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DIGITAL WEEK 2023 Action for impact

CTO Forum Action for impact

Ministerial Alliance for Digital Nations

Addressing ICT Issues for Commonwealth Transformation

— EVENT REPORT —

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Executive summary



This report captures the key digital transformation issues and policy considerations discussed at the Commonwealth Telecommunication Organisation (CTO) Forum 2023 held on 20 February 2023 and the Ministerial Alliance for Digital Nations meeting held on 21 and 22 February 2023 in London.

Over three days, the CTO convened a meeting of the Information and Communications Technology (ICT) Ministers of the Commonwealth, captains of the industry, and senior ICT stakeholders to discuss the matters relating to universal broadband connectivity in member state countries. Better and more inclusive connectivity and access availability to the internet are important issues for developed countries, but the stakes are even higher for developing countries. More inclusive access will help these nations not only to close the digital technology gap, but also will go some way to reducing the digital divide and improving digital skills.

The CTO Forum 2023, focussed on digital transformation of economies for individual regions and countries. Key issues discussed included digital identity and internet connectivity as a way to achieving the United Nations Sustainable Development Goals (SDGs). The overarching desire, however, was for the group to identify ways in which CTO was best placed to help with these issues.

The CTO Forum 2023 was followed by a meeting of the Ministerial Alliance for Digital Nations. This inaugural meeting brought together Commonwealth Ministers responsible for telecommunications and ICT. It focused on the provision of an affordable universal service connectivity as well as a reduction in the digital divide and improvements in digital literacy.

Input into these debates was provided by a variety of stakeholders, including ministers responsible for the ICT sector, regulators, and industry. Ministers outlined the practical issues they encountered while trying to incentivise the further rollout of digital networks so that universal access to broadband could be provided to all citizens.

Several recommendations were proposed and those considered key were captured at the end of the meeting. This report summarises those points and the conclusions reached. The impact and implications of actions required for digital transformation are set out in the final session and captured at the end of this report.

Contents

CTO Forum 2023

OPENING SESSION

Welcome	6
Introductory remarks — Master of Ceremonies	6
Secretary General's Welcome address	6
CTO Chairman's Welcome: Introducing the CTO today	7
Keynote address: Challenging times and the digital transformation imperative	8

SESSION ONE

Cybersecurity for digital transformation	9
---	---

SESSION TWO

Digital transformation building blocks	11
Public awareness and an enabling environment for digital transformation	11
Digital regulation: an introduction to the UK's online safety bill	11
Digital identity — industry best practices	12
Digital identity: government approach	12

SESSION THREE

Practical approaches to digital transformation	14
Keynote address: Practical approaches to digital transformation	14
Internet of Things (IoT) for achieving the United Nations Sustainable Development Goals	15

SESSION FOUR

Commonwealth development and digital transformation	16
What can Commonwealth governments do to accelerate digital transformation? How can CTO help?	

CTO Ministerial Alliance 2023 • Day 1

OPENING SESSION

Welcome	18
Opening remarks	18
Welcome address	18
Goodwill address	19
Special remarks	19
Chairperson's address: Official opening of the Ministerial Alliance for Digital Transformation	20
Keynote address: Hon. Paul Scully	20

SESSION ONE

Cellular solutions for nationwide connectivity	21
Ministerial Statements of Caucus One	21
Industry response	23

SESSION TWO

The roll-out of 5G	24
Ministerial Statement of Caucus Two	24
Industry response	26

SESSION THREE

Wi-Fi possibilities	28
Ministerial Statement of Caucus Three	28
Industry response	31

Contents

CTO Ministerial Alliance 2023 • Day 2

OPENING SESSION

Welcome	34
Master of Ceremonies and Chairholder opening remarks	34

SESSION FOUR

Satellites — connecting the world	34
Ministerial Statement of Caucus Four	35
Industry response	39

SESSION FIVE

Emerging technologies	41
Ministerial Statement of Caucus Five	41
Industry response	44

SESSION SIX

Spectrum matters	45
Lightning presentations	46

SESSION SEVEN

Accelerating digital transformation	47
Lightning presentations	48

Digital Week closing session

Thank you	50
Discussion and wrap-up	50
Vote of thanks, actions going forward and conclusions	51
Thank you	51

Appendices

Appendix 1

Delegate survey results	52
Reviewing Digital Week 2023: CTO interviews with ICT Ministers	53
Feedback from delegates	53
Digital Week 2023 event photos	53

Appendix 2

Digital Week 2023: Participating organisations	54
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Action for impact



● ABOUT THE SPEAKER

Peter Gwan Mbengiee is the Development Partners Representative and Executive Committee Member of the Commonwealth Telecommunications Organisation and a Technical Advisor to the Telecommunications Regulatory Board (TRB), Republic of Cameroon.

He represents Cameroon at the ITU at the 23rd meeting of the ITU's Telecommunication Development Advisory Group (TDAG), Mr Mbengiee was appointed Study Group 1 Vice Chair to be ITU-D's representative on the ITU Coordination Committee for Terminology (ITU CCT).

Introductory remarks — Master of Ceremonies

● Mr Peter Ngwan Mbengiee, CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon

Introductory remarks were provided by Mr Peter Ngwan Mbengiee, who raised the following points made:

- Covid-19 showed the value of digital transformation to the customer and resulted in cultural and social change;
- The pandemic forced us to revisit the status quo;
- For the digital transformation process to be successful policy makers must construct building blocks carefully, taking account of security related challenges;
- An all-inclusive approach is required for the policy to ensure it addresses the digital divide.

The Master of Ceremonies concluded his opening remarks by asking conference participants to consider two key questions:

- What can governments do to accelerate the digital transformation in their own jurisdictions?
- What can CTO do to help achieve their goals?

The opening speech was followed by the National anthem of the United Kingdom and CTO Commencement Song.



● ABOUT THE SPEAKER

Bernadette Lewis, appointed to the position of Secretary-General in August 2020, is the first female Secretary-General in the 120-year history of the Commonwealth Telecommunications Organisation. A national of Trinidad and Tobago, Ms Lewis was the first female Secretary-General of the Caribbean Telecommunications Union (CTU) and is credited for making the CTU the foremost ICT intergovernmental institution in the Caribbean.

Secretary-General Lewis has a wealth of experience in the public and private sectors and is knowledgeable on the ICT issues facing developing countries having worked in senior positions in national, regional, and international ICT organisations. Her pioneering work in ICTs has won her recognition and awards.

Secretary General's Welcome address

● Ms Bernadette Lewis, Secretary General, CTO

Ms Bernadette Lewis welcomed everyone and outlined her vision of *Action For Impact* within the digital transformation process. She referred to her own experience within the digital journey which had seen significant technology changes from analogue to digital telecommunications, and the fourth-generation revolution, where everyone, or almost everyone, is permanently connected to devices.

Although most of us have experienced the phenomenal pace of technological innovation, where product life cycles have decreased on average from 25 to 5 years, many are still struggling to embrace third generation technologies. She stressed the need to adopt new policies to accelerate digital transformation and CTO's commitment to customised programmes for *measurable impact*.

Finally, the Secretary-General thanked the UK Government, CTO Gold Sponsors, Meta and OneWeb and Topaz Sponsors, Telesat and E-Space, esteemed ministers, speakers, moderators, and the staff of the CTO Secretariat.



● ABOUT THE SPEAKER

The Hon. Deputy Prime Minister and the Minister for Trade, Co-operatives, Small and Medium Enterprises and Communications — Hon. Manoa Kamikamica is a proud Fijian with over 33 years of experience in the field of finance, aviation, banking and manufacturing at a senior executive level.

A chartered accountant by profession, Hon. Kamikamica is the first indigenous Fijian to become a member of the Australian Institute of Chartered Accountants and is presently a Member of the Institute of Chartered Accountants in Australia, New Zealand and Fiji. Hon. Kamikamica was the CFO and General Manager for the Lyndhurst Group of Companies and has served senior roles with ANZ in Tonga, Fiji and Papua New Guinea. Before joining ANZ, Hon. Kamikamica worked for Fiji's national carrier, Fiji Airways, for over 13 years as General Manager Finance and General Manager Strategic Planning. Hon. Kamikamica holds a Bachelor of Commerce from the University of NSW in Australia.

CTO Chairman's Welcome: Introducing the CTO today

● Hon. Manoa Kamikamica, Chair of CTO and Deputy Prime Minister and Minister of Trade, Co-operatives, SMEs and Communications, Republic of Fiji

Hon. Manoa Kamikamica, CTO Chairperson, welcomed delegates to the Commonwealth Telecommunications Organisation ICT Forum 2023.

He reminded the audience that CTO was at a critical juncture since the world had changed irrevocably following the Covid-19 pandemic, and the organisation now needed to navigate through a great many uncertainties.

He remarked the CTO has transformed throughout its 122-year-old history, the history can be traced to 1899 when the Pacific Cable Board was established to complete the British Empire's Global Telegraph Network linking the Pacific to Canada.

Thereon the Pacific board has evolved as a multi-stakeholder intergovernmental treaty organisation and holds a current mandate to promote and foster effective ICT adoption in the use of ICT for social and economic development within the Commonwealth and beyond.

To be relevant, CTO must be able to facilitate action and have a measurable impact on the citizens of the Commonwealth. CTO will break new ground by providing new solutions.

CTO is also emerging from this period of uncertainty and reinventing itself to be relevant in this era the CTO has chartered a new course to facilitate action that seeks to deliver a measurable beneficial impact on the lives of the citizens of the Commonwealth and continue to support its members in accelerating digital transformation in the Commonwealth and Beyond. The CTO's digital transformation work will focus on the establishment of 21st century governments that make effective use of technology to serve citizens and facilitate the provision of affordable Universal Broadband connectivity. The CTO will break new ground in delivering value-added Services customised programmes for members and capacity building.

He stressed the inaugural Digital Week 2023's theme "Action for Pmpact" reflects the CTO's commitment to enhance its value to members.

The Chair thanked the CTO Secretariat and his fellow executive members for stabilizing the CTO in these uncertain times and charting a new course of action for impact which is being unveiled during digital week.

He wished all in attendance an engaging and productive Forum 2023.



CTO must be able to facilitate action and have a measurable impact on the citizens of the Commonwealth. CTO will break new ground by providing new solutions.



● ABOUT THE SPEAKER

Mr John Curran is the President and CEO of the American Registry for Internet Numbers (ARIN), leading the organisation in its mission of supporting the operation of the Internet through the management of Internet number resources throughout its service region which includes the United States, Canada, and parts of the Caribbean.

John has been the Chief Technology Officer of three successful Internet companies. John served as CTO and COO for ServerVault. Prior to this, he was CTO for XO Communications. He also served as CTO for BBN/GTE Internetworking, where he led BBN's technical evolution. He has also been an active participant in the Internet Engineering Task Force (IETF), having both co-chaired the IETF Operations and Network Management Area and served as a member of the IPng (IPv6) Directorate.

KEYNOTE ADDRESS

Challenging times and the digital transformation imperative

● Mr John Curran, President and CEO, American Registry for Internet Numbers

Mr John Curran highlighted some of the critical points relating to digital network operations which affect and define the role of governments in the digital transformation process. He referred to the internet as *"a set of permissionless applications that are being produced without central government control"*.

Interestingly, he also referred to the process of transformation as *"mapping between the real world and the internet"*, emphasising real and practical dilemmas facing governments across the world. These include, but are not limited to:

- Speed of online as opposed to physical actions;
- Building and creation of new products that are not limited to the B2B market;
- Digitising existing governments' products and services;
- Responding to a new reality that has resulted in negative as well as positive outcomes for individuals, businesses, and societies, including cybercrime which can attract the greatest skill and expertise;
- Societies previously governed by a set of commonly agreed rules, now see those rules being often disregarded in online transactions, relationships, and money exchanges;
- To respond to these challenges, governments need to incorporate greater sophistication into their processes, and they need to be able to fund greater digital skills to supplement current resources.

He outlined the practical steps to minimise cybersecurity risks and these would vary depending on individual countries' issues, but would normally encompass the following:

- Training;
- Secure systems and connections;
- Maintenance of compliance standards;
- Maintenance of a cyber incident register;
- Routine cybersecurity exercises;
- Development of an Insider Threat Protection Programme;
- Collaborations on cross-border security;
- Investing in local and regional Artificial Intelligence (AI) and Machine Learning initiatives.

The morning session was followed by questions from the audience. Questions were raised by representatives from Nigeria and Pakistan relating to the definition of the Insider Threat Protection Programme and the cybersecurity framework. Mr John Curran defined "insider" as someone who is incentivised to commit fraud by sharing a company's data with others and the best cybersecurity framework as one capable of being audited by external auditors.

