

THE TECH LEAP

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The COVID Pivot to e-Government - Kirk Henry
Becoming Data Citizens - Leslie Lee Fook
What's in your Mobile Wallet - Marc Persaud

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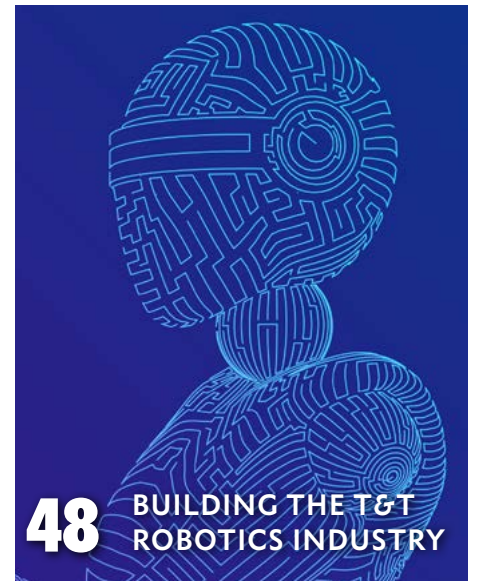
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The opinions expressed in the editorial contributions in Linkage may not necessarily be those of AMCHAM T&T. We welcome any comments you might have! Simply email a "Letter to the Editor" to the AMCHAM T&T Secretariat to kennedymaraj@amchamtt.com

AMCHAM T&T'S VISION

As **The Pathway To The Americas**, AMCHAM T&T is focussed on the stimulation and promotion of trade, investment and export oriented growth in the Western Hemisphere.

AMCHAM T&T'S MISSION

AMCHAM T&T will add value to our member companies within the following key focus areas:

- Enhancement of Competitiveness
- Generation of New Business and Market Access for Services/Goods
- Influence on Policies and Legislation
- Transfer of Knowledge
- Contribution to Sustainable Development

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VIEWPOINT



So much of our world has changed, yet so much is about to get better. But for this to happen we must Take the Tech Leap.

Patricia Ghany
President, AMCHAM T&T

In the 1850s, 10 per cent of the population of Port of Spain and 14 per cent of San Fernandians died of cholera. Lethality of the disease was 57 per cent and especially high among children. People had no idea that the disease was water-borne and caused by household wells having been dug in close proximity to latrines. Instead, they set up barrels with burning tar at street corners in order to cleanse the air, which they thought would keep them from getting infected.

A century ago, the world was ravaged by the 1918 Spanish flu that claimed the lives of an estimated 50 million people worldwide and infected another 500 million, almost one quarter of the world's population. People were somewhat better informed due to the scientific progress having been made in the areas of bacteriology and virology, however, at the time, we knew very little about viruses and lacked the scientific and technological breakthroughs to quickly develop a vaccine or antibiotics. Control measures were limited to isolation, quarantine, good personal hygiene, and restrictions on public gatherings in order to limit the contagion's spread from one person to another.

In human history, technology has been hugely responsible for helping us to survive through pandemics. Had it not been for the scientific discoveries of bacteria and germs, we might not have understood the nature of viruses. And none of this would have been possible had it not been for the technological breakthroughs of the single-lensed microscope and later, the electron microscope.

Technology has always been our greatest ally in saving us from near extinction. Today we are facing some challenging times but it's definitely not unprecedented. We have been here before and we have survived. There is no reason why the outcome will not be the same again. So much of our world has changed, yet so much is about to get better. But for this to happen we must Take the Tech Leap.

THE TECH LEAP

What do I mean by that? Well, we are once more facing a pandemic that has resulted in quarantine measures, social distancing, closed borders, and other restrictions that are needed to secure our health and safety. Thinking we can ride this storm out until it blows away is not the answer. What we need to do is change our lifestyle and adjust to the new normal. And luckily for us, we are in an age where there is a proliferation of technologies that can help us live, work and play even while we stay apart so we don't spread diseases to each other.

Taking the Tech Leap means embracing the fourth revolution and making digital transformation both our reality and way of life. But embracing digital transformation doesn't mean just switching to the cloud. It means embracing all the technologies that are available to make our lives easier and to facilitate the ease of doing business. It will require an acceleration of our country's digital transformation.



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A DIGITALLY-ENABLED T&T

So, let's imagine a digitally enabled Trinidad & Tobago. Over the past couple of months, we have seen how quickly consumers and businesses adapted to changes in remote working, e-learning, entertainment, and consumption. Let's not pretend these changes aren't here to stay. The long-term digital disruption caused by these changes will generate valuable business opportunities for entrepreneurs, CEOs and nations, but only if we make it our priority. COVID-19 has ripped the band-aid off the need across the public and private sector to enable teleworking and remote learning across most households. To facilitate this, we need to take the Tech Leap and start closing the gaps in ICT availability, affordability and adoption, so that every citizen has equal access.

TOOLS FOR THE TECH LEAP THAT AMCHAM T&T ADVOCATES

A Unique National Identification Number system will allow for the provision of government services in a less disjointed manner and for instant verification of information provided by the customer. This is something that we have been speaking about for years and we believe the leap must happen now.

Government ought to recommit Trinidad and Tobago to the Open Government Partnership. This would provide more and user-friendly data to the private sector to extract economic value from public data. Appropriate privacy protection supported by data privacy and data transparency laws including the full proclamation of the Data Protection Act are a prerequisite for this.

Sending our kids back to school in the middle of a pandemic may not be ideal, so we need to urgently address the deficiencies in the education system, particularly with using IT in the teaching-learning process, teaching tech-related skills, and at a base level, paying attention to differentiated approaches to teaching that will effectively facilitate learning across the widest group of students.

AMCHAM T&T'S TECH LEAP

This pandemic has been disruptive, but it has also caused AMCHAM T&T to be innovative and transformational to meet the concerns of our members. We quickly adjusted to this "virtual is the new normal" model and hosted a series of webinars that helped us to inform and stay connected to our members at a time of social distancing. More than 175 companies and 850 persons have participated in these online offerings. Our Annual General Meeting was held virtually for the first time. Our Women's Leadership Mentor Programme was able to increase its intake to 37 women due to the fact that it's now conducted virtually. And in a couple of months, we are about to host our 24th Annual Health, Safety, Security & Environment (HSSE) Conference and Exhibition in a virtual format, which allows us to add an additional three days of informative content and dynamic speakers.

So, despite the many disruptions COVID-19 is posing to our lives, there are also many opportunities here that can lift us out of this situation and secure a future that is both promising and rewarding to every citizen. Our history has shown us how technology has saved us during times of great uncertainty and there is no reason to say it can't happen again. That's why we are saying we must Take the Tech Leap! <<

AT RIGHT: INVITATIONS TO SOME OF AMCHAM T&T'S ONLINE PROGRAMMES SINCE THE OUTBREAK OF COVID-19





Trinidad & Tobago IFC

Financial Sector Development



FinTechTT



Members of FinTechTT Interim Management Committee flanked by T&T IFC's CEO (left) and former Manager, Financial Markets Development (right)

T&T IFC – Making T&T a FinTech-enabled Financial Services Hub

It has long been understood that the transformation of the Trinidad and Tobago economy is key to creating long-term, sustainable growth as well as insulating us from external shocks as a result of turbulence in global energy markets. The unprecedented impact of the COVID-19 pandemic on local, regional and international economies, has brought this need into even sharper focus.

As the financial centre of the English-speaking Caribbean, development of our robust financial services sector is key to accelerating and broadening Trinidad and Tobago's economic transformation. The Trinidad and Tobago International Financial Centre (T&T IFC) was created to do just that. Through our ongoing initiatives, the T&T IFC has successfully engaged foreign investors in the financial services sector, facilitated training

and development for sector professionals while championing the drive to make Trinidad & Tobago a FinTech enabled Financial Services hub.

Why FinTech?

The potential for FinTech – technology used in the delivery of financial services – to be a positively disruptive force and a driver of economic transformation is enormous. Already, key global markets have embraced it. It is our time now to seize the opportunity to become the FinTech hub of the Caribbean, while enabling people and businesses operating outside of traditional banking structures access to convenient, affordable financial services as never before, thus creating a vibrant, prosperous "Cashless Society" in Trinidad and Tobago.

Join Us

As the sponsor of the FinTech Association of Trinidad and Tobago, (FinTechTT) we welcome the participation of technology start-ups and financial services sector professionals to join us as we pursue the transformation and evolution of our financial sector.

To apply for membership in FinTechTT, visit www.fintechtt.com



Your Resourceful Ally

About the Trinidad & Tobago IFC:

The Trinidad & Tobago International Financial Centre (T&T IFC) is the force that propels the Financial Services sector's development. We are the facilitator behind our collaborators' success stories, supporting both foreign and domestic stakeholders. As a national agency, the T&T IFC forms an integral part of our government's strategy for sustainable development and is strategically positioned to connect Finance & Accounting Outsourcing and Shared Services investors with the resources and information they need. We are also committed to taking Trinidad and Tobago forward with a focus on Financial Technology (FinTech) and other drivers to make this country the FinTech-enabled Financial Services hub of the region. The T&T IFC – we are more than just a business partner. We are here for you as Your Resourceful Ally.

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WELCOME



When we look at human civilisation throughout history, we can see how technology has greatly influenced mankind's ability to communicate, learn, survive and evolve.

We first saw this recorded in our earliest days as hunter-gatherers through basic survival skills learned from hunting and food preparation. Then our lives were transformed through the creation of modern societies defined by remarkable technological advancements in transportation, construction, manufacturing and communication during the first and second industrial revolutions.

Now today, we sit uncomfortably in the space of the early 21st century – a period which is producing advanced research and creating futuristic innovations through quantum computers, gene therapy, 3D printing, nanotechnology, bioengineering/biotechnology, nuclear technology, alternative fuels, augmented devices, artificial intelligence and spaceflight technology.

But none of this happened overnight. To get to where we are today meant taking a big leap to realise improbable dreams that would revolutionise our world. Taking any leap requires an equal measure of courage, faith, and belief that the impossible is possible. It's those bold leaps that have seen us fly across oceans, land on the moon, and today have face-to-face conversations with friends and family even when we are separated by walls or borders.

Yet today we find ourselves in this precarious moment in time. A moment in which our very existence is being challenged by a pandemic which is forcing us to re-examine our way of life, and will require us to reinvent how we do things. This is not to say this pandemic was not unforeseen or unpredictable. In fact, the science and history has shown us that these things were entirely predictable, yet many of us were almost totally unprepared to respond. So, we knew it was coming. We just didn't know when and how. And today, we're all scarred by the human, financial and emotional toll it is taking on each of our lives.

But there is hope. Technology which has transformed our world once before can also do the same again to ensure our survival post-pandemic. But the technology – the technologies are but tools. They have to be used for specific purposes. These purposes must balance the well-being of humans and preservation of our environment as that too is part of ensuring the long-term well-being of mankind.

TAKE THE TECH LEAP

So, in this issue, we focus on Digital Transformation. The small steps we have taken in the past to move towards digital transformation must be overtaken by a giant leap that will actually secure our nation's digital future post COVID-19. Therefore, we must invest in the digital transformation of government and an enabling ICT sector. All of the things that we are talking about now, will only allow us to play catch up. We have to be thinking about the future. Specifically, how a digitally-enabled future, in addition to being an imperative just to ensure that we do not fall behind, will actually improve our quality of life, help sustain the environment and make us safer.

That is why it's a positive step to see the implementation of the new Ministry of Digital Transformation as part of the government's agenda to lead the post-COVID recovery efforts. This is a good first leap, but we hope the Ministry's agenda is not limited only to legislative reform. A bigger leap would depend on a real commitment towards ensuring open knowledge and information sharing

from business, academia, government, and a range of capital provision services that would develop T&T into a thriving Tech Hub of the region. A place where tech enthusiasts and startups alike have the right leadership and climate to attract investors and develop their ideas to transformative tools, machines, gadgets and apps that will change our world.

It doesn't even take a great leap to do this. It just requires a strong will and true commitment to make it happen. This is why promoting technology as a viable means for both enabling growth and a sector of growth is a major pillar of our work at AMCHAM T&T. It's also the reason why I am delighted to present you with this issue of Linkage where we say it's time to take "The TECH Leap"! ◀



Nirad Tewarie
CEO, AMCHAM T&T

HISTORIC VIRTUAL AMCHAM T&T AGM

By Kennedy Everett Maraj, Communications and Events Officer, AMCHAM T&T

For the past 27 years, AMCHAM T&T has hosted its Annual General Meeting (AGM) as a live event with the organisation's approximately 300 members. This year, however, we had to do things a little different. With the COVID-19 pandemic forcing a lockdown of certain aspects of the economy, AMCHAM T&T faced a new challenge i.e. creating a new chamber for a new age. This meant leveraging our use of technology to maintain business continuity during a time of social distancing and remote working. That's why for the first time ever in the organisation's 27-year history, our Annual General Meeting was held virtually.

PATRICIA GHANY RE-ELECTED AS PRESIDENT

At this historic virtual AGM on July 10th, 2020, Patricia Ghany, Chief Financial Officer at Esau Oilfield Supplies Co. Ltd. and outgoing President of AMCHAM T&T was re-elected to serve another term as President of the Chamber.

Serving alongside Ms. Ghany on the newly elected board are Gregory Hill, Managing Director at ANSA Merchant Bank Limited and Mitchell De Silva, Citi Country Officer at Citibank T&T Hub who were appointed as Vice Presidents. Glenn Hamel-Smith, Partner, Head - Banking and Finance at M. Hamel-Smith & Co., was re-appointed Corporate Secretary. Dominic Rampersad, President of Phoenix Park Gas Processors Ltd. was re-appointed as Treasurer.

THE NEW NORMAL

Speaking to the members on the theme "**Business in the New Normal**" in response to the ongoing COVID-19 pandemic, Ghany laid out the Chamber's vision and plans both for society and the role for business.

"Our success as a country cannot be measured simply by GDP growth. Neither can our businesses' success be measured only by profit. From what I have seen in my more than two decades as part of AMCHAM T&T and in my own business, for the most part, the business community has always taken an interest and supported both fence-line communities and the national community," she said.

"Now, we may need to do a little more and, quite frankly, communicate what we do a little better. This is beyond CSR. It's about building resil-

ient communities and contributing to the overall sustainability of the country and, hopefully, the region."

Even in the new normal, Ghany says the old, fundamental rules still apply, especially the rule of law. "Fairness and access to justice are key to developing a conducive business environment but so too are they to building a resilient and cohesive society. In the old normal or the new normal, strong adherence to the rule of law is key."

"As a country, we need to do a better job of fixing the systems that inhibit social mobility and perpetuate inequality. We cannot fool ourselves by talking about outliers who emerge successfully from structural inequity and try to hold them up as examples that can be easily replicated," she said. "As citizens, we should have a vested interest in making our society better. And as businesses, we should see that if the

"Our success as a country cannot be measured simply by GDP growth. Neither can our businesses' success be measured only by profit."

rule of law is assured for those who are often most invisible and on the "margins of society" it will be assured for business too, making the entire economy more efficient and attractive."

Ghany said to fuel and reward the innovation shown by companies, government, non-profits, and individuals in response to COVID-19 challenges, it will require an acceleration of our country's digital transformation. "The COVID-19 situation has ripped the band-aid off the need across the public and private sector to enable teleworking and remote learning across most households. To support this new normal, gaps need to be closed in ICT availability, affordability, and adoption for a large cross-section in society, through public and private sector policies and initiatives."





[Click here for AMCHAM's President's AGM Speech](#)

AMCHAM T&T Board of Directors 2020/2021

Top row: Patricia Ghany, President; Mitchell De Silva (Vice President); Gregory Hill (Vice President); Dominic Rampersad (Treasurer); Glenn Hamel-Smith (Secretary)

Second row: Nicholas Galt; Giselle Thompson; Simon Aquí; Karrian Hepburn

Third row: Caroline Toni Sirju-Ramnarine; Ravi Suryadevara; Greer Quan

Fourth row: Katishe Serrette; Richard Look Kin



KUDOS FOR THE PUBLIC SECTOR

“We congratulate the Government of Trinidad and Tobago on accelerating the offerings of e-payments for statutory tax payments such as Corporation tax,

Green Fund. We look forward to the implementation of a unique National Identification Number system which will allow for the provision of government services in a less disjointed manner and instant verification of information provided by the customer.”

Ghany also recommended that the Government recommit Trinidad and Tobago to the Open Government Partnership and provide more data available in a manipulatable format to allow the private sector to extract economic value from our data. She says this should be done with the appropriate privacy protections supported by data privacy and data transparency laws including the full proclamation of the Data Protection Act.

She also urged government to urgently address the deficiencies in the education system as it relates to the appropriate use of IT in the teaching-learning process, the teaching of tech-related skills specifically, and, at a base level, differentiated approaches to teaching to most effectively facilitate learning across the widest group of students.

