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MINISTER OF STATE

MINISTRY OF SCIENCE, TECHNOLOGY, ENERGY AND MINING

FOR THE

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HALF MOON HOTEL, MONTEGO BAY

Salutations…

In the year 2000, world leaders established some ambitious goals to be achieved by next decade, 2015. These goals, referred to as the Millennium Development Goals (MGDs), were intended to free people from extreme poverty and multiple deprivations. The World Summit on Information Society (WSIS) was held in 2003 against the background of goal number 8 of the MGDs and proposed strategies to overcome the challenge to harness the potential of information and communication technology (ICT) to promote the development goals of the Millennium Declaration. The WSIS acknowledged that a well-developed information and communication network infrastructure and applications are key principles for building an inclusive Information Society and emphasised the need for greater use of broadband and other innovative technologies where possible.

Broadband represents a transformative platform as it can facilitate growth and innovation in the ICT sector as well as other sectors of the economy. Since broadband has the capacity to contribute to virtually every sector through productivity gains; governments worldwide focus on broadband as a means of empowering their peoples. However, broadband rollout and take up in the Caribbean has been low.

1999, the year before the MGDs were established, was truly a watershed year in the history of Jamaica. That was the year the Government of Jamaica successfully concluded an agreement with the then incumbent telecommunications service provider, Cable & Wireless to liberalise the

Telecommunications industry. The goal of liberalisation was for Jamaica to become a knowledge based society through the use and application of ICT. Liberalisation began a path for the revolutionisation of the Jamaican economy and the lifestyle of our people, and had corollary effects throughout the Caribbean with the telecommunications sector taking centre stage in driving as well as supporting the development of all sectors of our economies.

While the effects of liberalisation have been truly astounding, the transformation envisaged has not yet been achieved. In 2013, Jamaica's tele-density stood at over 108%, having peaked in 2010 at 128% just prior to the merger between Digicel and Claro. Official data regarding internet penetration and more specifically fixed broadband penetration, has however remained disappointing at just over 4.4% in 2013 increasing from a mere 4.3% in 2012 when the government began the roll out of the Island-wide Broadband Network Project utilising funding from the Universal Service Fund[1].

On average, the scenario for the rest of the Caribbean is not much better. St Kitts and Nevis and Barbados are the standard bearers with fixed broadband penetration of 27.2 and 23.8% respectively. St. Lucia, Grenada, Trinidad and Tobago, Dominica and St. Vincent and the Grenadines all have penetration rates of between 12 and 14 subscriptions per 100 inhabitants. All other Caribbean countries have penetration rates below 6%[2].

Mobile broadband penetration figures like voice telephony are much better than its fixed counterpart. Recent official figures for Jamaica suggest that mobile broadband penetration is 29.1%[3]. Statistics taken from the 2013 Annual Report of the Broadband Commission pole Barbados as having had a penetration of 36.4% in 2012. All other countries have penetration rates of below 20%.

A frequently cited World Bank study found that low-income and middle-income countries experienced about a 1.38% increase in GDP for each 10% increase in broadband penetration. The World Bank

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[1] MSTEM/OUR Figures
[2] The State of Broadband 2013: Universalizing Broadband. A report by the Broadband Commission. September 2013
[3] MSTEM/OUR Figures

further found that the development impact of broadband on emerging economies is greater than for high-income countries. In this regard emerging economies had a 1.2% increase in per capita GDP growth per 10% increase in broadband penetration[4]. The study also demonstrates that broadband has a potentially higher growth effect than other ICTs, including wireline telephony and mobile telephony.

Globally fixed broadband connectivity is expanding rapidly growing over 66% between 2005 and 2013 with penetration rates moving from 3.3 to 9.8 subscribers per 100 people[5]. According to the International Telecommunication Union (ITU) the number of active mobile broadband subscriptions reached nearly 1.2 billion by mid-2011, representing a 45% increase annually since 2007 and with total mobile subscriptions topping 5 billion. By the end of 2010, there were over twice as many mobile broadband as wireline broadband subscriptions. The ITU predicted that by the end of 2013 there will be 2.1 billion mobile broadband subscriptions, which would be equivalent to one third of the total global stock of mobile cellular subscriptions[6].