Cybersecurity for digital transformation

● **MODERATOR:** Mr Peter Ngwan Mbengiee, CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon

Cybersecurity for digital transformation

● **Ms Erika Lewis, Director, Cyber Security and Digital Identity Department for Science, Innovation and Technology (DSIT), United Kingdom**

The key presentation was delivered by Ms Erika Lewis who outlined the UK government's methodologies to utilise the power of digital technologies to bring public services more efficiently to the whole society.

Ms Lewis confirmed that approximately 39% of businesses in the UK suffered small cyber incidents as well as some very large ones, for example the recent cyber-attack on Royal Mail.

She estimated that the annual global cost of cybercrime was approximately \$5.5 trillion and stressed that as businesses rely more and more on the internet to function, it is incumbent on governments to ensure they can operate safely and keep end users safe.

A UK digital strategy was first established in December 2021 and rested on five fundamental pillars:

- Resilience—reducing cyber risks;
- Technology—how governments can build industrial capabilities;
- Information;
- Threat awareness—need to be aware how digital threats are changing societies and to develop best practice;
- Ecosystems—investing in both people and skills.

In summary, the UK government's key practical steps to increase digital awareness among businesses and end users were:



● ABOUT THE SPEAKER

Ms Erika Lewis was a founding member of London Government, moving from the voluntary sector to join the set-up team in the London Development Agency in April 2000. As the Director of Strategy at the LDA, she was responsible for the development and delivery of the Mayor's Economic Development Strategy.

In 2012, as Project Director at the Competition and Markets Authority where she delivered two merger and market investigations. Moving to the role of Director of Governance and Performance, Erika set up the CMA data, digital and tech team.

Erika joined DSIT in 2018 to deliver the National Data Strategy, in addition she was responsible for Data Policy and Ethics. After leading the Brexit preparedness data team, she moved to the role of Director, Cyber Security and Digital Identity.

- Retraining staff in cyber skills;
- Moving cyber teaching into higher education, more apprenticeships and extra curriculum programmes;
- Set up of a professional structure, the Cybersecurity Programme, which obtained Royal Assent in 2021, and sets out standards.



Cybersecurity for digital transformation

● MODERATOR: Mr Peter Ngwan Mbengiee, CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon



Questions and answers

The cybersecurity session was followed by Q&A session. Questions were raised by representatives from Malawi, Lesotho, Kenya and Zimbabwe, and covered a wide range of issues spanning from the role of women in the digital transformation programme, the fundamentals to building strong partnerships, and cyber incident strategies, to the engagement of academia in the consultation process on security issues. The UK government provided the participants with a comprehensive response, which included examples of programmes and actions undertaken:

- It is the UK government's view that women are under-represented in the cybersecurity sector and a more diverse approach is being implemented to attract them into this profession. The UK government believes that understanding of the actual societal gender and cultural mix helps with cybersecurity strategy. With this in mind, UK government established National Cybersecurity Council. However, the work and programmes carried out so far point to the fact that women are often uncertain as to the way in which a career in the cybersecurity sector would benefit them long-term;
- Partnerships with local governments and other nations. Over the last 18 months, the UK has entered into partnerships and works very closely with countries such as France, Germany, Singapore, the USA, and South Korea;
- The National Cyber Security Centre is responsible for cybercrime incident response for instance the cyber incident on Royal Mail operations earlier this year;
- The UK has engaged academia in discussing cybersecurity requirements and the way they can support the national effort to respond to cyber- crime. Academic research showed that businesses did not understand what they needed to buy to protect themselves. A different type of training was required to attract people who understand the cyber requirements for small and medium size businesses and can budget for the relevant costs.

Digital transformation building blocks

● **MODERATOR: Mr Peter Ngwan Mbengie, CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon**

Public awareness and an enabling environment for digital transformation

● **Mr Ezra Chiloba, Director-General, Communications Authority of Kenya**

Mr Ezra Chiloba, opened up the next session by outlining some of the digital transformation issues that the Kenyan government had experienced and practical measures that were put in place:

- Kenya's new government's agenda is to build a digital superhighway that seeks to transform how we live, and technology is at the centre of it;
- Although approximately 80% of population have access to the internet, only 52% have the ability to access devices, raising affordability and lack of awareness issues;
- A shortage of skills is resulting in people not being able to understand what they can get and how to access it;
- In order to provide universal connectivity at affordable prices Kenya set up Universal Service Fund;
- The government has adopted two approaches. Firstly, it established a legislative framework and secondly, it defined consumer requirements. Both approaches required close collaboration between central and local government agencies.



Watch
online

● ABOUT THE SPEAKER

Ezra Chiloba is the Director General of the Communications Authority of Kenya, having been appointed in October 2021. Prior to this appointment, he served as Principal Partner at Chil & Kemp Strategies Ltd, a Strategy Management Company, where he focused on strategy and risk management, policy and regulatory analysis, and leadership and management effectiveness. Mr Chiloba also served as the Chief Executive Officer/Commission Secretary of the Independent Electoral and Boundaries Commission (IEBC) between 2015–2018.

His experience spans over 15 years in public sector management including policy, legislation, financial management, stakeholder management, risk management and leadership. He has also served as a Board Member of the Youth Enterprise Development Fund.

Digital regulation: an introduction to the UK's online safety bill

● **Mr Tim Dwyer, Head of International Engagement, Security and Online Harms, DSIT, United Kingdom**

Mr Tim Dwyer provided an overview of the provisions of the UK's online safety bill. Key aspects of this legislation include:

- Bringing consistency and transparency to the UK government's diverse policies;
- Reduce the growing proliferation of harmful content, in particular harmful to certain groups such as children. The UK government must ensure that an appropriate and proportionate system is in place to prevent harmful content online and, at the same time, to capture illegal content;
- Ensure that Internet Service Providers (ISPs) have to account for what happens on their platform;
- Introduce measures for age verification and identification, and give Ofcom powers to ensure such legislation is implemented and complied with;
- Ensure that freedom of expression is preserved.



Watch
online

● ABOUT THE SPEAKER

Tim Dwyer is Head of International Engagement for Security and Online Harms at the UK Government's Department for Science, Innovation and Technology, having previously led COVID-19 integration planning and delivery of legislation for the Birmingham 2022 Commonwealth Games at the Department for Culture, Media and Sport.

Digital transformation building blocks

● **MODERATOR: Mr Peter Ngwan Mbengie, CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon**

Digital identity — industry best practices

● **Ms Colleen Elliott, Digital ID Strategy Lead, Microsoft**

Microsoft's Digital Identity strategy was explained by Ms Colleen Elliott.

As the world's largest identity provider, Microsoft has a two-pronged approach to dealing with digital identity issues. Firstly, their strategy defines the process for moving identity to the Cloud or a database, and secondly it identifies building blocks that form part of the entire process.

Key points in Microsoft's strategy highlighted by Ms Elliott that could serve as recommendations for governments:

- Ensure legislative barriers are removed;
- Set up a framework of trust;
- Set up decentralised ID standards;
- Mostly use ISO mobile IDs;
- Standard setting and certification is key;
- Importance of the Cloud foundation to ensure secure technology;
- Cloud policy and the standard setting process need to go hand in hand;
- Explore pilots and proof-of-concept before implementation.



● **ABOUT THE SPEAKER**

Colleen Elliott is the Global Digital ID Strategy Lead for Public Sector at Microsoft. Before joining Microsoft, she spent 15 years with the Government of Ontario in Canada, primarily focused on leading business improvement and digital transformation projects. The highlight of Colleen's career was leading the startup of Ontario's Digital Identity programme. In her role at Microsoft, Colleen uses her expertise in digital transformation and digital ID to advise government's embarking on this journey.

Digital identity: government approach

● **Ms Caroline Copley, Head of Digital Identity Legislation and International Strategy, Cyber Security and Digital Identity Directorate, DSIT, United Kingdom**

The UK government approach was outlined by Ms Caroline Copley. She stressed that:

- The UK approach is based on strong reliance on the UK democratic system, which does not promote any centralised identity system;
- The UK approach is flexible to allow its development as the telecommunication market evolves;
- The essence of the UK approach is to set out a framework for businesses and customers to use only if they choose to do so;
- The UK is building an ecosystem and will be presented to the public as a department that will oversee standard setting and the certification process. It will also deal with any issues relating to interoperability. It will provide a trust framework for other countries to see so as to make interoperability easier. This trust framework will serve to enforce security for consumers and businesses.



● **ABOUT THE SPEAKER**

Caroline Copley is a UK public servant and former diplomat with experience of the UN, World Bank and transformation projects large and small. She is passionate about driving connections between the international perspective and the individual human outcome. Her current challenge is to create the legal basis for a secure and trusted digital identity ecosystem in the UK which is ready to do business with digital identity systems in other countries.

Digital transformation building blocks

● **MODERATOR: Mr Peter Ngwan Mbengie, CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon**



Questions and answers

During Q&A session, the following questions were raised by representatives from Zambia, Kenya, South Africa, and Malawi.

- How does your current identity legislation work?
- What is Cloud policy?
- How do you define digital identity?
- How does the UK balance the freedom of speech and religious sensitivities?
- Explain what type of provisions are required in the legislative framework to promote digital identity?
- Explain what type of enforcement measures are required in the case of non-compliance?
- How important are biometrics in bringing trust into the system?
- What needs to be done to ensure that national data remains within the country of origin?
- What if any social platforms refuse to comply with local laws?

Ms Elliott and Ms Copley provided answers to these questions by informing that:

- The current Microsoft digital identity framework can be found at [wwps.microsoft.com](https://www.microsoft.com) and focuses on strategy for the Cloud and data policy, procurement, use of government agreements, financing rules, and digital culture and technology;
- Freedom of speech and religious sensitivity issues are encompassed in “legal but harmful” policy provisions. These expect governments to have implemented measures that minimise context that may be legal but is harmful;

- In the UK, Ofcom will have strong enforcement powers, which will allow them to fine companies that do not comply up to 10% of their global turnover. Senior managers of companies that do not comply can also be held criminally liable;
- Digital identity can be defined as the electronic representation of who someone is to carry out day to day activities. Digital identity does not represent someone's identity per se;
- In the UK, there are few legal barriers but nothing that will prevent the UK from developing a flexible digital identity framework. Therefore, legislation will quickly be established to a) set up an office of digital identity and b) to set up a trust framework. In addition, the Data Protection Information Bill is currently being amended by Parliament;
- Biometrics could be used but the UK does not require biometrics to be the standard;
- In some cases, notably in Kenya, it was found that Data Protection rules could act as a barrier to investment. In such instances, the Cross Border Private Rules System is more flexible. The UN model could also be used. Thailand was the first country to adopt it;
- Ms Elliott also stressed the need for a consultation process within individual countries to ensure public awareness of the issues and acceptance. Finally, she acknowledged that some countries require data to reside in the country of origin, while data centres are established regionally. At the same time, she emphasised the need for clarity as to what type of data needs to stay within national borders and recommended that a risk-based analysis be undertaken.

Practical approaches to digital transformation

● **MODERATOR:** Mr Peter Ngwan Mbengie, United Kinge CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon

KEYNOTE ADDRESS

Practical approaches to digital transformation

● **Ms Megan Lee Devlin, Chief Executive, Central Digital Data Office, United Kingdom**

Ms Megan Lee Devlin confirmed that the UK government's mission to deliver more efficiently some 7,500 public services using online applications rests on six pillars:

- Transform and streamline top 40 services;
- Single digital login for government services and data management to facilitate decision making;
- Extension of national data strategy to include data access, ownership and data quality issues;
- Technology re-use and increased resilience;
- Increased capabilities for leaders, digital makers and users;
- Systems reform to address institutional barriers relating to finance, project development and commercial procurement.



ABOUT THE SPEAKER

Megan Lee Devlin is Chief Executive of the Central Digital and Data Office (CDDO), responsible for leading the government's digital transformation from the Central Digital and Data Office (CDDO) in the Cabinet Office. CDDO leads the Digital, Data and Technology (DDaT) function for HMG by putting the right conditions and capabilities in place to enable departments to transform through digital and technology. Megan joined the Civil Service from McKinsey & Company, where she worked with private sector and public sector organisations on technology, analytics and organisational transformation topics.