Ghany said it is imperative that we address issues around the energy value chain since the energy sector will remain the mainstay of our economy. “The Government and private sector have to work more closely to further develop the export capacity of the energy services sector, in recognition that if our petroleum resources were ever to be depleted, we could still have a vibrant, foreign exchange-earning energy services sector.”

On climate change, she says building the new normal will require the integration of environmental, social, and governance (ESG) risks and opportunities to create a stronger business strategy moving forward. “If we do not

take action to protect sensitive habitats and species; conserve water, forests and other natural resources; and lobby for more stringent environmental protection enforcement, our ecosystems will collapse.”

The virtual AGM also featured addresses from Julie J. Chung, Principal Deputy Assistant Secretary of the Bureau Of Western Hemisphere Affairs at the U.S. Department of State; Mr Basil Khalil, Vice President of Operations, FedEx; and Mr Nadir Hirji, Partner, Digital Services Leader, PwC, Canada. <<

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CEO's Perspective

FROM THE
CARIBBEAN
TO THE
WORLD

Ian John

“Just because COVID-19 is forcing you to make changes doesn’t mean that you shouldn’t take time to plan.”

Digital transformation was always something ‘coming soon’. Tech will change everything... but not yet. Many leaders, locally and internationally, adopted a ‘wait and see’ approach. Then COVID-19 happened, and tech transformed an already rapidly changing world.

We experienced what was termed ‘the great lockdown’ where traditional society were transformed overnight. At one point, 1.4 billion people on the planet were ordered to stay in shelter. The million-dollar question was: How do these people continue to produce in an environment that requires significant social distancing and remote work? Digital businesses and industries saw exponential growth. Just look at Netflix and Apple. Governments and businesses of all sizes started talking about digital services and digital enablement.

In this situation, companies can ask themselves, who was your digital transformation officer...the CEO, the CIO or COVID-19? I have been lecturing on the Fourth Industrial Revolution for the past five years. I have spoken to executives, business leaders and university students. The general response was, ‘This is not going to happen now’. Then came 2020. Now everyone is talking about digital transformation. But the companies that performed best were already equipped to enable their talent remotely. The problem is, if your digital transformation officer was COVID-19, you’re probably being forced into a dramatic transformation that you’re not prepared for.

However, companies that were under-prepared shouldn’t panic. As you adjust to ‘business unusual’, these four big questions can guide your new strategy:

1. **Employee training** – Do you have a culture of remote work? And can you offer any training to help your people cope with increased stress and anxiety? Your team could benefit from programmes focused on mental health and wellness. You can also share tips on working from home with children or even working from home with a spouse.
2. **Security** – Cyber-attacks and identity fraud are increasing. Did you seek professional advice on how to take a risk-based approach to cyber security and business operations?
3. **Payments** – Can you implement online payments to manage receivables digitally? Cash is limited to point of sale channels and therefore online payments are critical to receiving necessary cashflow.
4. **Productivity** – How do you manage and monitor remote workers’ productivity?

Just because COVID-19 is forcing you to make changes doesn’t mean that you shouldn’t take time to plan. Try to conduct an enterprise risk assessment. And ensure that there is change management– your people must be supported through this transformation.

Some brick and mortar businesses have been particularly hard hit. Many people are wondering whether COVID-19 could herald the end of traditional businesses. I believe that brick and mortar businesses are here to stay but they have to be complimented by digital technologies to enable them to deliver value remotely. Think about suppliers – they are still supplying physical goods but now purchasing happens online or via mobile app.

The good news is that we are no longer limited to physical or geographical boundaries; we can expand globally because our business is online. This calls for a new kind of entrepreneurial spirit – digital platforms allow the Caribbean to take our creativity to the world. This is how we get to the point of diversification.

The call for diversification can seem tired and repetitive in our national context but we should remain focused on this initiative. Diversification can happen now more than ever, with technology giving us access to global markets. The writer, the musician, the teacher, the lecturer, the counsellor – whether they’re in Toco or San Fernando – once they have a skill, they can learn how to digitise and market it. Then, they have the ability to sell globally. This is the new wave of the digital economy.



"We all need to eat."



We have to ask, 'How do we inspire people to develop their digital skills?' How do we get our population to be digitally literate so that we can understand how to create wealth? Because digital literacy is about becoming a society where knowledge workers generate wealth. There is tremendous opportunity in this new economic model. Tech is levelling the playing field. The guy in Africa, the girl in Brazil, we all have the same tools. What differentiates us is our creativity and the value that we can offer.

The government also plays an important role in creating the best environment for tech to become an enabler. We don't need to reinvent the wheel. There are many global models that we can learn from, like Singapore, Estonia and Silicon Valley. Silicon Valley attracts talent from all over the world; that is a model that we can emulate. We also need to have a vision for the country and not change that vision every five years. That way we can keep striving to achieve the vision in education, in health and in industries like tourism.

Ultimately, tech needs to be an enabler of human development and not just economic growth. We need to ensure that digitisation does not hurt the most vulnerable in our society. Three years ago, I attended a lecture by Professor Sir Tim Berners-Lee – inventor of the internet. The lecture was supposed to be on the future of artificial intelligence. He spoke about the disruptions coming – autonomous cars, robot workers, displacement of immigrants in major cities. One person asked how he recommends the government deals with job disruptions and he said, 'We all need to eat'. His solution was to channel displaced people into agriculture. Food security is certainly gaining attention. Technology and renewable energy can provide efficient and analytics-based Agri-production models.

But really, tech can be incorporated into every aspect of life. Tech is enabling a revolution now. In the Caribbean, we need to stop thinking of ourselves as small and start seeing ourselves as participating in the same markets and having the same potential as every other person on the globe. We all have access to four plus billion people on the internet. My expectation is that the next Mark Zuckerberg or Jack Ma can be from the Caribbean. This is our opportunity to shine on the world stage. «

Ian John is the Group Senior Vice President and CEO, Massy Technologies Group. He considers himself a technological futurist with specific interest in attempting to systematically explore predictions and possibilities about the future and impacts on our peoples, communities, societies and ultimately our way of life. Ian was assisted in writing this article by Breanne Mc Ivor, who is the Executive Office Manager, Massy Technologies Group and an internationally published author.

[Click here
to go to Massy
Technology's website](#)

“Technology and renewable energy can provide efficient and analytics-based Agri-production models.”

MANAGE YOUR DIGITAL FOOTPRINT



By Mukta Balroop

DIGITAL FOOTPRINT? IS THAT A NEW APP? Nope – “digital footprint”, simply put, refers to the data that persons generate when using the internet, whether by online shopping, clicking the “Like” or “reaction” button on social media, using Internet of Things (IoT) devices such as smart TVs, smart watches, or virtual assistants like Amazon’s Alexa. People’s digital footprints convey to organisations that use data analytics (which are most if not all major companies) an idea of what kind of consumers they are, or are likely to be, and even arguably, their truest sense of self.

WHY SHOULD I CARE ABOUT MY DIGITAL FOOTPRINT? I’VE GOT NOTHING TO HIDE.

These are the sentiments expressed by many, i.e. the old “nothing to hide, nothing to fear” mantra. However, these sentiments misunderstand the value of privacy, perhaps, leading to a gross underestimation of its worth.

CONTROL

Classically quoted as ‘the right to be let alone’, privacy is considered as a positive right by many, since it enables persons to hide things about themselves from the public. Therefore, privacy could be viewed as control or autonomy. Everyone has a past, which may or may not include embarrassing information. Naturally, many people would choose to keep this private. The more information that person A knows about person B, the higher the chance of finding a “pressure point” which could then be used to subvert person B’s will. Professor Neil Richards refers to this as ‘persuasion’. Thus, control, or lack thereof, links to possibilities of blackmail and such mal intent. This sense of control is safeguarded by privacy, which shields an individual from exploitation. As the Canadian Supreme Court said, privacy is “a prerequisite to individual security, self-fulfilment and autonomy as well as to the maintenance of a thriving democratic society.”

Privacy ... is “a prerequisite to individual security, self-fulfilment and autonomy as well as to the maintenance of a thriving democratic society.”

There are some advantages to allowing websites to retain a certain amount of information about a user, for instance, to improve user experience. On the other hand, a user’s digital footprint could be used for nefarious purposes, such as identity theft, fraud, social engineering and phishing and the subversion of control mentioned above. Even using user data for marketing or other seemingly innocent or legitimate purposes could potentially have a negative, or at the very least unwanted, impact on a user. In fact, a user could potentially be exposed for such a long time that some writers have referred to digital footprint as a digital “tattoo”.

REPUTATION

Yet, it is not only data and metadata collected en masse which could be detrimental to an individual. Social media posts (for example, tweets on Twitter, stories on Instagram & WhatsApp, content shared and uploaded on Instagram and Facebook, amongst other apps) shared by a person could cause severe harm to the individual or the individual’s workplace.





“Posts and online activity could be considered a representation of who you are. Virtually forever.”

Click here to go to Hamel-Smith's website

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Even if a social media account utilises maximum privacy settings, one should be reminded that screenshots, screen recordings and such similar methodologies could be used to surreptitiously record what someone shared “privately” on social media, and these “private posts” could then find themselves in wider circulation and go “viral”.

In this sense, individuals should always be wary that their posts and online activity could be considered a representation of who they are and create a perception in the minds of the public about them, which could have a significant impact on both their personal and professional reputation.

Significantly, it could impact that individual’s reputation for virtually forever, as once the genie is out of the bottle, it is near impossible to put it back in. This is so especially in the context of there being no legal “right to be forgotten” under Trinidad and Tobago law, unlike in other jurisdictions. For example, an organisation may (subject to the requisite principles of “good industrial relations practice” being followed) decide to terminate an employee who posts racist, sexist or other offensive content online in order to safeguard its own reputation (and profits) and to disassociate itself from the troublesome post (and individual) whilst demonstrating that it condemns the content of the post.

Naturally, more reliance has been placed on the use of the internet over time, especially during the recent “lockdown” period in which more persons would have shopped online for groceries/ supplies from local stores, had food / meals delivered, consumed more Netflix, or even tried new mobile health applications to track and record health data. With a lack of legislation and regulations governing the use of data locally, consumer data could be monetised through not only targeted ads, but also via sales to third parties and further subsequent purchasers, such that the data could end up with dubious organisations. This results in an increase in the aforementioned risks of social engineering, phishing and fraud amongst others.

IF A DIGITAL FOOTPRINT IS INEVITABLE, HOW DO I AT LEAST MANAGE IT IN ORDER TO REDUCE MY ONLINE RISK?

The inclination to safeguard one’s digital footprint is arguably proportionate to one’s knowledge and appreciation about the aforementioned risks associated with giving away too much data. In other words, the more familiar a person is with the risks, the more likely he or she would be to take steps aimed at reducing those risks. The following steps could be taken by any individual to reduce or manage his or her digital footprint:

- **Learning more about the underlying basic issues** – understanding more about the importance of privacy, the risks and benefits associated with using a service or app or with sharing a post on social media. For example, is it really worth allowing an app to download and retain a digital scan of your face (which could easily be used for nefarious purposes) for the fleeting amusement of seeing what an aged up version of yourself might look like? Is it really worth sharing on social media your personal opinion on something that might be contentious, and which may cause reputational harm?
- **Improving online hygiene** – this can be done through certain measures including:
 - o not using unsecured websites or apps which appear suspicious, for instance, those which may not allow you to turn off location or cookie tracking;
 - o reviewing and changing default settings on browsers and apps to share less data where possible;
 - o keeping different emails for different purposes, for example, one for shopping, one for personal use and another for work;
 - o different credit or debit cards for different uses, for example, one for shopping online and one for business / everyday use.

These measures will help to create different personas and could help keep different aspects of a person’s life separate (thus, making it more difficult to predict or classify behaviour).

- **Using privacy enhancing tools** – for instance, using a Virtual Private Network on a computer and mobile to increase anonymity and privacy, using encryption and, self-destructing messages and emails.

These steps are not exhaustive but will aid individuals to some degree in managing their digital footprints, thus resulting with reduced online risk. ◀

The information provided in this article does not and is not intended to, constitute legal advice. All information is provided for general information purposes only. Specific advice should be sought from your Attorney-at-Law on any issues raised herein, if thought necessary. Mukta Balroop is an Associate Attorney-at-Law at M. Hamel-Smith & Co. and a Certified Information Privacy Professional of European Law – CIPP/E.

**EXCUSE
ME,
NOT YOUR
~~BAG!~~**

DATA

ZERO TRUST NETWORKS



Anthony Zamore is the Director - Risk Assurance Services at PwC, Trinidad and Tobago

THE ZERO TRUST MODEL
MAY EMERGE AS THE
MODEL FOR REMOTE
ACCESS AND SECURITY
IN THE POST COVID-19
WORLD.

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structure or “trust-based” infrastructure was developed in the 1990’s, when most employees shared the same physical space and there were fewer, lower-level threats. This trust-based model, also referred to as the “moat and castle” model of security, focuses on perimeter security, i.e. firewalls, honey pots, proxy servers and various intrusion detection and prevention tools to secure the perimeter network. This view also assumes that all activity or traffic inside the perimeter network can be trusted.

There are of course several flaws associated with this view of security, for instance, the risk associated with insider attacks, contractors, and third parties are not addressed. It does not address the risk of stolen VPN credentials and where one entry point can lead to entire network compromise via pivoting. These flaws have translated to significant growth in the number and cost of breaches within the last decade. According to the 2017 Data Breach study by the Ponemon Institute, the global average cost of a single breach is USD3.12 million.

ZERO TRUST NETWORKS - CORE PRINCIPLES

The Zero Trust model takes a very different view - “don’t trust, verify”. Connection or access requests (either internal or external) are not trusted, i.e. all requests for data or system access are verified. The Zero Trust model has three core principles:

- 1. All communication is secured, regardless of network location.** Access requests from assets located inside the traditional network perimeter must meet the same security requirements as access requests from non enterprise-owned network.
- 2. Use the principle of least privilege in order to restrict visibility and accessibility.** An organisation protects resources by defining what resources it has, who its members are, and what access to resources those members need.
- 3. Assume breach.** The Zero Trust model assumes that an organisation has been breached. A continuous diagnostics and mitigation programme monitor the state of systems and applies patches/fixes as needed.

CORE LOGICAL COMPONENTS

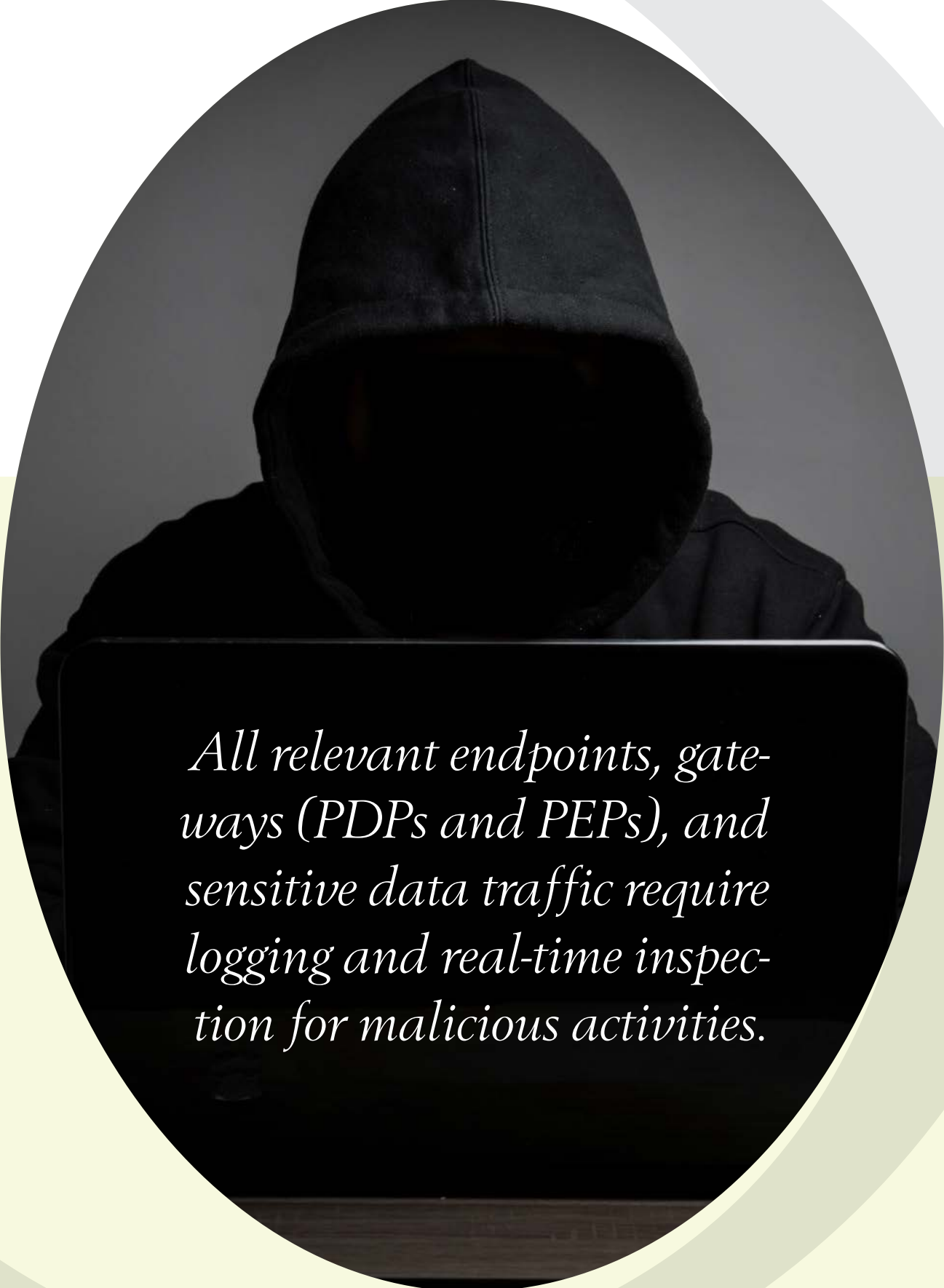
Several components positively impact Zero Trust architecture. These components may be operated as an on-premises solution or through a cloud-based service, and include:

- 1. The Policy Engine (PE),** which is ultimately responsible for the decision to grant access to a resource. The policy engine uses internal enterprise data as well as data from external sources such as IP blacklists and threat intelligence services. The policy engine is paired with the policy administrator which makes the decision whether to grant access or not while the policy engine logs the decision.
- 2. The Policy Administrator,** which is responsible for executing the decisions of the PE and generating authentication tokens or credentials used by a client to access a resource. Together, the policy engine and policy administrator form the Policy Decision Point (PDP).
- 3. Policy Enforcement Point (PEP),** which is responsible for enabling, monitoring, and eventually terminating connections between a subject and an enterprise resource.