In May 2010, the Broadband Commission for Digital Development was established as a joint initiative by the ITU and the United Nations Educational, Scientific and Cultural Organization (UNESCO). In 2013, the Commission, which aims to boost the importance of broadband on the international policy agenda, established four (4) targets, for making broadband policy universal and for boosting affordability and broadband uptake. By 2015

1. all countries should have a national broadband plan or strategy or include broadband in their Universal Access/ Service definitions.
2. entry-level broadband services should be made affordable in developing countries through adequate regulation and market forces (amounting to less than 5% of average monthly income).
3. 40% of households in developing countries should have Internet access.
4. Internet user penetration should reach 60% worldwide, 50% in developing countries and 15% in Least Developed Countries.

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[4] Building Broadband: Strategies and Policies for the Developing World, GICT Dept. World Bank.
[5] ITU: ICT Facts and Figures .
[6] The State of Broadband 2013: Universalizing Broadband. A report by the Broadband Commission

The Commission notes that the price of broadband access plays a critical role in its diffusion throughout an economy. It further notes that although *broadband is becoming more affordable worldwide, with prices falling everywhere, it nonetheless remains unaffordable in many parts of the developing world*. In elaborating its target for connecting homes to broadband, the Commission notes that access to broadband or the Internet at home is the most inclusive way of bringing people online; as at home all household members can have access, no matter their gender, age or whether they have jobs or go to school.

Research has shown that children with Internet access at home perform better in school and that children using the Internet at home are usually under parental guidance and therefore better-protected against online dangers. Research further shows that in developed countries, more than two thirds of households already had wireline Internet access at the end of 2010, compared to around 16% of households in the developing world.

I have singled out the third target of the Commission, that is, connecting homes to broadband, for discussion, as a new study undertaken by Erricsson in conjunction with Chalmers University of Technology in Gothenburg, Sweden has suggested that broadband access and broadband speed positively affect household incomes[7]. This ought to be considered as good news for operators and governments alike as it provides additional justification for the investments being made in Broadband.

The researchers found that household benefits do not increase smoothly along with broadband speed. They instead, rise in steps. In addition the study found that:
- In OECD countries, the threshold level for broadband to have an impact is 2 Mbps. Gaining 4 Mbps of broadband increases household income by $2,100 per year.
- In the less developed economies the threshold level is 0.5 Mbps, which increases household income by $800 per year.

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[7] Socioeconomic Effects of Broadband Speed: a Microeconomic Investigation

On average, in OECD countries upgrading from 4 to 8 Mbps yielded USD 122 per household, per month. For less developed countries, upgrading from 0.5 Mbps to 4 Mbps is projected to yield USD 46 per month, per household.

In developing countries such as those in the Caribbean there are several constraints working against the deployment of broadband services and products. On the supply side such constraints include:

- Insufficient local content;
- Inadequate market competition to encourage operators to develop and commercially deploy broadband services;
- Little or no incentive for fixed-line providers to offer broadband access technologies;
- Competing demands for investment of operators' capital; and
- Inadequate regulatory framework.

Demand side constraints include:

- Greater priority given to mobile voice communications than data services;
- Excessive pricing of broadband and services compared to average incomes;
- Lack of consumer awareness;
- Lack of consumer demand, resulting from limited consumer purchasing power; and
- Limited availability of affordable end-user devices and services.

Connectivity is also an important consideration when examining broadband issues. Connectivity related constraints include:

- Lack of or inadequate backbone connectivity;
- Lack of hosting or storage facilities within developing countries;
- Limited international connectivity, which affects the data rates available, the quality of services and the cost of bandwidth; and
- Concern on the part of large-scale network operators over the commercial viability of deploying broadband networks in rural or remote areas, where the costs of network operation and service provision might make services unaffordable for consumers.

It is evident that solving the broadband challenge is complex. Broadband is an ecosystem and all stakeholders, governments, operators, regulators, academia, content provider and other related service providers, must come together to address the issues and constraints which are preventing the roll out and take up of broadband for the benefit of consumers.