Practical approaches to digital transformation

● **MODERATOR: Mr Peter Ngwan Mbengie, United Kingd CTO Forum Chair, EXCO, Telecommunications Regulatory Board, Republic of Cameroon**

Internet of Things (IoT) for achieving the United Nations Sustainable Development Goals

● **Mr Matt Hatton, Founding Partner, Transforma Insights**

Mr Matt Hatton gave a presentation on using IOT for achieving United Nations Sustainable Development Goals (SDGs). Mr Hatton focused on the use of IOT in relation to 17 SDGs. In particular, he referred to IOT being used traditionally to make money, save money and to comply with relevant regulations. Nowadays, the IOT is also being used to ensure sustainability and has a positive economic impact.

The IOT is an umbrella term which covers the monitoring and control of remote devices. This is also where the vast majority of savings can be found, particularly in business usage. A few examples were provided:

- Smart buildings—27% of the energy is currently produced to maintain commercial and residential buildings and IOT can reduce this to 10%;
- Smart street lighting can reduce energy consumption up to 40%;
- Connected traffic lights (example provided Pittsburgh) can reduce emissions by 30–40%;
- Fleet Management account for 35% of emissions and represents the biggest area where savings can be achieved by IOT management and more efficient use of vehicle capacity and timings;
- Smart metering, where the user is more in control, can reduce electricity use by 3–5%;
- Smart agriculture, to prevent wastage and can save water for up to 35%.



● ABOUT THE SPEAKER

Matt Hatton is a well-respected commentator and technology industry expert with 25 years' experience at the cutting edge of technology research and consulting. He is a thought-leader in Telecommunications, Digital Transformation and the Internet of Things. He is widely quoted in trade publications and frequent speaker at conferences. His podcast, The Wireless Noodle is a weekly guide to the impact of disruptive technologies on business. In 2020 Matt co-wrote a book 'The Internet of Things Myth'. Matt is currently Founding Partner at Transforma Insights, the leading advisors on IoT, AI and Digital Transformation. Previously he was Founder and CEO of Machina Research, which was acquired by Gartner in 2016. Prior to founding Machina Research Matt was a technology industry analyst, working at firms including Analysys Mason and Yankee Group. Matt holds an MSc in Telecoms from University College London.

Questions and answers

During the Q&A session, the representative from Malawi asked about the building blocks that will drive IOT uptake in Africa, a region whose resources are already being depleted. Mr Hatton provided some examples of tracking devices in fleet vehicles. He believed that the greatest savings can be

found in logistics as the upfront costs of IOT are borne by suppliers often placed outside Africa. Much of the IOT in use is not expensive and saves money. Upfront costs are also coming down and a revenue-shared model can sometimes be adopted.

Commonwealth development and digital transformation

● **MODERATOR: Mr Kwame Baah-Acheamfour, Head of International Affairs, Ministry of Communication and Digitalisation, Republic of Ghana**

DISCUSSION FORUM

What can Commonwealth governments do to accelerate digital transformation? How can CTO help?

These two questions were posed to the audience in the last session of the day.

The representatives of the following countries provided their views on these two questions: Botswana, Kenya, UK, Trinidad and Tobago, Nigeria, Fiji, Montserrat, Gambia, Mauritius, Uganda, Lesotho, Cameroon, Malawi, Zimbabwe, Gibraltar, Mozambique, Namibia, Tanzania, St Kitts and South Africa.

In respect to the first question, there was a general agreement that the Commonwealth can:

- Help to formulate policies for universal connectivity and affordability targets, including a mechanism for making devices more affordable;
- Identify key problems that need to be resolved;
- Help to coordinate efforts of individual governments to obtain universal connectivity;
- Provide more clarity about what different technologies can offer;
- Help drive down data cost;
- Engage the private sector to help ensure no-one is left behind.
- In terms of what CTO can do to help, there was an overwhelming agreement that:
- CTO should continue to provide a platform for the exchange of views across member countries and beyond;
- Provide Digital Transformation Programme Training for regulators, industry and the leaders of member countries,



● ABOUT THE MODERATOR

Kwame Baah-Acheamfour is the current Chairman of ITU-T Study Group 12 responsible for Performance, QoS and QoE. Also, Kwame is responsible for the technical regulations planning and monitoring of communications services at the National Communications Authority, Ghana since 2006.

He was the Chairman of the ITU-T Study Group 12 Regional Group for Africa from 2011 to 2012 and the Editor of ITU-T Recommendation E.803.

Kwame started his engineering career as a Transmission Operations and Maintenance Engineer for two and half years with Ghana Telecom (now Vodafone Ghana) for 3 years and continued as a Radio Network Engineer with Ghana Telecom for two and half years from 2003 to 2006.

and help by collecting information where each country is in digital transformation process and the standards that have been adopted;

- Help draft guidelines for services that need to be developed to ensure universal connectivity;
- Support capacity building across various interested bodies to cover subjects such as finance, law, regulatory and business frameworks;
- Partner with individual countries in assisting CTO to deal with digital transformation issues and standard setting bodies;
- Provide a platform for exchanges, resources, publications and research materials so that best practice can be shared.



Secretary-General Lewis continued discussions on digital transformation and Commonwealth development and gauged support for initiatives before concluding on the day's proceedings.



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Ministerial Alliance for Digital Nations

Addressing ICT Issues for
Commonwealth Transformation

21 February 2023 • Summary

The Ministerial Alliance brought together Commonwealth Ministers responsible for telecommunication and information technologies. The first day of the event focused on the issues of universal connectivity and digital inclusion. Ministers, organised in five caucuses, presented challenges specific to their countries, which ranged from issues such as difficult terrain, lack of consistent energy supply, affordability of access leading to uneven usage, and public awareness.

Welcome



Professor Tim Unwin is UNESCO Chair in ICT4D, and Emeritus Professor of Geography at Royal Holloway, University of London. He is also an Honorary Professor at Lanzhou University in China.

He was Secretary-General of the CTO from 2011–2015 and was Chair of the Commonwealth Scholarship Commission from 2009–2014, having been a Commissioner since 2004. He serves on the ITU's m-Powering Development Advisory Board, the UK Department for International Development's Digital Advisory Panel, the UN University — Computing and Society International Advisory Board, and the World Economic Forum's Internet for All initiative's Steering Committee. He is also a Distinguished Fellow of the Globalization, Ageing, Innovation and Care Network at Tilburg University in the Netherlands. He has written or edited 15 books and more than 200 academic papers and chapters, many of which focus on the use of technology in development practices.

Chairholder opening remarks

● Professor Tim Unwin, Master of Ceremonies and Chairholder, UNESCO ICT4D

Professor Tim Unwin provided the opening remarks to the first day of the Ministerial Alliance.

He welcomed all conference participants to London, the most diverse city in Europe. He also referred to the fact that approximately a third of developing countries' population has currently no access to the internet. He saw an enormous role for CTO member countries, both rich and poor, which are bound by common traditions and commitments to shape the world of tomorrow, and to help find appropriate solutions to connectivity issues.

He reminded the audience that CTO has for many years been *a strong force for good in the world* and it is therefore incumbent on member states to work together.

He believed that the poorest countries would not be able to do it alone and he saw a great economic potential for partnerships to be developed that would share knowledge and resources, and would welcome the participation of women in these processes.



CTO has for many years been a strong force for good in the world



Secretary-General Lewis has a wealth of experience in the public and private sectors and is knowledgeable on the ICT issues facing developing countries having worked in senior positions in national, regional, and international ICT organisations. Her pioneering work in ICTs has won her recognition and awards.

Welcome address

● Ms Bernadette Lewis, Secretary-General, CTO

Ms Bernadette Lewis delivered the welcome address and defined the digital ecosystem outlining its fundamental aspects as

- Affordable;
- Universal;
- Broadband;
- Connectivity.

Most importantly, she stressed that collaboration involves a collective responsibility for the actions that individual member countries should take following the CTO Digital Week. Collaboration also involves engaging with other sectors that are often key to connectivity solutions. Finally, she confirmed the continued support of the CTO in this process.

Welcome



ABOUT THE SPEAKER

Doreen Bogdan-Martin took office as ITU Secretary-General on 1 January 2023. With over two decades of leadership experience in global telecommunications policy, she has emphasised the need for digital transformation to achieve economic prosperity, job creation, skills development, gender equality, and socio-economic inclusion, as well as to build circular economies, reduce climate impact, and save lives.

Goodwill address

Ms Doreen Bogdan-Martin, Secretary-General, International Telecommunications Union

Ms Doreen Bogdan-Martin delivered a goodwill address. She started by saying that the main purpose of the Digital Week was to try to understand what was needed to make connectivity meaningful and real. While large parts of the world population have seen huge benefits from technological developments, over thirty percent of the population remains unconnected and unable to access the internet and participate in the digital economy. Moreover, while there are many positive aspects to digital developments, technological progress has created digital inequalities where the least developed countries are the least connected ones. These inequalities can also be seen at the gender level with women representing a more digitally disadvantaged group.

2023 is The Year of the Youth and therefore it represents an opportunity for governments and policymakers to involve youth in helping to find more workable solutions and bring more diverse talent to the fore.

She stressed that the International Telecommunication Union (ITU) will continue to work with CTO to help shape a resilient ecosystem, collaborate in partnerships, and safeguard spectrum from harmful interference. She referred to a \$30 billion project to help with connectivity issues and the upcoming WRC23 meeting in Dubai.



ABOUT THE SPEAKER

The Rt Hon Patricia Scotland KC is the sixth Commonwealth Secretary-General. She was born in Dominica and was their candidate for the post at the Commonwealth Heads of Government Meeting (CHOGM) in Malta in 2015. She is the second Secretary-General from the Caribbean and the first woman to hold the post.

Lady Scotland trained as a lawyer and became the first black woman to be appointed a Queen's Counsel (QC) in 1991, she was also the youngest woman ever to be made a QC. The first black woman to be appointed Deputy High Court Judge, Recorder and Master of Middle Temple.

She joined the House of Lords in 1997 as Baroness Scotland of Asthal going on to serve as a minister in the Foreign Office, Home Office and Lord Chancellor's Department.

Special remarks

H.E. Baroness Patricia Scotland KC, Secretary-General, Commonwealth of Nations

The welcome address was followed by special remarks provided by H.E. Baroness Patricia Scotland KC, Secretary-General, Commonwealth of Nations. She paid tribute to Ms Bernadette Lewis, SG CTO for her focus and commitment to the CTO since the start of the pandemic. She also defined the role of CTO within the greater Commonwealth community by stressing that:

- Its purpose and reach is to improve the lives of approximately 2.5 billion people of whom 60% are young and whose lives will be impacted by actions taken now;
- Boosting the ability of members to respond to crisis;
- At national level to help achieve universal connectivity, at ICT level to eliminate roaming charges;
- She referred to digital development within member states to establish a *Smart Commonwealth*;
- Finally, she confirmed that The Secretariat was ready to help generate a smart, connected, and accessible Commonwealth.

Welcome



● ABOUT THE SPEAKER

The Hon. Deputy Prime Minister and the Minister for Trade, Co-operatives, Small and Medium Enterprises and Communications — Hon. Manoa Kamikamica is a proud Fijian with over 33 years of experience in the field of finance, aviation, banking and manufacturing at a senior executive level.

CHAIRPERSON'S ADDRESS

Official opening of the Ministerial Alliance for Digital Transformation

- **Hon. Manoa Kamikamica, Chair of the CTO and Deputy Prime Minister and Minister of Trade, Co-operatives, SMEs and Communications, Republic of Fiji**

The Chairperson's address was delivered by Hon. Manoa Kamikamica, who also referred to the urgent need for universal connectivity and a commitment to bridge the digital divide. He referred to access and universal connectivity as being every person's right. He also highlighted great disparities that exist in the way technology is being used, where some parts of the Commonwealth are still using 2G technology, while others are preparing for the implementation of 6G. He emphasised that collaboration is the driver to developing sustainable solutions to achieve universal connectivity and CTO needed to work together to achieve this goal.



● ABOUT THE SPEAKER

Paul Scully was appointed Parliamentary Under Secretary of State (Minister for Tech and the Digital Economy) at the Department for Science, Innovation and Technology on 7 February 2023. He is also Minister for London, having been appointed on 13 February 2020.

He was previously Parliamentary Under Secretary of State at the Department for Digital, Culture, Media and Sport from 27 October 2022 to 7 February 2023. Minister of State at the Department for Levelling Up, Housing and Communities between 7 July 2022 and 27 October 2022. Parliamentary Under Secretary of State at the Department for Business, Energy and Industrial Strategy from 13 February 2020 to July 2022. He was elected the Conservative MP for Sutton and Cheam on 7 May 2015.