STEPS TO IMPLEMENTATION OF ZERO TRUST ARCHITECTURE

- 1. Identification and discovery of “crown jewels”** – This inventory will allow the organisation to identify the necessary protection level and criticality of data, which is determined by internal (e.g. business value) and external requirements (e.g. regulatory compliance requirements such as GDPR). Data enclaves with segmented sub-perimeters can then be established based on data criticality.
- 2. Identification of sensitive data flow** – To properly design network segments and detect anomalous activities, your organisation needs to be aware of the flow of sensitive and critical data. This step must involve IT and business staff to understand the dependencies between the applications required along with the business processes, the involved IT components, the data traffic and the required access rights. Once the data flows are understood then appropriate measures can be taken to protect data at rest, in motion or in use.





All relevant endpoints, gateways (PDPs and PEPs), and sensitive data traffic require logging and real-time inspection for malicious activities.



3. Definition of architecture of micro-perimeter / data enclaves – This step depends on the outcome of step 1. The identification of sensitive data repositories means implementing need-to-know/need-to-do and is based on least privilege principles for access controls. This requires a data owner to understand and define what roles need to access data, approve access requests from users holding that role, and entitlement management. This is not a one-off exercise and will require continuous revision and refinement.

4. Security policy and control framework – Having identified data types with specific regulatory requirements per step 1 the security policy framework can be applied to the IT security architecture which implements policy enforcement. The following network segments with PDPs / PEPs are suggested at a minimum:

- **PDPs/PEPs for user & device access:** Only users with an appropriate entitlement can access IT systems that process sensitive data.
- **PDPs/PEPs on the application level:** On the application level, access to sensitive data is granted based on the least privilege (need-to-know/need-to-do) principle.
- **PDPs/PEPs on the IT infrastructure level:** This includes privileged IT roles on the platform and IT infrastructure level to operate and maintain IT platforms (operating systems, databases, storage, network and virtualisation).

• **PDPs/PEPs to internet & cloud services:** This refers to gateways for specific protocols and IT services.

5. Continuous security monitoring and intelligent analysis – All relevant endpoints, gateways (PDPs and PEPs), and sensitive data traffic require logging and real-time inspection for malicious activities. Depending on the maturity and size of your organisation, monitoring functions can be distributed across several IT divisions, which is a challenge when it comes to reliably detecting security relevant incidents.

6. Security orchestration and automation – As soon as enterprise security monitoring and compliance monitoring are established and have reached a basic maturity level, successive improvements follow. As speed is paramount for the detection and remediation of cyber-threats, your organisation may decide to implement automated security analytics to minimise exposure to vulnerabilities.

CLOSING THOUGHTS

As with any implementation, the decision to implement Zero Trust should align with your organisation's long-term business strategy and focus, and Zero Trust should be considered in the context of other enablers such as enterprise mobility, hybrid-cloud strategy etc. Ultimately, the transformation towards Zero Trust is a time-consuming and complex task and should be initiated in an area of the network that is well understood in terms of the data types and data flow. Other parts of your network can then be transformed successively without disrupting your business environment. <<

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LEVERAGING
TECH FOR
**CLEANER
ENERGY**

The National Gas Company of Trinidad and Tobago Limited

To be a premier energy sector player today, whether locally or internationally, requires an appreciation of where energy is headed, and outfitting one's business to participate in that future. As is the case for most industries, technology will figure prominently in the future of the energy sector, so companies must have solid strategies for adapting to new tools and processes. At the same time, since the focus of most technological endeavour in this sector today is decarbonisation, the technology strategies of energy companies will tend to align with a broader clean energy agenda.

This is certainly the case for The National Gas Company of Trinidad and Tobago Limited (NGC). Within the past few years, NGC has begun to implement a comprehensive Technology Strategy that aims to bring the organisation up to par with best-in-class tools and processes, while simultaneously reducing its carbon footprint.

INTERNAL INITIATIVES

Already, significant savings have been realised as traditionally paper-based processes have been digitised. For example, the Company has automated the procurement function, integrating e-auctions into its tendering process. Centralised digital dashboards have been introduced for reporting and analysing data, while automation of project and portfolio management is underway. In the HR function, most paper-based transactions have been eliminated with the move to SAP SuccessFactors, and employees are communicating better than ever through digital platforms.

Since NGC's product is natural gas - a primary component of which is the greenhouse gas (GHG) methane - any undertaking to preserve asset integrity and prevent gas leaks supports emissions reduction efforts. In that regard, technological innovations within the asset integrity management function have also been helping NGC reduce its carbon footprint.

For instance, drone technology is being used for surveillance of pipeline corridors. This not only improves detection and management of risks along the Right of Way, but reduces drive-time for field crews and emissions from vehicles. Extended Reality (XR) technology, such as virtual reality goggles, may soon be deployed to reduce physical site visits during project planning and facility tours. This will in turn reduce risk of third-party interference and emissions from commute to facilities.

Most recently, in an effort to curb methane leaks from its infrastructure, NGC invested in an optical and infrared camera capable of detecting and visualising fugitive hydrocarbon emissions. This technology has been used with great effect in other world-class facilities, and will allow NGC to close in on its operational target of near-zero methane emissions. This camera is expected to be integrated into work processes in the coming months.

THINKING NATIONAL

Alongside these inward-looking initiatives, NGC is also looking beyond the scope of its business to help make a difference in emissions on a national scale, and has leveraged technology for maximum impact.





Global warming caused by greenhouse gas (GHG) emissions remains a very real and pressing issue for the planet, and NGC has not lost sight of the targets to which our country has committed. Since Trinidad and Tobago does not yet have the foundation for widespread RE deployment, meeting its emissions reduction target requires focus on other means of lowering net carbon output. These can include carbon offsets (eg. reforestation and afforestation initiatives), and reducing national energy demand altogether through greater energy efficiency.

As the latter demands less capital investment, and can be addressed at the individual level, NGC championed the EE cause in its own clean energy campaign. The Company also recognised that reducing energy consumption at the household level would reduce demand for electricity. This would in turn reduce the quantum of gas required to feed the power generation sector, and would liberate molecules for use by other productive sectors.

With these motivations, NGC developed and launched the country's first mobile app around energy efficiency and conservation - EnergySmarTT. This app, available for free download by the public, targets changing behaviours and attitudes toward energy consumption, particularly at the domestic level, and aims to increase awareness about the big picture environmental impact of personal choices.

Through the app interface, users can determine how much energy their current appliances consume, and how much they can save on their energy bills by switching to more efficient models. A map directs users to stores that sell energy-efficient products and the functionality exists for business owners to flag their own shops.

In addition to these features, the app allows users to calculate the carbon impact of appliances, so they can appreciate the emissions they would avoid by using greener models. Tips are also offered to help users further reduce their overall carbon footprint.

Future iterations of the app promise more interactive elements, including a feature promoting 'Green Networking' - a designated hub that will focus on connecting schools, community groups and NGOs with experienced practitioners of energy efficiency and renewable energy projects across the country.

COMMITTING TO THE FUTURE

As NGC pushes forward into the future, technology will undoubtedly have a leading role in the Company's plans and projects. In truth, it is impossible to approach the future without building technology into strategy. This is especially so when planning for a clean energy future. Accordingly, NGC will continue to search for ways to leverage available technologies, to balance its business priorities with its responsibility to the planet. <<

[Click here to go to NGC's website](#)

It is impossible to approach the future without building technology into strategy. This is especially so when planning for a clean energy future.

ADAPTING TO THE LOCKDOWN

AMCHAM T&T Member and business outsourcing company, Aegis Business Solutions, shares their response and learning development points to managing the COVID-19 lockdown over the last three months in Trinidad and Tobago.



By Catherine Perreira
Eve Anderson Recruitment Limited

"The crisis forced our teams to act quickly with uncertainty and take on an agile operating model. The key player was our IT team who had our basic infrastructure in place that we were yet to fully utilise until now. Our managers and HR teams swiftly reassured our employees across all types of communications – emails, phone calls, whatsapp and video meetings. By the second week of lockdown in Trinidad, we were all officially online with key admin support as a core function," says Chairman, Angela Lee Loy

Preparing for a digital future has always been important to Aegis, however, understandably, not everyone was fully utilising communications technology pre-COVID, because all employees still worked in the office and not from home. Post-COVID, digital collaboration became key to making remote work possible, as Aegis staff reported back continuously on their experiences operating from home with the IT leaders.

STAFF TECH SETUP AT HOME

In your business, you need to make sure that your team members have the technology at home to operate effectively together. This includes a laptop, headphones and a good broadband connection from where they live. For some employees, it makes sense to just upgrade their broadband or enable them to hotspot via their cell phone to help business continue.





One-to-one conversations are important to discuss how to work from home and how to divide home space for quiet time, work time and play time. Home-based jobs require a huge adjustment, not just for the employee but his or her entire family, and it's important to ensure employees have those conversations to manage everyone's expectations at home, especially the kids.

HR IN TECH AND REMOTE WORK

After IT, HR is the second important team player during the crisis. If you don't have an HR manager, then it's you and/or your managers to help ensure conversations are ongoing and everyone is set up to support the continuity of the business with the right remote work policies and guidance.

For small businesses, guidance is available online and in the heat of any crisis, many found themselves directing their team to online links that helped them.

"M

apping our corporate steps, staff was kept abreast of new and innovated ways of preserving 'self' in unprecedented COVID-19 times. There was zero delay in activating the company's business continuity plan aimed at a 360 approach to communication, accountability and resource management," says Aegis Accounting Associate II, Samantha Daroga.

Aegis's HR team engaged in systematic thinking to be able to adapt to the new situation. In March, they were able to examine processes, ensure coordination, communication and most importantly collaboration across the organisation. With the support from managers, the HR team was able to keep employees together as a unit through training and constant communication.





While there were challenges and this was to be expected, HR continued to update their strategy and gain constant feedback from teams through surveys and keeping channels for communication open.

REFLECT ON YOUR NEW WAY OF WORKING

One of the interesting challenges is recognising how the workflow changes and how employees adapt to a more fluid working structure at home. We are not in normal circumstances and although technology plays a key role, listening and observing yourself and how best to work in this new environment is an important aspect.

Accounting Senior Associate III, Natasha Celestain shares,

"There were times when I did not have a normal 8:00am – 4:30pm day, but instead my day started at 9:00am and probably ended around 6:00pm or possible 7.00pm due to variations of interruptions during the day. However, my priority was to ensure that I put in my 7.5 hours per day."

Whilst everyone can relate to Natasha's experience, understandably for some staff, we must acknowledge it was impossible to achieve 7.5 hours per day due to kids or other family challenges in the beginning of the lockdown in Trinidad and Tobago. Then there were days when the staff ended up putting more hours in due to the goal to keep business running for the sustainability of their jobs and their future.

Can the tasks for your clients and customers be successfully achieved and can you meet client expectations as more people continue to work from home? It is no longer important what time work starts and finishes, but to find out if the job can be done by a clear deadline that works with your wider teams and client service and in keeping with the wellbeing of your staff.

CONSTANTLY REVIEW HOW YOUR BUSINESS IS ADAPTING

Aegis continues to maintain normal operations to local and international businesses and has remained open-minded to welcome change. This is not to say on-boarding new forms of technology was easy for every staff member but in times like these, it became a necessity for survival.

On reflection, we can acknowledge that the COVID-19 lockdown pushed every staff member at all levels in the organisation into the new digital era, whether we liked it or not. No one should be left behind, and it will take a lot of effort to ensure everyone adapts to online collaborative learning environments. You should review how your business is managing on a weekly basis. A hybrid model may emerge of working online and in-person meetings but keeping a tight focus on your strategy, reviewing how your business is adapting to this new operating model in real-time is critical.

Above all, technology without people is useless. Ensure your people are adapting to the new way of working and are learning new technologies to help you push your Caribbean business forward. <<

About Aegis Business Solutions

Aegis is the leading local business outsourcing advisory company in the Caribbean helping all types of companies and entrepreneurs with their accounting, tax, human resources, recruitment, local and expatriate payroll, audit, financial advisory, annual meetings, work permits, corporate law and corporate governance requirements. They manage all your back office operations throughout your business lifecycle so you can focus on your core service in the Caribbean region. Visit www.aegistt.com

No one should be left behind, and it will take a lot of effort to ensure everyone adapts to online collaborative learning environments.

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WHAT'S IN YOUR MOBILE WALLET?

The Case for M-Commerce in T&T



By Mark Persaud

E-commerce is designed to circumvent geographic constraints, its success has been predicated on ease of fulfilment.

In 2019, US\$602 billion or 16% of retail purchases in the USA were made online. Retail online purchases have increased every year over the last decade, with y-o-y growth never dipping below 13%. The online channel is also an increasingly dominant force in the growth of the US retail market as a whole (Digital Commerce 360).

This trend is echoed globally, with worldwide e-commerce sales topping US\$3.5 trillion in 2019 (an increase of approximately 18% from the year before) and is expected to nearly double by 2023 to more than US\$6.5 trillion (Shopify, Oberlo).

This exponential transition away from the traditional brick and mortar retail experience has been driven by several factors.

WHY E-COMMERCE?

The first of these is **convenience**. E-commerce allows accessibility to the consumer 24/7, 365 days a year, without exception. The customer can choose to make a purchase at any time and from any location and does not have to contend with opening times, distance, lines or traffic.

In addition, based on the data-driven nature of the channel, e-commerce also has the unique ability to offer the consumer authentic product feedback in the form of customer reviews. This has become a critical resource in the purchasing cycle of the consumer and an invaluable focal point for sellers.

Also, as e-commerce is designed to circumvent geographic constraints, its success has been predicated on ease of fulfilment. The various channels of fulfilment, whether virtual or physical, have dramatically improved over the last decade and can produce a result of almost instant gratification. This has been key to attract the Gen-X and i-Gen populations who have an increasingly large purchasing power.

The second factor is the **range** of goods and services that can be offered. With the overhead costs of traditional consumer-facing selling being cast aside, e-commerce frees the seller to concentrate on meeting the demands of the market and offering a range of products and services that can be delivered as close to just-in-time as possible and with a high degree of supply chain optimisation.



E-commerce frees the seller to concentrate on meeting the demands of the market and offering a range of products and services that can be delivered as close to just-in-time as possible.





Customisation is also a by-product of the data-rich environment. Customer preferences and user histories can be tracked and analysed to produce a unique user experience and a curated offering. The medium also allows customer-centric customisation where the buyer can determine the feature set being purchased.

The Internet and its evolution into e-commerce have provided unprecedented access to and for the consumer. The increased consumer appetite for seller communication and data has allowed the seller to widen its range of retail channels, marketing touchpoints and fulfilment options. This **omni-channel approach** to retailing, allows the consumer to mix and match different modules of the buying cycle.

MOBILE COMMERCE

Lastly, one of the most influential factors in the rise of e-commerce has been the proliferation of the sub-set of m-commerce. As smartphones and tablets have continued their swift evolution, they have pulled purchasing behaviour along with them. Most online marketplaces have a mobile adaptive version to their websites, and it is now the norm to also offer native mobile apps. This type of mobility has been an essential in allowing users to interface with their favourite brands and providers from anywhere in the world. Additionally, mobile devices have used features such as GPS location, Bluetooth and NFC to build a more customised and intimate experience for the user.