As with any other sector, government's role in the broadband ecosystem is to enable, facilitate, and complement market development. This will enable the private sector to lead the rollout of and investment in broadband. Typically government's role in promoting the growth of broadband should be to:

1. make markets more competitive, efficient, accountable and transparent; and
2. ensure equitable access for all.

The most effective government strategies are those that seek to harness the power of private sector investment to spur broadband growth. No "one-size-fits-all" approach will guarantee greater broadband deployment and adoption as political and economic conditions vary.

Broadband is considered a public good and therefore the policies call for specific, limited, and well-justified public funded interventions. As with voice telephony, governments may also need to consider regulating dominant providers to avoid market concentration or other adverse impacts on overall market competition.

Additionally, countries that have pursued broadband development policies have focused on improving the incentives and the climate for private investment. In this regard, at the recently held Forty-Eighth Special Meeting of the Council for Trade and Economic Development (COTED) on ICT in Grenada, the ICT Ministers gave consideration to the need for incentivising investments in Broadband in the Caribbean, having received a presentation by CANTO on same.

The foregoing notwithstanding, Government policy should not compete with or displace private sector investment but should seek to maintain a level playing field for competition. Generally, subsidized

networks should be open offering capacity or access to all market participants in a non-discriminatory way. There is need for governments to eliminate barriers to content or restricting local content creation.

Spectrum also plays an important role in the broadband ecosystem. Next Generation Networks (NGN) and digitisation contribute to the growth in the demand for broadband. In the context of the growing demand for bandwidth-hungry applications, technologies requiring new standards such as 4G LTE, LTE Advanced and Mobile WiMax have been developed. The new standards were developed to meet the demands for greater bandwidth or frequency capacity driven by the growing demand for bandwidth-hungry applications. These new technologies present new challenges for spectrum regulators to find additional spectrum as operators require a variety of frequencies. Spectrum licensing regimes need to be revisited to allow operators greater flexibility in their use of frequencies from different bands. An example of such would be Combinatorial Auctions where bidders can combine ranges of frequencies from different bands.

Flexible licensing regimes can help unlock innovation. The 'Internet-of-things' and the emergence of smart cities can, among other things, help to address issues such as energy consumption and climate change. As such the role of licensing has to extend beyond its initial aim of imposing strict operational requirements upon service providers and making competition work. Licensing regimes have to address the issue of how to stimulate and facilitate innovation in the use of spectrum and in the provision of new services in order to create jobs and make the economy more competitive. Licencing is no longer just about regulating the telecommunications industry but about enabling the economy to function.

In today's world telecommunications operators no longer solely provide telecommunications service but are evolving into full service ICT companies offering a range of vertically integrated offerings from connectivity, to user devices, to services, applications and content. The challenge for policy makers is how to channel this reality to increase efficiency, unleash innovation and create jobs.

Generally, regulators can encourage investment in broadband in a number of ways including:

- Lowering investment barriers that prohibit or hinder capital flows from one country to another and reducing regulatory barriers that discourage capital investment and market growth;
- encouraging the sharing of essential facilities and adopting rules to provide for infrastructure sharing, particularly involving "passive" sharing of towers, ducts, rights-of-way and other support facilities;
- Adding innovative spectrum management mechanisms that promote increased sharing and efficiency in the use of radio-frequency spectrum; and
- Amending regulatory frameworks to eliminate discriminatory rules that favour one company or industry over another in a converged services market.

Governments must ensure that the legal regulatory framework is in place to allow regulators to effectively regulate broadband. In every economy governments are among the largest provider of goods and services. Governments can encourage broadband take up by providing more services online. Additionally, governments must ensure that their populations are enabled to utilise broadband. This would require building capacity through awareness and digital literacy campaigns.

While governments must continue to provide incentives to industry, such incentives must be targeted and be performance based. Jamaica's experience in the use of our Universal Service Fund to incentivise broadband roll out has demonstrated that government incentive on its own is not enough without a concomitant commitment on the part of operators to make the necessary investments to achieve universality. Operators must be willing to also make the necessary investments to support the ecosystem in order to benefit from government incentives.

Broadband's universality is the goal of every government and should be the same for operators and other stakeholder. It is through this that we can all seek to learn, earn profit and achieve development as stakeholders. Let us work together towards making universal access and use of broadband a reality.

Thank You