Keynote address

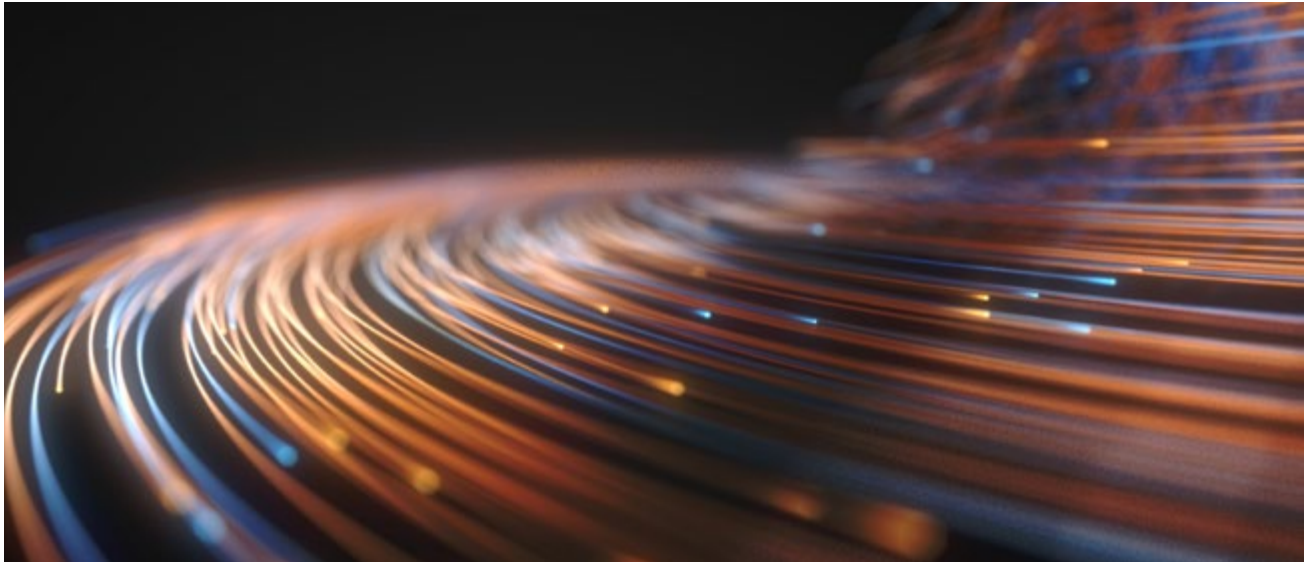
- **Hon. Paul Scully, Parliamentary Under Secretary of State, Department of Science, Innovation and Technology, United Kingdom**

The UK Government's position was outlined in the keynote address by Hon. Paul Scully. He mentioned that government responsibility for the telecommunication sector was recently moved to the Department of Science, Innovation and Technology, which is a reflection of the importance the UK government places on this sector within the broader economy. He also reinforced the UK government support for the CTO by pointing out:

- The CTO strength lies in it being a diverse group representing the full spectrum of global interests;
- The UK programme and the importance of public and private partnerships within it;
- Partnerships being the key driver of the UK economy;
- Partnerships allow individual member states to reduce the risk of relying on too few suppliers, which will also go some way to strengthen the security and safety of individual members' infrastructures;
- Private investment is used to help rollout gigabit broadband in the UK and to boost productivity in regions that are hard to reach;
- The UK government target by 2025 is to have 85% gigabit coverage by providing public subsidy and the use of satellite technology;
- Communications are the lifeblood of our economies and access to the internet must be complemented by digital skills. Thus, wide range of programmes are being rolled-out including the setting-up of Digital Council special technology courses and digital apprenticeship programmes for families on low incomes.

Cellular solutions for nationwide connectivity

● Moderator: Mr John Omo, Secretary-General, Africa Telecommunications Union



Ministers presented their challenges in realising universal broadband and last-mile connectivity issues. Cellular industry leaders addressed the concerns and explained their ICT solutions in addressing them.

Ministerial Statements of Caucus One

The Minister from the Republic of Ghana and a senior official representing the Minister from the Gambia provided the outline of the specific issues they faced in their respective countries. The key challenges discussed were:

- Excessive cost of broadband leading to its under-utilisation;
- 4G mobile cover limited mainly to urban areas;
- A requirement for more partnerships/collaborations to drive down prices and extend network coverage;
- The need to improve coverage was well recognised by the respective governments;
- Some subsidies are being provided (notably Ghana) based on revenue sharing model but incentives are still required to increase the take-up rate;
- Satellite solutions are available, but are very expensive and not affordable for local communities;
- Access to power supply is often an issue and funding not always available;



● ABOUT THE MODERATOR

John Omo is the Secretary-General of the African Telecommunications Union (ATU), the African Union's specialized agency for telecommunications and ICTs' development in Africa. He has held the position since January 2019 and was re-elected for a second 4-year term at the ATU Conference of Plenipotentiaries held in Algiers, Algeria in July 2022.

Mr Omo has 31 years of experience as a lawyer and has contributed immensely to the development of local and international policies, legislation, agreements, and treaties in all areas of public service life but mainly in the area of ICTs. Prior to his election as the Secretary-General of the Union, he worked with the Communications Authority of Kenya, Kenya's ICT regulator, where he provided leadership over the Authority's legal matters and strategies. Before that, he worked in the public/civil service.

Cellular solutions for nationwide connectivity

● Moderator: Mr John Omo, Secretary-General, Africa Telecommunications Union



Ursula Owusu-Ekuful MP is Ghana's Minister for Communications and Digitalisation and serves as the Member of Parliament for Ablekuma West Constituency within the Greater Accra Region in Ghana.

Mrs Owusu-Ekuful before she was appointed the Minister for Communications in 2017, was a Managing Consultant with N. U. Consult Legal — Governance and Gender Consultants — thereafter she served as the Chairperson of the Social Development Sector Committee — a committee responsible for the development of policy interventions for women, children, persons with disability, the aged and all social intervention policies and programs for the NPP 2016 manifesto.

She is a member of the ITU Broadband Commission, a member of the Ghana Bar Association, an Executive Member of the International Federation of Women Lawyers (FIDA) Ghana, and a member of the African Women Lawyers Association (AWLA), Ghana.

Minister Ursula Owusu-Ekuful Co-chaired the AU/EU Digital Economy Task Force launched in 2018 by the EU/AU.



Hon. Ousman Bah is the Minister of Communications and Digital Economy of The Gambia. Prior to his appointment as minister, Mr Bah was the CEO of Indian Institute of Hardware Technology (IIHT) Gambia.

Represented by Mr Lamin Camara, Permanent Secretary, Ministry of Communications and Digital Economy, Gambia

Mr Bah has over 20 years of corporate work experience at the Executive level in the Telecommunications and Fin-Tech industries. He served in Managerial and Executive positions and became Division Executive Leader of Heartland Payment Systems, Managing Director of Pure Energies, and Vice President of Bank of America Small Business.

Cellular solutions for nationwide connectivity

● Moderator: Mr John Omo, Secretary-General, Africa Telecommunications Union

Industry response

● Mr Raphael Mushanawani, Group Chief Executive Officer, NetOne Cellular (Pvt) Ltd, Zimbabwe

The industry response to the issues raised by the Ministers of Caucus One was provided by Mr Raphael Mushanawani of NetOne Cellular (Pvt) Ltd Zimbabwe, Mr John Morris, CEO Geeks without frontiers, and Ms Eleanor Sarpong of Director of Public Policy, Global Digital Inclusion Partnership.

The industry response highlighted the need for investment but pointed out that the lack of clear regulatory frameworks acts as a barrier. Ms Mushanawani pointed out that operating spectrum licences costs appeared to be high in Southern African region and highlighted the fact that in many cases the universal service funds remain unused with no clear strategy of how and when funds could be dispensed. Finally, she stressed that the CTO platform facilitates cross-pollination of ideas from different sector players across the globe, which improves telecommunication services in individual member states.

● Mr John Morris, Co-founder and Executive Director, Geeks without Frontiers

Mr John Morris mentioned the creation of the N50 Allianz, which was set up a year ago for the creation of templates of operations that can be used anywhere in the world to enhance the development of resilient and sustainable networks. He used Zambia as an example where the lack of power supply is a huge barrier to further broadband network rollouts. *"How do you release the power of exponential technology to benefit underserved areas and people?"* he asked.

● Ms Eleanor Sarpong, Director of Public Policy, Global Digital Inclusion Partnership

The lack of power supply was reiterated by Ms Eleanor Sarpong, who referred to the high incremental cost of putting additional resources in place. In Zimbabwe, solar energy is unable to meet connectivity needs and is supplemented by using batteries during the night. She summed up the key issue for the sector by asking how do you *"balance profitability of the business with the interests of consumers in an ever-evolving technology and communication sector"*.



Raphael Mushanawani has vast experience in ICT, both in industry as well as in academia. His industrial experience covers Information Technology with various

● ABOUT THE SPEAKER

organisations such as ICL, Samara Internet Services, Zimsurf, Telecel, and NetOne Cellular. Currently, he is the Group CEO of NetOne, having joined NetOne Cellular in 2015 as the Information Technology Director. He worked on a number of projects small and big in monetary value. These include Fintech (Mobile Financial Services), Billing System, Data Centres and Network Roll Out. He also has interests in Civil Identification Technology Systems, Internet of Things, Cyber Security and Smart Agriculture.



John Morris is the Co-founder & Executive Director of Geeks Without Frontiers/N50 Project. He is a former Barrister, Investment Banker and telecoms entrepreneur, he is

● ABOUT THE SPEAKER

the co-founder of non-profit Geeks without Frontiers and main initiative N50 Project focused on connectivity and community empowerment for the global unconnected.



Eleanor Sarpong is an experienced public policy and internet access thought leader, working at the intersection of internet, telecommunications and development

● ABOUT THE SPEAKER

with over 20 years' experience in the corporate, public and non-profit sectors.

Prior to joining GDIP, Eleanor was A4AI's Deputy Director & Policy Lead, where she directed policy and had oversight on A4AI's country engagements in Africa, Asia, and Latin America, working closely on digital inclusion. She's also worked with the European investment bank providing guidance for its policy in ICT lending to developing countries, the CTO and MTN in Ghana where she built and led the Government, Regulatory and public policy unit for five years.

The roll-out of 5G

- **Moderator: Mr George Michaelides, Commissioner of Communications, Office of the Commissioner for Electronic Communications and Postal Regulation, Cyprus**

Ministers presented 3G and 4G issues and the need to realise affordable universal broadband and last-mile connectivity issues. 5G Community leaders discussed the rollout of 5G infrastructure and networks and its coordination with the continued rollout of 3G and 4G service.

The afternoon session was chaired by Mr George Michaelides, who summed up the key topics of the afternoon discussions by posing four fundamental questions:

- What are the challenges we are facing in rolling out 5G?
- What are the digital divide issues in individual countries?
- How can we promote collaboration between states?
- How can we make things better?

Ministerial Statement of Caucus Two

The ministers of Caucus Two representing the United Republic of Tanzania, the Republic of Cameroon and a senior representative representing governments of the Republic of Kenya, outlined the challenges and issues that their respective countries struggle with.

Kenya's specific issues included poor coverage in the upper north region of the country. The estimated additional cost of investment to overcome a connectivity gap amounted to some \$2 billion. However, the business case was further hampered by the lack of supporting infrastructure such as power supply and roads. In addition, the 19% of the population that is connected cannot afford smart devices. Kenya is seeking private sector investment as it is trying to rollout 5G.

The Minister of Tanzania also referred to the high cost of devices as hampering the government's efforts in the digital transformation process. His government is also looking for new ways in which investment costs can be minimised.

The Minister of Cameroon acknowledged that issues similar to those expressed by the officials from Kenya and Tanzania applied to Cameroon, where the mobile sector has approximately 30% penetration and large parts of the country remain uncovered. The key priority for his government for the next three years is to enhance regulatory instruments and increase cybersecurity measures.



● ABOUT THE MODERATOR

George Michaelides has more than 20 years of experience in ICT, and currently heads the Cyprus national regulatory authority (OCEPR) for Electronic Communications and Postal Services as well as the regulatory authority for Network and Information Security (NIS) for Critical Information Infrastructures (CIIs). In addition, he is tasked to setup and operate the National CSIRT. His office is also the coordinating body for the implementation of Cyprus Cybersecurity Strategy.

As part of his regulatory duties Mr Michaelides is a Board member of the Body of European Regulators for Electronic Communications (BEREC), the European Mediterranean Regulators Group (EMERG) and the European Regulators Group for Postal Services (ERGP). For more than 14 years he has been working for multinational organisations holding various regional senior ICT roles, accountable for the provision of impeccable service through reorganisations, outsourcing and the implementation/ adoption of IT Best Practices.

