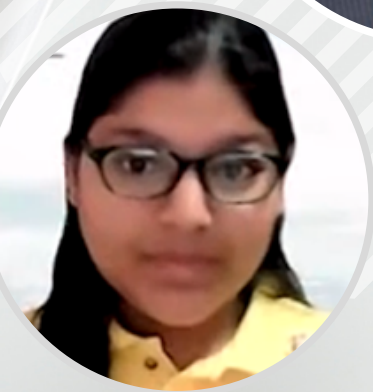




**TTIGF**  
TRINIDAD AND TOBAGO  
INTERNET GOVERNANCE FORUM  
**2022**  
**EVENT REPORT**



**THE FUTURE  
OF THE INTERNET  
....WHAT'S NEXT?**

# SUMMARY

## TTIGF 2022

### The Future of the Internet ... WHAT'S NEXT?

Date: 27th & 28th January 2022.

Time: 8:00 am - 1:00 pm.

Format: Simulcast | Youtube Live | ISOC channels | Zoom Meeting

Hashtag: #TTIGF2022

Website: <https://igf.tt/>

#### DESCRIPTION

TTIGF 2022 was held over 2 days on Thursday 27th and Friday 28th January 2022, hosted by the Trinidad and Tobago Multistakeholder Advisory Group (TTMAG). This year's theme was "The Future of the Internet...What's Next?" This theme brought together a dynamic group of multistakeholder partners, youth leadership, regional and governmental leaders, and influential actors in education, oversight, industry leadership, and facilitators of innovation, diversity and inclusion projects, and innovative projects and services.

The theme was selected to reflect the current climate in Trinidad and Tobago after being forced into a digital age. Adapting was necessary, but thriving is the goal. The audience joined the discussions with experts from the different stakeholder groups. This collective brainstorming about the Future of the Internet in Trinidad & Tobago is more important than ever in our evolving society.

- Academic Community
- Technical Community/ ICT Civil Society
- Civil Society
- Commercial / Business
- Government

#### AUDIENCE & IMPACT

Range: 27th & 28th January 2022

Registered Participants- Eventbrite - 446 total registrants

TTIGF Facebook Reach: - 957, 40% increase in Likes over 2 days

TTIGF Youtube Live: **Day 1** 463 views **Day 2** 334 views

4 Panel Discussions

20 Speakers

3 Partners



**VINTON G. CERF (VINT CERF)**

VP & CHIEF INTERNET EVANGELIST, GOOGLE INCORPORATE

Vinton G. Cerf (Vint Cerf) is Vice President and Chief Internet Evangelist for Google. He contributes to global policy development and the continued spread of the Internet. Widely known as one of the “Fathers of the Internet,” Cerf is the co-designer of the TCP/IP protocols and the architecture of the Internet. He has served in executive positions at MCI, the Corporation for National Research Initiatives and the Defense Advanced Research Projects Agency, and on the faculty of Stanford University.



Mr. Cerf will be giving an introductory keynote address at the TTIGF 2022 and begin the Open Forum to jump-start the discussion on what’s next for Trinidad and Tobago and the Caribbean.



**ANRIETTE ESTERHUYSE**

OUTGOING CHAIR, UNITED NATIONS INTERNET GOVERNANCE FORUM  
MULTISTAKEHOLDER ADVISORY GROUP (UN-IGF MAG)



Anriette Esterhuysen is the outgoing chairperson of the Multistakeholder Advisory Committee of the Internet Governance Forum having served in this role from December 2019 to December 2021. Previously she was the executive director of the Association for Progressive Communications (APC) – the largest ICT-focused civil society network in the world and continues to work with APC as a senior advisor on Internet governance. She is the convenor of the African School on Internet Governance (AfriSIG) a joint initiative of APC, the African Union Commission and Research ICT Africa. Anriette was inducted into the Internet Hall of Fame as a Global Connector in 2013 for her work in extending internet connectivity in Africa. Ms. Esterhuysen currently serves as a Commissioner on the Global Commission on the Stability of Cyberspace and on the boards of Connect Humanity and of the .ZA (South Africa) domain name authority, ZADNA.



**SENATOR THE HONOURABLE HASSEL BACCHUS**

MINISTER OF DIGITAL TRANSFORMATION,  
MINISTRY OF DIGITAL TRANSFORMATION, TRINIDAD & TOBAGO



Government of the Republic of Trinidad and Tobago  
Ministry of Digital Transformation

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**Anita Sohan**

Chair : Trinidad and Tobago Multistakeholder Advisory Group (TTMAG)

## Welcome Remarks

The TTIGF 2022 opened with the National Anthem followed by opening remarks from Anita Sohan, current chair of the Trinidad and Tobago Multistakeholder Advisory Group (TTMAG).

She used the opportunity to introduce TTMAG and its mandate to both the corporate and civil society sectors. She then introduced this year's theme, "The Future of the Internet...What's Next?" She also stated that the pandemic and virtual events and technology shifts have magnified the digital divide and the difficulties faced while navigating the new digital environment, challenges which she hoped would be explored in the panel discussions over the two days.

## Introductory Keynote Addresses



- He expressed his hope that topics would include the importance of infrastructure and investment into all of the modalities relating to internet connectivity that allow us to take advantage of a global information resource, such as providing government services, connection and communication, and educational services.
- He noted, it is important not to be left out, especially with all of the information, disinformation, bullying, ransomware and denial-of-service attacks that are driving a lot of policy around the world. He continued, the internet has also demonstrated an enormous capacity for utility.

**“We don't want to underestimate all the value in all of that, nor do we want to underestimate the risk.”**

- There are good reasons for countries to be concerned about the safety and security and privacy of their citizens in this online environment,...but at the same time, we must keep an open interoperable network...
- It will take global cooperation to achieve these goals. However, with this type of global artifact, you face some of the problems encountered with shared atmosphere and shared oceans, such as pollution and the need for agreement on a global scale.

**“There is still so much work to be done to bring the other half of the world online in a safe and secure fashion...”**

- He asked the attendees to engage in a lively discussion that would lead to some important thoughtful exploration of these needs, and perhaps the outcome of these sessions might be represented at the Annual Global Forum.





- She started by saying we should be doing things through a global lens and a national lens. It is known that the internet adds value however it is not equitably available to everyone. We know that the openness of the internet is under threat...so how do we respond and how do we tackle this challenge? How do we shape the Future of the Internet?

