CANTO’s

33rd ANNUAL GENERAL MEETING AND MINI-EXPO

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RENAISSANCE HOTEL AND CASINO
Ladies and Gentlemen, Good morning!

Since protocol has been established I once again would like to welcome all of our visitors this morning to our beautiful Island Curacao at this 33rd Annual General Meeting of Canto and Mini-Expo, co-hosted by UTS and Bureau Telecommunication and Post.

As I have mentioned during my introduction last evening, we truly hope that your meetings here will be successful in moving CANTO and its members closer to the objectives of CANTO as an association during this year.

Last September, the Bureau Telecommunication and Post hosted an international conference on the topic of converting Curaçao beyond 2020 into a Smart Nation. Many of you and your respective countries also have such objectives. It is therefore with delight that I have taken notice of this year’s theme for CANTO’s AGM: “Reimagining ICT as a Tool for National Growth and Development”.

This theme focuses on ICT connectivity as a catalyst for changing the economic infrastructure, and therefore a catalyst for real economic growth.

Part of the intended re-imagining process proposed by CANTO inevitably includes the introduction of more efficient and effective policies to ensure that our ICT-infrastructure converges to the level that it would facilitate the creation of a Smart and Save Nation.
At the core of such policies is the way we manage, and invest in our ICT-infrastructure to take advantage of its dynamism and possibilities in creating new opportunities for the telecommunication sector and for economic growth of our nations. As all of you know, developing a Smart Nation implies strategic deployment of investments in technology across the whole country to create a digital and ICT infrastructure that can support the requirements of a smart nation.

In my view, as a small nation with limited resources, we cannot disperse our resources and we therefore should have an adequate policy for infrastructure-ownership and management that suits our purpose. Consequently, the current policy that each network operator has ownership over all network elements is an unsustainable model, if we want to be efficient and effective in the creation of a Smart Nation.

The way I see it is that we should move away from infrastructure-based competition to a service based competition among carriers, and introduce a single infrastructure provider managed by an independent party, where all network participants have equal rights.

To this end, we have to create an Equal Telecom Grid with a single network for information transport and distribution, but with multiple content and service providers. In this environment, only access to the single network is regulated. By introducing a converged (single) infrastructure, we can foster industry collaboration, obtain funding from a variety of sources and build up our digital capabilities to service the digital economy better. I can assure you that with the
introduction of a single infrastructure model, we can achieve technical as well as business efficiencies, while operational costs for operators can be minimized in the interests of shareholders and consumers as well. That’s why we will engage all stakeholders through a consultation process in this discussion in our way forward.

Besides an adequate infrastructure ownership and management I would like to address just a few issues that is paramount in implementing the Smart Nation Concept.

**The following 5 issues are those I would like to address with you:**

- Guaranteed connectivity 24/7 (A)
- Adequate privacy protection for all citizens and end-consumers (B)
- Adequate cyber security and internet crisis management provisions (C)
- Adequate telecom legislation (D)
- Incentives for innovations and investments in state of the art infrastructure (E)

**A. CONNECTIVITY 24/7**

1. There is increasing demand for telecommunication services from businesses and consumers. In addition, especially private enterprises are increasingly using Big Data stored in the cloud to meet their business and/or strategic objectives. Therefore, in the development of a Smart Nation, hyper-connectivity, fueled by Next Generation Networks and 24/7
broadband availability, is a critical component for the development of a Smart Nation. Rather than a luxury commodity is a true imperative for Smart Nation economies.

2. Hence, a key requirement to become a connected nation is an electronic communication infrastructure, including high-speed transportation of data, that is able to continuously evolve in order to facilitate the availability of services 24/7 for working and social purposes.

B. PRIVACY CONSIDERATIONS

1. In a Smart Nation, ICT-infused infrastructures enable the extensive management, monitoring and control of a variety of processes where citizens are involved, including the maintenance of public places, transportation of citizens by car and public transport, air and water quality, energy usage, security of neighborhoods and public places, and waste management.

2. Such processes use and produce great amounts of private data ("Big Data") from citizens and end-consumers, whose rights could unnecessarily be compromised in the absence of adequate regulations.

3. The existence of such large amounts of data for smarter management of the above-mentioned public tasks, combined with other data from government registers, surveys and social media sites, provides an incentive to extend the use of these data to other uses, such as policing, crowd control, the monitoring
of public sentiment and choices or the marketing of certain products and services.

4. These data continue to be combined and in some cases even made available to the general public. All of this raises issues and/or concerns about who has legitimate access, which data can be opened up to public usage and which not, what is the appropriate privacy policy for the use and/or linkage of different data? In this respect the challenge is threefold:

- to identify which privacy concerns exist in relation to specific technologies and data collection practices;
- identify if and how these are subject to existing data protection regulation;
- development of specific policies and regulations, including for new developments in the area of privacy protection in connection with the use of smart technologies, that accommodate the concerns of citizens beyond the bare legal minimum.