The roll-out of 5G

- Moderator: Mr George Michaelides, Commissioner of Communications, Office of the Commissioner for Electronic Communications and Postal Regulation, Cyprus

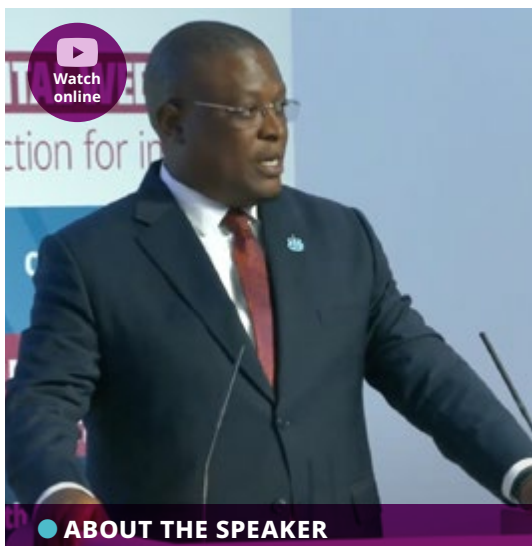


Hon. Ellud Owalo, Cabinet Secretary, Ministry of Information, Communications and the Digital Economy, Republic of Kenya

Represented by Mr Ezra Chiloba, Director-General, Communications Authority of Kenya

He worked as an Economist, Management Consultant and Strategy Expert between 2001–2022. Until his appointment as Cabinet Secretary, Mr Owalo was a practicing Managing Consultant at Eliud & Associates (E&A) Management Consultants, an International Management Consultancy and Training firm.

He is a Fellow of the Institute of Human Resource Management (FIHRM); Member of the Professional Trainers' Association of Kenya (PTAK); and a former Director/Council Member of the Kenya School of Government (KSG).



Hon. Nape Nnauye, Minister, Ministry of Information, Communications and Information Technology, United Republic of Tanzania

Hon. Nape Moses Nnauye is the United Republic of Tanzania's Minister for Information, Communication, and Information Technology and Member of Parliament for Mtama Constituency in Lindi Region.

He has actively served with Chama Cha Mapinduzi (CCM), the current ruling party in Tanzania and played various roles within CCM and the government, contributing to their political and economic growth. He is a member of the National Congress, National Executive Committee, and former National Secretary for Ideology and Publicity of CCM.



Hon. Minette Libon Li Likeng, Minister, Ministry of Post and Telecommunications, Republic of Cameroon

Hon. Libon was able to spearhead the drafting of the 2020 Digital Plan, which serves as a government roadmap to mobilise stakeholders to ensure Cameroon takes measures to develop the digital economy. In her capacity as the Minister in charge of the development of the ICT sector, she is at the forefront working to implement the Presidential Vision of increasing Cameroon's infrastructure and investment in the digital economy.

A Senior Customs Inspector by training, Hon. Libon spent the early part of her career in the Ministry of Finance where she occupied several positions, among which that of Managing Director of Customs for eight years.

The roll-out of 5G

- **Moderator: Mr George Michaelides, Commissioner of Communications, Office of the Commissioner for Electronic Communications and Postal Regulation, Cyprus**

Industry response

● Mr John Giusti, Chief Regulatory Officer, GSMA

The industry response was provided by Mr John Giusti from GSMA. He believed that the three critical areas for development in Africa centred around:

- Investment — making more investment in times of a recession where the average return on capital is 10%. Globally, it is imperative that digital ambitions align with business realities;
- Spectrum availability — most of Africa is covered by 3G networks in urban areas while globally most countries have 4G coverage and 12% of global connections are 5G;
- Usage — globally, 3.6 billion people are not connected to the internet but only 400 million are not covered by a wireless network. The reasons why 3.2 billion people do not use the available networks are affordability of devices and digital skills issues.

● Mr David Geary, General Counsel, Caribbean and Central America, Digicel Group

Mr David Geary of Digicel Group believed that all broadband companies should contribute to the capital costs of network rollouts. One of the solutions he proposed was the implementation of digital taxes and funds collected should be used for further broadband development.

● Ms Isabelle Mauro, Director-General, Global Satellite Operator's Association

Ms Isabelle Mauro, Director-General, Global Satellite Operator Association (GSOA) highlighted the importance of satellite networks in providing reach and resilience. Most of the connections that do exist are thanks to the satellite networks being able to provide backhaul services. Satellite networks are also critical in times of crisis and national tragedies and can be deployed quickly in any part of the globe, for example their use in Turkey following recent earthquakes. She urged governments to *"become champions of converged solutions"*. She also stressed the role of collaborations as *"no government or industry will succeed on their own"*.



● ABOUT THE SPEAKER

As Chief Regulatory Officer for the GSMA, Mr John Giusti is responsible for leading the organization's public policy and industry advocacy agenda with governments, regulators and international institutions worldwide. He also oversees the GSMA Foundation, that brings together mobile operators, donors and the international development community to harness the power of mobile to achieve social impact and to broaden digital and financial inclusion. Prior to joining the GSMA in 2011, Giusti spent 17 years at the US Federal Communications Commission (FCC), working in a variety of capacities. Most recently, he served as chief of staff and senior policy advisor to Commissioner Michael Copps. He also previously ran the FCC's International Bureau, where he managed the agency's relationships with its foreign counterparts and served as its chief negotiator at multilateral organisations.



● ABOUT THE SPEAKER

David Geary has over twenty years' experience in telecommunications, utilities regulation, antitrust law and European affairs. He was General Counsel of the Digicel Group where he worked in the Caribbean and the South Pacific for over a decade. He previously worked with Batelco, the incumbent operator in Bahrain, and practiced with major law firms in Brussels and Dublin. David is admitted as a solicitor in Ireland and in England & Wales and is a graduate of the European University Institute, Florence and the University of Limerick. He serves as a Focal Point to the Broadband Commission for Sustainable Development. He is the author of various publications and is a regular presenter on the regulation and taxation of the digital economy in emerging markets.



● ABOUT THE SPEAKER

Isabelle Mauro is Director General of GSOA, that represents the interests of 28 global and regional satellite operators. She reports directly to their Chief Executives. Under Isabelle's leadership, GSOA and its member CEOs lead the effort to showcase the benefits of satellite communications for a more inclusive and secure society - vital to bridging the world's digital divide, achieving the UN's Sustainable Development Goals and realizing the 5G ecosystem. Isabelle has 25 years' experience in the Telecoms and Technology sector, starting at the GSMA, where she was responsible for government and international Affairs. In 2015 she moved to New York to join the World Economic Forum as Head of the Information, Communications and Technology Industries, managing the portfolio for the top list of Tech companies globally and leading initiatives on inclusive and sustainable digital transformation. Isabelle is Chair of the High-Level Advisory Board of the DigitalGoesGreen Foundation. She also sits on the Advisory Board of Women in Tech and is a member of the UNESCO Advisory Group for the Declaration on Connectivity for Education.

The roll-out of 5G

- **Moderator: Mr George Michaelides, Commissioner of Communications, Office of the Commissioner for Electronic Communications and Postal Regulation, Cyprus**



Questions and answers

During the Q&A session, questions raised by representatives of Mozambique, Trinidad and Tobago, Botswana and Nigeria were varied and included:

- Is 5G profitable? From a 5G perspective, is fixed and mobile access merged?
- What should be the approach to digital taxes?
- Who should pay for the significant increase in internet traffic?
- You referred to open and interoperable technology. Could you expand on these opportunities?
- When will Next Generation Low Earth Orbit (LEO) satellites be available?
- We have coverage but affordability is the issue. What can we do to bring the cost of devices down? Could the production of devices be moved to Africa?

The industry provided responses to individual questions and highlighted that:

- The rollout of 5G is unlikely to be a priority for most governments and current demand is mainly from manufacturing companies based in developed countries;
- The mobile industry believes that content providers should pay for further broadband rollouts as their activities cause a significant increase in internet traffic;
- The open and interoperable technology, including Open Ran, would release the service provider from having to rely on a large single supplier and to help reduce costs;
- The New Generation LEO will have better latency;
- In terms of bringing the cost of devices down, the speaker also recommended cooperation with the vendor and creative ways of financing it.

Wi-Fi possibilities

● **Moderator: Mr Chris Woolford, Director, International Spectrum Policy, Ofcom, United Kingdom**

The final session of the first day of the Ministerial Alliance was chaired by Chris Woolford, Director, International Spectrum Policy, Ofcom, United Kingdom. Mr Woolford mentioned the importance of wi-fi connectivity particularly during COVID lockdowns, ensuring there is enough available connectivity to sustain remote working, social and leisure activities, such as gaming.

Regulators must keep up with developments to ensure there is enough available Spectrum. The evolution of wi-fi is a priority as we move towards the next World radiocommunication conferences (WRC).

Ministerial Statement of Caucus Three

The priority for the Botswana government is to ensure connectivity to all residents and all areas by 2025 using 4G technology. To that end they are considering releasing more radio spectrum and providing Wi-Fi connectivity to all public facilities in local communities. Like other parts of Africa, the affordability of internet access is an issue, combined with the high cost per capita, as Botswana is sparsely populated, and securing power supply for network connectivity is challenging. Finally, Botswana needs to work on improving digital skills among some parts of its population to ensure no-one is left behind.

The Minister for the Kingdom of Lesotho explained that 2% of the population is covered by Wi-Fi access and the initial cost of setting up Wi-Fi infrastructure is high. Affordability and apparent lack of demand are also an issue. This situation is made even more difficult due to the fact that most rural areas are hard to reach as they are mostly mountainous with limited access to electricity. The government has carried out robust educational campaigns to ensure available networks are being used and are currently passing cybersecurity laws to protect their citizens.

The Minister for Mozambique explained that his country is prone to climatic disasters (cyclones and storms) and therefore the priority for Mozambique is to ensure networks are resilient and able to reach highly dispersed communities. Mozambique is currently exploring a satellite internet solution as well as Wi-Fi access.

The Minister for South Africa explained that his country also suffered from digital skills shortage and affordability issues. To this end, South Africa is embarking on a market enquiry into the cost of communications. Currently 77% of the population has access to the internet and the government's ambition is to increase this penetration to 80%. They have also designed the Easy Connect Broadband programme as a result of which:

- 300 communities will have Wi-Fi stations;
- To help connect remote communities, the State will provide backhaul;
- Release of additional spectrum;
- Rolling programme for digital skills.



● ABOUT THE MODERATOR

Chris Woolford is Ofcom's Director of International Spectrum Policy where his responsibilities cover the UK's international spectrum interests, especially in relation to the ITU, CEPT and EU. Chris has closely engaged for the UK on a number of key European regulatory initiatives in the field of electronic communications and has participated for many years in various European spectrum groups.

Chris also leads UK engagement with the ITU and led the UK delegations to WRC-19, WRC-15 and WRC-12. In 2019 Chris took on the role of Chairman of the Electronic Communications Committee (ECC) of CEPT and was re-elected for a second term in 2022. He is also a Director of the International Institute of Communications. Chris has more than 20 years' experience of working on spectrum and communications regulation, both at Ofcom and its predecessor (Oftel).

The Minister for the Republic of Zimbabwe outlined his government strategy that includes fourteen priorities that centred around four broad areas:

- Digital economy;
- Data protection;
- 50 new base stations;
- Partnerships for investment.

Zimbabwe's key concerns were similar to those expressed by the ministers of other jurisdictions and included access to power supply, cybersecurity risks, topology issues and the high cost of access.

Wi-Fi possibilities

● Moderator: Mr Chris Woolford, Director, International Spectrum Policy, Ofcom, United Kingdom



Honourable Thulagano Merafe Segokgo is the Minister of Communications, Knowledge and Technology of the Republic of Botswana. He previously served as the Minister of Transport and Communications from November 2019 to April 2022.

Hon. Segokgo is among the highly knowledgeable and skilled citizens in the ICT space. He is armed with a wealth of experience from the private sector where he has been an ICT consultant specialising in architecture, design, development and integration of software solutions.

He is currently the Chairperson of the Cabinet Task Team with a Strategic Thrust to propel the country into a high-income economy. Minister Segokgo has served on several Boards and Committees including, being a Board member of Immigration Sector- Specific Board and a member of Ministry of Infrastructure, Science and Technology Sub High Level Consultative Committee.



