector that meets the needs of customers and the national economy.
<b>Targets and KPIs</b>			
<p><b>i. Growing IT sector</b></p> <ul style="list-style-type: none"> <li>• Gross value-added by IT companies</li> <li>• Total revenue of IT companies</li> <li>• Total employees of IT companies</li> <li>• Total IT sector FDI</li> </ul>	<p><b>i. 100% coverage and widespread adoption of 5G mobile</b></p> <ul style="list-style-type: none"> <li>• % of population covered by 5G service</li> <li>• % penetration of 5G-capable handsets</li> <li>• % total time connected via 5G network</li> </ul> <p><b>ii. Increased % premises connected by fiber</b></p> <ul style="list-style-type: none"> <li>• % of premises connected by fiber</li> </ul>	<p><b>i. Increased level of adoption and usage of digital media by consumers</b></p> <ul style="list-style-type: none"> <li>• Individual internet usage during last three months</li> <li>• Frequency of internet usage</li> <li>• Digital engagement international ranking</li> <li>• [# companies based in Qatar providing digital media services to consumers</li> </ul>	<p><b>i. New postal law enacted</b></p> <ul style="list-style-type: none"> <li>• Postal law enacted</li> </ul>

IT	Telecommunications	ADM	Post
<p><b>ii. Increased supply of data centers and cloud capacity</b></p> <ul style="list-style-type: none"> <li>Data centers: # of operating Tier 3 or better data centers in Qatar</li> <li>Total power of cloud capacity located within Qatar</li> </ul>	<p><b>iii. Reduced prices for business connectivity services</b></p> <ul style="list-style-type: none"> <li>% change in leased lines tariff basket</li> <li>% change in average revenue per circuit for benchmark leased line product</li> <li>% change in average revenue per leased line circuit (all products)</li> <li>% change in average total revenue per unit capacity</li> <li>% change in tariff basket for business broadband</li> </ul>	<p><b>ii. Increased digital transformation of business and organizations</b></p> <ul style="list-style-type: none"> <li>% of businesses and organizations that are aware of and use advanced ICT products and services (selected products and services)</li> <li>% of businesses and organizations that have adopted (i.e., deployed/installed or rolled out) enterprise application such as cloud-based office automation services.</li> <li># companies based in Qatar providing digital media services to businesses and organizations</li> </ul>	<p><b>ii. A new comprehensive regulatory framework established</b></p> <ul style="list-style-type: none"> <li>Key postal regulations established</li> </ul>
<p><b>iv. IT Association established</b></p> <ul style="list-style-type: none"> <li>IT Association officially established</li> <li>Regular events organized</li> </ul>	<p><b>iv. Establish an open IXP in Qatar</b></p> <ul style="list-style-type: none"> <li>IXP established and operational</li> <li>Increased volume of traffic exchanged at IXP</li> </ul>		

**Table 2: Linkage between Strategic Initiatives and Sector Targets**

Initiatives		IT			Telecommunications				ADM		Post	
		Growing IT sector	Increased supply of data centers and cloud capacity	IT Association established	100% coverage and widespread adoption of 5G mobile	Increased % premises connected by fiber	Reduced prices for business connectivity services	Establish an open IXP in Qatar	Increased level of adoption /usage of digital media	Increased digital transformation of business and organisation	New Postal law enacted	A new comprehensive regulatory framework established
<b>Sectors</b>												
IT	1. Establish an IT Private Institute of Public Benefit ("IT Association")	✓		✓								
	2. Conduct annual IT sector survey	✓										
	3. Conduct study on the skills requirements of the IT sector in Qatar	✓										
	4. Contribute to improved business licensing procedures for IT companies through the Single Window	✓										
	5. Develop a framework supporting the growth of a Digital Cluster in the Free Zones	✓	✓							✓		
Telecommunications	6. Review framework for infrastructure development and sharing				✓	✓	✓					
	7. Establish consumer right of access to telecommunications					✓	✓					
	8. Implement business wholesale connectivity offers	✓	✓			✓	✓			✓		
	9. Establish strategy for Free Zones telecommunications market development	✓	✓		✓		✓			✓		
	10. Establish a strategy for the fixed market structure	✓	✓			✓	✓			✓		
	11. Establish an Open IXP in Qatar	✓						✓		✓		
ADM	12. Support digital transformation of companies and organizations	✓							✓	✓		
	13. Establish regulatory framework for network neutrality								✓	✓		
	14. Review regulatory framework for VOIP/OTT								✓	✓		