**"How do you eat an elephant? Mouthful by Mouthful."**

- We must look at opportunities that the internet presents, digital literacy, online schooling, enhancing internet research, data measurement for development, and being able to have data that is meaningful on a local level for policymaking and human rights protection.
- Data is necessary for all stakeholder groups. She also referenced the importance of looking at the UNESCO Universality indicators that have been developed precisely for multi-stakeholder national assessments.
- Thirdly, looking at the internet and law- how do we create a regulatory environment for the internet that creates opportunity globally, and challenges the dominance of just a few large monopolies. Spreading the opportunity for innovation meanwhile lowering the barriers for entry without becoming overly restrictive.
- Let us look at Trinidad and Tobago's digital transformation journey. What does this mean in our context? What do we need to achieve and what still needs to be achieved for sustainable development and better governance. Who is being excluded, and what is needed for better oversight, democracy, inclusion, and accessibility.
- The National IGFs are very rich not just because of the national analysis of what is happening in one country's context, but also the challenges happening within these national dialogues.
- She looks forward to reviewing the outcome of the event and encouraged all participating to continue to involve themselves in IGF processes. The involvement of people in the Small Island Developing States Dynamic Coalition in IGF events adds real value, and never underestimate what depth there is in your journey and experience...and what that might mean for the global dialogue.



- His comment on the theme is that it was quite appropriate, in particular in how everyone, including his team at the ministry, has had to leverage technology to get through the pandemic.
- He started by looking at some of the advantages many have received in cases such as remote work and increased productivity with the new requirements to stay safe.
- He wanted to focus on the plan and the vision of the Ministry of Digital Transformation and discuss the approach the Ministry is taking with their work programme along with some of the issues they are having.

### Key Issues faced by the Ministry

- The Public service is configured around concepts of community and predictability- which serves its role in maintaining stability and citizens' trust.
- The Public Sector must maintain the status quo, which leaves it not as free to take advantage of some of the flexible structures needed to facilitate transformation, in particular digital transformation.
- Some of the cultural barriers faced locally include poor receipt of critique and a lack of peer informed models for growth.
- These barriers provide some context as to why the Government has struggled with the implementation of ICT innovation in the past.
- He acknowledged the impact of the COVID-19 Pandemic, which has facilitated the digital transformation worldwide.
- The increase in the demand for broadband during the pandemic has led to the redefinition of NORMAL USE.
- In this new era, where families need high-speed internet in the home for work and school, underserved communities can now be anywhere. There are capacity, capability, and suitability issues. "You can't continue to define today's requirements based on yesterday's experiences."
- The Telecommunications Authority (TATT) is in the final stages of a digital inclusion survey that will help further define some of these issues.
- The Government of the Republic of Trinidad and Tobago (GORTT) has defined three central pillars for Digital Transformation:
  - Digital Society- In such a society, everyone has access to affordable broadband, and there is an increase in the digital IQ of the population. Broadband was declared as a Public Good by the Minister of Finance in the 2022 Budget, signaling its importance and its relevance as we look to our financial future and how society has to function.
  - Digital Economy - We want to double the contribution of the ICT sector to the GDP from 4% to 8% through incentives and programmes. It will require collaboration and partnership between private and public sectors as we co-design our future. There will also be a Developer's Hub to develop apps and services for both the growth of local service modules and pipelines, and also potentially create products for export.
  - Digital Government - digitalization of business and governmental services to reduce duplication and to have operations executed to scale. Also, an enabling environment is needed; this requires both digital literacy and legislation.
- The question of security is also high on the agenda, with the task of building trust and confidence that technology is safe and reliable, especially with public services.
- The importance of partnerships necessary to support this path forward.

- Multiple private sector partners emerged to support the Ministry in its vision. For example: Partnership with the Adult Literacy Tutors Association (ALTA) to be able to deliver through the Ministry's access centers
- The United Nations Development Programme's support with the Digital readiness assessment- to be ready by the end of March.
- We have very fragile systems. For example, we can look at the single landing point of submarine cables, for both Trinidad and Tobago, putting us at great risk for disruptions. For example, last September during the Budget Presentation there was an incident in south Florida that caused a power failure in the Northern Antilles, severely disrupting our broadband capabilities even though nothing happened here locally. To improve on this we need to establish additional landing points.
- We could have more ON island processing- e.g. Microsoft Azure, Amazon Web Services (AWS), to bring greater services to our entrepreneurs, etc.
- We have several Tier 3 Certified data centers - how do we leverage those without buying new infrastructure? These are issues to be explored.
- Government Ministries and Agencies collectively own multiple assets and distributed virtual environments that could be leveraged.
- How can you help us improve our relationship with regional and international Internet Governance Agencies, but also what should be and could be addressed by those agencies? Could TTIGF play a role in supporting the advancement of these discussions for the Government of Trinidad and Tobago?

The Honourable Minister closed by thanking all of the devoted individuals who continue this work and stated that he was looking forward to collaborating with TTIGF and TTMAG.

## Panel Session I: Building a Digitally Competent Society



**Moderator: Dr. Sanjay Bahadoorsingh, Director, TT MAG**

Panelists:

Pundit Shiva Maharaj, Director and Chief Operations Officer, I.C.T Expertz Ltd (PSM)  
 Dr. Roland Birbal, Assistant Professor, Centre for Education Programmes, UTT (DRB)  
 Swasti Maharaj, Student, Lakshmi Girls Hindu College (Swasti)  
 Mr. and Mrs Bhola, Internet User Parents (MMB)  
 Darren Mohammed, Senior Solution Specialist Manager – Caribbean Region,  
 Microsoft Country Representative, Microsoft Trinidad & Tobago (DM)

### PANEL OUTLINE

Covid-19 has brought up the timeline for predictions of a connected world via the internet. Existing Internet technologies now play a more essential role for everyone in work, school, and entertainment. Even those with technophobia are now required to use some sort of technology for everyday purposes. While there are efforts to bridge the infrastructural gaps of the digital divide, competency gaps grow larger and are not being addressed. There is a need for the inclusion and integration of 21st-century competency programmes in our schools' curriculum that produce lifelong learners that will excel through efficient and effective use of existing and emerging digital technologies safely and ethically.

### INTRODUCTION

To facilitate this discussion, the TTIGF brought together a very inclusive panel with representation from:

- regional leader **Darren Mohammed**, Senior Solution Specialist Manager - Caribbean Region, Microsoft Country Representative, Microsoft Trinidad & Tobago;
- local tech education leaders- **Pundit Shiva Maharaj**, Director and Chief Operations Officer, I.C.T Expertz Ltd and **Dr. Roland Birbal**, Assistant Professor, Centre for Education Programmes, UTT ;
- **14-year-old Swasti Maharaj**, a student from Lakshmi Girls Hindu College and committee member of the leading regional tech organization - Restore a Sense of I Can (RSC); and
- **parents, Mr. and Mrs. Bhola**, who wanted to share their experience as Internet User parents who have taken a serious role in the digital education of their children and the challenges they faced with online schooling.