Global m-commerce revenue is expected to reach US\$3.56 trillion by 2021 and the number of mobile payment proximity transaction users will reach 1 billion by the end of the year (Appinventiv). Additionally, the share of m-commerce in all e-commerce is expected to rise to 72.9% by 2021 (Statista).

One of the greatest drivers of this growth and a natural extension to the m-commerce category has been the proliferation of the mobile wallet. In regions such as North America, Europe and Western Asia, the market leaders continue to be Google Pay, Apple Pay and Samsung Pay while AliPay and WeChat dominate in the Asia/Pacific region. There are also niche players such as Xoom (owned by PayPal), and Circle Pay that concentrate on remittances and Square Cash, Zelle and Venmo which were designed to facilitate Peer-2-Peer transfers.

M-COMMERCE IN THE CARIBBEAN

In sharp contrast, we in the Caribbean region have struggled to mirror this growth pattern and adoption rate. There are several inhibiting factors that are predominant in the region, some of which are changing and some of which will require unique solutions.

One of the most critical factors is credit card penetration. The main source of funds for digital commerce, either directly or through a mobile wallet, is the personal credit card. In the Caribbean, credit card ownership remains with a minority of the population. As a result, even though mobile phone penetration is above 100% in most countries, m-commerce transactions are limited.

This is due to change over the next 12 to 24 months as many of the region's banks switch their ordinary debit cards to co-branded VISA debit cards. This will allow many more users to access m-commerce for the first time.

In the more developed nations, one of the fundamental advantages of digital commerce is the removal of geographic boundaries for consumption. Buyers are able to access goods and services from geographies that are not easily accessible in their daily lives. In the Caribbean, the vast majority of our countries are very small and can be driven within a day. This has produced a culture where we prefer to physically venture to the point of purchase and interact directly with the seller. In fact, one may argue, that this behaviour has actually become part of

Over the next 12 to 24 months as many of the region's banks switch their ordinary debit cards to co-branded VISA debit cards. This will allow many more users to access m-commerce for the first time.

our social structure. This cultural norm directly eliminates one of the main advantages inherent in e/m-commerce.

This norm, however, can actually change if we readjust our mindset to think of the Caribbean as a united regional marketplace rather than individual locations. If we are able to reduce the friction of commerce between the territories, this would allow us to take full advantage of regional e/m-commerce and create the critical size of market that would attract investment capital.

A by-product of the geographical realities is that localised fulfilment has not been well developed. This means that although local and regional commerce capability may be built, the supply chain is not efficient or friction-free.

Lastly, as digital commerce is still in a nascent state, providers of the necessary infrastructure have been resistant to mobilising the required resources. This includes vital components such as: (1) the extension of credit card acquiring rights from primary members of VISA/MC, (2) transaction processing and plug-ins, (3) digital shopping carts and store fronts, and (4) supporting legislation.

FINTECHS IN THE CARIBBEAN

Traditionally, in this region, the right to acquire credit card transactions has always sat with the banking sector. However, the heavy degree of regulatory scrutiny under which the banks operate has always resulted in a lack of agility and a resistance to diversification outside of core banking. This has prevented many of the banks from concentrating on a digital commerce strategy and developing those markets. As a consequence, those banks that have ventured into the space have done so with challenging fee structures and conditions.

Over the last decade, several regional FinTech start-ups have emerged to fulfil the service demand but the existing legislation has been slow to adapt to support their growth. Most Caribbean territories still do not allow non-banks to issue what is termed e-money and therefore it is virtually impossible for indigenous companies to operate a local mobile wallet without having to partner with a local bank.





Over the next 12 to 24 months many of the region's banks switch their ordinary debit cards to co-branded VISA debit cards. This will allow many more users to access m-commerce for the first time.



This is very different to the approach taken in other areas of the world where FinTechs are allowed to operate as independent organisations and compete on an equitable level.



Within the region, there have been some notable exceptions such as Barbados, which created a FinTech sandbox that has proved successful, and

the Eastern Caribbean Central Bank, which is well into its testing of a fiat crypto currency. Jamaica had a mobile licensing process but this has been rolled back to a sandbox framework that requires

prototype and pilot testing. At home, in Trinidad and Tobago, an e-money policy has been drafted but is yet to be implemented.

Given the issues articulated thus far, it is quite understandable that very few entrepreneurs or SMEs choose to dedicate resources to advance this space.

M-COMMERCE IN THE PUBLIC SECTOR

There is one market, however, that has the potential to act as a hyper-catalyst for m-commerce, and this is the area of government services. Due to the COVID-19 pandemic, governments around the world have embraced the concept of digitising public services and the movement towards a cashless society. In their post-pandemic strategies, many Caribbean coun-

tries have detailed their plans for achieving such a utopia and identified m-commerce as playing a major role.

This is very hopeful for the region, as successful transformation at the governmental level will translate to a holistic endeavour which will include the appropriate supporting legal infrastructure, the development of independent FinTech start-ups, an increase in the ease of doing business for all and the attraction of much desired foreign direct investment. <<

Marc Persaud is the Group Manager-Strategy and Business Development at SugaPay
Company Profile: The SugaPay ecosystem was specifically created to offer a home-grown, Caribbean solution for the safe, cost-effective and internationally compliant capture of electronic financial transactions.





SAVED BY THE CLOUD



TSTT's General Manager Enterprise Services, Ian Galt, who has 40+ years of experience in the ICT and telecommunications industry, provides insight on the role cloud can play as Trinidad and Tobago's business sector finds its footing in a vastly changed and uncertain world.

[Click here to go to Bmobile's website](#)

"The cloud" refers to servers that are accessed over the Internet, and the software and databases that run on those servers. ... By using cloud computing, users and companies don't have to manage physical servers themselves or run software applications on their own machines. (www.cloudflare.com)

HOW CAN CLOUD-BASED SERVICES MAKE A DIFFERENCE TO A COMPANY'S COSTS AND EFFICIENCY?

Galt: Let's say you have a small call centre with ten agents, there is a national crisis and your business is not categorised as an essential service, so now your staff cannot get to the office and your call centre is closed. If you had a hosted PBX service, call centre agents could simply pick up their desk phone, take it home and, once they connect to the internet and type in their unique teleworker password, the phone would connect securely to the cloud and it would be as if they were back in your call centre.

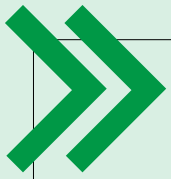
Now, just imagine these agents also needed to connect to the corporate database of customers but they are at home and the corporate database is only accessible from within the office's Local Area Network (LAN) environment. If this database was on a cloud, then it could be incorporated into the call centre solution so that the agent could also connect to that database.

As a business owner, ask yourself: Why am I paying for expensive real estate to host my staff and host my servers? Why am I paying for networking and expensive switches to connect them to the database? Why are my employees leaving their homes at 5:30 a.m. and not returning until 7:00 or 8:00 p.m. just to work a seven-hour day? Maybe, I could implement a work from home or staff rotation policy, assist my staff in a one-time fee to set up a small office in their home and perhaps subsidise some of their utilities and internet.

The result would be lower costs of running your call centre, lower costs of maintaining support infrastructure, and happier staff – because they now have 1,000 extra hours per year saved in travelling time that could be used to attain a better work life balance.

To top it all off you would still be able to monitor their productivity through AI software, so you know your staff is working and being productive.





WHAT WOULD YOU SAY TO SME OWNERS WHO THINK THAT THE CLOUD IS PIE IN THE

SKY?

Galt: I would argue that being on the cloud may be as beneficial to SMEs as it is to big business. The benefit of the cloud is that it is a model that can fit any business, of any size. It is a pay-as-you-use model, so if your business is a small firm with a few phones and a couple of servers, you can still benefit; if your business is seasonal, then the cloud allows you to add additional resources when required and then reduce them when not needed. I call it the fourth utility and, like water, electricity or gas, whatever is needed can be piped right into your facility.

WHAT DO YOU SEE HAPPENING TO BUSINESSES THAT DO NOT USE THE CLOUD EFFECTIVELY?

Galt: I strongly believe that NOT moving to the cloud in some manner is going to have a detrimental effect on any business. Cloud services are enablers that free up an organisation's resources to focus on its core business. Rather than worry about the servers and the infrastructure, and have the sleepless nights when servers need to be upgraded or an application is not performing as well as it should be, let your highly qualified IT staff focus on generating revenue for your business and not just be viewed as a cost centre. Let them focus on innovative ways of reaching your

Wouldn't it be amazing to see an IT, cloud-based business on the scale of Uber or AirBnb born in Trinidad and Tobago?

customer. Let them develop apps to streamline business processes to make your business run more smoothly. IT professionals love to create. They love to try new things so having to maintain servers is a waste of this valuable resource.

WHAT CAN TRINIDAD & TOBAGO'S BUSINESS SECTOR ACHIEVE IF IT EMBRACED CLOUD TECHNOLOGY?

Galt: Geographically, T&T is uniquely positioned in the Caribbean. We do not typically have the climatic issues that commonly affect the rest of the region. We also have a very modern ICT infrastructure: fibre to the home, 4G mobile networks, a Tier III data centre and plenty of fibre routes off the island connecting us to the rest of the world.

This infrastructure, along with our location, opens up the rest of the Caribbean market to businesses in Trinidad and Tobago. TSTT already offers cloud services up the islands. We foresee huge growth in these countries as Trinidad and Tobago can very effectively support these markets. TSTT's cloud service offers our Caribbean colleagues an alternative to hosting overseas with some of the global players. We are governed by local laws and policies that ensure data is secure.

There is no reason we cannot be a regional hub for a number of IT services supplied to the region and beyond. It would be very rewarding for T&T to see home grown Software as a Service and other cloud services delivered locally and overseas. <<



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UNTAPPED BENEFITS FROM FINTECH

The volume and types of digital payments are increasing worldwide. Nearly all payments usually done with cash in most advanced countries are now digital. Financial technology (FinTech) companies and the solutions they provide are increasingly accepted. It is a revolutionary wave not only for financial sector development but for the general development of a country.

The onboarding of FinTech solutions, the eradication of cash and the push for cashless economies are justified by the many benefits. A 5% increase in digital payments per year for five consecutive years reduces the informal economy by 10.8 to 12.9%. Digital modes of transactions improve and promote transparency and security by increasing the accountability and tracking of money transfers within the economy. Digital payments have also been linked to a reduction in the cases of money laundering, tax evasion, human trafficking, drug trafficking, black money and counterfeit notes.

REDUCTION OF FRAUD AND THEFT AROUND THE WORLD

Digital payments are connected to a reduction in the incidence of crimes such as robberies and fraud. The Ministry of Social Development and Family Services in Trinidad and Tobago implemented the Direct Deposit system in 2017 to transfer social security payments to address the challenges of stolen cheques. In the case of India, the digital delivery of subsidies removed the incidence of leakages through “ghost” intermediaries (non-existent entities created solely to let corrupt authorities collect money they did not earn) and resulted in an estimated fiscal savings of US\$2 billion. Digital delivery of salaries in Afghanistan stymied superior officers and clerks from routinely skimming off up to 30% of some officers’ earnings. Mobile wallets were used in Sierra Leone at the height of the Ebola crisis to resolve the issue of stolen salaries and saved over US\$10.7 million. Digital payment platforms have also been encouraged by Swedish banks to prevent robberies—remember the thieves who landed on the roof of a G4S cash service depot and stole millions during the infamous helicopter heist in Vastberga in 2009—whilst debit/credit cards and digital wallets are encrypted with passcodes or biometric authentication to safeguard against theft.

FINANCIAL INCLUSION

Digital payment options generally foster financial inclusion as they reduce the number of procedures to access services, remove socioeconomic barriers and allow access to financial services via mobile phones, the internet or cards. It is estimated that digital finance has the potential to provide access to financial services for 1.6 billion people in emerging nations, and increase the volume of loans extended to individuals and businesses worldwide by US\$2.1 trillion. Financial inclusion is critical to reducing poverty and achieving economic growth, as access to financial services allows people to start and expand businesses, invest in their children’s education, and absorb financial shocks.

INCREASE IN CONSUMPTION

Digital payments result in macro-economic benefits and reduce the informal economy. Employment increases as digital payment options encourage new business formations to support financial services such as FinTech companies, microfinance institutions and other digital businesses. Increased access to formal credit and savings instruments enable the formal financial system to capture more savings and extend more credit, which increases the level of aggregate investment. In 2016, Moody’s extrapolated the effect of card usage on consumption and GDP using the data from 70 countries, revealing that higher card usage contributed an additional US\$296 billion to consumption between 2011 and 2015, or a 0.1% cumulative increase in global GDP as well as an average increase of 2.6 million jobs. A 1% increase in the card penetration rate contributed to an increase of approximately US\$104 billion in the consumption of goods and services, or a 0.04%

BENEFITS OF DIGITAL PAYMENTS:

- 24-hour access to funds
- reduced need to be physically present at a bank or ATMs
- improved speed and ease of payments of wages and bills
- mobile wallets allow for payment authentication via fingerprint scan or PIN
- MasterCard introduced “selfie pay” technology, which uses facial recognition and requires the shopper to blink during authentication

Sources:

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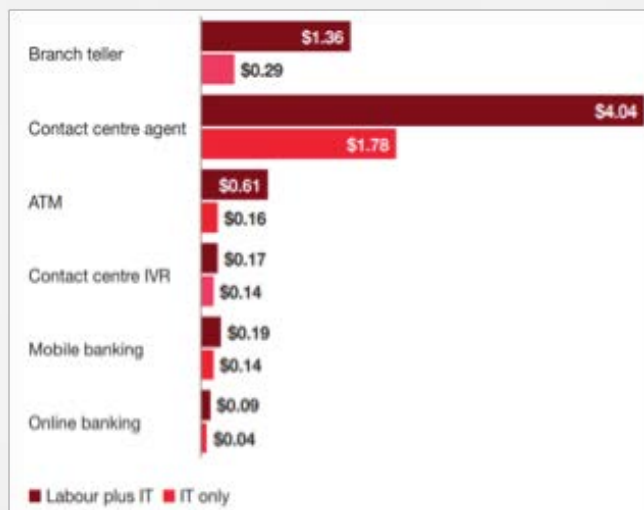


increase in GDP per year. Global GDP could be increased by approximately US\$1.5 trillion in 2021 if digital payments increased by 10% per year for five consecutive years.

REDUCTION OF COST OF TRANSACTIONS

Digital payments are associated with reducing the cost of transactions. Businesses would save 2.1 cents of every dollar if they accepted digital payments. Government of developing countries could save roughly US\$220–\$320 billion annually (0.8–1.1% of GDP). ACH transfers directly reduce the cost of printing and mailing paper cheques and indirectly reduce the cost of resources utilised by government to replace lost or stolen cheques. Digital payments also reduce the cost of minting/cash maintenance. Customers also benefit from paying digitally. In Trinidad and Tobago for instance, a manager’s cheque from one of the eight commercial banks cost between TT\$20–40, whilst a direct ACH transfer costs at most TT\$5. Digital payment of utility bills reduces the likelihood of additional charges for late payment. It is cheaper to provide digital banking services as the cost of serving customers is considerably lower for automated teller machines (ATMs), mobile and online banking.

CUSTOMER SERVING COST PER CHANNEL (USD)



Source: PricewaterhouseCoopers

INCREASED DATA YIELD

Digital payments are faster, more convenient and improve the timeline for data analysis. The speed and convenience of digital transactions allows for direct data gathering. Analysis of the data can facilitate sectoral analysis of spending and provide early warning signs to aid macroeconomic and monetary policy decision making.

PAYMENTS DURING PANDEMICS

Digital payments also allow for the facilitation of purchases and payment during times of viral pandemics such as Ebola and COVID-19. Mobile wallet use in Sierra Leone during Ebola increased timeliness of salary payment to Response Workers, improved patient care and strengthened the capacity to contain the disease. Many financial institutions and the World Health Organisation also guided their customers to use digital payments during the COVID-19 pandemic. It was clearly supported as a means to ensure social distancing while allowing individuals to access financial services without making in-branch visits or using cash.

The government, financial sector, citizens and merchants of Trinidad and Tobago can only attain these benefits if there is a transition to a broader financial space with increasingly innovative digital payment options. The Trinidad and Tobago International Financial Centre (T&T IFC) continues to echo the call for the development of the local FinTech ecosystem to improve the ease of doing business in Trinidad and Tobago and to expand the economy’s economic potential. <<

Michelle Salandy, PhD. is the Research Officer, T&T IFC



Dr. Michelle Salandy
T&T IFC

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BECOMING DATA CITIZENS

Data is the "new air": countries that were unprepared for the disruption relied on 'knee jerk' responses so they could get up to speed and use data to make informed decisions.



