

Cabo Verde

Shaping World Bank Engagement on Digital Economy in Cabo Verde (ID: P168008)

Praia, Cabo Verde January 22 – 25, 2019

Aide-Mémoire

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A. Introduction

1. A World Bank Group visit took place in Praia, Cabo Verde from January 22 - 25, 2019 for a policy dialogue mission for shaping World Bank engagement on Digital Economy in Cabo Verde (P168008). The mission was led by Jerome Bezzina (Senior ICT Policy Specialist) with participation by Zaki Khoury (Senior Technology and Strategy Advisor). The team was supported by Fatou Fall (Country Representative) from the Country Management Unit and received guidance from Eric Lancelot (Program Leader). The team was also supported with administrative assistance by Arame Diattara (Senior Executive Assistant) in Dakar.

2. This mission had a focus on policy and regulatory framework of digital infrastructure in Cabo Verde and benefited from previous engagements and missions conducted in December 2017 and June 2018. It also leveraged the aspirational work prepared by the Government of Cabo Verde to develop the Strategic Plan for Sustainable Development (PEDS, using the Portuguese acronym) and the vision for the country as a regional ICT Hub.

3. The mission would like to express gratitude for the courtesies and cooperation offered by the Government, especially H.E. Olavo Avelino Garcia Correia, Vice- Prime Minister and Minister of Finance; H.E. Gilberto Barros, Secretary of State for Finance; H.E. Pedro Nuno Alves Fernandes Lopes, Secretary of State for innovation and Technical Training. Our thanks also extend to the assistance received from Ms. Carla Cruz, National Director of Planning; Mr. Isaias Barreto da Rosa, Chairman of the Board, Multisectoral Regulatory Agency of the Economy (ARME); Mr. Antonio Fernandes, Chairman of the Board, Operational Nucleus for the Information Society (NOSi); Mr. Aruna Handem, Executive Administrator, NOSi; Mr. José Luis Livramento Brito, Chairman of the Board, Cabo Verde Telecom; Mr. Juvenal Pereira, President of the SNIAC (Sistema Nacional de Identificação e Autenticação Civil) implementation agency; Mr. Hélio Varela, Chief Technical Office, Unitel; Mr. Lisandro Ramos, Head of Department of Mobile Access Network, Unitel; Mr. Sandro Gomes, Director of Strategic Planning, Unitel and Mr. Hernâni Soares, Legal Coordinator, Unitel for their continued support and insights during the mission, as well as the extended team members of all the stakeholders.

B. Mission Objectives

4. The objectives of this specific mission were to conduct a thorough ICT sector analysis with the aim to provide the Government with a set of policy recommendations for supporting the digital

infrastructure foundation of digital economy, complemented as needed with recommendations on other foundational elements. The team held meetings with many of the key public and private sector stakeholders to reach a comprehensive understanding of the challenges and opportunities to support the government vision for transforming CV into a digital hub capable of supporting business outsourcing and back office operations, software development, and Cloud hosting.

C. Summary of Mission Findings

5. **Strategy Validation.** The meetings demonstrated the success of the Cabo Verde government across several fields, notably in establishing a comprehensive vision for the country’s development and the ICT sector growth. This vision has articulated three key priority pillars including expansion of the connectivity infrastructure, enhancement of capacity building, and provision of digital services through a regional marketplace. The vision has also highlighted the importance of establishing an enabling governance and regulatory framework to accelerate the transformation of the country as regional ICT hub. We recognize the ambitious targets in various ICT impact indicators defined in this strategy to leapfrog economic growth and social development in Cabo Verde, including:

Impact Indicators	Unit	Baseline 2016	YEAR					TOTAL
			2017	2018	2019	2020	2021	2017/2021
Contribution of ICT in GDP	Percentage	<1% (6%)	0.5%	1.5%	3.0%	5.0%	6.0%	6.0%
Increase in ICT / GDP Exports	Percentage	0.0%	0.1%	0.5%	1.0%	2.0%	3.0%	3.0%
IDI - ICT Development Index (ITU)	Ranking	97 (4,60)	96	94	91	89	87 (5,03)	87 (5,03)
Broadband Access	Percentage	70%	72%	74%	80%	85%	90%	90%
New Companies created in the ICT Sector	Number	79	125	150	175	250	250	950
Additional jobs created in the ICT Sector**	Number	155	160	220	250	320	450	1400**

**Additional 1500 jobs are expected to be created at the new Technology Park.

Source: NOSi, 2017

6. **Key policy and regulatory prerequisites for connectivity.** Based on the sector’s review of best international practices and the findings of previous missions in Cabo Verde, the team has identified a set of policy and regulatory prerequisites that would enable the achievement of such bold vision, and key foundational elements to accelerate the country’s reach of such aspirational targets. The prerequisites include:

- Finalization of the concession negotiation with Cabo Verde Telecom (CVT). The concession contract with CVT for the management, maintenance and commercialization of the Public Infrastructure Network (PIN) will end Dec 31, 2020. The PIN infrastructure consist of backbone, landing station and backhaul infrastructure. There is a need to consider the option to open negotiations to reformat the concession contract to strengthen the competitiveness of the telecommunications sector in Cabo Verde.
- Adoption and implementation of a new governance option for managing public wholesale broadband infrastructure. Due to increasing demand from private and public stakeholders, the need for a sound and best class infrastructure wholesale network is clearly called from all the stakeholders. Two options are currently being discussed: a structural separation and a functional separation.
- Adoption and enforcement of legal and regulatory remedies to manage perception of abuse of dominance position, perceived anti-competitive behavior, unfair pricing treatment and lack of transparency.
- Implementation of open access regime for landing stations, international capacity and shared infrastructure protocols in the metropolitan domestic market.

7. **Cabo Verde-as-a-Platform.** Today, emerging digital technologies (e.g. IoT, AI, Blockchain and edge cloud) and digital platforms (Amazon, Alibaba, Airbnb, and Uber) are changing the nature of development. In this changing landscape, Cabo Verde needs to leverage its current strengths to re-imagine its position as a digital platform.

8. As more countries, businesses and entrepreneurs use Cabo Verde as a platform, further Intellectual Property (IP) creators could find it more attractive to develop new services and applications, and leverage its digital infrastructure, including both connectivity infrastructure and data depositories. Enhancing supply and demand for such digital infrastructure can create an outstanding demand for the country as a digital platform (i.e., an ICT Hub).

- **Increasing Supply through International Access** – The team recognizes the progress made so far to deliver on the planned submarine cable linking Brazil and Portugal via landings at Cabo Verde, the Canary Islands and Madeira (so-called EllaLink). The project will address the security and redundancy for connectivity in Cabo Verde given the current reliance on sole WACS infrastructure. However, this project will also bring an additional 400 GB extra capacity which provides an opportunity for commercialization and financial viability of the project, regionally and domestically.

Amilcar Cabral Investment: The team also recognizes that Cabo Verde has presented a proposal to deploy a fiber-optic cable directly connecting all member countries of the Economic Community of West African States (ECOWAS). The so-called Amilcar Cabral would connect Cabo Verde to the rest of the region via an undersea link to Guinea-Bissau and the Mano River countries (Sierra Leone, Liberia and Guinea-Conakry). Based on our discussions, no definite governance structure is yet in place to manage such key regional project. Considering the expected Return on Investment (RoI) that this project can bring,

the team recommends conducting a full feasibility and commercial assessment¹ given the crucial importance of such infrastructure initiative in creating demand for the extra capacity of connectivity and data hosting generated by EllaLink and current infrastructure.

Universal Connectivity Access: With extra available capacity, the aim will be to significantly reduce Cabo Verde's digital divide by providing universal connectivity access within the various islands of the archipelago through public-private partnerships. This will support high-speed connectivity and access to online academic content for higher education institutions and secondary schools and enable more adoption of the WebLab program which seeks to empower the next generation of digital leaders for government and private sector.

