



## TECHNOLOGY – DISRUPTION & GENUINE DEMOCRACY

by:

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## Part I:

### A People in Need, But Waiting:

**No** region – with our potential or initial momentum - has fallen as far in global significance as the Caribbean. As a region, we are geo-strategically essential to every risk management option for the security of the Eastern Seaboard of the United States. Yet, **not a single** Caribbean nation has cultivated a foreign policy, leveraging strategic options offered by our fixed proximity to the US. **No** Caribbean nation has acquired or possesses the technological apparatus, institutional prowess or prestige, to foster a *trusted alliance* between itself and the United States, thereby cultivating strategic advantages for itself, and its people extended to the Caribbean Basin. **No** Caribbean nation has used technology to expand educational access or positioned themselves for the future on the strength of the key technological literacies for 21<sup>st</sup> century Education; employing global benchmarks to place their students in the now urgent conversation on skill and learning innovations. **No** Caribbean nation, has mastered big data for primary care, medical needs and services assessments or services delivery in real-time, with a capability to forecast categories of potential outcomes, for use in efficient resource allocation. **No** Caribbean country is either fit or ready for the forward running impacts of

Artificial Intelligence, Machine Learning, or Cryptocurrencies on competitiveness, investability and the metastasizing trend of the shrinkage and elimination of entire categories of jobs; particularly where the exchange of Foreign Investment for jobs has been the tradition; which is now run past its sell-by date. Nor have we readied ourselves for the social impacts of classification and categorisation enforced by Artificial Intelligence, since logical categories - particularly for the distribution of social goods - are regressively inertial. **No** Caribbean nation has moved beyond covetous consumerism in technology – *we like smart objects that go bing* - to the point of clustering interactive portals into platforms capable of generating "big data", aimed not only at processing, categorizing and classifying, but such that the data produced transitions us from mere end-users of technologies to "knowledge distributors", concerning the mastery of data aggregation, categorisation and analysis toward the cultivation of vibrant eco-systems for strategic decision-making. **Not a single** Caribbean nation has deployed a technological architecture for eGovernment, anti-crime or national security initiatives, to maximize "preventative windows", or cultivate citizen interactivities, offering optimally greater efficiency, transparency or accountability in the democratic process. **No** regional institution in the

Caribbean Basin has put forward a strategy and formula for an immediate transition of a regional process to an ICT platform, or has undertaken developmental priorities — such as reducing backlogs in our courts across the region, or amassing data on social formations iterated across the region, revealing patterns of criminal activity, such that ICT can assist us in transitioning our crime problem into a knowledge base and decision tool.

Yet, these are the basics...the “*low hanging fruit*”, as the saying goes...which could be begun this very minute.

TODAY is the day, representatives of Caribbean nations and companies gathered here, will no longer be able to say: 'we didn't know', or 'we need more time' or 'we do things differently'; as if gravity does not pull in the same direction for us as for the rest of the world, now surpassing us in every respect.

### The Drain of Tax and Brains:

We, in the Caribbean, are secondary consumers of technology, but without the generative incentives, skills or platforms required for our region to compete in the 21st century.

We are secondary because, first, we do not conceive of, manufacture nor invest in original technologies. In general our instincts do not run to how something is made, but how it may be possessed and used. Second, even as consumers, the operational uses for technologies are dictated to us and we alter and adapt our social practices, even our culture, to the use of technological apparatus that emerged in a cultural nexus separate, and with culture altering priorities different from our own.

TELCOS and mobile phone companies in the region are as near to the cutting edge, as we seem able to arrive. Yet, these companies are also not originators of technology and are themselves merely consumers and purveyors – essentially retail brokers - of products manufactured elsewhere.