Post-COVID-19 it has become evident all over the world that people are more inclined to use technology, data, and analytics in running their affairs. Many of the socio-economic activities that affect human beings are increasingly becoming digital. The use of technology in the management of society's affairs is taking centre stage.

Every technological transformation is a data transformation, and authorities are conforming to advancements in data analytics. However, the general citizenry is often not keeping pace and more work must be done to let the people and societies at large understand that inasmuch as everything will be digital some day, we need to be prepared.

The use of data to improve citizens' everyday lives is a driving factor in digitisation. However, use and management of sensitive and personal data needs to be a key consideration if we want buy-in by each citizen.

REVOLUTIONISING THE DATA CITIZEN

Data literacy today is much like computer literacy of the 80's. We need a revolution that inspires the ordinary citizen to embrace the need for technology and to understand the implications of its use. The concept of becoming data citizens is based on individual and societal levels. Corporations and governments all over the world are using data, but there is laxity among private persons in the management of their life issues in a digital manner.

For instance, how do Caribbean people generally keep their diaries? How many companies still distribute printed diaries at the end of the year? The everyday use of digital processes needs to become a natural response to avoid the region from being left behind.

Organisations are continuously improving their systems and procedures to maximise digital advancements. Data is at the heart of this advancement and for true transformation we need people, process and technology aligned.

ECONOMIES THAT ARE WINNING

COVID-19 has shown the immediate need for countries to implement and strategically use digitalisation and data just to survive.

If we look at the country's leading post COVID-19, both internationally and regionally, we can see their resilience connected to having a pre-existing digital strategy. Other countries were unprepared for the disruption and their economic and social survival relied on 'knee jerk' responses so they could get up to speed and use data to make informed decisions. This proves that data is the 'new air'.





Singapore and Estonia are widely considered pioneers in E-government. Three important factors that enabled this transformation were: their size and inherent agility, privacy legislation and a holistic integrated approach.

Integration was achieved through a single identifier which could be used across public services, as seen in earlier attempts with the NIDS programme in our neighbour island Jamaica. Being able to have a 360° view of citizens will bring with it convenience as well as concern. Data citizens will be able to benefit from a digital economy and be savvy enough to demand privacy, transparency, and accountability.

STRATEGY FOR DEVELOPING A WORLD-CLASS DATA COMMUNITY

Globally there is rapid transformation taking place using analytics and artificial intelligence. This has enabled many first world countries the ability to digitise their systems and accelerate service delivery. Financial constraints have always been a barrier for Caribbean's advancement, however, because of technology such as cloud computing, the financial barriers cease to exist. The Caribbean can leapfrog, having access to the same technology adopted by the largest global players. With our agile nature and creative people, we can accelerate digital transformation if we give our citizens the knowledge to capitalise on this change.

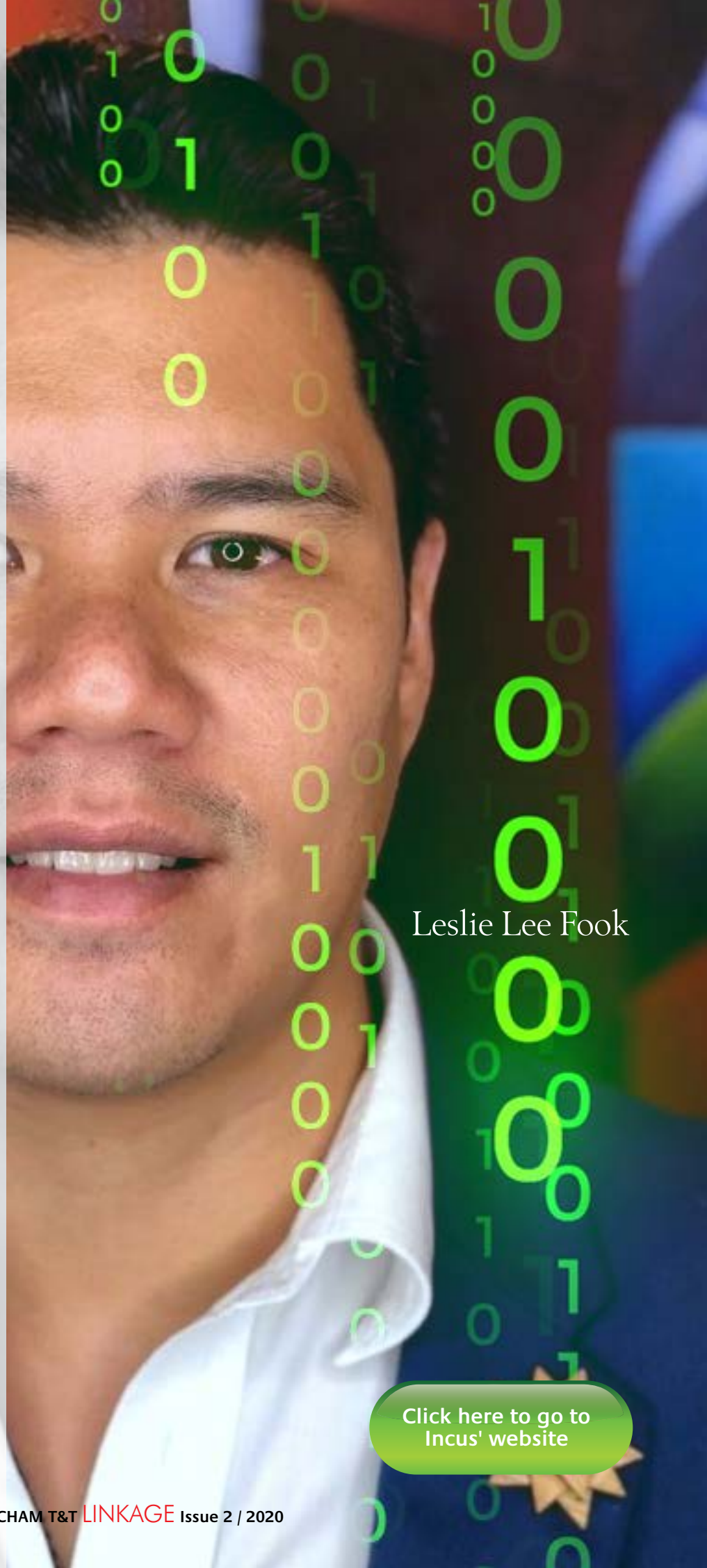
Strategies must include ensuring accessibility for every citizen to use and think critically with data. Traditionally, programming and coding were prerequisites for effectively gaining insights from data, which is not a pragmatic approach because not everyone can be a programmer or coder. We need to flatten the learning curve!

Creativity is a pillar of great decision-making and in my humble opinion, the creativity of Caribbean people is unmatched. The steelpan illustrates what is common across the region. We all have an innate ability to do more with less, to create something from nothing and still be relevant locally and regionally.

Our economies have largely relied on white sand and blue water, or on oil and gas, but neither of these make us globally competitive. There is, however, a massive demand for excellence in data analytics and data science. Israel has become the undisputed leader in the cyber security space because of their unique socio-economic environment. I believe the Caribbean environment presents the perfect environment to become an incubator for data—we can be the Israel for analytics.

In conclusion, you do not need a crystal ball to see that the world is taking a new direction. Digital is not the future, it is here. The data citizen will be the norm someday and leading this revolution means not only our survival today, but opportunity to become a global leader. <<

Leslie Lee Fook is the Managing Director of Incus Services, B2B consultants focusing on digital transformation serving both large and medium sized organisations by helping them solve their data challenges.



Leslie Lee Fook

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EMBRACE THE CLOUD

By Liam Donnelly

C OVID-19 took the world by storm and forced businesses around the globe to either adopt digital and learn to operate remotely with as little human contact as possible or face the real threat of becoming extinct.

This unique scenario meant that businesses had to ensure that their operations could be easily scaled to the organisation's precise needs in a moment's notice. With remote work and connectivity now an

essential activity rather than a luxury, cloud-based solutions have become an integral contributor to an enterprise's survival. However, along with this increasing need for utilising technology, comes the increasing threat of cyber-attacks, hacking, system failures, crashes and numerous human error scenarios.

WHAT IS A CLOUD-BASED SOLUTION / SERVICE?

A cloud service is a game changer in the delivery model for IT and network services, which allows all hardware, software, and databases that were once typically managed on-site by a company to now be outsourced or stored and accessed remotely. It changes the way you acquire, deploy and manage your data and infrastructure for remote access, backup, platform/application management, disaster recovery, and so much more.

SO, HOW CAN CLOUD-BASED SOLUTIONS BOOST BUSINESSES?

According to Harvard Business Review Analytic Services, 74% of businesses indicate that cloud computing has given them a competitive advantage. Agility is the key here. These companies report that utilising the cloud has given them an edge that lets them "capitalise on opportunities more quickly" than competitors. Think about it, if your entire team can access files remotely and collaborate on projects seamlessly, regardless of where they are in the world, of course your business can reduce cost while increasing output, productivity and efficiency.

The cloud enables enterprises to operate with an enhanced efficiency which facilitates greater ability to swiftly develop products and respond to customer needs. Companies can bring products to market faster, allowing small companies to effectively compete with larger enterprises.

The freedom and ease that cloud solutions provide are invaluable. You need greater safety and security, flexibility and functionality, better ease of data management, and a more connected workforce, at minimal risk and cost to you.

With a cloud service provider, your organisation can be free of the often-prohibitive investments of buying equipment, training staff, providing ongoing maintenance, and managing security for data and IT infrastructure. Your servers, networks, storage, development tools, and apps are all hosted by the cloud provider, enabled through the Internet.

Locally, Digicel Business Solutions is one such company that specialises in cloud solutions and facilitates the essential adaption to cloud-based services through a cloud computing platform. They provide both private and public cloud with no capital expenditure, tremendous agility, security, control, flexibility and compliance. During the COVID-19 period, the company has expanded its services to now include free consultancy to companies wishing to explore enhancing their businesses with cloud solutions, which enable the building, testing, deploying and managing of applications and different types of cloud services such as:

- (IaaS) – Infrastructure as a Service (hardware, servers, firewalls etc)
- (SaaS) – Software as a Service (office, exchange, database, SAP)
- (PaaS) – Platform as Service (application services, virtual machines)
- (BaaS) – Backup as a Service (files, videos, applications)
- (DRaaS) – Disaster Recovery as a Service

We can no longer ignore the opportunities that lay within challenges – we must embrace a forward-thinking, intuitive approach and use technology to our advantage. Throughout history, those who adapt quickly and embrace innovation are the ones able to weather the storm and move on to the next stage of evolution. Working smarter via the cloud is an imperative, economically prudent step in a businesses' process of managing risk while advancing connectivity.

The time to embrace the cloud is now. «

Liam Donnelly is the General Manager of Digicel Business Solutions.

The Digicel Team has an expertly managed end-to-end service, from customer premises up to the Cloud, and can outline the various risks, costs and benefits associated with movement to Cloud usage across a myriad of industries.

As Digicel is a managed service provider and telecommunications enterprise, customers benefit from superior expertise and cost savings by bundling multiple services together. Additionally, their partnerships with top OEM vendors such as Cisco, Fortinet, Microsoft, and Huawei ensure customers receive the highest quality user experiences.

Click here to go to
Digicel's website

A cloud service is a game changer in the delivery model for IT and network services.



TECH & THE ENVIRONMENT



By Gerard Rajkumar

The mention of use of technology to the benefit of mankind's survival conjures images of mechanical skeletons against barren landscapes courtesy Skynet in the Terminator franchise or humans living underground due to a "scorched sky" as in the Matrix. However, is this anywhere close to reality? With regards to the environment, the use of technology is not all bad and may not be remotely close to these portrayals.

The two words "technology" and "environment" themselves encompass a wide range of disciplines, topics, and services in each individual area. To objectively look at how the two influence one another, there is a need for further diving into each. The natural environment consists of air, water, earth, atmosphere, and all the systems that connect them, and all living organisms and the ecosystems in which they reside. Technology, the word itself made of Greek origins "techne" and "logia", meaning virtually the science of craft, entails human beings' means to manipulate the world around them via scientific and engineered creations and innovations. As such, the interaction and overlap between the two will also be wide-ranging in scope, range, effect, and consequence. The best place to examine this relationship is in areas where humankind is impacted, and our most significant threat to our survival and existence is climate change.

CAUSES OF CLIMATE CHANGE

Climate change is the defining issue of our time, the United Nations stated. This gradual warming of the Earth will have dire consequences for the future of our planet if not addressed in a timely manner, and that "time" was yesterday. This temperature rise is in large part due to an increase in greenhouse gases (GHGs) in the atmosphere, the primary named one being carbon dioxide. These gases trap heat from the Sun, which would have otherwise radiated out into space after reflecting off the Earth's surface. The effect is much like a greenhouse and hence the name. In a strange intertwining, technology used in processing data and finding solutions to environmental problems may have also contributed to the rise in greenhouse gases.



Climate change is the defining issue of our time, and the time to address it is yesterday.

Although data centre demand has grown 550% in the last 8 years, the energy needed to power those centres only grew by 6%.



DATA = ELECTRICITY

The world in the 21st century's insatiable appetite for information has led to an increased demand for data. Whether it be for medical research and advancement purposes or to share dance moves on TikTok, the requirement for information receiving and sharing is staggering. The pandemic and ensuing lockdown of this year only served to spike this need. To facilitate such, technology companies require data centres, and these data centres require electricity. Electricity generation has been identified as one of the key contributors to carbon emissions by the United States Environmental Protection Agency (USEPA), the US Energy Information Administration (EIA) and other organizations responsible for such studies. Consequently, to feed this demand, large technology companies have contributed to increased carbon emissions by employing large, energy-dependent data centres. More data means more electricity. More electricity means more carbon emissions. More carbon emissions equal a greater effect on climate change.

Certain studies have stated that although data centre demand has grown, the corresponding energy requirement was not proportional. However, as small as the figure may appear compared to total global electricity use, it is not insignificant enough for the large technology companies to ignore. And these companies have stepped in and stepped up to play their part.

As of 2018, both Google and Apple ran their data centres on 100% electricity generated from renewable sources. Facebook hopes to achieve this goal this year. Microsoft's data centres ran on 60% renewable energy in 2019 and are aiming for 70% in 2023 and Amazon aims for 80% by 2024. With the demand for energy set to increase again with the advent of 5G data networks, blockchain currencies, and artificial intelligence, the environmental hope is that technology will once again rise to the challenge.

TECH USED FOR THE BENEFIT OF THE ENVIRONMENT

It is evident that the environment is impacted by technology, however, how is technology used to the environment's benefit? One of the key ways is using technology in assessing the planet's current health and predicting trends in the future. One of the leaders in this regard is the National Aeronautics and Space Administration, more commonly known as NASA.

Whilst known more for the environmentally-unfriendly practice of rocket launching and "littering" with space junk flying at thousands of miles per second above the Earth's atmosphere, NASA's technology has provided them and other stakeholders a wealth of knowledge and data in the area of environment. The information from NASA is now invaluable in facets such as climate change, carbon dioxide levels, air quality, global temperature levels, the health of ice sheets, ocean temperature and sea-level rise. This information is used to inform planners and policy makers in charting a way forward for their countries and the planet as a whole.

Technology such as High-Spectral Resolution Lidar (HSRL) is used in detecting particles in the air, the Gravity Recovery and Climate Experience (GRACE) and Ice, Cloud and land Elevation Satellite (ICESat) missions map changes in the Earth's great ice sheets, under severe threat in recent times due to increasing global temperatures. These are just a few in the NASA arsenal.





WHAT'S HAPPENING IN T&T

Whilst technology is being employed in Earth-changing scenarios, it also plays a significant part on the localized level.

Here in our very own Trinidad and Tobago in the Gulf of Paria, off Claxton Bay, the Institute of Marine Affairs (IMA) in conjunction with Microsoft, Fujitsu, GlobeRangers and Digicel, deployed a water quality monitoring buoy to gather real-time data from sensors installed in the buoy. From this, early detection of environmental incidents such as chemical spills, fish kills and algal blooms will be relayed for a more timely response from stakeholders.

The leading energy company in the country, bpTT, has refocused its operations to include renewable fuels and technologies that promote energy efficiency as part of their RIC (reduce, improve and create) framework, as the global company transforms itself into an integrated energy provider.



However, there are some who believe that technology is not being used nearly enough (or effectively enough). Looking at the slate of technology available, at our very own Caribbean counterparts and what is currently being used in T&T, this just maybe true.

Our relatively inexpensive natural gas, used to power electricity generation, has proved an obstacle to our move to renewable energy. In addition, legislation to accompany an environmentally progressive approach, such as that regarding energy usage, has not changed to suit the needs of the present, far less the future. All of this is against the landscape of a population accustomed to such inexpensive energy and in turn, leading lifestyles afforded by it.