- **Expanding Demand through monetization of new generation (NewGen) infrastructure.** Cabo Verde has significantly invested in establishing a world-class data center at the Technology Park in Praia. With seven levels of security, it hosts and manages data and already provides services to the Government of Cabo Verde, companies, banks, national and foreign entities. It is also designed to offer cloud computing services (Cloud services). According to NOSi, only 50% of the data center's capacity is currently utilized.

While we recognize that the utilization has almost doubled in the last two years, there is a significant potential for commercializing the remaining capacity and scale up the cloud infrastructure either by opening new markets regionally and/or focusing on target sectors with high consumption rates domestically (e.g., Media, Transport and Tourism). The implementation of Amilcar Cabral project will also provide direct opportunities for increasing data hosting demand and growing the market for cloud services. Four channels can be considered for realizing an increase in such demand:

Neutral Data Port: Cabo Verde to establish a data port within the Techno Park. This would allow data from other countries (e.g. Lusophone-speaking and ECOWAS countries) to be stored and processed in Cabo Verde's Data Center, but in accordance with their individual country-specific data jurisdictions. This neutral governance will further the position of Cabo Verde Cloud platform as an attractive alternative to other commercial platforms that facilitate digital development.

Digital Government Services: Cabo Verde already has a head start with its digital government solutions and services strategy. There is an opportunity in expanding the development and adoption of such e-services nationally and regionally. New emerging innovations and services from public and private sector in Cabo Verde can be used as value-add plug-ins to the proposed Marketplace platform (i.e., IGRPweb).

Data-Driven Industries' Clusters: A future-forward approach will be necessary to attract businesses in selective high data-driven sectors (e.g., Media, e-Trade, Transport and Tourism) at the Technology Park. Two enablers can enhance such approach: availability of advanced skills and regulatory resorts. First, access to young talents with competencies in data generation, aggregation and analysis will assist in supporting various emerging digital clusters. Suggested initiative such as NOSi academia can create partnerships with

¹ The team was informed that ARME is currently preparing a pre-feasibility study with limited scope of the Amilcar Cabral project.

private partners and foundations to crowd in financial and programmatic support for advanced digital skills development in Cabo Verde.

Secondly, by creating a regulatory sandbox at the Techno Park, the country will be encouraging further innovation and providing a testing Lab for harnessing disrupting technologies (e.g., Internet of Things, Blockchain, and Artificial Intelligence) in support of these industries. An incentive for start-ups, data-driven businesses and multi-national companies to leverage the country for such purpose will be a data governance and management deregulation while maintaining the principles of privacy and protection for consolidating trust in Cabo Verde as digital platform.

Frequencies Release: Finally, it is critical for Cabo Verde to anticipate the arrival of 5G and the possibilities for leapfrogging other regional countries for attracting related investment and talents. It is therefore necessary to take important measures to free up the frequencies for testing and scaling. Releasing the frequencies will enable investors to install these networks and deploy the experimentation and proofs of concept. The logical next step will be to develop effective partnerships between operators and use case verticals in data-driven industries (i.e., transportation, media, education, etc.) to provide quality services to citizens and tourists domestically and regionally.

D. Next Steps and Timeline

9. The team will prepare a policy note in the next 10 weeks elaborating on the above findings and articulating a set of recommendations. This note can serve as an initial work plan for potential and concrete engagement actions on digital infrastructure. The draft note will be shared with the stakeholders for inputs to finalize the policy recommendations pitch and agree on a dissemination plan. We see an opportunity for dissemination in the planned engagement by the Ministry of Finance with the public and private sectors during the May 2019 conference. Based on feedback from various stakeholders, we look forward to receiving the Government's insights on priority areas to be included for the finalization of the Country Partnership Framework (CPF). The emphasis is on creating favorable conditions to build connectivity and ICT sector with the aim of driving investment, job creation and economic diversification in Cabo Verde through accelerated digital transformation.