|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| **Strategic Overview of Afghanistan’s ICT Sector** **By Mr. Besmellah Khuram and Dr. Robert Voestch                                                            February 15, 2020** |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| **1. Afghanistan ICT Sector Facts**These are the basic facts about the information communication technology (ICT) sector in Afghanistan: |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| ***ICT Sector Financial Impact:**** Afghanistan’s ICT sector investment stands at almost $3 Billion USD as of 12/31/2019;
* Afghan ICT firms now contribute more than 16% of total domestic revenues ($11 million as of most recent figures) collected nationally by the *Government of the Islamic Republic of Afghanistan (GIROA)*; and,
* All the companies providing communication services are obligated to deliver 2.5% of their income to the communication development fund annually.

  |

 |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| ***Afghan ICT Operators:**** **GSM Mobile Network Operators:** five (5) major companies including *Afghan Telecom*(includes *Salaam Network*), *Afghan Wireless*(provides 4G services), *Etisalat AF*(provides 4G services), *MTN Group*, *Roshan* (provides 4G services).
* **CDMA Operator:***Wasel Telecom*(now owned by *Alokozay*)
* **Land Line:** One (1) company *Afghan Telecom (owned by the Government and due to be privatized at some point in the future).*
* **New fiber licenses under *Open Access Policy*(2017):** *AWCC*, *Etisalat AF*, *Roshan* and *Asian Consultancy Group*.
* **Internet Service Providers:** 64 (from *ATRA* website)
* **TV Operators:** 113 companies
* **FM Radio Operators:** 310 broadcasters; and,
* **Satellite Communications:** *Afghansat 1*service initiated in 2014 using two leased transponders from *Eutelsat*. *Afghansat 2*plan under discussion with the*Government of India*.
 |

 |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| ***GIROA ICT Regulatory Executives:**** ***Ministry of Communications and Information Technologies (MOCI)*:** Acting Minister, Mohammed Hasemi
* ***Afghanistan Telecom Regulatory Authority (ATRA)*:** Board Chairman-Vacant. Board Vice Chairman Eng. Nuqibullah Sailab-Acting.
* ***Afghan Telecom Corporation*:** CEO-vacant. Global search in-progress.
 |

 |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| ***Population Coverage:**** Population coverage (Mobile): 90% of the national population;
* Population coverage (3G): 60% of the national population;
* Population coverage (4G): 20% of the national population;
* GSM subscribers: 33 Million persons;
* 4G subscribers: 500,000 persons;
* 3G subscriber: 7 Million persons; and,
* Landline subscribers: 140,000 subscribers
 |

 |

 |

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| ***Role of the Afghan-American Chamber of Commerce (AACC)***In 2017, the *Afghan-American Chamber of Commerce (AACC)* established a high-level ICT Working Group. This working group consists of *AACC* Executive Committee members, key *AACC* member firms from the ICT sector in both Afghanistan and the USA, and members of both the *GIROA* and the *United States Government* (*USG)*.Key achievements to date include:* Preparing a technical ICT roadmap for addressing the challenges of the Afghanistan ICT sector;
* Meeting with government officials from both the *GIROA* and *USG* – including the Ambassador of Afghanistan to the USA, *U.S Ambassador* to Afghanistan, Minister of Communications and other leaders;
* Current preparation of recommendations for how Afghanistan and ICT firms can be compliant with recent *USG* initiatives such as with the *United States Federal Communications Commission* *(FCC)* *5G FAST Plan*, the *Department of State (DOS)* a *Digital Connectivity and Cybersecurity Partnership (DCCP)*,
* Holding regular coordination meetings to review progress in advocating ICT sectoral reforms including the privatization of Afghan Telecom; and,
* Promoting ties between ICT firms from Afghanistan, USA and other international organizations from Europe and Japan.
 |