There is another quite pernicious reality which was discussed – I am pleased to say by Dr. Paul Golding – the Dean of the University of Technology in Jamaica. I add to his warnings to TELCOS and the challenges to their relevance by painting the following picture, with your kind indulgence:

TELCOS in the Caribbean remain stuck on telephony, when others in their business have become multi-media companies. Our TELCOS therefore leave themselves vulnerable to Skype, WeChat, FaceTime and the mightiest of them all: Whatapp. I have noted in the attempt to diversify, TELCOS have talked about “moving into certain spaces”. So for instance they may move into sports channels or payments. However, there are two – amongst many facts which must be borne in mind:

- First, the mobile device is the new radio, television, telephone and it means that multimedia also means media-in-your-pocket.
- Second, in multi-media, “our” companies – simply - can no longer exist as TELCOS, whilst poking fingers at some data, or sports or some other “over-the-top” feature. The true radical change is that such companies – as we have in the region - have to cease to be TELCOS.

The reason for this is multimedia – which means every thing – also means mobility; which means everything, all the time. Therefore, the new reality is “multi-media ubiquity”, but *ubiquity* also requires “convergence”, as is best witnessed in the exploding “internet of things”.

This means that TELCOS in the Caribbean are faced with enormous challenges that no Caribbean government alone can solve, which are structural in nature and mischievous in scale.

The vicious ratio by which they and we are confronted is the ratio of scattered, discrete multi-services demand over the vast disjunctively regulated area of the Caribbean, against relatively high capital investment, segregated services regulations, together with distinct same-service regulations in different countries in the same region, with stratospheric pricing models to cover anomalies, inefficiencies and uncertainties; and that does not yet address volatile competitive pressures.

There are, as a consequence of these facts, only three futures for the Caribbean as participants in the 21<sup>st</sup> century; two being what we can make happen and the third is what will happen to us if the status quo remains:

- a. Remain attached to and serviced by TELCOS in a highly fragmented market, scattered over a vast area, with less demand than a small state in the United States; which means less services and higher prices for Caribbean peoples and worse, it

means being locked out of innovations, which we lack already the skills to execute or inclination to pursue as originators.

- b. Bundle the Caribbean into a single amorphous ICT regional platform. Again - as I will discuss later — this demand for technological relevance will demand inherent an abrupt, immediate change in our political culture, and a rejection — not merely - of our penal and clerical protectionist regulatory practices, often copy-catted from larger nations, with no regard for differences in priorities. It means the adoption of new open, general compliance rather than approval models; which depoliticizes the regulatory process, permitting it to move flexibly, sensitive to market changes, at the speed of business, finance and innovation.
- c. The third option is a “*cascade affect*”, which is that Facebook, Apple, Amazon et.al will overwhelm TELCOS, first by identifying their profit centres, under cutting them, blending those service areas into their offerings through their already global platforms, leaving TELCOS with higher costs, less demand and dormant infrastructure; locked in a embrace of mediocrity with governments, contemplating where the tax dollars have gone.



## The Cascade Affect:

Even as I will speak of governments later, below, let me put this matter as clearly as I may put it starkly:

Caribbean governments – since independence – have overspent time attempting to prove they are the one's in charge, whilst in the same moment brown-nosing with investors – sometimes criminally – all depending on the public sentiment, or the proximity to election dates. Micro-states waste time either camouflaging their insecurities and suspicious propensities, attempting to divine the ulterior motives of their foreign investors, rather than developing tight but flexible strategies that reflect our need to be nimble, intelligent and responsive. Nothing will challenge and punish this hubris of ours more than the emerging changes enervating in the telecommunications revolution, driven by the digital industrial revolution.

Our problem in the region, is that we are too often speaking of a future that has already begun. One in which our children and young people are already participating, to which we often react with the colonial regulatory complex of penalties, such as gateway fees that reflect our ravenous appetite to freeload on processes for taxes revenues we did not foresee or foster, with fee rates that

undermine the value of the services. But the digital industrial revolution is nothing if not disruptive to this. Our long-suffering citizens already have access to telecommunications which our governments do not, and cannot control; which is to say the cascade effects are already emerging. There are increasingly available, financing, niche and emerging banking models – such as crowd funding - which governments will also be unable to register, control or quantify, except where product inputs cross a border or are acquired within the nation's boundaries.