Need drives innovation and innovation lead us to do things smarter and more simply. When this is done, the ideal of benefit to person, environment and planet may actually be realized. And this can be achieved, as the Greek origin of the word intended, by technology. This technology is inextricably linked to our thinking, and the fine tuning of our thinking to environmental consciousness will in turn lead to greater advancements in technology, and we will be better equipped to sustain ourselves and our planet. <<

Gerard Rajkumar is the Manager and Lead Consultant of Sygma Environmental.

Our relatively inexpensive natural gas, used to power electricity generation, has proved an obstacle to our move to renewable energy.

[Click here to go to Sygma Environmental's website](#)

TECHNOLOGY WE SHOULD EMBRACE IN THE NEAR FUTURE:



Green Vehicles – Our vehicles run primarily on gasoline or diesel. The internal combustion engines that power these vehicles are said to be on their way to extinction and several large car manufacturers have pledged to cease producing ICE vehicles. There are hybrid vehicles and CNG vehicles, however, T&T needs to fully explore and embrace the changing world and technology of electric, hydrogen, biodiesel and ethanol vehicles.



Renewable Energy – Solar, wind, and hydropower energy generation are practised in other Caribbean islands and is being explored here in pockets by government, academia, and private entities. The Ministry of Energy and Energy Industries is developing a national energy policy green paper which recognizes the role of renewable energy combined with energy efficiency as some of the key drivers in sustainable development. bpTT in conjunction with Shell and Lightsource won the bid for solar energy project here in T&T.



Feed-in Tariffs – The tariff would allow those who generate their own electricity to sell the excess which is supplied to the grid. This could be applied to private homeowners or businesses.



Carbon inventory/tax/trading/credits - In essence, the burning of fossil fuels results in the release of carbon dioxide, methane and other greenhouse gases. These gases would have detrimental effects of the environment (such as climate change) the cost of which would be borne by the taxpayers, population, and people in general. With the carbon regime, this burning is given a true value, and the responsible companies are made to quantify their amounts, pay for the cost to the public, or earn credits.



Smart Homes – these can regulate wasteful practices such as leaving air-conditioners or faucets on when not being used thereby reducing water and electricity consumption.

THE COVID PIVOT TO E-GOVERNMENT

COVID-19: Serendipitous Opportunity to Pivot to e-Government

A

s at the time of writing this article the world is in the grip of a once in a hundred-year pandemic. The COVID-19 virus is wreaking havoc across the world and has in one way or another impacted every aspect of our daily lives.

Economies across the world are struggling to cope with the associated fallout and, the Caribbean region is certainly no exception. Caribbean nations, while battling the realities of a rapidly changing global economy combined with the increasingly apparent negative effects of climate change, typically heightened during the hurricane season, must now respond to this novel virus.

COVID IN THE WORLD

The World Health Organization (WHO) is reporting over 23 million new COVID-19 cases and 800 000 deaths for the week ending 23 August 2020. The Caribbean Public Health Agency (CARPHA) is reporting that there are 156,790 cases in the region and that the likelihood of further cases occurring in the Caribbean is high. Both the global and regional public health bodies are advising that countries must continue to prioritise a focus on disrupting the transmission of COVID-19 if there is to be any success in reducing mortality while they continue to progress the phased lifting of lockdown restrictions.

One of the most notable characteristics of this pandemic is the speed at which it has spread across the world and moved around in localised jurisdictions. Countries in their varying attempts at controlling outbreaks almost universally resorted to locking down their borders which inevitably resulted in severe negative economic impacts. The World Bank baseline forecasts suggests a 5.2 percent contraction in global GDP in 2020. The bank is describing this as the deepest global recession in decades, notwithstanding continuing efforts by governments and central banks' attempts to counter the downturn with fiscal and monetary policy support. Over the longer term, many economists are predicting that the deep recessions triggered by the pandemic will be long-lasting and are likely to result in lingering negative conditions characterised by reduced investments, with significant downside impact to much of the population through lost work and schooling; all of which is amplified by the fragmentation of global trade and supply linkages and a marked reduction in global tourism.



By Kirk Henry

Caribbean nations, while battling the realities of a rapidly changing global economy, must now respond to this novel virus.



COVID IN THE CARIBBEAN

In the Caribbean, tourism forms the bedrock of a significant segment of territories, and according to estimates from the Inter-American Development Bank (IADB), territories like Bahamas, Barbados and Jamaica depend on tourism to generate up to 48% of their GDP. Given the need to restrict movement to mitigate the virus, the region's tourism sector has ground to a virtual standstill. Those countries relying on energy-related commodities to sustain GDP are naturally in for a hard time, as travel slows and the impacts of a real reduction in oil demand has effectively crashed oil prices. Countries are therefore saddled with managing a global pandemic that feeds off of personal contact that has the potential to cripple weak health care infrastructure amidst reducing revenue, coupled with limited investment and incurrence of mounting debt to address the pandemic.

Prior to the pandemic and notwithstanding a generally high mobile phone penetration rate, the use of ICTs in the region, while on the increase, is generally accepted as being modest at best. An imperative for survivability of the region going forward, therefore, is the need to continue to perform productive activity during the pandemic and this is where the nexus of challenge and opportunity is presented. The pandemic thus peculiarly presents a paradoxically serendipitous opportunity for countries in the region to pivot to the more pervasive use of technology to meet the current challenge.

GOVERNMENT ICT USE IN THE REGION

Governments in the region have quickly caught on to this fact and policy makers have adopted aggressive stances as they push their regional public service entities to leverage the technology. The United Nations (UN) describes e-government as "the use of ICTs to more effectively and efficiently deliver government services to citizens and businesses." The basis of the description revolves around the effective use or application of ICTs to enhance government operations all with the goal of achieving desired public outcomes by digital means.

E-GOVERNMENT MAY BE SEGMENTED INTO THREE (3) CATEGORIES:

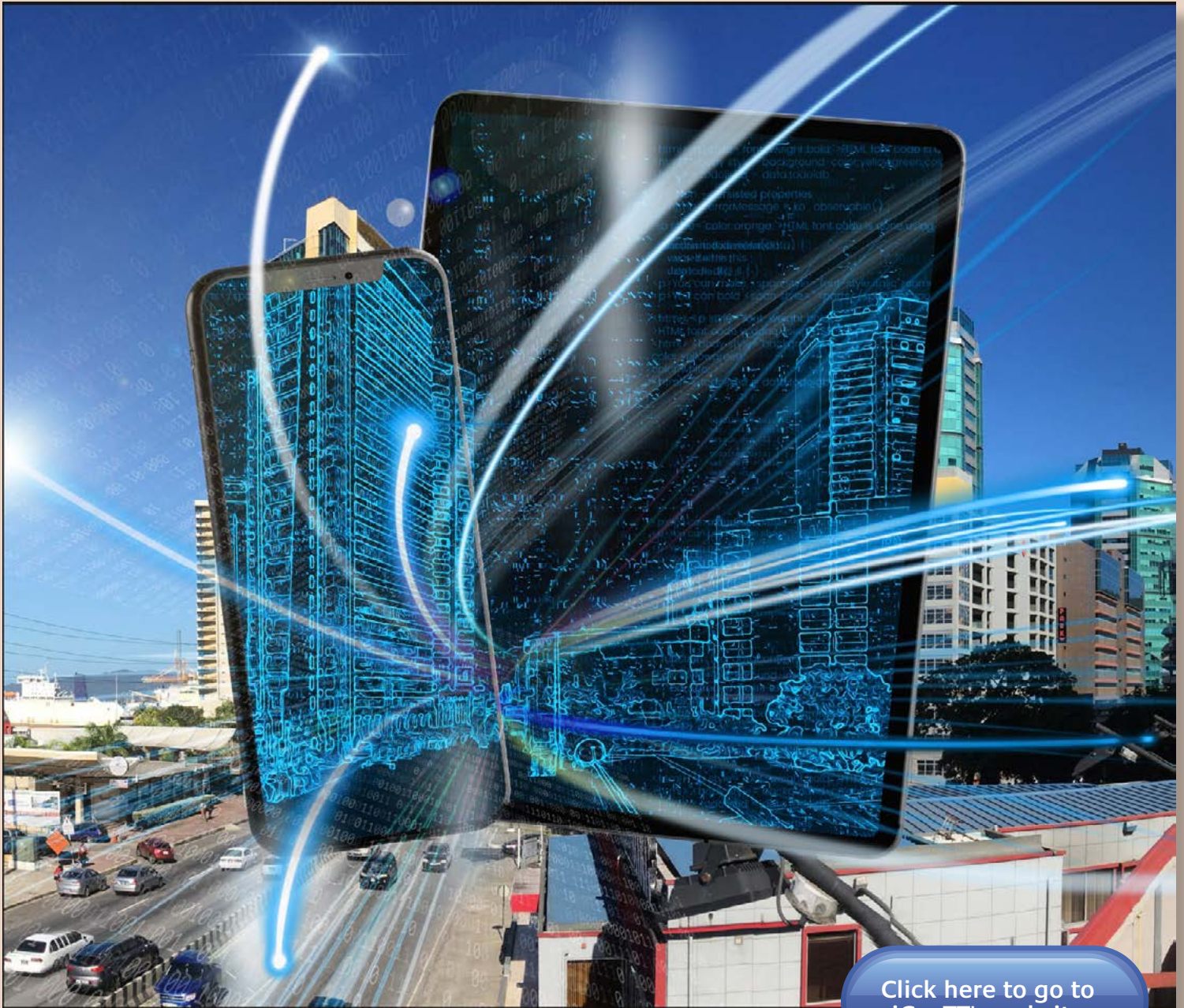
- i. **Government-to-Government (G2G)** activity is a critical aspect of e-government that is much talked about. It is almost entirely about the interchange between government actors and is dependent on vertical and horizontal relationships across entities at all levels of government.
- ii. **Government-to-Business (G2B)** activity is generally commercial-type transactions which would include things like payments and the sale of goods and services. Within this category, services related to set-up and or management of businesses are also captured.
- iii. **Government-to-Consumer / Citizen (G2C)** activity is usually the most visible aspect of e-government and revolves around initiatives designed to facilitate the digital interaction between citizens and government. As governments mature, digital offerings would include interactions related to citizens' participation in decision-making.

Each of the categories has enormous implications for productivity during normal times however, in the midst of a pandemic, the impact of the presence or absence of an effective suite of e-government services is amplified. The need to maintain social distance to preserve public health should alone serve as justification for widespread introduction of e-government services, however, there are a host of other derived benefits from e-government adoption.

E-government implementation provides citizens and businesses access to government information 24 hours a day. There are numerous well-known examples across the world where the implementation of e-government resulted in the reduction of overheads associated with organisational processes through the streamlining and re-organising of operating procedures to align with a digital delivery model.

According to Marina Kaljurand, Member of the European Parliament Committee on Civil Liberties and Home Affairs, regarding the value of the digital administration ecosystem as part of the e-Estonia programme:

The need to maintain social distance to preserve public health should alone serve as justification for widespread introduction of e-government services.



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W If used properly, digital solutions can be essential drivers for economic growth and equity. Estonian digital ecosystem contributes to 4-7% of the country's GDP each year. We are able to deliver better value for less money by relying on digital means."

The widespread use of e-government systems has the potential to improve the performance of government agencies and deliver a higher quality public service more effectively and efficiently for all 'citizen-customers,' individuals and businesses alike.

REGION SLOW TO ADOPT E-GOVERNMENT

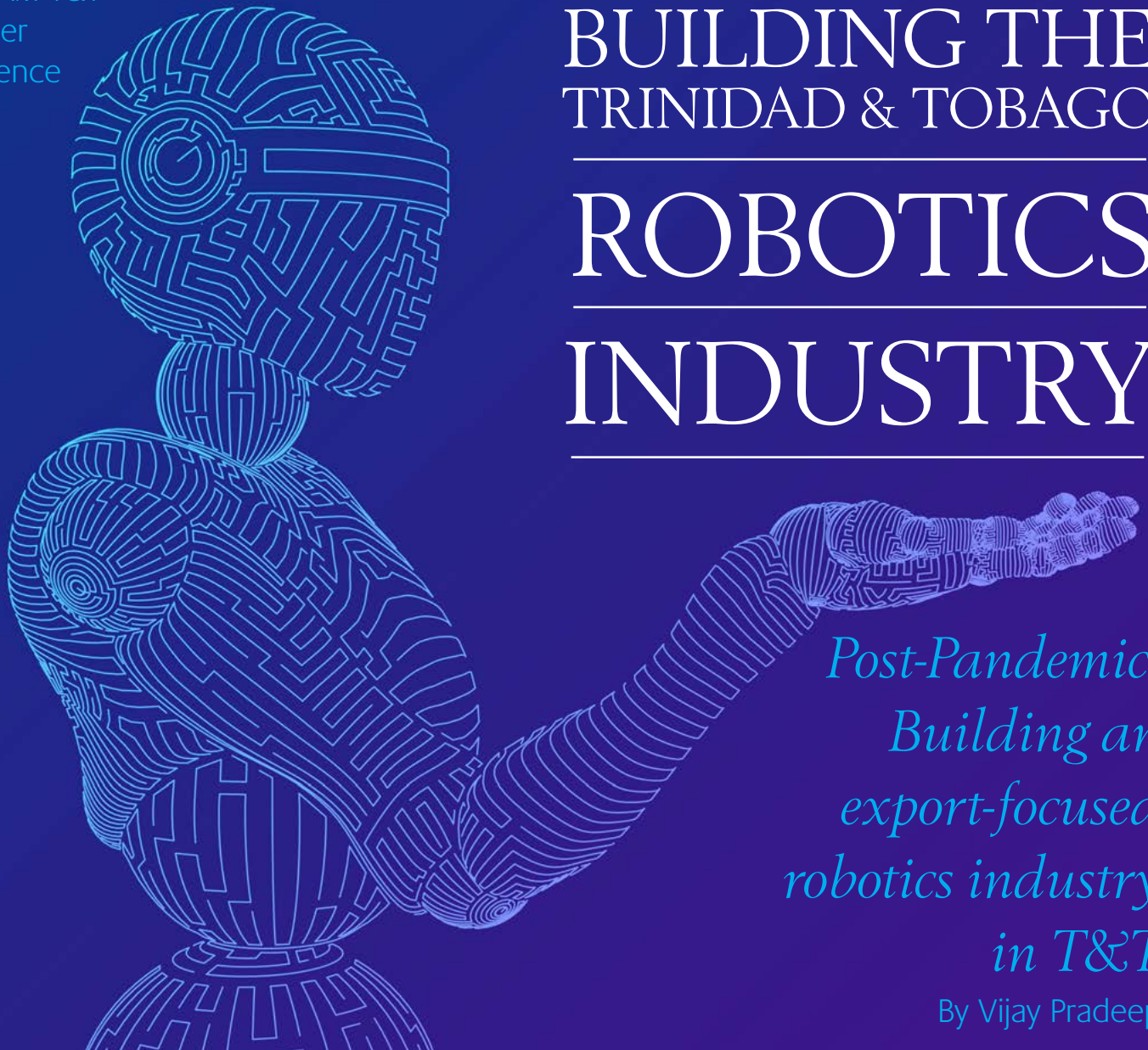
It is generally accepted that historically the Caribbean region has been slow to adopt the widespread use of e-government. COVID-19 has, however, impelled leaders in the region to focus their attention and efforts to address this state of affairs, and e-government and its first

cousin digital transformation, elevating both high up on the region's agenda. This is evidenced by an accelerated introduction of e-services, such as e-payments, online case management across multiple user domains e.g. social services, online courts and e-tax services, and the list goes on and on. This trend is expected to persist and represents an opportunity that is critical for a Caribbean region in the midst of a once-in-a-generation battle against a deadly global pandemic that many have described as an existential threat. <<

Kirk Henry CGEIT, CISM, CRISC, CISA is the CEO of the National Information and Communication Technology Company Limited, branded iGovTT. He has a proven executive management track record and over 20 years of experience creating robust ICT infrastructures in the financial industry. Prior to joining iGovTT, he was Head, Information Systems at a leading regional insurance company, where he provided leadership for the development of an innovative and secure information technology environment. Previously, he served in various ICT roles at a local financial services company, where he led the transformation into an enterprise-focused company, leveraging technology to improve operational efficiency and effectiveness. In February 2019, he was appointed to the Board of Directors of the Central Bank of Trinidad and Tobago.

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BUILDING THE TRINIDAD & TOBAGO ROBOTICS INDUSTRY



*Post-Pandemic:
Building an
export-focused
robotics industry
in T&T*
By Vijay Pradeep

Illustration: iurimotov/freepik.com



We need to change the local mindset from that of tech consumers to tech creators.

The digital era thus far has been about information: organising information, sharing information, and most importantly, using information to make our lives more meaningful, enjoyable and efficient.

However, this information has traditionally been stuck in our web browsers, computers and mobile phones, with humans being the creators and consumers of this information. Robotics and AI (artificial intelligence) are the natural progression from this status quo, enabling machines to act on this information to solve problems and make our lives better.