Hon. Nthathi Moorosi, Minister, Ministry of Information, Communications, Science, Technology and Innovation, Kingdom of Lesotho

Hon. Nthathi Moorosi is a passionate, self-driven Communications Specialist. She has a vast experience of over 15 years in development and corporate communications, public outreach, public relations, marketing, editing, events management, training, and lecturing. Throughout the 15 years that she worked in the communications field, she has demonstrated a remarkable ability to adapt and apply her knowledge and skills to any field of development and business management.



Hon. Dr Mateus Magala took office as Minister of Transport and Communications, Republic of Mozambique in June 2022.

As Minister of Transport and Communications he provides strategic leadership at one of the most complex central government agencies in Mozambique.

Dr Mateus Magala was previously Vice President for Human Resources and Corporate Services at the African Development Bank.

His accomplishments during his tenure at the African Development Bank include revamping the staff regulations and rules, overhauling the Bank's IT infrastructure and ecosystem, enhancing corporate cybersecurity, reinstating the Executive Performance Management system, and extending the staff retirement age.

Wi-Fi possibilities

● Moderator: Mr Chris Woolford, Director, International Spectrum Policy, Ofcom, United Kingdom



● ABOUT THE SPEAKER

Hon. Mohlopi Phillemon Mapulane, Deputy Minister, Department of Communications and Digital Technologies, Republic of South Africa.

Mr Mapulane is the Deputy Minister of Communications and Digital Technologies. He previously served as chairperson of various portfolios in the Fifth and Sixth Parliament.

Mr Mapulane was born in 1972, in the North West Province. From 2007 to 2009, he held the position of Municipal Manager at the Madibeng local municipality in Brits, North West. He also previously served as MEC for the North West Provincial Legislature from 2010 to 2014 and as Treasurer of the ANC Provincial Executive Committee. He has been a Member of Parliament since 2014.



● ABOUT THE SPEAKER

Hon. Jenfan Muswere, Minister, Ministry of ICT, Postal and Courier Services, Republic of Zimbabwe

Hon. Jenfan Muswere joined Zanu PF in 1995 and was once the Provincial Secretary for Indigenization. In 2018 he was elected to Youth Secretary, Finance Youth League up to date of Zanu PF. In 2018 he was appointed Deputy Minister of ICT Postal and Courier Services, a post he held until 08 November, 2019 when he was promoted to be Minister of ICT, Postal and Courier Services after Kazembe Kazembe was reassigned to the Ministry of Home Affairs and Cultural Heritage

He is the current Member of Parliament for Makoni West Constituency in the National Assembly.



Wi-Fi possibilities

● **Moderator: Mr Chris Woolford, Director, International Spectrum Policy, Ofcom, United Kingdom**

Industry response

- **Mr Dave Wright, Head of Global Policy, Hewlett Packard Enterprise**
- **Ms Aline Mourao, Global Spectrum Policy Manager, Meta**
- **Mr Frank McCosker, Senior Advisor, Microsoft Airband Initiative**

The Industry was represented by Mr Dave Wright, Hewlett Packard Enterprise, Ms Aline Mauro, Global Spectrum Policy Manager, Meta and Mr Frank McCosker, Senior Advisor, Airband Initiative, and made the following points:

- Unlicensed technology and unlicensed spectrum play a key role in increasing transaction affordability for communications;
- 70% of traffic travels over fixed connections and 92% of this traffic ends up travelling over Wi-Fi spectrum;
- Wi-Fi technology is unmatched for its ubiquity and affordability;
- Wi-Fi is key to economic growth and societal development by providing connectivity to hard-to-reach areas;
- Future applications will use Wi-Fi, in particular head sets and wearables, although these will remain relatively expensive in the near future. Virtual Reality devices are also becoming available, but will require next generation Wi-Fi;
- The Airband initiative was started in Kenya. It targets to create a safe, pay-as-you-go mobile phones. The ambition is now to roll out broadband in all towns in South Africa.



● ABOUT THE SPEAKER

sharing frameworks - recognising the vital role that all spectrum management regimes play in our increasingly wireless world.

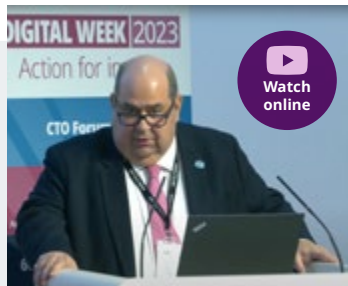
In addition to his role with HPE, Dave participates in a number of SDOs and ITOs and is currently the President of the OnGo Alliance.

Dave began his odyssey in networking/telecom/mobile/wireless in the early '90s while serving in the US Marine Corps. He then transitioned to the commercial sector as a systems engineer. In the intervening years he has spent much of his time in Technical Marketing, Standards Development, and Policy Advocacy.



● ABOUT THE SPEAKER

the efficient use of the spectrum. Before that, she was a Public Policy Manager in Connectivity & Access Policy team in LATAM & the Caribbean, where she focused on connectivity policy programs in the region. Prior to joining Meta, Aline worked as Legal Counsel and Regulatory Lead for major telecommunication companies in Brazil, responsible for fixed, mobile, broadband and TV regulations before National Regulatory Authorities.



● ABOUT THE SPEAKER

more affordable for the ICT ecosystem in African countries.

Frank spent 20 years at Microsoft in various roles, his final role was as General Manager of Affordable Access and Smart Financing in Microsoft's 4Afrika Initiatives. He was responsible for designing and implementing affordable access projects in many countries on the African continent utilizing new technologies including TV White Spaces and dynamic spectrum allocation.

Wi-Fi possibilities

● Moderator: Mr Chris Woolford, Director, International Spectrum Policy, Ofcom, United Kingdom



Questions and answers

During the Q&A session, the representatives of Lesotho, Malawi, Kenya asked the following questions:

- Can virtual reality (VR) be used for educational purposes?
- How does the Airband project operate and can you use TV White Space for the last mile?
- What is the sustainable model for free Wi-Fi?

The industry responded that:

- VR tools are already being used in academic institutions;
- Practical issues with the use of TV White Spaces concern access to equipment and lack of economies of scale for large vendors to make the necessary investment;
- The Airband project represents a proof of concept, as a commercial venture, based on a revenue-shared model;
- An example of private—public partnership in Mexico City was discussed where it was used to provide backhaul while private operators maintained access points;
- Additional use of Wi-Fi access points relates to disaster recovery situations as they are easy to put up providing a quick solution to urgent connectivity situations (the Turkey earthquake example was quoted).



Summary and key points

● Professor Tim Unwin, Master of Ceremonies and Chairholder, UNESCO ICT4D

Best practice or good practice? Last mile or first mile?

Professor Tim Unwin summarised the key points of the day and highlighted the complexities and interrelation of various aspects of a digital transformation strategy:

- It is now clear that the private sector alone is unlikely to fund the investment required to reach the most marginalised. Governments have to commit to serve everyone in their societies, particularly the most vulnerable;
- The impact of private and public partnerships is positive, and CTO has a role to play in brokering such agreements;
- The actions we must take will have significant impact on the lives of the most marginalised by bridging the digital divide and ensuring we continue to be governed by the equality and the equity principles;
- CTO has the knowledge of what has worked and what has not worked in the past, and can support CTO member states in their efforts to achieve specific goals;
- Connectivity is not just about access, but it encompasses content and service provision;
- It is clear we need affordable solutions that will provide a reasonable return on the capital invested, whether it is private or public. The possibility of new business sharing models needs to be explored;
- Cooperation with economically co-dependent sectors is the key;
- Economic development is dependent upon the digital literacy of its people. Resources need to put in place to ensure the relevant training is available to the widest and most remotely located communities. *People are the first mile in the digital journey.*



COMMONWEALTH
TELECOMMUNICATIONS
ORGANISATION

Ministerial Alliance for Digital Nations

Addressing ICT Issues for
Commonwealth Transformation

22 February 2023 • Summary

- Bringing space to solve earth problems
- New-generation satellites and governments as key markets

Welcome



ABOUT THE SPEAKER

Professor Tim Unwin is UNESCO Chair in ICT4D, and Emeritus Professor of Geography at Royal Holloway, University of London. He is also an Honorary Professor at Lanzhou University in China.

Master of Ceremonies and Chairholder opening remarks

● Professor Tim Unwin, Master of Ceremonies and Chairholder, UNESCO ICT4D

Professor Tim Unwin opened the second day of the Ministerial Alliance by posing three questions to the audience and he referred to these in his closing remarks.

- What are the ways in which the members of CTO can work together?
- How can CTO support its members in achieving the digital transformation objectives?
- What are the practical outputs that the representatives of the member states expect to achieve after the Digital Week that they can implement in their countries?

SESSION FOUR

Satellites — connecting the world

● Moderator: Ms Aarti Holla-Maini, Former Secretary-General, GSOA

Ministers presented concerns and challenges for reaching remote and isolated rural communities of remote rural communities. Representatives from the satellite industry presented their solutions for addressing challenges identified and discussed the importance of Satellite technologies in connecting the unconnected.

The first session of the day was moderated by Ms Aarti Holla-Maini, former Secretary-General of GSOA, who expressed her view that the satellite industry is most suited to providing last mile connectivity and so help to accelerate the digital transformation.

Ms Holla-Maini said in the last two years, triggered by the pandemic, we have seen the most accelerated use of satellite solutions to connect the unconnected.

Ms Holla-Maini is confident that as long as governance continues to promise complete connectivity which they've been encouraged to do in the wake of the pandemic this will continue to be the case in years to come.



Satellites — connecting the world

● Moderator: Ms Aarti Holla-Maini, Former Secretary-General, GSOA

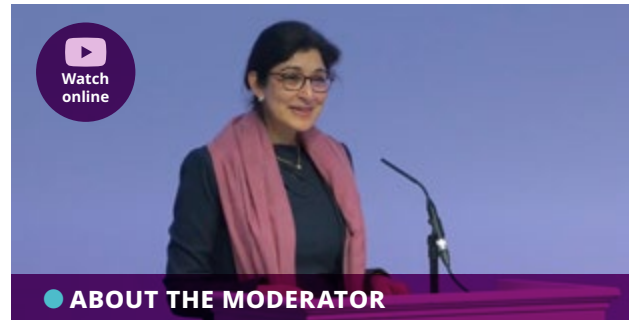
Ministerial Statement of Caucus Four

The Ministers of Caucus Four, representing the Republic of Guyana, Montserrat, Independent State of Samoa, the Republic of Trinidad and Tobago and Turks and Caicos Islands provided an overview of the key issues in their own jurisdictions.

The representative for Guyana acknowledged that many of the challenges that his country faces in order to bridge the digital divide are common across all CTO member states. What is common across these jurisdictions is their desire to find solutions to make a difference for economic prosperity where ICT is fundamental to their survival. The impact through actions must benefit the disadvantaged and can be achieved if we all have the political will and are able to move barriers. In Guyana, not enough investment has been made, however, the Minister was confident that their efforts to improve will continue. The investment case is made more difficult since 11% of the population live in remote, geographically dispersed villages covering 68% of Guyana's landmass. Most of the villages are either underserved or not served at all. The government is currently working to connect 200 villages. Due to high transportation costs the terrestrial solutions are not viable and satellite remains the only option, but there are bottlenecks due to the limitation of bandwidth. Finally, Guyana lacks the capacity to execute the governmental policies as regulators have gaps in skilled resources. Guyana is very keen to work with CTO and looks to sharing best practices to help them achieve their goals. Guyana is looking to the satellite industry for introducing more flexible, partnership or revenue sharing business models to make bandwidth more affordable to their citizens.

The Minister from Montserrat confirmed that his government's aim is to rollout fibre to the premises everywhere by 2030 and was going to subsidise the cost of connections. The challenge for Montserrat is on the retail side, namely the government needs to understand how digital services will be used by its citizens. Additional issues centre around the digital skill shortage and attracting experts to work on the island. The Montserrat government anticipates that the satellite industry will continue to play a role but mostly as a backup solution.

The Minister for Samoa highlighted that small economies often experience specific challenges due to their size, topography, and shortage of digital skills. Despite the use of new tools and regulatory frameworks, some challenges remain, including affordability. The Minister's view was that in order to increase the take-up rate, access to the internet needs to be free through government subsidies. To this end, the government is connecting 95% of the schools on the island. The other urgent and significant issue is cybersecurity. Finally, the minister confirmed that his government is committed to ensure social coherence and harmony by using information technology.



● ABOUT THE MODERATOR

Ms Aarti Holla-Maini was Secretary General of the GSOA (formerly ESOA) for 18 years from 2004-2022.