The tax leakage from certain digital services has already occurred, and governments have either not act with the speed this situation demands, or too many have *re-acted* with the traditional protectionist overkill. Think on this: It will be possible in the future – as a new form of collateralization – for Facebook or Amazon to use access as the new collateral, and lend money to citizens in any country, secured by access on which we are all now dependent. That person could then buy goods or services from anywhere in the world, or aggregate investment capital outside the regulatory range of governments, and disregard the regulated banks within their own country.

As such, the control fetish that has fascinated our governments, and resulted in flagellating regulations – under the pretence of protecting the people – will find that “the people” – as the ancient Roman poet, Virgil showed us in the “Georgics” - have moved onto unregulated platforms and into spaces, with access to services, regulated by the customer’s innate caution alone.

The name of this phenomenon is called: Freedom! And it is contagious, as the cascade to Whatsapp from regulated telephony by young people - and now even my 70-year old mother - has shown. As such, currently, TELCOS in the Caribbean region together with our governments and their regulatory agencies are engaged in a meta-pantomime disconnected – no pun intended – from the realities of the Digital Industrial Revolution.

In my view however, TELCOS – the membership of CANTO - are best placed – in partnership with the people of this region together with governments, to aid in the revolution our culture under the influence and force of a new thinking. This new thinking must foster broad social technological literacy and a new tech-creative urgency that can move us beyond being mere consumers to building enabling infrastructure, implementation capabilities,

integration networks and eco-systems and proactive institutions, all aimed at cultivating national development options through Information & Communicative Technologies (ICT).

### **The Narrow Window Thesis:**

Year after year, it seems, the Membership of CANTO and development institutions across the region engage in the same blame game: I read all the lectures given on ICT development in the Caribbean at CANTO going back to 2005. In 2010, Dr. Emsley Tromp discussed “Polices to Improve the Caribbean’s Competitiveness in a Knowledge Based Economy”. On the one hand, I see no means of improving upon what he argued, and on the other, I see little movement toward the salients of the advice he offered. It will do us little good to gather in these forum, only to breathe over ideas already in full working mode in other regions of the world, only to return the following year to hash about the same ideas.

In the Caribbean we have long behaved as if we have extra time to develop what countries - that achieved nationhood after us - have already developed and advanced.

Defending ourselves, we reference the length of time it took Europe to develop whilst ignoring measures we failed to execute, in leaning on the time-scale argument.

As an Economist, I am known in some quarters for the “*Narrow Window Thesis*”. That is:

- a. Whatever you imagined was the time-scale you had, have or needed to develop and implement a strategy, that time window is narrowing abjectly; in part driven by realities beyond your control.
- b. Abject narrowing means to narrow in a manner that cannot be recovered, because deep structural enforcement of the new reality prevents second chances or catching up.

In our case, the Caribbean is the most Tourism dependent region of the world<sup>2</sup>, accounting for about 15% of regional GDP<sup>3</sup>, but for more than half the countries in the Caribbean, Tourism accounts for nearly 60% of total GDP.

First let me emphasise a point that shows why are are not knowledge distributors and how that opportunity is closed off by a narrowing window of opportunity:

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<sup>2</sup> See: <http://www.greenhotelier.org/destinations/the-caribbean/>

<sup>3</sup> See: <https://www.wttc.org/-/media/files/reports/economic%20impact%20research/regional%202015/caribbean2015.pdf>

We have no architectural or design school where the best ideas in hotel development and design are being hatched. Second, we have no big data apparatus – similar in kind to IBM’s WATSON – or even a *run of the mill* data aggregator, that can metastasize data from regions of the world, to give us - in real time, on a daily basis - profiles, forecasts and data-points concerning our tourism models, efficiency propositions for hotel design and financing, or to test and analyze our tourist product or unique exploitable potential market mixes that could maximize our tourism receipts.