 |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| **2. Brief History of the Afghanistan ICT Sector** |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| ***Historical Timeline:***The ICT history in Afghanistan dates back to the late 19th century. The key milestone dates are:* *1898 First Telephone Service Begins:* The first telephone system was introduced into Afghanistan in 1898 with the installation of a Simdarmanul telephone at the *Palace of the Afghanistan Royal Government (ARG)* of Kabul. In 1908, a small telephone system with a capacity of 25 lanes was installed to the north of the *ARG*.
* *1925 National Radio Broadcasting Inaugurated:* The radio was introduced in 1925 with the launch *of Radio Kabul* following the procurement of radio transmission equipment purchased from *Telefunken* of Germany.
* *1973 Computer Technology Arrives:* The first computer was introduced in 1973 with the establishment of the *“Afghan Computer Center”* that focused on record-keeping for the *Central Bank*, foreign trade, government pensions, a national statistical database, utility billing and *Ariana Airlines* operations and bookings and *Afghanistan Network Information Center (AFGNIC)* was established to administer domain names and internet service inaugurated in 2003.
* *1977 National Television Broadcasts Launched:*Television broadcasts began in 1977 following a grant from the *Government of Japan* with the construction of *Radio Television Afghanistan (RTA)* in 1976.
* *2002 Nationwide Mobile Cellular Phone Service Established:* Private cellular phone service was introduced in late 2002 and national service launched in 2003 under a project financed by the *United States Agency for International Development (USAID).*

***ICT Sector Since 2002:***During the period of *Taliban* rule there were less than 15,000 local landlines in the country, there was no international calling facility - Pakistan country code used in many border areas in 2000. The result was that Afghans had to travel to neighboring countries to make or receive international phone calls as there were no internet connectivity and internet service providers (ISPs) in the country.In 2002 the *GIROA* and international donor community (led by *USAID*) ushered in a new a new chapter for ICT sector with the goal of providing access to telephone and internet across the country from private sector ICT companies.Since 2002, sustained *USG* and other donor support have been the leading drivers in ICT sector reform and investment. The result is that Afghanistan’s ICT sector has been perhaps the most notable success story in terms of Afghanistan’s private sector development. This private sector investment has totaled almost $3 billion by 2020. The rapid and early success in obtaining ICT connectivity nationally has also been a key to improving economic growth, increasing *GIROA* domestic revenue mobilization (DRM) and ensuring greater regional integration within Central Asia; a key component of the Trump Administration’s *South East Asia National Security Strategy*. Afghanistan remains well placed to become a regional ICT transit hub for Central and S.E. Asia but major new investments and reforms must continue within this sector to enable early success to continue. It is fast approaching a crisis point.Besides, 4 optical fiber service providers, 62 Internet service providers, 104 value added service providers, 24 technology and technical support providers, 42 solution providers are providing services in the telecom sector of the country.The sector is second large revenue generating for the government with $11 million plus on a yearly basis and 185,000 jobs creations for the generation between the ages of 18 and 30 years.Finally, the *GIROA* has signed investment agreements with the Chinese firms *Huawei* and *ZTE* for establishment of fiber optic networks in the country. Further, as the ICT equipment provided by the international donor community (*e.g.,* *USAID*) ages and needs to be replaced, China has captured more than 70% of the *GIROA* server replacement orders. This equipment is provided by *Huawei* and *ZTE*. Both of those companies are also providing more than 80% of the personal mobile phones and computers used by Afghan citizens.  |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| **3. Current Challenges Facing the Afghanistan ICT Sector** |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| The Afghanistan ICT sector has been revolutionized since 2002 and the establishment of the *GIROA*. Despite the historic gains, there are a number of challenges that need to be addressed by the *GIROA*, Afghanistan private sector and larger international community. The speed and success with which these challenges are confronted and circumvented, the greater the certainty that the ICT sector will be able to continue and build upon its amazing achievements in the last 18 years. At a summary level, these challenges are:*GIROA Regulations.* At this time, *ATRA* does not have a permanent chairman or full complement of board members (only 3 of 5 board membership chairs are filled). This lack of full team is hindering *GIROA* support for the ICT sector.Further, according to the law, *ATRA* should form high council but yet the council is not formed*Completing the National 4G Network:* Additional Investment in completing the 4G Rollout is urgently needed through an international auction. Specifically, fiber investment must be facilitated, and related procedures and regulations finalized including [Optical Fiber Cable Reference Interconnection Offer (RIO), Regulatory Procedure](http://atra.gov.af/Content/files/Reference%20Interconnection%20Offer%20Regulatory%20Procedures.pdf), [Optical Fiber Interconnection Regulator Procedure](http://atra.gov.af/Content/files/Optical%20Fiber%20Interconnection%20Regulatory%20Procedure.pdf), Quality of Service Regulatory Procedures for Fiber Optic Networks and Services, Optical Fiber Cable Tariff Regulatory Procedures, [Telecommunications Infrastructure, and Right of Way Regulatory Guidelines](http://atra.gov.af/Content/files/Right%20of%20Way%20Regulatory%20Guidelines.pdf).*Finalize the National Mobile Network Plan:* The mobile network operators (MNOs) need to invest in and operationalize through a Spectrum Monitoring System has to be brought into the market to monitor all the spectrum bands specifically HF, VHF, UHF and SHF. This will require extending the heavily used from 9 KHz till 3 GHz to the less-used 3 GHz till 40 GHz and above. *ATRA* is responsible to manage these spectrums but it has not been doing so as optimally as it needs to so that spectrum re-farming as per the *International Telecommunications Union (ITU)* regulations.*Ensuring optimal GIROA revenues through MNO and Afghan Telecom Audits:* At this time, there is a need for forensic audits of both all MNOs and *Afghan Telecom* to ensure that costs and revenues from all providers are accurate, complete and *GIROA* revenues properly recorded and remitted.In addition, the Real Time Data Management System (RTDMS), on which 10% tax of the telecommunication is collected, needs to be procured and operationalized as soon as possible to ensure *GIROA* revenues are collected.Additional Reforms: Beyond the above critical challenges and reform needs, the ICT sector also need to: develop a national ICT roadmap; implement a national ICT Quality Control System with trained quality control officers (both the *ITU* and the *United States FCC* have both expressed a willingness to help with this); and, address subscriber identity module (SIM) boxing, which is both a security threat and a source of lost *GIROA* revenue.  |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| **4. Future Directions and Opportunities** |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| To summarize, the Afghanistan ICT sector has grown at an amazing pace since 2002 and its potential is enormous both for national economic growth and progress as well as *GIROA* financial health. Both Afghanistan and international investors are willing to invest in many areas. These areas and the current estimated investment requirements include:* A national fiber optic system that requires $380 million of direct investment;
* A national 4G network that requires $450 million of investment;
* A national spectrum frequency auction that could raise $40 million in revenues for the government; and,
* A national SIM Registration System that could generate an additional $10 million in revenues for *GIROA*.