**TTIGF 2022 Panel 1 Moderator, Dr. Sanjay Bahadoorsingh, Director of TTAMG, introduced the panel topic: Building a Digitally Competent Society.**

**Panel Question 1: What are some of the real challenges faced with building a digitally competent society?**

- **PSM** - ICT education is not included in the mainstream education system. There is a lack in competency training in digital literacy and digital competency and HOW to use digital knowledge and skills.
- **DRB** - Quite a lot of competencies are lacking. Not enough is being done to engage students on the primary level, even though it has been suggested it should be introduced as early as the early Childhood Curriculum level. It is worth looking at what the UK is getting ready to integrate into its system, as we evaluate and plan our activities.
- **DM** - The Fourth industrial revolution was already underway before the pandemic in terms of automation of job processes and transforming products and services to digital. What the pandemic did was accelerate that tremendously. Skills had to be retooled for new scenarios. This put a huge demand on people to reskill- so Microsoft created a digital skills initiative. Through Microsoft's acquisition of LinkedIn, a lot of data around emerging jobs showed that 149 million jobs will be created by 2025 that will require digital skills. Microsoft is committed to ensuring Trinidad is not left behind and will be supporting the landscape as an active partner to achieve this.

**What has it been like for you with these NEW JOBS?**

- **MMB** - The importance of proper internet for the home for online classes. As parents, Mr. and Mrs. Bhola also had to purchase multiple devices, which is a privilege that not every parent would be able to do. It was a huge challenge monitoring and managing the homeschooling and the privacy and learning environment needs of running these classes at home were multi-layered challenges. They decided to send their children to a digital Bootcamp to learn online safety, be aware of online predators and learn how to navigate online bullying. They also wanted to make sure their kids had key competencies that made them competitive fostering job security.
- **Swasti**- The current educational landscape begs for a technology-rich approach to education. She believes the integration of ICT across all subjects will support the development of multiple intelligences. She also feels that curriculum reform across all subject areas is critical for increased digital competencies. She also fears the regression into Pre COVID-19 teaching methodologies as the pandemic might come to an end. Technology in the hands of great teachers can be transformational. Teachers have had to adapt to new platforms, Zoom and other platforms, and now is the time to move forward with these new integrations of technology into the educational system and not miss this opportunity.
- **PSM**- The United Nations Educational, Scientific and Cultural Organization (UNESCO) had an ICT Competency Framework. "Successful integration of ICT into teaching and learning requires rethinking the role of teachers in planning and applying ICT to enhance and transform learning. Education systems need to regularly update and reform teacher preparation and professional development accordingly, ensuring that all teachers can harness technology for education." He went on to share the 4Cs - Collaboration, communication, critical thinking and creativity, which he learnt from his work as a Google certified educator, soon to be Google Trainer. Microsoft also has a certified educator programme which is beneficial. Which also has its framework to ensure competency development. ICT is like salt- it's in everything.
- **DRB** - Curriculum Reform thinks about what type of citizen do I want to prepare for. With the 149 million jobs emerging, we need to position ourselves to get into that sector. What type of planning needs to be put in place. There must be a review of the Primary School Curriculum. There must be a review of the primary school curriculum and inclusion. They are writing books for 5-year-olds that include concepts of networking, computational thinking, programming, managing data, and computer systems. These five strands are part of the programmes being developed both in the UK and the Far East. When it is changed on the primary school level, it also needs to change on the secondary school level. Python programming will be taught to Standard 5 students in the UK, so we need to elevate our efforts to make our students more competitive because they are behind. This must be coupled with Training programmes for the curriculum and a cultural shift that must take place both within the educational system and with our people. The infrastructure is also important.
- **DM**- A lot of sympathy goes out to educators who have had to deal with a lot in this transition. The students as well have faced challenges, despite being technologically savvy already. You have to attack it from all fronts, you must empower parents to empower their kids. There is no silver bullet. Curriculum reform might involve political issues with the Trinidad & Tobago Unified Teachers' Association (TTUTA), but in the meantime, while we figure those things out, we cannot leave students behind. We need to ensure that those who WANT to be empowered have access to learn on their own while the system is being corrected.

Moderator, Dr. Sanjay Bahadoorsingh responded by saying, “It is an excellent point about what WE can do, what I can do.” He then addressed the next question to Swasti: “From a student’s perspective, what are the challenges in being empowered?”

- **Swasti:** Online subjects do cater for students who are very strong in the subject and can be given separate work to advance their learning, meanwhile weaker students can receive the special attention they need. There is a growth in independence. The growth of skills in presentation building, oratory, research, and creative skills. She went on to reference George Couros who said, “Technology is not just a tool”, noting that technology can give learners a voice that they may not have had before. She also believes that schools should pivot around cyber security and other new job opportunities.
- **Moderator - Dr. Sanjay Bahadoorsingh** agrees, noting that this format allows students to go BEYOND the CURRICULUM.
- **MMB-** The cultural shift is a very big challenge for them. Everyone in society has to realize that ICT is real and there is a need to shift in this area as well. We have the talent locally, and of course, international talent could be leveraged to help us move forward. We should also look at other societies and learn from their mistakes as we design our path forward.

### What about Culture and Infrastructure?

- **PSM -** Chicken and the egg, which comes first. Training must come first. We need to put things in place where we can prepare ourselves when the infrastructure is ready. Education is also needed, to have a competent society.
- **DRB -** Infrastructure is key to making things happen. The cultural shift as people ACCEPT this new way of learning, noting not everyone ACCEPTS it. A lot of research supports the system of online learning and how it benefits students. How do you behave in your environment where online learning is delivered. So boundaries, expectations and digital literacy have to be taught to wider society so they can buy into this new educational trust that we are trying to build. During the pandemic, Teachers have been using the platforms to deliver the lessons.
- **DM-** Every school has a lighthouse teacher who is future thinking, wants to integrate, and actively integrates technology into the way they teach. Schools need to empower these teachers to spread that culture and way of thinking. Looking at Minecraft the education edition, and how it is utilized as a teaching tool where kids want to participate and learn. He wants to encourage those teachers to keep doing what they are doing.

### Questions/Comments:

- **Albert Daniels-** Stakeholder Engagement Senior Manager - Caribbean Internet Corporation for Assigned Names and Numbers (ICANN) -
- He congratulated TTMAG and the panel on a very rich and valuable discussion. He shared that he was particularly impressed with Swasti and that it was a great indication about where the youth of Trinidad are going. He noted that with regards to partnerships, ICANN will continue to support the TTIGF with its activities. He wanted to add to the discussion the topic of building competencies, in particular for young people in accessing global markets. He referred to the variety of new domains available to young coders, developers and system administrators in the market, and that many of these new domains are not accepted on our systems. He concluded by stating that young people must be prepared for and understand universal acceptance.
- The panel moderator, **Dr. Sanjay Bahadoorsingh** sent out special thanks to **Raj Ramdass** from **Restore a Sense of I Can (RSC) International** for encouraging the large number (100) of students to participate in the session.
- **Dean Ackbarali -** He mentioned that his team has developed a scenario as a good samaritan project which was launched in 2019 where they shared access to textbooks online. He noted that from this project, they observed that parents become the teachers in the home, and what has been missing is that there isn't a manual for a parent to read for these digital scenarios. The teachers need to play a role in the writing of the manuscript for these parents for it to be a success.