Information technologies could aid in this, but even that is not my point. My point is that even in Tourism – our basic economic lifeline – we have not mastered the components of our business in full employment of existing technical tools. A design school – as one example – would mean we would have taken our business model to its secondary, tertiary and quaternary levels of development, multiplying our earning potential, becoming primary knowledge distributors in our “lifeline” industry. So The Bahamas and Jamaica were the primary movers in tourism for nearly half a century in the region. But now Dominican Republic and Cuba are, and both – particularly the Dominican Republic – with a robust architectural design culture – and a design

school (*Parsons' Escuela De Chavon*), that will support its rise as the dominant power in regional tourism.

This means that the Bahamas and Jamaica would have to do more than generally improve their numbers to regain the top spot. The notion of the top spot has evolved to a more complex model, requiring more than the fourth and fifth tier regional players can deliver.

Therefore, in general in the Caribbean, even in our primary lifeline industry, we have not layered our capabilities with systems, methods, institutions or cultural inputs that advances knowledge clusters or innovations, which bears our name or requires our expertise.

The narrow window proposition reflects what I have argued in a 2007 lecture that “*Beach front property will be the least valuable in the Caribbean in 10 years, if there is any left by then*”<sup>4</sup>. As such, we had –and have now - a narrow window in which to develop and exploit the tourism sector maximally – to become knowledge distributors - in order to foster and finance a transition to another economic model; whilst offsetting the impacts of climate change on our environment.

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<sup>4</sup> This is my own thesis. However, I maintain a constant review of not merely ocean rise affects. But the increased schedule of beach renourishment in Florida and around the region.

The only way to diversify an economy as an efficient organism is to diversify within one's existing business model. (For instance, APPLE diversified from product – iPod, iPhone, iPad, Mac – to platform with iTunes, which extended the usefulness and applicability of the core product).

In North America, over the next 35 years, nearly 100 million people will retire.

This is the next and probably last major economic opportunity for the Caribbean, with inherent demand, not generated by our own actions or innovation, but in service of which, we may diversify our economic models away from beach intensive tourism to a model that is home grown, yet competitively global, efficient in its commercial features, enough that our expertise concerning it becomes an extendable selling point.

### **Smart Nations Exploit Narrow Windows:**

These options cannot be achieved without ICT (as we can never optimize this opportunity with the poor analogue paper-based, hierarchical administration and services we suffer our own people to endure).



But in order to exploit this diversification option, and to do so within the narrowest window of time, our strategies must rise to the level of becoming, not merely efficient or even relatively successful, but rather becoming primary knowledge distributors of this new potential sector.

The best examples for this sort of “smart nation” strategic thinking are: Israel for ICT Security; Finland for Education; Norway for Social Investment; Morocco for Alternative Energy; Singapore for efficient execution of economic strategies; Switzerland for quality of life and Estonia for national ICT and eGovernment.

Let’s take Estonia: In 1992, Estonia was still a backwater of the old Soviet Empire. Mart Laar – then leader of its government – decided that leveraging internet driven ICT, was the best way to place his country on the same footing as western European nations:

- He mandated all government interaction to be internet based
- This drive produced the invention of Skype with government support, and a national ICT platform
- By 1998 98% of schools were networked
- In 2000, the Laar government declared that that internet access was a Human Right

- In the early 1990s Estonia was lagging so far behind in communications, the country had one land line telephone – or so the story goes. Finland offered Estonia its analogue phone system upon its transition to fiber.
- Estonia rejected that, yet become the most wired nation in the world, where the last 3 general elections were held online, and today – as I am repeating the same challenge made at CANTO in 2005 - Estonia is assisting Finland in a joint project using Blockchain to digitize Medical Records<sup>5</sup>.

In addition to the above, Estonia not only developed from zero ICT to world's most wired economy within a “narrow window” of time, it has established the Estonian eGovernment Academy<sup>6</sup>, and so it has become the primary knowledge distributor concerning its own success.