Under Aarti's leadership, GSOA & its member CEOs lead the effort to showcase the benefits of satellite communications for a more inclusive and secure society — vital to bridging the world's digital divide, achieving the UN's Sustainable Development Goals and realizing the 5G ecosystem.

Aarti has 25 years' experience in the aerospace industry, starting at Daimler-Benz Aerospace/EADS (now Airbus) in Germany. In 2000, she moved to Brussels, representing Airbus interests in the European satellite navigation program: Galileo.

The Minister for Trinidad and Tobago referred to the key three priorities that his government have:

- Availability to all, increase in available capacity and first mile technology, back-up systems to be used in critical situations;
- Affordability is still a problem despite 11 broadband providers operating in Trinidad and Tobago;
- Useability and enhancing digital literacy, and an increase in security to protect from harm.

The Minister for Turks and Caicos Islands pointed out that as his country is geographically dispersed over 40 islands and, therefore, the digital connectivity is a huge challenge.

The government goal is to install fibre links across the entire 40 islands, but in the first instance the 8 main islands will be connected. The use of fibre technology reduces the risk of lost connections during natural disasters, such as tornadoes and hurricanes. However, this project has been going on for some time now and more needs to be done. In addition, the island has licensed a satellite operator to provide connections for the shipping industry.

Satellites — connecting the world

● Moderator: Ms Aarti Holla-Maini, Former Secretary-General, GSOA



Hon. Warren Kwame Eusi McCoy, Minister,
Office of the Prime Minister, Republic of Guyana

Hon. Kwame McCoy became a parliamentarian in 2020 and became a Minister in within the Office of the Prime Minister the same year.

Hon. McCoy started his career as a reporter with the Guyana Broadcasting Corporation and later served at the Ministry of Information and the Georgetown Public Hospital Corporation.

He also worked as Head of the Press and Publicity Unit at the Office of the President under the Bharrat Jagdeo presidency.



Hon. Samuel Joseph, Minister, Ministry of
Communications, Works, Labour & Energy,
Montserrat

Honourable Samuel Joseph is a politician and the current Deputy Premier of Montserrat. He was re-elected in the 2019 election and appointed Deputy Premier and Minister of Communications, Works, Energy, and Labour on 21 November 2019.

After graduating from university, believing that Montserratians could leverage their ICT skills to draw business from the global community, Dr Joseph along with his brother Daniel Joseph and Manish Valechha, established Montserrat's first software company, Lavabits. He later continued to invest in the development of ICT skills and businesses in Montserrat as a member of the National ICT Committee and as a teacher and mentor to the Young Enterprise business startup Dropkik Developers. In addition, he has served as a member of the committee responsible for organising Montserrat's first national science fair.



Hon. Toelupe Poumulinuku Onesemo, Minister,
Ministry of Communication and Information
Technology, Independent State of Samoa

Hon. Toelupe Poumulinuku Onesemo is the Minister for Communications and Information Technology. He represents the Constituency of Falealili No. 1 and this is his first Parliamentary term.

Hon. Toelupe has over 15 years of work experience both in Government, private sector and the community. He served recently as the Chief Executive Officer of the Ministry of Works, Transport and Infrastructure and was an Assistant Chief Executive Officer for the Planning and Urban Management Division (PUMA) under the Ministry of Natural Resources and Environment.

Satellites — connecting the world

● Moderator: Ms Aarti Holla-Maini, Former Secretary-General, GSOA

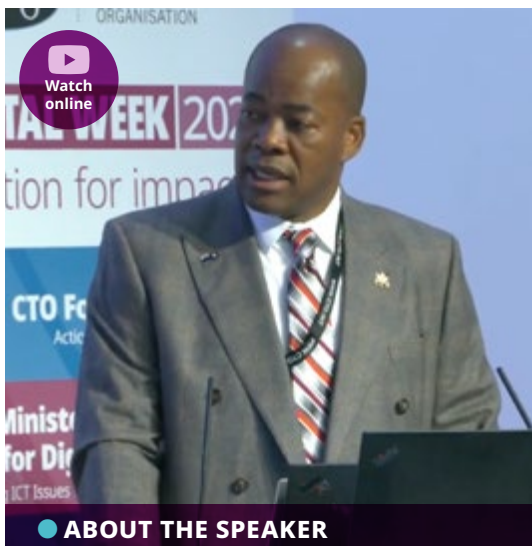


Senator the Hon. Hassel Bacchus, Minister, Ministry of Digital Transformation, Republic of Trinidad and Tobago

Senator the Honourable Hassel Larry Bacchus was appointed as the Minister of Digital Transformation in July 2021, after serving previously as Minister in the Ministry of Public Administration and Digital Transformation from August 19, 2020.

Minister Bacchus has had a 30-year professional career in the field of Telecommunications. Having begun as a technician, he rose rapidly through the ranks to become Chief Technology Officer (CTO) of the Telecommunications Services of Trinidad and Tobago Limited (TSTT). Viewed as an experienced leader and visionary in the technology arena, he is often called upon to lend his expertise and insight to advance the development of practitioners in the field.

● ABOUT THE SPEAKER



Hon. Ottis Morris, Minister, Ministry of Home Affairs, Transportation and Communication, Turks and Caicos Island

Hon. Otis Chuck Morris is the Minister of Home Affairs, Transportation, Broadcasting, Energy and Utilities and Telecommunication Commission and a Member of Parliament in the Turks and Caicos Islands (TCI).

After thirty plus years in the Construction and Shipping Industry, Hon. Morris joined parliament in February 2021. In his capacity as Minister, Hon. Morris is working to advance renewable and clean energy initiatives so that it aligns with the UN sustainable development goals, achieve the country's sustainable energy targets and transform the energy sector in the TCI to ensure a sustainable energy future.

● ABOUT THE SPEAKER



Satellites — connecting the world

● Moderator: Ms Aarti Holla-Maini, Former Secretary-General, GSOA

Questions and answers



In response to a couple of questions from the audience, the Minister from Turks and Caicos Islands explained the two reasons for delays in laying out fibre. The first is financial, i.e. high capital outlay of fibre solutions, the other is historic, as the technology and cables (subsea) are owned by industry not the government. In response to a question about likely user appetite for 5G (or 6G) service, the Minister confirmed that the business case was unclear, and the necessary funding was not forthcoming. The most important issue for the government is to ensure that the final connectivity gap is filled by using the most cost-efficient and effective technology that is available, and this will depend to a large extent on national and geographic circumstances



Satellites — connecting the world

● Moderator: Ms Aarti Holla-Maini, Former Secretary-General, GSOA

Industry response

● Mr Christopher Casarrubias, Head of Regulatory & Government Affairs (Latin America and the Caribbean), OneWeb

The industry response was delivered by Mr Christopher Casarrubias of OneWeb, who outlined the role of LEO satellite constellations in digital connectivity. OneWeb, in cooperation with Airbus, manufacture their own satellites. Their priority is to increase demand and traffic and, on the supply side, the ground infrastructure and user terminals to offer more flexible business models. The satellite market is predicted to grow to \$50 billion by 2040. The drivers of growth are 4G and 5G network expansion, the shipping industry, and new products such as Earth Exploration and crop monitoring systems. Improved latency is the major benefit of the new generation LEO satellites.

● Mr Mario Neri, Director, spectrum Strategy & Innovation, Telesat

Mr Mario Neri of Telesat explained the role of Geostationary satellite (GEO) links. Telesat has a fleet of 15 Geostationary satellites (GEO). Although there is some demand for new and different services, a service direct to end-user is presently not sustainable. The GEO constellation serves the maritime sector, government sector, and as backhaul provider for mobile network operators (MNOs). The other key feature is to provide security, which other systems cannot, particularly for the maritime industry.

● Ms Amy Mehlman, Vice-President, Global Affairs and Stakeholder Relations, E-Space Inc

Ms Amy Mehlman of E-Space Inc. explained that her company focusses now on “connected things” in IOT space.

E-space is a company with products that use LEO capacity to deliver benefits to health and agriculture. The aim is to use the satellite connectivity to help governments establish affordable, efficient and secure digital infrastructure.



● ABOUT THE SPEAKER

In 2021, Christopher joined OneWeb as Head of Regulatory and Government Affairs for Latin America and the Caribbean where he is responsible for all regulatory and public policy issues.

Prior to this, Christopher served as Head of Emerging Markets at Access Partnership, the world's leading technology policy consultancy. Prior to joining Access Partnership, Christopher worked in the Mexican government as an advisor to the Secretary of Communications and Transportation and to the President of the Economic Competition Commission.



● ABOUT THE SPEAKER

Mario Neri is responsible for directing Telesat's strategy and innovation for the use of spectrum and orbital resources. He leads on policies related to the sustainable use of space. In his previous role as Director, International Coordination, Mario was responsible for securing the spectrum and orbital resources for Telesat's Low Earth Orbit satellite constellation. Mario has a leading role on satellite issues at the ITU where he chairs WRC-23 Agenda Item 1.16 related to earth stations in motion communicating with non-GSO systems.

He has more than 15 years of experience in the satellite industry. Before Telesat, Mario led a team at UK communications regulator Ofcom. Mario joined Ofcom after working for Eutelsat and Inmarsat.



● ABOUT THE SPEAKER

Ms Amy Mehlman is Vice President, Global Affairs and Stakeholder Relations, at E-Space Inc she is responsible for leading collaboration with international and domestic governments, partners and non-governmental organisations (NGOs) to secure market access and establish international policies around space sustainability.

Satellites — connecting the world

● Moderator: Ms Aarti Holla-Maini, Former Secretary-General, GSOA

Questions and answers



The Q&A session focussed on the “affordability” aspect of using satellite technology. The industry responded that most of the high-cost technology will not be available to end users. Rather, the demand comes from large corporations, governments and the mobile industry. The industry also wants to focus on the regulatory environment, including the most appropriate spectrum policy for the satellite industry, and noted the importance of the forthcoming World Radio Conference (WRC23) in Dubai (specifically point 1.16 of the agenda relating to geostationary motion).



Emerging technologies

● Moderator: Mr Lacina Koné, Director-General/CEO, Smart Africa Secretariat

Ministers presented concerns and challenges for acquiring emerging technologies for digital governments and closing the digital divide. Industry leaders explained the potential of their technologies to accelerate digital transformation.

The morning session was followed by discussions and presentations on emerging technologies. The Ministers of the Republic of Zimbabwe, British Virgin Islands, Namibia and senior officials from the Republics of Nigeria and India outlined practical difficulties experienced when acquiring emerging technologies.

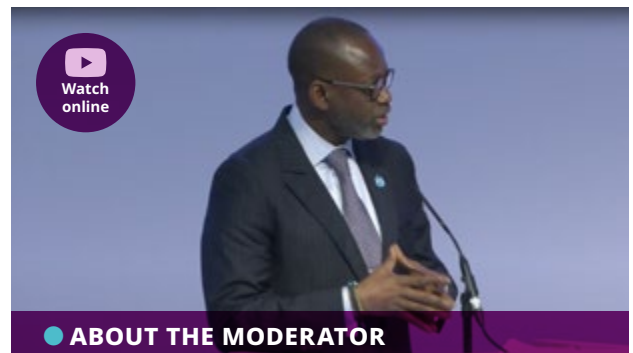
Ministerial Statement of Caucus Five

The Minister for BVI stressed the fact that the frameworks currently used by various countries need to be adapted to an individual country's specific circumstances and their implementation within BVI have not always met expectations as BVI is a very small country (only 35,000 people) with only 20,000 unique subscribers. Despite lacking in economies of scale, the Minister argued that operators should be able to afford to expand and update their networks to new technology as their financials showed some healthy margins. The minister also argued in favour of net neutrality, and for all citizens to have equal access to all technologies. Finally, he confirmed that BVI are currently conducting a communications market assessment and network audit.

The Minister representing the government of Malawi outlined some of the key difficulties his country is facing such as:

- High cost of data;
- Poor access to energy sources;
- 80% of the population living in rural areas;
- Structure of the communication market — where two operators (licences) have 98% of the market;
- Lack of technical and digital skills;
- Expectations that community networks will help to bridge the connectivity gap and access at schools will improve digital literacy;
- Legislation required to make markets work better needs updating.

The Minister for Namibia explained that Namibia has just over 2.5 million citizens, of which 43% reside in towns. The large proportion of the country is represented by desert lands. 1.3 million people have access to the internet and although 87% of the population own a mobile phone, only 47% actually use it for internet access. Smartphones are generally not affordable.