Jacqueline Morris brought up a question from the chat. The question read:

“How to cope with people with insurgent ideology, hate speech and hate news to make cyberspace a more secure, inclusive and trustworthy ecosystem for the next billion citizens?”  
This question was linked to a subsequent question from another attendee, Deidre, who asked, “How do we identify an insurgent ideology?”

The responses given by the panelists were:

#### Responses:

- **PSM** - He has been looking at the moral side of technology and has forged associations with the Harvard Graduate School of Education. Howard Gardner developed a curriculum called Common Sense - it has things such as media balance, wellbeing, digital footprints, digital drama, hate speech, news, and media literacy. Frameworks like this help with prevention and protection.
- **DM**- It goes back to the online safety of kids, and it goes back to the parents as well to pay attention to what your kids are doing online. Have conversations with them, look out for changes in behavior that might indicate they are being targeted. It's important for kids to learn the ground rules for safety, but also be shown respect so they don't become bullies.
- **MMB**- Their kids were taught these key skills from 5 and 7 years old due to their participation in the boot camps. Since being online, they have expressed interest in careers in tech and it has been a very positive experience where they learned animation, presentation etc. Children are now wired to see ICT in their learning. These platforms create a whole new positive attitude towards learning.
- **Swasti** - With IT it has its pros and cons. Maybe cyber security, ICT and even languages should be integrated into the school syllabus early, and she applauded Mr and Mrs Bhola for including their children in early ICT learning programmes.

#### Questions or Comments:

Willem Lawrence - "Why not include the whole open-source aspect of technology to host our own, teach our own and sustain our own and not be dependent on large tech companies? Is there any work being done towards that?"

- **Dr. Birbal** positively responded that this vision is a possibility. He said, "We have enough expertise internally with the competencies to achieve this goal. If the right group comes together it can be achieved."
- **Darren Mohammed** went on to delink open source technology from local content. Some of the open-source projects being suggested might not be cost-positive for us to do. However, blending, using the computing power of a large scale organization, plus the open-source technology that could be developed in a codebase that is community sourced could lead to innovations that can be scaled big and go global.

#### Closing Comments:

- **PSM** - Ideally we would like to see digital literacy, computer science and digital citizenship all be integrated into our education system from as early as primary school. We do have programmes such as RSC and Digital Guru training programmes, they need additional funding through Corporate Social Responsibility (CSR) programmes and are looking for partners to help them increase their impact.
- **DRB**: Curriculum reform is an important step forward to create the type of society that we need. A cultural shift is also really important along with the infrastructure that is needed.
- **DM** - Expressed a lot of gratitude for all the educators and parents in the country. The pandemic was not easy, and the shift was not easy. The shift of moving the classroom into the home, the educators who had to retool and who dealt with connectivity issues. They got us through it and got our kids through it. He is very impressed by Trinidad and Tobago and believes we will be part of the digital economy and Microsoft is going to do its part by partnering with anyone working towards that.
- **Mr. & Mrs Bhola**: More could be done in society. Perhaps there can be loans for devices interest-free along with other measures that have been implemented. Internet services could be subsidized for certain families. E-learning platforms for our local community could be very beneficial vehicles
- **Swasti** - She looks forward to the implementation of online exams, less writing and more discussions in classrooms, and the practical authentic approach to learning.

## Panel Session 2: Enhancing Internet Research, Data and Measurement for Development



**Moderator: Nigel Cassimire, Telecommunications Specialist,**  
Caribbean Telecommunications Union (CTU)

**Panelists:**

Prof. Patrick Hosein, Director, TTMAG

Niran Beharry, Chairperson, Internet Society of Trinidad & Tobago (ISOC-TT)

Dr. Kim Mallalieu, Senior Lecturer, Department of Electrical & Computer Engineering, UWI

Annie Baldeo, Executive Officer – Policy, Planning, and Economics, Telecommunications Authority of Trinidad and Tobago (TATT)

**PANEL OUTLINE**

In charting the future development of the internet in the Caribbean, there is a dearth of data available that is specific to the Caribbean to enable evidence-based policy development and even for ensuring that developmental initiatives are appropriately targeted for optimal effectiveness. This is relevant to initiatives for the development and affordability of access infrastructure, addressing aspects of the digital divide (e.g. locality, gender, etc.) and digital inclusion generally, critical internet infrastructure, digital skills, and so on.

Where is the data to show the current state of these various elements in Caribbean territories, to foster remedial initiatives, and to measure progress over time? How can this situation be improved expeditiously?

**Nigel Cassimire - Opening Contribution**

Regionwide we still struggle with the data we need to adequately inform our plans and even to assess our progress. This is on various levels. National planning, network planning and management, service resiliency, and security. The CIGF last August noted the need for the Caribbean IG community to participate and investment to continue to be made in both public and private sectors. But we should be tracking and managing the improvements in efficiency, transparency, and accountability for citizens, and some of the questions that came out of the CIGF- Who are connected or NOT connected and where are they? What's the quality of the connections? What's the level of digital literacy? What are the factors impeding accelerated digital transformation? What's the value of the digital economy? Who is participating in the digital economy? How secure are our applications? All three of the pillars mentioned by Minister Bacchus- Digital Society, Digital Economy, and Digital Government- must all have success targets - and we must develop the metrics to measure, track and drive our progress.



If Trinidad and Tobago and the Caribbean's social and economic development are inextricably linked to issues of internet access or affordability, quality, and resilience, as all of us are pursuing digital transformations, then we must invest the time, energy, and research efforts to ensure that we are making informed decisions and to ensure that scarce resources are being optimally focused to tackle development goals.

The CTU is focused on increasing the capacity of CTU member states to use ICT indicators to monitor the performance of the ICT sector.

## Panel Contributions- Initial Thoughts

### Prof. Patrick Hosein:

- A lot of his work is in Data Science, with a focus on using data science to solve some of society's problems- which requires data that is lacking in our region.
- To get data there are multiple approaches, for instance, cellular providers have volumes of data that could be helpful, then we encounter privacy issues.
- The quality of the data collected - the creation of a crowdsourced trust platform
- Data.tt - their data collection platform, highlighted that participation in providing data is another issue
- Surveys were executed - but they also presented challenges that affect participation and bias. **However better surveys focusing on specific pain points have shown positive results.**
- They have been matching the data with the problems - collaborating with CSOs and NGOs to solve societal problems - including work with the Cropper Foundation.
- Loss of connectivity to the rest of the world - IP based routing, main server routing
- Collected data using honey pots- we are being attacked on a second by second basis

### Niran Beharry

- The importance of Open Data
- In this present age, access to the internet is a fundamental human right
- If you do not have access you are denied a wide range of available opportunities
- By definition, society looks at internet shutdowns to prevent the spread of information
- Transparency in how information is being collected is important
- A lot of work by the Internet Society has gone into collection methodology and trying to screen out false positives
- Recent issues with Digicel's DNS could not access Facebook or Whatsapp but if you were using something that bypassed the local DNS there were no issues.
- How important the internet has become in our lives, eg. in the medical field, the lack of internet could be life-threatening
- Resilience is also a big part of the Internet Society's overall objectives
- How do we efficiently target our efforts to increase connectivity?
- In the last 6-7 years as vice-chair then as chair, with Jacqueline Morris being the incoming chair, as far as internet access goes it doesn't seem as gender-based as some people might think, it leans more on class and income lines of access. Who can actually afford it?