Another example is “India Stack”. By 2009, about 50% of the population of India lacked basic identification; which meant they could not obtain a driver's license or a bank account:

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<sup>5</sup> Medical Records Sharing: <https://e-estonia.com/estonia-and-finland-to-start-sharing-patient-data-and-thats-just-the-start/>

<sup>6</sup> See: <http://www.eqa.ee/>

- In 2009, India launched AADHAAR, a 12-digit digital identity, supported by a biometric database which back-ends to India Stack.
- It became the largest ICT project in human history, at the same time we are failing basic ICT protocols in our region
- By 2016, 1.1 billion people or over 90% of the Indian population had a digital identity

But this is only half the story:

- To prevent corruption, without telling his Ministers, Prime Minister Modi arranged to ban 85% of all currency in circulation after introducing India Stack in 2016
- India Stack is a series of encrypted and integrated networked systems that permits Indians to share data with each other and government agencies, to confirm ID, open a bank account or share educational transcripts or medical records

Since India Stack was implemented just last year, 270 million bank accounts have been opened in India.

You should note that in 2015, the major Western Credit Card companies concluded in a study that India was the country least ready for ICT based Digital Payments<sup>7</sup>.

How is it that India can go from least likely candidate for a cashless society to – within a narrow window of 12 Months – completing the largest ICT payments platform in human history, whilst I am discussing innovations for 16.8 million people in the Caribbean and having to repeat the same challenges from 12 years ago?

In speaking to members of the team in India, they expressed that government leaders had become alarmed that India needed to pivot immediately, disrupting the status quo, in order to extend the basic features of democracy to its citizens, to foster a participatory democracy in which citizens had actual access to services permitting them to advance their lives and achieve their plans without overbearing government, or face the populist alarm, of over 1 billion people, that has gripped many western nations – including the United States - enfrowning them in partisan politics and factionalism.

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<sup>7</sup> I have benefited from an article written by Oliver Garret of FORBES and Stephen McBride “*India is likely to Become the First Digital Cashless Society*”, FORBES June 28<sup>th</sup>, 2017. (<https://www.forbes.com/sites/oliviergarret/2017/06/28/india-is-likely-to-become-the-first-digital-cashless-society/#7f4ed6923c80>)

## Part II:

### We Have Lost the Meaning of “Bold!”

In our case in the Caribbean region, some governments – notably Barbados and to a lesser extent, Jamaica – have undertaken ICT implementation initiatives, but with little success. There is a veritable “alphabet soup” of initiatives such as: UWIDEC blended learning project; Caribbean Association for Distance and Open Learning (CARADOL); Virtual University of the Small States of the Commonwealth (VUSSC) US Virgin Islands Department of Education (VIDE); Aruba’s School of Tomorrow project.

Across the region, such initiatives have been – as a host of studies have shown - largely:

- The provision of online forms or as basic as permitting payment with credit or debit cards
- They are driven mostly by international organisations
- They are not networked or integrated, and offer no data aggregation across an entire platform
- None are interactive
- None are coordinated fully in country or across CARICOM
- None are disruptive of the status quo

- And in no case in our region has any Caribbean nation's ICT efforts, exploited an urgent narrow window, nor has any nation become more genuinely inclusive – as in the India example - or a primary knowledge distributor based on a credible ICT success

The fundamental reason that ICT initiatives are either ill-conceived or stalled in our region is because a central feature of Caribbean governments since independence runs against the core feature of Information and Communicative Technologies:

That is CONTROL!

Yet, as I have said, the Digital Industrial Revolution moves against centralized controls. Take Blockchain for instance:

- It permits Data to be entered onto a platform, distributed, but not duplicated
- Every entry updates the information in Blockchain, constantly reconciling and tracing to every action on any document and verifiable in real time
- The data in a Blockchain is 100% available 100% of the time

Now imagine, all Cabinet decisions, on benefits, land registration and grants, contracts with government were all on Blockchain; which any of our governments could do today.

That one instance would increase the quality of democracy, it would disrupt poor record keeping, eliminate a tier or more of bureaucracy, and prevent corruption with full transparency and maximum accountability.