5. Therefore, especially in a small country such as ours, a legal privacy framework has to be developed to deal with specific privacy concerns in relation to the phenomenon of a Smart Nation. This privacy framework has to deal, among other things, with the various types of data involved, the purpose of data collected and its usage, and the organizations or persons collecting and using the data and their competencies. In this way, the privacy framework can
be used to regulate the use of data collected from citizens and end-users within a Smart Nation.

6.

C. CYBER SECURITY, DATA CENTER AND INTERNET CRISES

7. There are at least three areas connected to the use of the internet that I want to address as a regulator in relation to the development of a Smart Nation. These are:

- cyber security;
- data center capabilities and disaster recovery protocols
- dealing with internet induced crises.

8. The first is Cyber-Security. An important aspect of a Smart Nation is promoting cyber-security. It is important that we have secure systems that protect us from hackers entering our devices and systems and/or malicious software that infects these. Whether it is malware that infects our systems or computers, or hackers stealing sensitive information or possibly threatening critical infrastructure in banks, the hospital, the airport or the energy company, this can be fatal for a digital economy.

9. We consequently need to strengthen our security systems and procedures, and build in capabilities to restore operations quickly after an incident. In this regard several countries have installed a Computer Emergency Response Team (‘CERT’) to promote cyber security. The Bureau has established a CERT since 2012, which works in close collaboration with national and
international partners to prevent cyber incidents and mitigate any damage, in case they might still occur.

10. We also need to ensure that we have sufficient datacenter capabilities and a national disaster recovery protocols for our telecommunication infrastructure. At the moment we have only one 4 tier data center on the island (blue Nap of Americas). If the Smart Nation is developed in Curacao, we cannot rely on only one data center capability. Additional capacity is necessary to accommodate our own data protection needs as well as those of others.

11. The third area in this context, for which provisions need to be made, is how to deal with Internet induced crises. Due to the lack of regulation and oversight on what can be presented online, the Internet can easily trigger an organizational crisis, because it permits individuals to spread negative information rapidly about an entity. This requires of companies and institutions to monitor the web frequently and react timely and appropriately on negative sentiments of the public towards them. In addition, companies offering their products and services on the web, should make arrangements regarding what to do in case of internet breakdown or power interruptions.

D. ADEQUATE TELECOM LEGISLATION

12. Our current telecom law is outdated given the technological advancements of recent years. Consequently, to effectively deal with the provision of services using telecommunications or telecommunication installations and facilities in a Small Nation, a new telecom law, policies and regulations, including
regulations containing services provided by OTTs, is necessary and currently in the making.

13. A couple of years back the Bureau has developed a new telecom law, but due to the most recent developments in telecommunications it is already history. New concepts and technologies may establish a new norm that requires new rules for the game. There is where we are at right now.

The fifth and last issue I would like to address in this regard is the

E. INCENTIVES FOR INNOVATIONS AND INVESTMENTS IN STATE OF THE ART INFRASTRUCTURE

14. There are many other issues that do not fall within a regulator’s specific mandate when it comes to the development of a Smart Nation, but which are nevertheless imperative for the adequate and long term functioning of a Smart Nation. Of these, I would only name two very important ones, without which, there would be no Smart Nation, namely: innovation and investments in (state of the art) infrastructure.

15. Considering the ongoing digital revolution, innovation and related therewith entrepreneurship, is key to developing and maintaining a Smart Nation. If the Smart Nation does not innovate, it will rapidly become ‘unsmart’ and lose the interest of the digital citizen, especially in a globalized and interconnected world economy.
16. Consequently, we have to facilitate an environment that fosters and incentivizes innovations in the digital economy by a new class of entrepreneurs. Beside skills, we need the spirit of entrepreneurship and risk-taking of entrepreneurs to release new ideas that create new business models.

17. Finally, we need guaranteed investments in state of the art infrastructure, including several submarine cables to promote international traffic with Foreign Service providers and consumers which already exists on our beautiful Island. I believe that the single infrastructure as mentioned before will make it possible for the investments to be recovered over a short period of time. This makes it more beneficial and feasible for financial institutions and institutional investors to invest in the infrastructure, but is also more appropriate, because new technology increases the rate of infrastructure obsolescence.

In conclusion

18. I have only brushed the vast landscape of what I think needs to be addressed in the coming period for Curacao to really become a Smart Nation. This is a daunting task: there is much work to be done. But hopefully one that brings our nation to a higher, more efficient, level of operation.

19. It is highly necessary that we strengthen our own capabilities as Government and Regulator, while we outsource part of the development to be able to concentrate on the main strategy and policies. Yes, we need to mix our own
expertise with that of the industry. If we don’t upgrade ourselves to the required level, we will not be able to specify what we want and interact fruitfully with the industry. Only together we can make it happen!

Given that this is only a two (2) day session of the AGM with many more speakers, you will appreciate that I can only brush the lid of the topic concerning ICT-infrastructure ownership and management in relation to a SMALL, SMART and SAFE NATION without discussing all the complexities and advantages surrounding this policy initiative. Nevertheless, because of the timeliness and importance of the subject, I hope you will at least consider the relevance of this topic in the days ahead during your deliberations.

Thank you!