## Dr. Kim Mallalieu

- She started by grounding her thoughts in the sustainable development agenda of Trinidad and Tobago - Vision 2030 which speaks to People, Governance and Service Excellence, Productivity, Competitive Businesses, Environment, and SE Development- identifying ICT as a key enabler. She would also look at the National ICT Blueprint which ends this year - 2018- 2022.
- She introduced the Thread- People, Empowered Citizens, Digital Inclusion. As a development-focused engineer and researcher- she described her foundation in cross-referenced and geo-referenced data to contribute in multidimensional, dynamic, context-appropriate ways.
- Ideally we are looking for data that is publicly available and current, disaggregated by demography, socioeconomic classification, or by geography
- The issue of standards and Measures- examples in Vision 2030 include GDP per Capita, Network Readiness Index(NRI), and Global Competitiveness Index (GCI)
- There is a significant compelling need to start measuring internet use and usage
- There are Impact Chains- all governments are looking at ultimate impact. All processes in these chains are both consumers and generators of data.

## Recommendations

### *Resource Minded Strategies*

- Let us contemplate those response strategies that are acutely resource-minded. Let us assume we are operating in a low-resource environment.
  - 1. **Synergies** - Synergies between Government Agencies, universities, community organizations, Lorgs, CTU, CANTO, CaribNOG, etc, Action Research, Formal & Informal, Regulatory Sandboxes
  - 2. **Stewardship**- which is about contributing because we share an interest and value as a community - Multi-Stakeholder groups (TATT etc), Voluntary codes of practice, Fireside Chats and
  - 3. **Standards**: Definitions; Metrics, indices, indicators; Open Data & provenance; Data Sharing; Coherence (national); Harmonization (regional)

## Annie Baldeo

- The importance of having data on a disaggregated basis
- TATT is the organization that regulates telecommunications and broadcasting services in Trinidad and Tobago
- TATT was established in 2004 and governed by the Telecommunications Act
- TATT recognizes the critical role that data plays in regulating the telecommunications and broadcasting sectors in terms of investment, policy formulation, regulation, decision making, identifying infrastructure projects, and even data on how we engage with our stakeholders.
- Data Sources include:
  - 1. Administrative Statistics which are reported annually and available on tatt.org for download and review
    - **Market Segments: Telecommunications & Broadcasting Industry:**
      - Telecommunications Sector - Fixed Voice Market, Mobile Voice Market, Internet Market, International Voice Market
      - Broadcasting Sector - Free to Air Market, Subscription TV Market
    - Gross revenue by Industry- 4.73 billion TT dollars with the Internet Market being the MOST lucrative, accounting for 45.4 % of that revenue. The Mobile Market came second with about 20%.
    - The Mobile market dominates with Subscriptions with 2 million subscribers. However, there has been substantial growth in both the fixed and mobile internet market growing by 6 and 18 percent consecutively in a one-year period.
  - 2. Surveys for measuring the Digital Divide and measuring digital inclusion
- Digital Inclusion evaluates Skills in using ICTs; Motivation to use ICTs and Trust in using ICTs.
- TATT Digital Inclusion Survey 2021: 6,000 households throughout Trinidad and Tobago 18,000 interviews in total

- **Survey Objectives**

- Measure the number of ICT users in Trinidad and Tobago
- Measure the digital divide using the ICT Development Index (IDI) at the national level and in municipalities
- Identify the unserved and underserved
- Identify the population groups and geographic areas most at risk of being digitally excluded and assess possible reasons
- Inform recommendations to close the digital divide in the identified geographical areas and population groups in Trinidad and Tobago.
- Fieldwork is completed, 90% complete with analysis. The goal is to have it published within the next month.
- The goal is to keep this data OPEN and available for everyone to us and to lessen the data gap
- In conducting this survey, they did partner with the Central Statistical Office so the data can be recognized as National Statistics. They are working with the CSO to include some ICT questions into the CSO's continuous surveys.

### Additional Thoughts

**Niran Beharry-** the Internet Society has a bunch of projects measuring the health of the internet. They are hoping to launch an ongoing project this year to measure in real-time the bandwidth and the quality of the service to monitor local disruptions and feed it into an open data dashboard that allows for aggregation, disaggregation, and deeper granularity to help solve problems. **We do have a lot of people who are NOT connected.** One of the mission statements of the Internet Society is to connect millions of unconnected people to the internet. Would be willing to work with Patrick to accomplish some of these goals.

**Patrick Hosein-** The work that TATT is doing is fantastic and you get a sense of the underserved and unserved. Hopefully, electronic and online mechanisms will provide more real-time and continuous data collections. We need to do things more quickly, but that requires greater online accessibility.

**Kim Mallalieu -** Has been in extended talks with ISOC about the probes, it is important to understand the methodologies. ISOC has agreed to be companions in this journey while we localize for the Caribbean, we are also mindful of the correspondence between the measurements and the interpretation and analysis of measurements. Particularly in the Caribbean where we want the tools and measurements to be transferable to other countries.

She suggested to additionally have a forum where the Operators- who have access to a lot of data, come together and express the needs for data, the data that is needed, the nuances of the formats, and the Telcos and ISPs can agree to what they are willing to share and where they are not gathering data but might be willing to. **Another community to be included in this discussion is the community of USERS.**

### Questions/Comments

**Steven -** “Government information resources become unavailable at their initial location. When a ministry changes its name, its website changes its name, and its information becomes inaccessible at this location. How can this be eliminated?”

**Roger Chung-** “Where are we on national security concerns on data privacy, data liability, data localization, domestic digital domains, taxation of services offered by international organizations. Can we get our data from such a policy and can this become an income generator?”

**Nigel Cassimire** answered by referring to their interface in the CTU regarding data privacy laws around the Caribbean. They did have the opportunity to consult on a draft reviewing data protection legislation. He believes quite soon there should be some legislation brought back to Parliament to update our current data privacy laws. There are existing laws that date such as the Consumer Misuse Act, but going forward the plan is to modernize. GDPR regulation has become a type of de facto global minimum standard.

Regarding the revenue-generating mechanisms, he is unsure, there are opportunities there, but perhaps this is where the entrepreneurs step in. There is also a Global Forum called Internet and Jurisdiction that addresses data privacy and international standardization policies that could be referenced.

He furthered the discussion with another question:  
How do we assure the legitimacy and reliability of data that might be forthcoming?

Kim Mallalieu - We have to start somewhere. If we start by wanting everything, we won't start at all. She suggested that the starting point is to start gathering the data, while we continue the conversation of data provenance and the integrity of the probes, measurements of that integrity. It is a whole chain. It is not a simple action of GO MEASURE. To get it right there is a process chain and that will start with bringing together existing communities

Patrick Hosein- We have done some work collecting data on a trust platform where you validate the data provider before you accept the data they provide. They also use a weighted system rating more trusted users over less trusted users. Trust is important and collecting quality data is important.