Such a platform could:

- Improve government revenues
- Increase fairness
- Improve accuracy
- Determine and confirm workflow contributions
- Improve record keeping
- Reduce Labour inputs

But wait!

Think on this: Should these be considered “innovations” at all? Are these not basic priorities in a democracy to ensure the rightful application of taxpayer dollars?

In fact, the achievement of these basic propositions do not represent a cutting edge strategy similar to Estonia's achievement and certainly not akin to India transitioning a billion people online and bankable in the narrow window of a single year.

As such, once we are past the political obsession with control, Caribbean nations, if we care for greater democracy, through enhanced efficiency or about "kick-starting" an ICT eco-system aimed at generating genuine competitive advantages,

There is a formula:

Following the Estonia Model, countries must:

(a). cultivate a robust public service reform agenda rooted in ICT innovations;

(b). which can be leveraged for education and skills training over utility grade ICT platforms,

(c). which in turn can be leveraged for cutting edge business sector reforms; in support of a digitized economy in general and in particular, for the strategic, financial & productivity advantages of Small to Medium Enterprises (SME).



Let me repeat: Caribbean people's have heard of ICT revolutions in other countries. We actually encounter a better organized and efficient world when we travel. If we intend to bring this revolution into the actual experience of Caribbean peoples, it must begin with governance and civil service reforms; then our people must be made ready to use ICT portals and platforms to deliver services, but also broad education and skills training as Estonia did; whilst introducing market reforms, such as business and banking, generating participation through full market access, as India has done.

Following Singapore, we must then press these reforms into every aspect of national life. Singapore is now using ICT for "city-mapping", against a benchmark set of criteria for city management, efficiency, employment and growth; so it is possible, instantly, to identify every potential positive or negative driver for each city's potential economic optimization.

Since reforms are not strategy, but the preparation to execute a strategy, it is at this stage that strategy can unlock the dormant potential of our countries and region.

This can release us from the discordant tendencies of tiresome “lip service” to ICT reforms held back by our adverse political traditions, that move opposite to the openness ICT can and promises to deliver.

Let’s imagine a bold strategy by these rules:

- First, do not reinvent the wheel
- Second, take note of the Narrow Window (you don’t have all day!)
- Third, tailor solutions to your actual environment and culture

What can we get out of that?

First an objective: To bring banking and finance onto the mobile devices in the manner that India has done with “India Stack”; and as a corollary, to reduce and eventually eliminate cash and paper in all transactions in the region; and collateral to that, to generate new efficiencies, on a transparent basis – with Blockchain for instance - with full real time accountability; again as India has done.

Second, when do we do this?

Answer: NOW!

We have a narrow window in which to act, first because we risk the ‘cascade affects” of large players like Amazon and Facebook, entering these spaces and developing such deep penetration that our governments have to negotiate at a disadvantage or regulate in a manner that to prevent tax leakage also means undermining services and competitiveness, which would lead to further cascading, so an even stronger embrace of Facebook, Amazon et.al.

Third, as our people understand ASUE and other social “financial pooling” methodologies, we must use this moment to end the fetish of copying – wholesale - banking models from larger nations, which are an obstacle to the money related needs of our peoples and leverage what we have known and practiced historically; supported and layered by ICT and every modern tool that renders it familiar, efficient and effective for our needs.

How will it all come together?

- a. Amongst other things, what would be needed is a Licensed Concept (like AADHAAR/India Stack); a comprehensive network and regulations.
- b. We would need a series of independent Application Programming Interfaces (API), which is where the key innovation take place:

- i. The system is a state system – owned by its members, citizens - reconciled to Blockchain - so one does not have the worry of cronyism or government interference, but it will have the protection of a state entity, so it cannot be sold.
  - ii. Private enterprises – current TELOCS or network providers – would provide the network, and negotiate service-plus fees.
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- c. For the banking capital, a combination of pooled resources of the members, (like ASUE), matched by private placement, but similar to “Lloyds Names”, where syndicates of persons with the means, can lend their funds into the system, for a fixed rate of return.
  - d. As an innovation each syndicate pool could constitute a participating API.