Beyond these critical investment areas, the following national ICT infrastructure and operational capacity are required:* SIM card registrations must be implemented through the use of unique numbers in order to mitigate and prevent the use of illegal SIM card distribution;
* Digital Television (DTTV) license(s) need to be awarded. This has not been done even though it is required;
* Establishing a National Emergency Telecommunication Network for which only initial steps have been taken;
* Establishment of a Middleware System for mobile banking;
* Careful monitoring of value-added service operators in order to minimize or eliminate entirely credit loss to Afghan citizens;
* Proper implementation of the Open Access Policy (OAP);
* Specifying the Significant Market Power (SMP) in the telecom market of Afghanistan which can help on approving and applying related tariffs;
* Prepare Afghanistan for the Internet of Things (IOT), Smart cities and a national 5G network including preparation of the related documentation and regulations; and,
* Establishing the Emergency Telecommunication Framework and related regulations for the same.
 |

 |

 |

 |
|

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
| ***Mr. Besmellah Khuram is a former Board Member of the Afghanistan Telecommunications Regulatory Authority (ATRA) and now sits on the AACC ICT Working Group advising its Board of Directors.  He has served as a project and finance leader with more than 10 years of experience in fiduciary, management and strategic planning for major donors including: World Bank, U.S. Agency for International Development, and Government of Afghanistan.  Dr. Robert Voetsch is a Senior Investment Advisor to the AACC Board of Directors and former senior executive at Crown Agents, Deloitte and Bearing Point.****The views expressed in this publication are those of its authors and do not necessarily reflect the views of the Afghan-American Chamber of Commerce (AACC) and/or its management.* |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| Want to change how you receive these emails?You can update your preferences or unsubscribe from this list. |

 |

 |

 |
|

|  |  |  |
| --- | --- | --- |
|

|  |  |
| --- | --- |
|

|  |
| --- |
|  |

 |

 |

 |

 |

|  |  |
| --- | --- |
|

|  |
| --- |
| This email was sent to jeffreygrieco@aol.com*why did I get this?*    unsubscribe from this list    update subscription preferences\*|LIST:ADDRESSLINE|\*Email Marketing Powered by Mailchimp |

 |