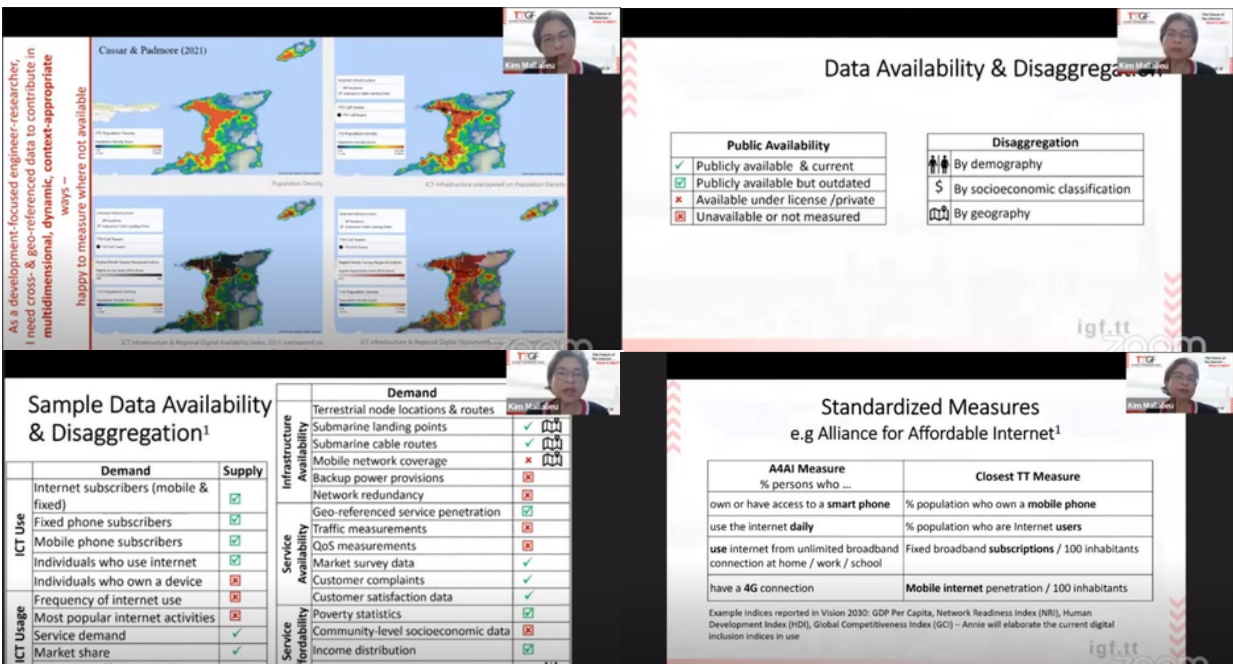
Question: Who could be the repository of these types of data?

Kim Mallalieu - A fundamental principle is to minimize the burden and the barriers. If it is that the collection of this data is burdensome. We need to have migratory paths. Those with the most interest and those with the most responsibility come up with strategies to make the data available. If it becomes too procedural, we will be here 3 years later with the same conversation. Be mindful of the burden.

Patrick Hosein - 6 years ago they- TTNIC started Data.tt - and they had some policies around WHO could provide data, such as only respected institutions. The government also has an open data platform: data.gov.tt. Wherever it is, as long as it is easy to access, it will be very useful. It would be useful if we could sit down with the providers to discuss what other types of information they might be willing to provide.

Niran Beharry - All the data that the ISOC collects will be shared in the open data format on the global site as well as the local site. With regards to the methodology, we have been going with a hybrid trust and trustless system. They have been testing the probes with corporate clients, they have about 2000 inside of Trinidad and 3000 outside of Trinidad. They provide trust anchors, which is information that can be used to build the trustless system where members of the public can then feed into that system. It's very interesting what this aggregated data can provide with regards to trends such as weather and other types of parallel analysis.

Annie Baldeo - There seem to be open source platforms that already exist where we can feed data into. TATT also puts all of their data on their website keeping it as open as possible. It is important to come together to see what kind of platform could be used to share all of this data in ONE place.



**Data Availability & Disaggregation**

Public Availability	Disaggregation
<input checked="" type="checkbox"/> Publicly available & current	<input checked="" type="checkbox"/> By demography
<input checked="" type="checkbox"/> Publicly available but outdated	<input checked="" type="checkbox"/> By socioeconomic classification
<input checked="" type="checkbox"/> Available under license /private	<input checked="" type="checkbox"/> By geography
<input checked="" type="checkbox"/> Unavailable or not measured	

**Sample Data Availability & Disaggregation<sup>1</sup>**

	Demand	Supply
Internet subscribers (mobile & fixed)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Fixed phone subscribers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mobile phone subscribers	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Individuals who use internet	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Individuals who own a device	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Frequency of internet use	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Most popular internet activities	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Service demand	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Market share	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Standardized Measures e.g Alliance for Affordable Internet<sup>1</sup>**

A4AI Measure	Closest TT Measure
% persons who own or have access to a smart phone	% population who own a mobile phone
use the internet daily	% population who are internet users
use internet from unlimited broadband connection at home / work / school	Fixed broadband subscriptions / 100 inhabitants
have a 4G connection	Mobile internet penetration / 100 inhabitants





**Anita Sohan**  
Chair : Trinidad and Tobago Multistakeholder Advisory Group (TTMAG)

**Welcome Remarks**

8:20 – 8:30 AM

Anita Sohan welcomed all participants to the second day of the TTIGF 2022. Participation from approximately 100 students was achieved, signaling successful youth participation in the IGF and a strong positive indicator for the future of the IGF in Trinidad and Tobago.

8:30 – 10:00 AM

**Panel Session 3: The Internet and the Law**



**Moderator: Rabindra Danny Jaggernauth, Director, TTMAG**

- Panelists:**  
 Rishi Maharaj, Principal Consultant Privacy Advisory Services, EquiGov Institute  
 Grace Lindo, Attorney at Law and Partner, Carter Lindo Attorneys-at-Law  
 Tira Greene, Legal, Policy and Legislative Drafting Consultant, Tira Greene Consultancy  
 Mukta Balroop, In-house Legal Counsel, Financial Institution

**PANEL OUTLINE:**

This panel will discuss how the internet is regulated locally and regionally, with a close examination of the modes of regulation. The issue of free speech and the internet as well as topics like cyber-bullying and privacy.

We will look into where CARICOM states have progressed in terms of adapting and updating where necessary existing privacy laws, an in-depth discussion into the institutions of supervisory regulators and installations of Information Commissioners' Offices (ICOs)." case studies from the region and how it relates globally. How do new DP laws relate to what's happening worldwide; for example, vaccination certification processes?