For instance:

- Online resources like WebMD can help diagnose medical ailments, but a surgical robot could help surgeons perform complex operations less invasively and more safely, thus saving lives.
- Online news and social media tells us where the Coronavirus has spread, but AI could predict where it will appear next, thus helping to contain the virus.
- In an earthquake or flood, a mobile phone can let you call for help, but a delivery drone could drop off critical supplies to your exact GPS location.
- Google Maps and Waze can give you directions to your destination, but a self-driving car could actually take you there.





These all might sound far-fetched, but every example I've just mentioned already exists, and this is just the beginning of how robotics and AI will continue to grow and impact our lives.

HOW VIRTANA IS CONTRIBUTING

Trinidad and Tobago is also able to participate in this global robotics ecosystem. Virtana, one of AMCHAM T&T's member companies and a robotics software development and outsourcing company, works with robotics companies all over the world, including tech giants like Google, to help build the next generation of robotic solutions, all while sitting right here in Trinidad. Some of our projects include developing drone navigation systems, computer vision algorithms for factory robots, and robot simulators to train new types of artificial intelligence. It's business-as-usual for a Virtana staff member to put on a virtual reality headset, remotely connect to a drone or robot thousands of miles away, and test a new algorithm that we've just developed in our office.

There are two things that enable Virtana to participate in this global robotics ecosystem: access to this global information and digital connectivity to our global customers. With these two things, Virtana is able to work with robotics companies all over the world, to help build the next generation of robotic solutions to global challenges.

WHY HIGH-TECH EXPORTS MATTER

People in Trinidad and Tobago often ask, "If all of Virtana's customers are foreign, then how is Virtana actually helping the country?" As it applies to any export business, an immediate benefit is providing foreign exchange, and with the recent declines in exports from the energy sector, export diversification becomes an important step towards economic stability and recovery. However, the much more impactful effect of exporting technology solutions is that it increases T&T's local capacity for robotics and technology development. The advanced robotics expertise that local engineers gain can then be utilised by other local organisations, thus making the entire local ecosystem more efficient and more profitable. Many of these engineers may even create their own local robotics and tech companies, thus creating entirely new sectors or industries in the local economy.

It has been challenging to find the right people to join our team.

WHAT NEEDS TO CHANGE, LOCALLY

Given the exponential growth in the field of robotics worldwide, Virtana has more projects queued up than we can execute on, forcing us to often turn down new work. We're currently a team of 12 people, all based in Trinidad, but it has been challenging to find the right people to join our team. We feel that the local mindset needs to change to help steer current students, young professionals and experienced engineers towards cutting edge fields like robotics, and local companies like Virtana. Here are some ways to make this happen:

Retool Education for Lifelong Growth: We need to prepare our students for a lifetime of learning, and not just for the next exam. To succeed at Virtana or other high-tech ventures, employees need to think critically and creatively, synthesising new information from multiple sources and disciplines to solve challenging problems they have never encountered during their formal education.

Instil a Tech Creator Mindset: We need to change the local mindset from that of tech consumers to tech creators. Configuring networks, designing websites, and developing apps are a great starting point, but we need to expand the notion of tech to go deeper to include creating the next generation of technologies that will propel society forward, and robotics is a key piece of that vision.

Focus More on Service-based Exports: We need to think more globally and be creative as to what we export to the global market. Exports don't always have to be manufactured or grown, and services in high growth areas like robotics are hugely in demand. High tech services are also much more resilient than traditional exports in lockdown scenarios, as seen during the COVID-19 pandemic. Virtana is proud to have had zero

disruptions in business continuity while transitioning the entire company from our office to a work-from-home setting, which was possible because it is almost fully a knowledge-based service business.

Invest in local talent via import substitution: We need to create new opportunities in the public and private sector that encourage our best and brightest to stay in Trinidad and Tobago. When local organisations need advanced tech expertise, they often rely on foreign consultants to deliver these solutions, with very little of this know-how being shared with the T&T client. Meanwhile, our best and brightest in tech look outward to the US, Canada or England to grow their careers. By substituting imported foreign tech services with local engineers, we can address both of these issues. In the short term, this approach will surely be more costly, more time consuming, and initially lower quality than hiring foreign consultants, but these investments in local talent will begin to raise the technical capabilities of local engineers, thus creating positive ripple effects in both our public and private sectors.

Overall, we're definitely in the early days of Trinidad and Tobago's robotics industry, but with the right support from educational institutions, private industry, and the government, we believe that we can make Trinidad and Tobago a key player in the global robotics ecosystem. «

More information about Vijay and Virtana are available at www.vijaypradeep.com and www.virtanatech.com.

Vijay Pradeep is a robotics engineer and angel investor, and has been involved in the robotics sector for over a decade. He is currently the founder and CEO of Virtana, a robotics software and development company in Trinidad and Tobago, aiming to grow the Caribbean's impact in the global robotics ecosystem.

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Virtana's website

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FROM NICE-TO-HAVE TO NECESSITY

IBM's Contribution to "Rework How We Work" during COVID

By Simon Aquí



In a global crisis, it is essential that businesses across all sectors have the solutions they need to navigate uncertainty, adapt to changing conditions and become more resilient. COVID-19 has presented unprecedented challenges, and for businesses across the country and throughout the Caribbean, a return to normal will be a different normal.

Companies are marshalling resources and bringing together the right communities of experts, clients, governments, scientists, developers, partners, academic institutions and health agencies to collaborate and manage the COVID-19 outbreak with what they do best — applying data, knowledge, computing power and insights to solve difficult problems.

ACCELERATING AGILITY AND EFFICIENCY

One of AMCHAM T&T's members companies, IBM, is helping leaders apply new AI automation and hybrid multi-cloud technologies to modernise their infrastructures and networks. Wherever an organisation is on its own digital transformation path, there are operational lessons to be gleaned.

- First, where cloud was once a desired future end state, it is now an indispensable, immediate environment.
- Second, organisations can move faster than they realised and be nimbler than they believed possible.
- And third, speed and digital transformation are essential to supporting your business imperatives.

95%

of IBM's work force
works from home

For many businesses in Trinidad, the ability to generate granular, real-time data about supply chains has gone from nice-to-have to necessity. Saving a few days can make a huge difference in both preparing for and recovering from impact. Businesses can leverage AI, automation, blockchain, IoT, 5G and edge computing to smartly rebalance costs and build a smarter global supply chain.



+4,300%

of growth in COVID-spam was detected by IBM X-Force



PEOPLE AT THE CENTRE OF DECISION-MAKING

This is all happening against the backdrop of people working from home. For example, more than 95% of IBM's global workforce are working from home without any interruption in their ability to support clients worldwide. But with the current dynamic situation, people have more questions than ever before. Schools, doctor's offices and essential government offices have been swamped with massive call volumes. This exponential demand can be met with the power of digital tools that use conversational artificial intelligence (AI). The **IBM Watson Assistant for Citizens**, available free for 90 days, is a virtual agent that has been deployed by health agencies, academic institutions and governments around the world to respond to resident concerns in real-time – either by phone, or through their computer.

PROTECTION AGAINST NEW CYBERSECURITY RISKS

And as the world struggles with the impacts of COVID-19, cybercriminals have mobilised. They are launching novel attacks, using tactics from phishing campaigns and malicious domains to targeted malware and ransomware.

Since February when the outbreak went global, IBM X-Force, a team of threat intelligence experts, has observed a 4,300% increase in coronavirus-themed spam. As more workloads and users move to cloud operations, accelerated by the current work-from-home requirements, cybersecurity resilience will evolve from a baseline performance requirement into a driver of a competitive advantage.

Now, the focus is towards rebuilding and relaunching. To determine the best path for bringing professionals back to offices, IBM has brought together leading thinkers and developed a data-driven, evidence-based set of **Global Return to Workplace Guidance**. As professionals return to the office, a number of new workplace norms can then be put in place to ensure the health and safety of employees, partners, clients – and their respective families. This includes redesigned office layouts, traffic flows and collaboration models.

REWORK HOW WE WORK

COVID-19 has presented a clear opportunity to apply technology in sectors that will speed up the process of finding a vaccine, as well as helping to manage physical, mental and economic health of people and communities around the world. The economy is beginning to reopen, and the sophistication of our digital world allows us to operate, plan and respond in a way that we never could before.

The world is looking for a path to safely reopen business, educational institutions, and governments to get people safely and productively back to work. And while every organisation and country have different needs and considerations, we hope that these key learnings and recommendations will be helpful to leaders in business and government as they look to rework how we work. <<

Simon AQUI is the Business Development Executive - Caribbean Financial Services Sector at IBM

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AMCHAM T&T SECURITY COMMITTEE DONATES HAMPERS TO ST. JAMES POLICE YOUTH CLUB

The St. James Police Youth Club is one of several police youth clubs throughout the country. Established in 1992, the Youth Club caters to the needs of young persons between the ages of 5 to 21 years. Its aim is to expose young people to productive activities in education, sports, culture, spirituality and community service, as an alternative to a life of drugs, crime and juvenile delinquency.


The Club, which currently has 196 registered members, offers several activities geared towards uplifting and empowering the nation's youth for the world of work and to be productive members of society. Some of the activities include folk dance,

football, steel pan, drumming, moko jumbie, remedial classes and computer literacy.

The AMCHAM T&T Security Committee has been involved with the St. James Police Youth Club in a number of ways since 2018, including providing assistance in obtaining supplies and supporting functions and activities.

So, when the COVID-19 pandemic hit and some of the families of the members of the Club were negatively impacted, the Committee was happy to help. The Committee pooled together resources and purchase twenty-four hampers consisting of food and hygiene items for the families of the Club members who were most affected. «



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LEGISLATION TO WATCH

Changes in Trade Marks Laws – Trinidad & Tobago

Registration of a trade mark confers on a proprietor an exclusive right under statute to use the mark in relation to goods or services for which it is registered. Ownership can generate goodwill as well as revenue generation, which can be a valuable investment for business. A registered owner can authorise or license others to use the mark. Importantly registration gives an owner the right to prevent unauthorised third parties from using the mark without permission. This article looks at recently passed legislation which deals with the protection of registered trade marks.

TRADE MARKS ACT NO. 8 OF 2015 (THE “TRADE MARKS ACT”)

On 25th June 2020 a new Trade Marks Act, Act No. 8 of 2015 along with the Trade Mark Regulations 2020 and the Trade Marks (Border Enforcement Measures) Regulations 2020 was proclaimed in Trinidad and Tobago.

The new legislation has modernised local trade mark laws with specific focus on increased efficiency in the registration process, reduced filing costs and facilitation of the ease of doing business.

CHANGES TO THE TRADE MARKS LAW

Under the new Trade Marks Act the definition of a trade mark has been expanded to include shapes, colours and other non-traditional marks like sounds, smells, touch, tastes and motions and not just traditional trade marks like words, names, logos and devices.

Unlike the previous law, registration will be determined on new concepts of absolute and relative grounds of refusal. A mark may be refused registration on relative grounds where it is identical or similar to a pre-existing mark and is likely to cause confusion.



Fanta Punch is a Partner in the Dispute & Risk Management Department of M. Hamel-Smith & Co.

The law also provides for an electronic online system for filing trademarks, payment of filing fees online and an electronic online journal for all publications including the Trade Marks Journal.



This can be refuted with evidence of honest concurrent use or through amending the mark. Refusal of a mark on absolute grounds can be on the basis of descriptiveness, deceptiveness or filing in bad faith. If there is proof that the mark in question has gained distinctiveness through use, it may be registered.

The law permits the use of established reputation to overcome objections which would have acted as a bar to registration under the old law. The earlier requirement for similar marks to be associated has now been removed, making it easier for a proprietor to transfer or assign ownership in a mark.

With few exceptions, the proprietor of a well-known mark is able to prevent use by third parties in the jurisdiction, even though the mark was not registered locally.

It is not necessary to provide evidence of use in a mark for it to be registered but applicants have to declare whether the trade mark is in use or there is an intention to use it. Notwithstanding, registered marks which are not used within five years of registration or become common due to inactivity, are vulnerable to revocation.

Assignment and licensing of trade marks remain essential to the realisation of the economic and commercial value of trade marks. Registration of these type of transactions is not mandatory, but it would be prudent for a new owner to register his interest in a trade mark to be able to defend against third party claims or pursue infringement actions. For the purpose of registration an assignment or license will not be effective unless in writing. Transfer of trade mark ownership by way of assent can be registered.

In addition to these interests, the Trade Marks Act recognises security interests for example mortgages, floating charges or fixed charges.

IMPROVEMENTS IN THE REGISTRATION PROCESS

The registration procedure remains unchanged though it ought to be a simpler one by creating a lower administrative burden.

The new trademark regime has enabled Trinidad and Tobago to accede to international treaties such as the Singapore Treaty on the law of Trademarks and the Madrid Protocol. The Madrid Protocol provides for the international registration of trade marks. It is now possible to file a trade mark application in one country and designate filing of the same application at the same time in other participating jurisdictions around the world. It does not grant a world-wide trade mark but the system has simplified the application process for the protection of trade marks internationally which should be cost effective for owners.

The law also provides for an electronic online system for filing trademarks, payment of filing fees online and an electronic online journal for all publications including the Trade Marks Journal.

Another key feature of the new Act is the harmonisation of the law with the international Nice Classification system which is a classification system that categorises goods and services for trademark registration.

Trade marks can now be examined and registered using current editions of the system as updated from time to time.

The period of validity for a trade mark remains the same at ten (10) years which can be renewed for subsequent ten-year periods. No evidence is required to renew a trademark but there is a six-month grace period after the expiry date by which the mark has to be renewed.

PROTECTING YOUR TRADE MARK

The scope for trade mark infringement has been widened and extends to use of a similar trade mark for identical or similar goods or services, if a likelihood of confusion can be proven. Use of an identical or similar trade mark on goods which are not similar to a registered owner's goods or services can suggest a connection or association which infringes a registered proprietor's rights.

Both civil and criminal liabilities remain available to a proprietor for trade mark infringement. Depending on the terms of a licence, a licensee may be authorised to bring civil proceedings against an infringer. Remedies for civil proceedings remain unchanged from the old law and include damages, accounts of profit, injunctive relief (interim and final), and orders to deliver up or destroy the infringed goods. Criminal sanctions have also been enhanced under the Trade Marks Act which can be pursued either by the Director of Public Prosecutions or by private prosecution.

Notwithstanding protection against trade mark infringement, the use of a trade mark by a competitor for comparative advertising purposes is permitted if that use is held to be fair. An action for infringement will not succeed if the owner's mark has been used for non-commercial purposes or news reporting.

An aggrieved person is now entitled to bring proceedings against unauthorised or groundless threats of trade mark infringement. This ought to prevent situations where for example a distributor may receive unjustified claims of infringement about potential infringing goods, instead of the manufacturer. A successful party can be awarded injunctive relief to restrain further threats, declarative relief or damages.

The Act has now been expanded to include definitions of counterfeit goods, counterfeit trade marks and infringing goods. New provisions have been introduced which have increased the powers of Customs & Excise to act in border enforcement measures. Customs & Excise is empowered to seize and detain possible counterfeit goods at ports of entry at the request of a trade mark owner or by its own *ex officio* authority.

MOVING FORWARD

Proprietors will now have more of a role to play in the protection of the goodwill and reputation in their trade marks but they will also enjoy increased flexibility to exploit and maximise on the commercial value of their intellectual property. <<

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By AMCHAM T&T Staff Writer

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Dr. Nippin Anand (PhD MSc Master Mariner FNI CSci) is a Principal Specialist in management systems and human factors. With more than two decades of exposure within the maritime, oil and gas sector, Nippin has accumulated a career capital that spans across hands-on operations, academic research, consultancy and certification and regulation in the maritime, oil and gas sector. His key interest lies in cultural anthropology, organisational learning, safety management and human factors. His work has helped organisations and leaders understand the power of diversity for personal and organisational growth.



Dr. Philip Mshelbila is currently the CEO for Atlantic LNG Company of Trinidad & Tobago. Prior to this, he was the General Manager, Gas for Shell Nigeria and a director of the Shell Petroleum Development Company of Nigeria Ltd (SPDC). Before that, he held the positions of Regional Communications Manager for Shell in West Africa and General Manager for Sustainable Development and Community Relations for Shell Nigeria. Prior to that, he was the Managing Director of Shell Nigeria Gas Ltd and Crisis Chief of Staff for Shell Nigeria. Dr Mshelbila has a degree in Human Medicine (MBBS), a postgraduate qualification in Occupational & Environmental Medicine from the University of Aberdeen, Scotland and a Masters of Business Administration (MBA) degree from the IESE Business School of the University of Navarra, Spain.