### API as Bank!

The entire system is merely a highly integrated ICT portals communicating with each other reconciling every action and transaction upstream (so that all components share the same record, and reconciles downstream to the user, in response to a biometric file.

That is a rough and ready approach to BOLD, which if India could complete for 1.1 billion people in one year, we must be able to complete in this region by August Monday 2017!

This system aims at providing a solution in the region to the unbanked and underbanked by establishing a Biometric Identity Database; Virtual Payments Addressing and Digital Payments Interoperability.

The added innovation is the source of continuing micro loan capital – which is low risk on this model – and the corollary of this system is that it could also be used for:

- Voting
- Referenda
- Social Benefits payments
- Medical Records and Primacy Care Monitoring
- Education Services Delivery
- Shopping

### **My Charge to CANTO:**

In 2004, I wrote a speech for a CANTO Conference for a Prime Minister, and in that speech; which was begun, but not read past the 3<sup>rd</sup> page.

The speech called for the members of CANTO to lead in ICT development beyond their commercial interests.

The objective of the speech was to challenge some discordant tendencies in the region, such as the constant erection of college and university buildings when the wealthiest universities in the world are getting rid of them; a failure to embrace a federal university model for the region, where under the UWI banner, each country that wanted could erect specialty colleges, and to forestall our 19<sup>th</sup> century notions of education service delivery.

The speech argued that within 12 months – this is 2004 - CANTO should lead in the formation of a Regional Digital Library, collecting the entire corpus of Caribbean writing, in every aspect of artistic or academic endeavour from the region. It proposed that in the following year, A Regional Database of all Recorded Caribbean Music should be launched. That speech advanced, that in the third year, A Regional Digital Art Gallery should be established.

It is only after these portals have been established – so the speech proposed – that a Regional University Instructional Platform, incorporating every licensed or chartered university in the region should be established,

through which Caribbean students could access courses from any Caribbean nation standardized online. In addition to the specifics above, Caribbean nations must:

- Each appoint qualified Ministers responsible for ICT
- Develop within the next 3 months, ICT Audits; outlining not prospects for merely administrative efficiencies, but how ICT disrupts mediocrity, inefficiency and undemocratic systems in their countries and how – across all Ministries and Departments – ICT can contribute to immediate action in narrowing their country’s development window, increase productivity and participation whilst advancing national technological literacies
- Agree – in the next 3 months – to establish in each CANTO member country, “matching institutions” across the region for ICT development and implementation
- Establish – in the next 3 months - Working Groups, each with a Regional Liaison, to coordinate ICT development and implementation across government and the region

I make two further points:

- a. In my view CANTO is best positioned to catalyse these propositions I have laid before you as the Caribbean's "ICT evangelist". So imagine my horror to have discovered that CANTO does not have a \$50 million dollar budget or a full in-house "think tank". If we are serious about what we must do, correct this! Everywhere else in the world where I work and advise, organisations like CANTO are supported, because they do the a-linear work that seeds the possibility of any vision for change.
- b. Second, in this challenge that I have laid before you, I admonish you, STOP leaving the region to find consultants to tell you what your regional experts know already. Stop awaiting international organisations to impart what is before your very eyes. In those international reports, the Caribbean gets half a page in a 40-page review, then we spend millions for those organisation to come and explain to us what we could learn better and more relevantly from our own. I do not reject the notion of foreign consultants, particularly where an initiative has been successful in a country where that expert has played a role. Still retain your local experts and permit him or her to retain those from elsewhere.



Finally, if India could and has rolled out a programme for 1 billion people in 12 months fully implemented, and Estonia could establish itself as the primary knowledge distributor for eGovernment (and soon for the first comprehensive digital national medical records system on earth in Blockchain), having integrated the most disruptive technologies into a seamless platform for participatory democracy, surely we in the Caribbean can foreswear old political notions of control – which cannot be sustained in any event – and establish within three months what we have been talking about for 20 years; particularly where our window of opportunity is closing, as the basis for our economic existence is falling victim to the tides and our own unsustainable turpitude.