## Grace Lindo

### Main Topics

- Doing business on the internet (E-Commerce),
- Intellectual Property and
- How the internet and the law have progressed in the past two years.

“World Privacy Day” - Is data protection and privacy the catch-all?

Due to COVID, Cybersecurity has now come to the forefront of most internet-related conversations especially given the fact that so many people are now doing business on the internet.

### Innovations over the past two years:

- Cybercrime Legislation is now very active due to this instance and they do exist in all jurisdictions specifically the laws relating to E-commerce e.g. the Electronic Transactions Act. (The Bahamas has decided to accept e-signatures and physical copies or seals are not necessary for the acceptance of transactions, unlike many of the other Caribbean countries that still require hardcopy evidence which can be counterproductive).
- Increase in payment systems (FinTech) which has been broadened beyond just banking online and over the phone into quasi. The Bahamas has introduced a Central Bank Digital Dollar/Currency, but it has not been going as fast as they would have expected. The SandBox currency will be added to the legislation eventually but there's still progress to be made. Possible hindrances to the use of FinTech in the Caribbean due to regulations that are required to be followed by international organizations.

### Trends Noticed:

- Metaverse is considered web 3.0 and will allow for decentralization of communications and transactions throughout the web. How this affects the law - smart contracts, diminishing the need for lawyers because persons will now be able to create their own agreements online.
- Metaverse for artwork (NFTS) crowdfunding for artists.
- Upcoming will be digital asset legislation due to the migration of cryptocurrency in the Caribbean.
- Regarding estates and wills about digital assets, how can this be passed onto children are issues that are beginning to arise in the tech world which is an issue that will need to be solved very soon.

### Mukta Balroop - CyberSecurity

- The Computer Misuse Act (T&T) was used to protect persons against cyberattacks but this legislation needs an update.

The internet going forward:

- Metaverse (web 3.0) - Shared virtual space that is hyper-realistic and extremely immersive in which persons can appear as avatars and can do business, attend concerts, etc. It also can not be unplugged or reset, it is decentralized.
  - Legal issues arising from the Metaverse are intellectual property, copyright, and trademark(how can this transfer to the metaverse)
  - Tax aspects about buying and selling
  - Anti-money laundering and combatting terrorism
  - Large amounts of personal data processed will be captured in the Metaverse giving companies more information for more successful targeting
  - Appearing as an avatar, can this be considered identity fraud? If you are attacked virtually, who should the claimant go to?

### Rishi Maharaj

Rishi showed the benefits of the internet, from ordering food online to conducting classes online. He also mentioned the dark side of the internet using the example of Pegasus Company in Israel, using their spyware which was installed to silently collect data from citizens.

***“If the product is free, you are the product”***

- Freedom of Express and Voice is balanced by slander, libel and can lead to misrepresentation.

**Question: Who regulates what is misinformation or right information? Is it censorship or surveillance?**

- The Caribbean is slowly developing new data protection laws (GDPR) and it includes human rights within these laws. Jamaica and Barbados have been implementing the data protection laws, Jamaica is a bit more advanced and has given households time to get in accordance with the gazetted laws.
- As a region we should be proactive and not react to the laws being passed in more developed countries.

**Tira Greene**

- One of the two major initiatives in Trinidad & Tobago: the E-Commerce - Electronic Transactions Act (Luca Castellani assisted T&T with identifying the aspects that specifically relate to us)
  - Makes trade digital
  - Transfer instruments
  - Includes many checks
  - Allowed to now use electronic seals
- Legal and Regulatory Framework, only one aspect of Data Policy.
- T&T Data Protection amendments were developed over a period of one year. It was noted that there weren't many provisions for data security throughout the Caribbean.
- The Data Protection works interconnected with other key laws because it affects every other law throughout the country.

**Lessons Learned from examining GDPR Styled Acts (Jeffrey P. Cunard)**

- Addressing issues in respect of transfers between countries
- Power and Robustness of Regulators (Legislators in well-developed countries are better resourced than in the Caribbean)
- Imposition of Harsh Penalties for Non-compliance for Small businesses will become counterproductive
- Consider exceptions for small businesses.
- Trinidad and Tobago's version of a Regulatory Sandbox was created under the Central Bank created for non-banking/e-payments. It was also noted that due to the processes needed to be followed when there are final drafts of some of these legislations some of them may be obsolete due to evolving technologies.

**Question: Can the concept of NFT's be applied in a more practical way?  
e.g. land ownership or the translation of university qualifications?**

- Ms. Lindo explained that asset ownership is something that is not currently in the Metaverse, however, there are exponential opportunities for this in the future. Qualifications in the metaverse will eventually allow for the transfer of these documents electronically.
- Mr. Balroop added that eventually a specialized court can be introduced given the presence of these issues e.g. an internet court because there will be more instances of these things.

**Who owns an image?**

- The copyright is in the creator but there are changes based on contractual agreements i.e. unless it is vested in a third party/the employer. In the Metaverse, however, it is still solely the creator or the photographer.

### What role can CARICOM and the region play to implement a framework?

- Because there are current limitations to what CARICOM can currently achieve, there will be a need to make changes to allow this level of collaboration to occur. There are in fact other initiatives eg. E-Trans and some Digital Governance that is currently being introduced within the region which will be an example of an attempt to introduce this within the Caribbean. At the moment Commissioners within other islands are collaborating to put together a document that will outline minimum standards that will be abided by throughout the region in the absence of approved legislation.
- A suggestion was made to use the Metaverse as a means of verifying qualifications and property ownership which will make it harder for persons to defraud businesses because this information will be public. The Metaverse can be used for our benefit as a region instead of only for artists etc.
- Data Protection Impact Assessment (DPIA) can be used as a benchmark for conduct through technology as well as guidance about the protection of data in the absence of a framework within an organization and by extension, the region should a person ever be unsure of what needs to be done.

## Panel Session 4: Trinidad and Tobago's Digital Transformation Journey – What's Next?



**Moderator: Ajmal Nazir, Director, TTMAAG**

**Panelists:**

- L. Anthony Watkins, CEO & Principal Consultant, ODYSSEY CONSULTinc Limited
- Kandys Trancoso, Founder, The FinRoute
- Master Christie-Anne Morris-Alleyne, Court Executive Administrator, Judiciary of Trinidad and Tobago

**PANEL OUTLINE:**

Trinidad and Tobago is at a crossroads in its digital transformation journey. With increasing pressures from all corners, there is an increasing push to move beyond rhetoric. The establishment makes promises, but have we been here before? The list of initiatives that have come and gone grows, while there is a view that the country is “stuck”, lacking direction and momentum to move away from oil and gas.

While the Government attempts to digitize the public service, what is the role, position and status of the private sector, academia, technical community and civil society in this effort? Are we ready to move from talk to action and to move beyond ad-hoc, reactive interventions to commit our support to a whole country-wide digital transformation effort?



Ajmal Nazir began the session by introducing each presenter in this sequence L. Anthony Watkins, Kandys Trancoso, and Master Christie-Anne Morris-Alleyne.