Dr. Sidney Dekker (PhD Ohio State University, USA, 1996) is Professor and Director of the Safety Science Innovation Lab at Griffith University in Brisbane, Australia, and Professor at the Faculty of Aerospace Engineering at Delft University in the Netherlands. Sidney has lived and worked in seven countries across four continents and won worldwide acclaim for his groundbreaking work in human factors and safety. He coined the term 'Safety Differently' in 2012, which has since turned into a global movement for change. It encourages organisations to declutter their bureaucracy and set people free to make things go well and to offer compassion, restoration and learning when they don't.



Mark Loquan is the President, The National Gas Company of Trinidad and Tobago Limited. He has over 30 years' experience in the petrochemical industry and has held numerous leadership roles in countries including the USA, Europe, Africa and Trinidad and Tobago. Mr Mark Loquan is a graduate of The University of the West Indies with a B.Sc. in Chemical Engineering (1st Class Honours). He earned his MBA at Duke University, Fuqua School of Business, Durham, North Carolina, USA. He is also a Distinguished Alumni of The UWI.



Claire Fitzpatrick is the president, bp Trinidad and Tobago. Prior to this role, she was appointed Managing Director for BP's Exploration and Production interests in Australia in September 2014. In this role, she was accountable for all BP Upstream activity in Australia, including the North-West Shelf Venture. Claire served as a Director of the Board of North West Shelf Gas Pty Ltd, the gas marketing agency for the venture. In addition, she was a Board Director of the Australian Petroleum Production and Exploration Association (APPEA) and Chairperson of the APPEA Executive Committee. Claire has a BSc in Biological Sciences and is a Fellow of the Institute of Chartered Accountants of England and Wales.

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Mark Gallagher has held senior roles in the high performance environment of Formula 1 motor racing for over 30 years and today is an author, broadcaster and industry analyst who continues to work with drivers and teams at the forefront of this global sport. Mark has written two books, *The Business of Winning* (Kogan Page, 2014) and *Grand Prix - The Last 25 Years* (WH Smith, 1999), and collaborated with Coulthard on his Sunday Times Best Seller *The Winning Formula* (Blink Publishing, 2018). Between 2004-2010 Mark worked as a consultant for Pixar on CARS and CARS 2, coordinating the European launch of the successful franchise at the Spanish Grand Prix in 2006.



Catherine Ramnarine joined M. Hamel-Smith & Co. in September 2006. One of the primary focuses of her current practice is labour and employment law. She has significant knowledge and practical experience in this area including industrial relations disputes, termination, discrimination and employee injury claims. She also maintains a significant practice in personal injury litigation, insurance disputes, civil and commercial litigation, debt collection, enforcement of foreign judgments and construction disputes.



Patricio Torres was appointed the Head of Market for the Anglo-Dutch Caribbean Region at Nestlé Trinidad and Tobago Limited in September 2017. Patricio joined Nestlé in 1995 and worked in several sales areas for Confectionery, Coffee, Ambient Dairy and Culinary. In 2003, he started his international career in Brazil as part of the Global Business Excellence team in generating demand, implementing best practices and commercial processes across Zone Americas. He returned to Nestlé Chile in 2005 joining the Ice Cream Business in Marketing, after which he joined the Ice Cream Strategic Business Unit in 2008, taking responsibility for sales and distribution for Zone Americas, Europe and Africa, Oceania and Asia. He later became Country Manager at Nestlé Paraguay in 2010 before assuming his role as Business Executive Officer, Savoury Ice Cream in Nestlé Chile in 2012. Patricio holds a bachelor's degree in Business Administration from the University Diego Portales in Chile, an MBA from Pontificie Catholic University in Chile as well as a PED Executive IMD from Switzerland.

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SPECIAL THANKS TO OUR SPONSORS: ATLANTIC LNG (TITLE SPONSOR), BPTT, THE NATIONAL GAS COMPANY OF TRINIDAD AND TOBAGO, SHELL, BHP TRINIDAD AND TOBAGO (PLATINUM SPONSORS), AND NU-IRON UNLIMITED (GOLD SPONSOR).



AMCHAM T&T leads Parity Efforts

MENTORING WOMEN

*37 Additional Female Professionals to Receive Mentoring
through AMCHAM T&T's Women in Mentorship Programme*

One of the major pillars of AMCHAM T&T is our strong commitment towards achieving gender parity and promoting women's leadership in business. We have always said that fighting for equality isn't just a male or female issue but an issue of fairness that just happens to also make good economic sense and is a necessary element towards building a progressive, fully democratic society.

But to get there we must first recognize that women continue to face a steeper climb than men as they try to move up the corporate ladder in their respective jobs. Therefore, our goal has always been to support and empower women in their careers and in the wider society.

AMCHAM'S FOCUS: WOMEN'S LEADERSHIP

For the past three years, AMCHAM T&T has partnered with the Inter-American Development Bank (IADB) to host our Women in Leadership Mentorship Programme. The programme was originally conceived from feedback at our annual Women's Leadership Conference which typically attracts more than 300 participants, mostly women, every March in commemoration of the International Women's Day.

Due to the challenges posed by the ongoing COVID-19 pandemic, the programme will be held entirely virtually this year with a class featuring the highest number of participants in the programme's three-year history. Thirty-seven (37) women working in various fields across the private sector registered to be matched with a mentor aligned to their career goals in this year's programme.



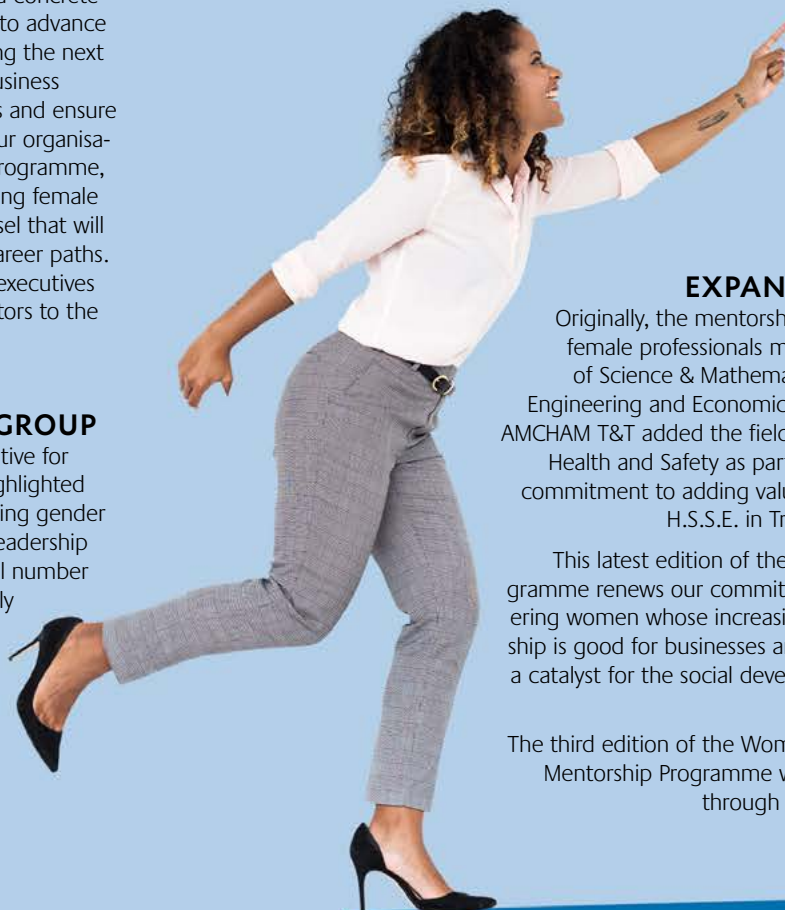
By Rey-Anne Paynter-Mendez,
Research and Project Officer
AMCHAM T&T

MICRO-ACTION

At the official virtual launch ceremony to welcome the new class of Mentees and Mentors, President of AMCHAM T&T, Patricia Ghany said the Women in Leadership Mentorship Programme is an example of AMCHAM T&T taking micro-actions and concrete steps to create opportunities for women to advance in their chosen career paths whilst building the next generation of female leadership in the business sector. "We must put action to our words and ensure that we lead by example at all levels of our organisation," she said. "I am very proud of this programme, because we have created a space for young female professionals to have guidance and counsel that will prepare them for the next step in their career paths. And what better way than having senior executives – both male and female – acting as mentors to the next generation of leaders?" said Ghany.

AMCHAM'S PARTNER: IDB GROUP

Rocío Medina Bolívar, Country Representative for the IDB Group to Trinidad and Tobago highlighted her organisation's commitment to achieving gender equality. "The need for more women in leadership positions is not unique to T&T. The overall number of women in leadership positions are really still low. We have seen some of the statistics in the Caribbean where we have 18% of the world members and 29% of women in leadership positions, which may indicate growth from previous years but there is still a lot of work to do."



EXPANDED SCOPE

Originally, the mentorship was offered to female professionals mainly in the areas of Science & Mathematics, Technology, Engineering and Economics but since 2018, AMCHAM T&T added the field of Occupational Health and Safety as part of its continued commitment to adding value to the state of H.S.S.E. in Trinidad & Tobago.

This latest edition of the mentorship programme renews our commitment to empowering women whose increasing role in leadership is good for businesses and contributes as a catalyst for the social development of communities.

The third edition of the Women in Leadership Mentorship Programme will run from June through November 2020.

 [Click here to go to AMCHAM T&T's Facebook Feed](#)

Women continue to face a steeper climb than men as they try to move up the corporate ladder.

AMCHAM ON THE INSIDE

AS "THE PATHWAY TO THE AMERICAS",
SOME OF AMCHAM T&T'S SERVICES ARE LISTED BELOW:

Did you know?

Our strong mix of formidable local and international member companies, strong networking links, close association with the U.S. Embassy and alliances with the Association of American Chambers of Commerce in Latin America and The Caribbean (AACCLA) all ensure rapid access to what you need to compete effectively both in local and overseas markets. We can therefore secure for members strategic information on doing business in a particular country as well as set up introductions to the right business organisations or companies in the U.S. and throughout the western hemisphere.

AMCHAM T&T U.S. Business Visa Facilitation

You are eligible to use this facility for renewal of visas from the U.S. Embassy for business. In addition, when the automated visa appointment services areas are 'backlogged', AMCHAM T&T may facilitate expedited visa appointments for business travel and training for company personnel. This is available at no cost to the employees of member companies.

AMCHAM T&T Introductions

You may already be in contact with a company with whom you would like to do business or make an alliance. AMCHAM T&T will send a letter of introduction for member companies, which will include details such as the length of time your company has been a member of AMCHAM T&T and your company's involvement with Chamber activities etc. AMCHAM T&T will encourage the setting up of a meeting for you to promote your products and services, but will not endorse an individual company product or service, as we represent several competing companies in any one industry.

One-on-One Appointments

Through our local and international connections as well as the international AMCHAM network, AMCHAM T&T can arrange one-on-one appointments for companies who are seeking to expand their business in Trinidad and Tobago and the Americas.

AMCHAM T&T Executive Info Session

Launching a new product or service? AMCHAM T&T's InfoSessions are an excellent way of niche marketing to the decision makers of our 280 member companies, as well as to the wider business community. AMCHAM T&T will be responsible for sending out notices of the session to our members and the wider business community, registration, organising the room and refreshments as well as any other administrative duties that may arise.

Incoming & Outgoing Trade Missions

Information is available upon request.

AMCHAM T&T Monthly Meetings

You will receive notices of our Monthly Meetings. AMCHAM T&T business is usually the first item on the agenda, followed by a guest speaker and a discussion session. Occasionally these meetings may take the form of a Luncheon or Dinner. This may be the case if there is a special event or an important overseas visitor. Your company may also choose to become the corporate associate of a particular meeting for a sponsorship fee.

AMCHAM T&T Board Room Rental

AMCHAM T&T's conference room is available for meetings, training sessions and board meetings. Send the particular details regarding meeting needs in terms of seating, catering, equipment, etc. and we will arrange it for you.

AMCHAM T&T Organising Your Event

(Event must be trade or business-related) AMCHAM T&T can arrange the logistics of your event, all arrangements including sending out invitations via email or otherwise, and special invitation to ministers / diplomatic corps, following up for responses, coordination of logistics at venue before and after function.

Join an AMCHAM T&T Committee!

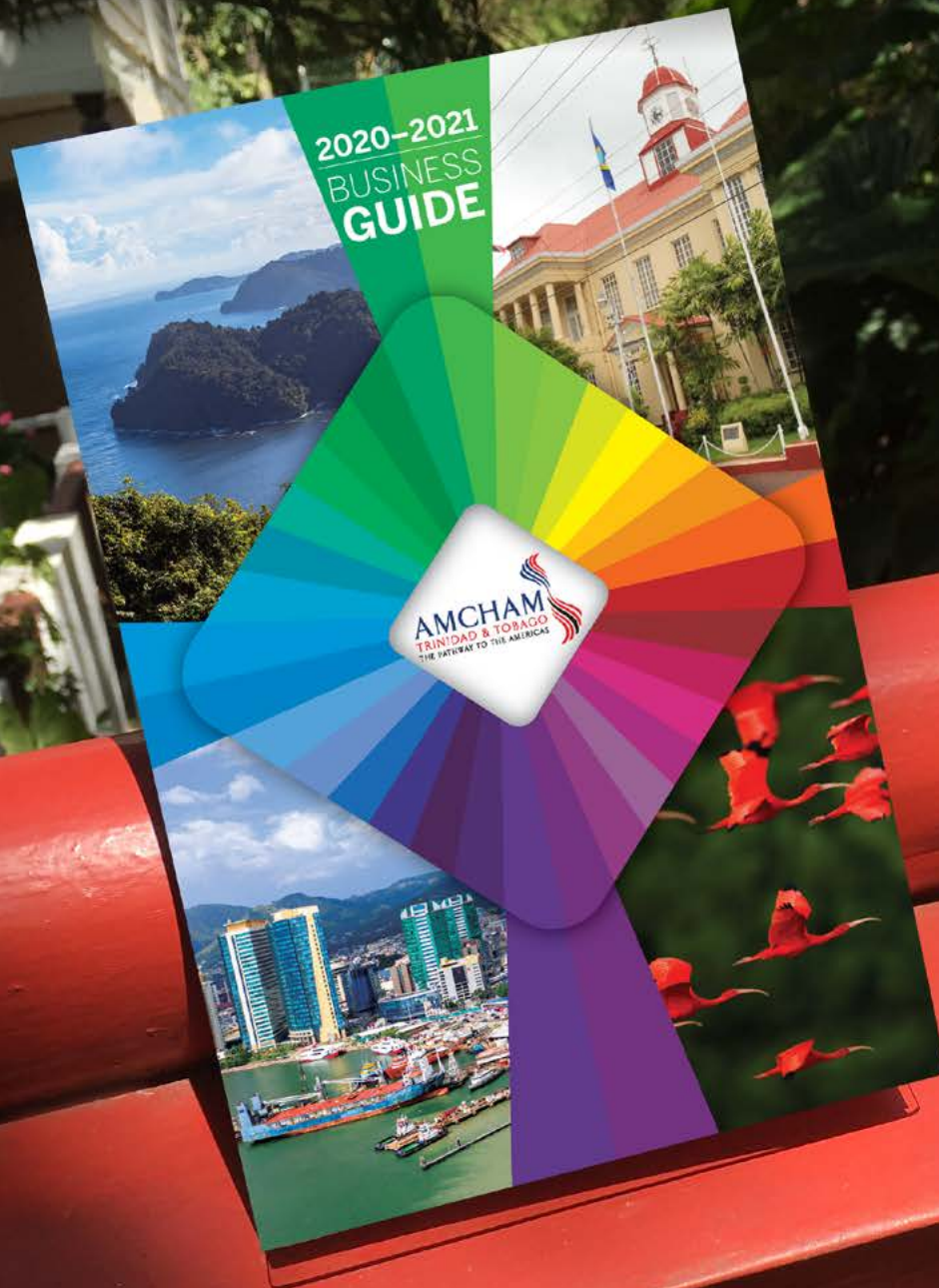
- Chamber Experience and Imaging (CEI) Committee
- Digital Transformation Committee
- Health, Safety and Environmental (HSE) Committee
- Legislative Committee
- Trade and Investment Committee
- Security Committee
- Transparency, Accountability and Governance Committee

Please contact us if you are interested in participating in any committee.

All AMCHAM T&T's financial members are encouraged to have representation on the committees in order to voice their issues and to provide feedback for the lobbying effort of the AMCHAM T&T's Board of Directors. Committee meetings are another forum where members can share invaluable experiences and information with each other. To join a committee, please contact The AMCHAM T&T Secretariat Tel: (868) 622 4466/0340

Please note that some of AMCHAM T&T services & products carry a nominal fee.

Your Postbox is Waiting!



Get your **AMCHAM T&T** **Business Guide 2020-2021**

Investor's Guide by Hamel-Smith
Updated addresses and emails
of AMCHAM T&T Member Companies' Executives

Call the Secretariat at 622-4466 / Email kennedymaraj@amchamtt.com