In all I have said here this, know: It should not appear that I have lost faith in our people from whom our governments spring. Any force in my tone – for which I offer no comforts – reflects my devastation at the waste of Caribbean genius and Caribbean potential. I was told that there was some forewarning that I would speak forcefully. If some heat was felt from the force of this lecture therefore, as Leon Williams told me when he taught me Sunday School, that's not heat, that's learning...Let's change the game together...now!

Finally, a word about our fabulous host country:

The Dominican Republic is one of the most magnificent developing stories in the Caribbean. I lived here for about two years from 2009-2012. I was attempting with Mr. Alex Rood to develop a food export business. I wrote 5 books at the little cafés in Zona Colonial and in the gardens of Hotel Ovando and at the tables of art house restaurant Maison de Bari.

I met some amazing people from sociologist and literary scholar Claudimero; to Gaetan Bucher, my friends at JAD, Osmar and his team and also Rosa at Scotia Bank, who was always so helpful and the entire staff at JW Marriott at Blue Mall, who are the best hotel staff in the world.

I wondered why the Dominican Republic is not feeding the Caribbean and taking a share of the multi-billion, dollar food import bill from regional nations?

In the Zona Colonial, you have here the most important historic city in the Americas. You have in Escuela de Chavon a school which should have a few thousand students from the rest of the Caribbean, and indeed the world every year.

In talking with Dominican business people and so many concerned Dominicans, I asked why the colonial city was not restored to its old glory? It should be not only the tourist attraction in the Caribbean, and the America's because of its historical significance and beauty, but it should begin as a place of pride in history for the Dominican people, which would make it meaningful to the rest of the world.

The most wonderful discovery I have made in Dominican Republic is its people and in particular, it's young people. Whether it's Isamar Gariddo who won the chemistry Olympics twice -now she is in the US and last year interned for a state senator - or young Dominican legal scholar Samarisa Gomez, or intellectuals such as Olga Reynoso, and Nicole Contreras, who introduced me to a number of leading artists here.

Perhaps - for the moment - the greatest gift the Dominican Republic gives to the world is Beauty: of the major magazines in the in the seven months of this year, 12 of the cover models were Dominicans; including the now legendary Rose Cordero and Arlenis Sosa. You may not know that the hottest sensation in the fashion world today is Linsey Montero and her friend Luisana Gonzalez.

This success comes from the vision of Sandro Guzman. There are many others, Greylin Q. Alcantara, or Sacarlet Quezada, and outstanding photographers like Stalin Tatis or talented young ladies who model nationally like Nicol Desantos and sensational Miss Dominican Republic, first runner up in 2015, Miss Aura DeCastro.

In addition to this, I think the Dominican Republic has the most innovative graphic artists and public advertising in the Caribbean. Dominican marketing is simply sensational.

I add to that artistic success, Dominican building development like the masterful architectural designs of the Mariposa residential towers in Santo Domingo.

As an economist, what I said during the push for the 4% a few years ago – when Dominican students demanded that government spend 4% of GDP on education - was this: *you must create a Dominican Republic where these beautiful young people can live their best life and achieve their best selves, here at home.*

As I told many Dominicans at the time: *if the average Dominicans were 10% better off, the Dominican business community would be 100% wealthier.*

Here is the point: disruptive technologies can open a world – right here in Dominican Republic - where these young people can share in the economic expansion of the Dominican Republic as Modi made possible for Indians in the story I shared. Both the Estonia and Indian models are suitable to Dominican Republic and Hispaniola as a whole, as much as they are to the entire Caribbean.

As the fatherland country of the Americas, (the Bahamas is the motherland, and Turks and Caicos the Beautiful child) just as you conceived and built this amazing global city in Punta Cana, with the same grace and dignity of the great Oscar de La Renta, you can become an example to the Caribbean by using technologies to ensure Dominicans can enjoy their best possible life in this *isla bonita*.

END.