Initiatives		IT			Telecommunications				ADM		Post	
		Growing IT sector	Increased supply of data centers and cloud capacity	IT Association established	100% coverage and widespread adoption of 5G mobile	Increased % premises connected by fiber	Reduced prices for business connectivity services	Establish an open IXP in Qatar	Increased level of adoption /usage of digital media	Increased digital transformation of business and organisations	New Postal law enacted	A new comprehensive regulatory framework established
Post	15. Support enactment of new Postal Law	✓									✓	
	16. Establish postal regulatory framework	✓										✓
	17. Increase awareness of CRA's role in postal sector	✓										✓
Horizontals												
Global technology trends	18. Establish strategy for cloud services and data center capacity	✓	✓					✓				
	19. Establish IoT/M2M regulatory framework	✓							✓	✓		
	20. Contribute to national strategy for blockchain/DLT	✓										
	21. Contribute to AI framework	✓										
	22. Establish national cross-sector technology forums	✓								✓		
Legal and regulatory	23. Support the review of the governance of the digital economy in Qatar and align institutional roles and responsibilities	✓	✓					✓	✓	✓		
	24. Review and update CRA's telecommunication regulatory framework	✓			✓	✓	✓	✓	✓	✓		
	25. Sign and implement MoU with MOCI to coordinate and improve Digital consumer protection	✓							✓	✓		
	26. Sign and implement MoU with MOTC to coordinate and improve implementation of the Data Protection & Cybersecurity frameworks	✓							✓	✓		
	27. Review competition framework	✓				✓	✓		✓	✓		
	28. Review current payment gateway systems and recommend development initiatives	✓							✓	✓		
CRA capacity	29. Enhance staffing at CRA to support updated mandate	✓	✓	✓			✓	✓	✓	✓	✓	✓
	30. Establish program for CRA operational development	✓	✓	✓			✓	✓	✓	✓	✓	✓

**Table 3: Cross-sector Linkages between Strategy Initiatives and Sectors**

Direct impact  Indirect impact 

Initiatives		IT	Telecoms	ADM	Post
IT	Establish an IT Private Institute of Public Benefit ("IT Association")	●			
	Conduct annual IT sector survey	●			
	Conduct study on the skills requirements of the IT sector in Qatar	●			
	Contribute to improved business licensing procedures for IT companies through the Single Window	●			
	Develop a framework supporting the growth of a Digital Cluster in the Free Zones	●		◐	
Telecoms	Review framework for infrastructure development and sharing		●		
	Establish consumer right of access to telecommunications		●		
	Implement business wholesale connectivity offers	◐	●		
	Establish strategy for Free Zones telecommunications market development	◐	●		
	Establish a strategy for the fixed market structure	◐	●		
	Establish an Open IXP in Qatar	◐	●		
ADM	Support digital transformation by companies and organizations	◐		●	◐
	Establish regulatory framework for network neutrality	◐	●	●	
	Review regulatory framework for VOIP/OTT		◐	●	
Post	Support enactment of new postal law	◐			●
	Establish postal regulatory framework	◐			●
	Increase awareness of CRA role in postal sector	◐			●

Initiatives		IT	Telecoms	ADM	Post
Global technology trends	18. Establish strategy for cloud services and data center capacity	●	◐		
	19. Establish IoT/M2M regulatory framework	◐	●	◐	
	20. Contribute to national blockchain/DLT strategy	●			
	21. Contribute to AI framework	●			
	22. Establish national cross-sector technology forums	●	◐	◐	
Legal and regulatory	23. Support the review of the governance of the digital economy in Qatar and align institutional roles and responsibilities	◐	◐	◐	
	24. Review and update CRA's telecommunications regulatory framework	◐	●	◐	
	25. Sign and implement MoU with MOCI to coordinate and improve digital consumer protection	◐		◐	
	26. Sign and implement MoU with MOTC to coordinate and improve implementation of the data protection and cybersecurity regulation	◐	◐	◐	
	27. Review competition framework	◐	◐	◐	
	28. Review current payment gateways	◐		◐	
CRA capacity	29. Enhance staffing at CRA to support updated mandate	◐	◐	◐	◐
	30. Establish program for CRA operational development	◐	◐	◐	◐

## **Annex II**

### **Consultation Questions**

#### **List of Consultation Questions**

**Question 1.**

Do you have any comments or suggestions on the strategy development approach?

**Question 2.**

Are the Sector Definitions relevant and appropriate? Do you have any suggestions for changing them and what would be the justification for such changes?

**Question 3:**

Are there any significant sector performance considerations and/or strategic issues missing in the sector review summary that should be reflected in the CRA Strategy?

**Question 4:**

Are the proposed objectives and targets for the CRA Strategy reasonable and relevant? Do you have any suggestions for additions or changes to the proposed set of objectives and targets?

**Question 5:**

Do you agree with the proposed strategic initiatives? Are there any other initiatives that you think should be included in the CRA Strategy? Do you have any thoughts on the timeline and importance of the individual strategic initiatives?

**Question 6:**

Do you have any comments on the options for KPIs (presented in Table 1 of Annex I)?

**Question 7:**

Do you have any suggestions for areas in which the CRA should focus its capacity building?

**Annex III**  
**Consultation Response Template**

<b>Respondent</b>	<b>Consultation document reference (question/paragraph)</b>	<b>Response</b>
<i>(company/organization name)</i>	<i>(specify question or paragraph number that response refers to)</i>	<i>(provide comments)</i>