Digital Transformation has been a conversation throughout the region but in Trinidad and Tobago and other older regions in the world, infrastructure needs to be introduced to fully experience the benefits of digital transformation. This will assist with the realization of specific UN Sustainable Development Goals:

- Improving quality of life
- Fostering equitable growth
- Protecting the environment

Digital Transformation technologies that can be seen are:

- 3D Printing
- Remote healthcare
- Drones

The UK has been noted as one of the most technologically advanced countries in the world given their current and expected growth throughout the country.

### Is our country where we should be to facilitate digital transformation?

- Before this can be determined there are many questions that need to be answered especially to decide how digital transformation will be defined. At the moment there are areas of Trinidad and Tobago that are underserved and neglected and to achieve digitization these areas should be given access.
- The neglect of the youth in many areas has contributed to the lack of our digital transformation achievement. Some ideas that may come from the younger population are usually passed and this negatively impacts progress. More focus should be placed on the consumer and how they can be reached. Process reengineering and process reform to change from archaic processes currently employed in the Public Service are required before the conversation of digitalization can happen.

### How can customer service be improved within the Private and Public Sectors?

- **Kandys Trancoso:** Sometimes in the process of designing products the main focus is lost, hence the detachment to the issues to be solved on behalf of the customer. Through a focus on the “problem”, there will be a bottom-up approach which means there will be no need to test the market because it would have come from the customer. That human element should always be there in the creation and introduction of products to solve the issues of customer service.
- **Master Morris-Alleyne:** Customer service not being the main focus can stem from our culture. Especially when looking all the way back from slavery and the colonial era, there are discrepancies noticed from all the way there in the Public Service. We need to take into consideration persons of all strata and until that is done, we will always have to play catch up with other entities.
- In solving digitization, we need to decide which problem we are trying to solve and the future state we are trying to create. Although we may be in the same space, we are not in the same space because we look at things differently, compared to our neighbours, in Trinidad and Tobago there are too many contending views and this affects our achievements.
- Unlike the Public Sector, the Private Sector does not have a lengthy procurement process and can quickly collect and use data to help understand their customers, therefore giving them an advantage.
- The Panelists also highlighted the fact that Big Data is necessary and most times gaining access to this data is difficult because throughout the Caribbean organizations are very guarded with information that can be used to solve current issues.

Is the local skillset sufficient?

## “There is a need to match what we teach with what we need”

- Change or education i.e. change our approach. To this date, there is no space for the unlettered individual and that makes it difficult to hire possibly talented individuals that may not have the letters to their name. When young individuals are sent to study there is no space for them when they return, not because there is no need, but because we do not allow them to innovate or contribute.
- Master Morris-Alleyne asked the question, are we doing enough?
- There are things that we will do better vs things they will do better than us and whether we promote this or not comes down to nationalism or patriotism.
- A safe space for individuals to innovate and possibly try and fail is pivotal, especially within the tech process. Persons are not given the chance to create locally because so much is imported due to the Trinbagonian “dutch syndrome”, there are talented persons here but they need to be given the opportunity.
- An indigenous innovative system can be established through a Corporate Social Responsibility Project then allow it to grow from there. This will assist with the establishment of a safe space to allow persons to innovate within the tech community and to solve more problems.

## Feature Address: Vint Cerf, VP & Chief Internet Evangelist, Google



Mr. Cerf has been widely considered as the father of the internet with a plethora of experience in technology.

- Mentioned that although the internet was introduced with the vision of all persons having access to the internet, to date, only half the world has access to it.
- Satellites are widely proliferating giving reference to Space-X and Elon Musk's goal of launching 52 satellites in 2022.
- If you can't afford internet it does not matter if it's available
- Optical fiber becoming less expensive to put up
- The X Company (Google) is capable of delivering 10 megabits per second per kilometer
- Private networks building interconnections to ISPs.

### The Lessons Gained from the Pandemic:

- Some people can work and some can go to school from home
- Telemedicine is also possible as well

### Biggest challenge

- The ability to drive costs down e.g. through subsidies

## “To do the impossible, you must first believe it isn't”

- Digital Transformation - mostly lies within the software, anything can be done once you can figure out how to use it.
- Privacy can be considered an anomaly because, with the instance of security cameras, etc, there is not much privacy.

## OPEN FORUM



Moderated by Tracy Hackshaw, Chair-Elect, *TTMAG*

- Technology facilitating gender-based violence (Cybercrimes/CyberSecurity)
- An update of ETA and DPA has been in process for the past year, Cybercrimes unit has indicated that there are areas that have not been included and it is not limited to gender-based violence but also human trafficking. It will be included in the amendments.
- Initiatives to educate persons on what to do when it happens at home with children online
- Cybersafett and many other non-governmental organizations are currently dealing with these issues.
- Children rights in the digital age (Programme)
- Networking is the answer to creating most of these initiatives and their reach. Coming together to form these initiatives will be more efficient than trying to complete them on our own.
- One attendee highlighted that thus far since beginning his initiative his team has been able to repair 250 computers and they also invite young technicians to come on board to learn more and assist with the repairs being done throughout the country. They are also able to access hardware from sponsors and companies that have donated up to 100 computers to the cause.
- Another attendee reinforced that a space to fail needs to be created to encourage young children to learn to deal with technology and go beyond that fallacy of children being seen and not heard.
- It was also mentioned that the way education is delivered in Trinidad and Tobago is not conducive to a tech space. Failure is necessary for innovation, therefore failure should be accepted, giving people the confidence to know that you will keep failing until you figure it out. Teachers should therefore be taught how to foster this environment for the students, it is not something that they currently know how to deal with right now in the school.
- Parents also have a part to play with the development of children and how they can encourage their children to be curious.
- It was also noted that persons are currently experiencing tech fatigue due to an overload of information and the prevalence of online sessions due to the COVID-19 pandemic. There was the reiteration to only read information from trusted sources, always confirming the validity of that information from other sources.
- St. Vincent can potentially be the first Caribbean island to host its Carnival in the Metaverse.

## Closing Address



Tracy Hackshaw, Chair-Elect, *TTMAG*

Mr. Hackshaw thanked everyone for being part of TTIGF 2022 although yet another online session. He gave assurance that should things be reverted to their original state there may be a chance to host a more immersive hybrid or in-person event. Thanks were also personally extended to each presenter and panelist that contributed throughout the duration of TTIGF 2022.

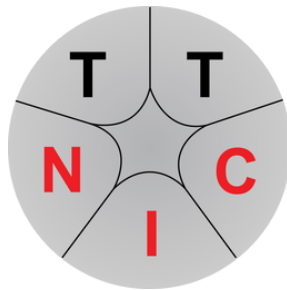
He expressed how grateful he is to the contribution of persons on TTMAG and also the media that made the event what it was and its success. He also looks forward to everyone coming together to use the internet to its maximum capabilities and doing so safely. In closing, he wished everyone the best until the next event.





Thank you to our partners for making  
TTIGF 2022 possible!

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