Lacina Koné, is the Director General and Chief Executive Officer of Smart Africa having joined the organisation in March 2019. He oversees the process of defining and advancing Africa's digital agenda and has overseen the development of continental blueprints for Africa on Digital Identity, ICT Start-ups and Innovation Ecosystems, Smart Villages and the definition of Africa's Smart Broadband 2025 Strategy in addition to advancing additional key continental initiatives. Mr Koné was the advisor to the Prime Minister of the Republic of Côte d'Ivoire (2017–2018), in charge of Digital Transformation and Public Reforms, and was also the advisor to the President from 2011–2017. Mr Koné is a professional of ICT industry with over 25 years' experience in the telecommunications, satellite and intelligent transport system, holding several high level technical and managerial positions with prestigious firms such as Booz Allen Hamilton and Intelsat.

The Minister for Nigeria was unable to attend but his assistant delivered his talk and pointed to the specific issues for Nigeria:

- Challenges of effective regulation;
- Fibre rollout hampered by right of way issues;
- Multiple regulations and taxation rules that need to be streamlined;
- Vandalism of digital infrastructure has led the government to define in law this to be *critical national infrastructure*;
- Innovation is being driven by new National Centre for Artificial Intelligence and Robotics;
- Practical issues with power supply and extra generators are needed for connectivity.

Emerging technologies

● **Moderator: Mr Lacina Koné, Director-General/CEO, Smart Africa Secretariat**

Mr Premjit Lal representing India, the world's most populous country, explained that their main challenge is one of scale and broadband speeds. India is the biggest data collection centre in the world, however margins are low and investment in connectivity and new technologies is problematic. India estimates that \$100 billion is required for optical towers, spectrum releases, and other technology and equipment. However, on the positive side, the Universal Service Obligation Fund helped ensure that India's connectivity was quite good. India's strategic objectives were set out as:

- Provision of broadband for all;
- Creating four million additional jobs in the digital sector
- Enhancing sector contribution to Gross Domestic Product (GDP) from 6% in 2017 to 8%;
- Propelling India to the Top 50 Nations in the ICT Development Index of ITU;
- Enhancing contribution to global value chains;
- Ensuring digital sovereignty.



● **ABOUT THE SPEAKER**

Hon. Kye Rymer, Minister, Ministry of Communications and Works, Virgin Islands

Hon. Kye Rymer is the Deputy Premier of the Virgin Islands (British) and Minister of Communication & Works and the District 5 Representative.

Hon. Kye M. Rymer was elected to Parliament as a member of the Virgin Islands Party in February 2019. He began his career in the Ministry of Communication & Works, and worked as a Deputy Commissioner in the BVI Department of Motor Vehicles before becoming Commissioner in 2014.



● **ABOUT THE SPEAKER**

Hon. Moses Kunkuyu, Minister, Ministry of Information and Digitalization, Republic of Malawi

Hon. Moses Kunkuyu currently serves as the Ministry of Information and Digitalization taking office in February 2023. He is a Member of Parliament in the National Assembly of Malawi. He has previously held the position of Minister of Information and Civic Education between 2012-2014. He is also the Advisor to The President on Traditional Affairs since 2020.



● **ABOUT THE SPEAKER**

H.E. Dr Peya Mushelenga, Minister, Ministry of Information and Communication Technology, Republic of Namibia

In March 2020, H.E. Dr Mushelenga was appointed Minister of Information and Communication Technology.

Dr Mushelenga has accumulated 12 university degrees, before his political career he worked as teacher at Nehale Senior Secondary School in 1996. He then worked for Government until 1998, and thereafter joined NamPower.

He became a member of Parliament of Namibia in 2005. In 2010, he was appointed Deputy Minister of Foreign Affairs. He was promoted to Minister of Urban and Rural Development in February 2018.

Emerging technologies

● Moderator: Mr Lacina Koné, Director-General/CEO, Smart Africa Secretariat



● ABOUT THE SPEAKER

H.E. Professor Isa Ali Ibrahim Pantami, Minister, Ministry of Communications and Digital Economy, Republic of Nigeria

Represented by Ms Uwa Suleiman, Spokesperson, Federal Ministry of Communications and Digital Economy, Nigeria

Professor Isa Ali Ibrahim (born in Pantami, Gombe State, Nigeria), PhD, FCIIS, FBCS, FNCS, is the Minister of Communications and the first ever Minister of Digital Economy of the Federal Republic of Nigeria since 2019. He was appointed by the United Nations through the International Telecommunication Union (ITU) as Chairman of the World Summit on Information Society (WSIS) Forum for the year 2022. He is also a Council Member of the ITU since 2019 and got re-elected in 2022.

Prior to his appointment as Minister in 2019, he was the Chief Information Technology Officer of Nigeria and Director General (DG)/ Chief Executive Officer (CEO) of the National Information Technology Development Agency (NITDA), which has a strong mandate on research, regulation, and development of information technology. Professor Ibrahim is the Chief Digital Officer (CDO) of the Federation, based on the National Policy for Virtual Engagements in the Federal Public Institutions.



● ABOUT THE SPEAKER

Hon. Ashwini Vaishnaw, Minister of Railways, Communications and Electronics & Information Technology, Department of Telecommunications, Republic of India

Represented by Mr Premjit Lal, Deputy Director General (Int. Relations), Department of Telecommunications, India

Shri Ashwini Vaishnaw is currently the Union Cabinet Minister for Railways, Communications, Electronics & IT. He was elected unopposed to the Rajya Sabha (Upper House) in June 2019. He represents the Eastern State of Odisha. Shri Vaishnaw brings blend of experience in government entrepreneurship and public services.

In his early career as an IAS officer, Shri Vaishnaw earned the reputation of executing development programmes with active participation of people at the grassroots. In Prime Minister Vajpayee's Office, Shri Vaishnaw focused on developing infrastructure frameworks in public-private partnerships. In his corporate and entrepreneurial journey, Shri Vaishnaw has worked in the railway, urban infrastructure, and manufacturing sectors.

Emerging technologies

● **Moderator: Mr Lacina Koné, Director-General/CEO, Smart Africa Secretariat**

Industry response

● **Ms Nina Beebe, Senior Advisor International Regulatory Affairs, Project Kuiper, Amazon**

Ms Beebe explained that the key criteria for the satellite industry to focus on were:

- Performance / Scale / Impact

Currently, issues with broadband satellite latency across the world are being addressed by new technology. The technology is referred to as Next Generation LEO or Non-Geostationary-Satellite Orbit (NGSO). NGSO constellations can increase satellite internet capacity and provide a service more evenly across the planet. \$10 billion investment has already been made and new services will be launched later this year targeting both small and large businesses, including providing backhaul solution to mobile network operators. The issue of affordability will be addressed by providing solutions that will offer options geared to the local environment. Products will also provide full security. However, Ms Beebe concluded her talk by stressing that no single system will solve all connectivity problems, and multiple technologies are needed to reduce the digital divide.

● **Mr Tim Clark, Industry Relations Director, Motorola Solutions**

Mr Tim Clark explained that Motorola's digital transformation focus is on mission critical communications and falls within three broad areas:

- Communications for voice and data by providing a two way radio system based on mission critical broadband and using 4G LTE and 5G spectrum. In 33% of the emergency cases, there is no need for human presence to solve a particular problem with drones are used instead;
- Video solutions e.g. dash cams;
- Control Room—another example is the developments of a control room with real-time monitoring systems. A trial in Detroit showed a significant reduction in crime levels.

● **Mr Ryan Johnson, Senior Director, Global Market Access & Government Affairs, Visat, Inc**

Mr Ryan Johnson outlined the key strategies for Viasat, who provide next generation satellite solution using Cloud networks. Their solutions show a huge performance boost as well as going some way towards reducing costs. Mr Johnson confirmed that approximately 1 million satellites will be launched in the next decade, but there is a physical capacity limit in space. He urged regulators to adopt a new approach to space traffic activities, which would allow:

- Safe and reliable access to shared orbits;
- Equitable access to shared spectrum;
- Maintaining the expected interference environment.



● **ABOUT THE SPEAKER**

Nina Beebe advises Amazon's Project Kuiper on international licensing and regulatory affairs and positions the satellite broadband network with policymakers and stakeholders to secure regulatory approvals. From a base in London, she covers the UK, Europe, and Central Asia. Nina previously led public policy and regulatory consulting teams at Access Partnership, helping enable the rollout and growth of clients' global connectivity and digital economy solutions. There, she also represented companies at UN bodies including the ITU and at regional meetings in the Americas, Europe, and Asia. Nina has also worked for the US Treasury department in bilateral capacity building and in NGO project delivery, both with a focus on the Middle East.



● **ABOUT THE SPEAKER**

Tim Clark works within the Motorola Solutions International Strategy organisation as the Industry Relations Director, focussed on mission-critical communication solutions for the public safety sector. He has gained over 30 years of experience working for global mobile communications manufacturers in a variety of international roles including Engineering, IT support, Product Management, Marketing, Business Development, Channel Management and Sales. Throughout his career Tim has built technical knowledge of telecoms technologies including Land Mobile Radio and mobile cellular solutions (2G, 3G, 4G & 5G). Tim played an active role in the definition of the ETSI Digital Mobile Radio standard and helped drive the DMR Association. Tim is the primary Motorola Solutions representative within TCCA, where he is currently serving on the Board, chairing task forces on mission critical applications and high-power user equipment and actively participating in other industry-wide initiatives to advance mission-critical solutions.



● **ABOUT THE SPEAKER**

Ryan Johnson is the Senior Director for global government affairs at the global satellite broadband firm, Viasat, and is a co-chair of the GSOA Americas working group. He holds a master's degree in Internet Governance from the University of Malta, and a bachelor's in political science. Prior to joining Viasat, he worked for over 10 years in the global technology policy space, with a focus on cybersecurity, development, and connecting the unconnected.

Spectrum matters

● Moderator: Mr Martin Fenton, Director of Spectrum Analysis, Ofcom, United Kingdom

Mobile communications technologies depend on radio frequency spectrum to deliver services. This session considered trends in spectrum use and what governments and regulators need to do to ensure spectrum availability.

Mobile communications technologies depend on radio frequencies to deliver their services. This session focused on some of the issues that both operators, governments and regulators face when assessing its best use and availability.

This session was moderated by Mr Martin Fenton, Director of Spectrum Analysis, Ofcom, United Kingdom. Mr Fenton summarised key issues as:

- Scarcity of clear spectrum;
- Need for spectrum sharing models;
- Need for trade-offs to be made;
- Co-existence issues.

All of these issues and more will be discussed and/or agreed at the forthcoming WRC23 in Dubai.



● ABOUT THE MODERATOR

Martin Fenton is Director of Spectrum Policy in Ofcom's Spectrum Group. He is also Chairman of ITU-R Study Group 5, the ITU group responsible for all terrestrial radio frequency services. Martin is an expert in international and domestic spectrum regulation; specialising in spectrum policy, interference analysis and RF performance. He has 20 years' experience in spectrum management at the UK communications regulator, Ofcom, and its predecessor, the Radiocommunications Agency.



Spectrum matters

● Moderator: Mr Martin Fenton, Director of Spectrum Analysis, Ofcom, United Kingdom

Lightning presentations

● Dr Martha Suarez, President, Dynamic Spectrum Alliance

Dr Martha Suarez, President of Dynamic Spectrum Alliance, explained the “use it or share it” framework that operates within 1.8GHz and 3.8-4.2GHz spectrum bands. In addition, Citizens Broadband Radio Service (CBRS) framework allows the same spectrum band to be used by various operators based on priority use principle and tier access.

● Mr Jonas Eneberg, GSOA Spectrum Matters, Vice-President of Regulatory Engineering, Inmarsat

Mr Jonas Eneberg stressed the need for multiple access technologies. It is more difficult to find vacant spectrum, therefore the industry needs more certainty in the way spectrum is being allocated. Finally, as satellites provide the global coverage that no other technology does, he argued that the regulatory framework should support them.

● Christopher Casarrubias, Head of Regulatory and Government Affairs (Latin America and the Caribbean), OneWeb

Finally, Mr Casarrubias referred to K-band being congested but is required for research.

During the Q&A session, participants asked specifically about sharing mechanisms. The industry view was that the final mechanism for sharing would depend on the local context.

Spectrum sharing mechanisms can be beneficial but by their very nature they require some compromises to be made by the sharing parties. Therefore, industry and regulators need to provide a framework for coexistence. The speaker also stressed the need for the mobile industry to demonstrate their requirement for additional spectrum.



Watch online

● ABOUT THE SPEAKER

Dr Martha Suarez is President of the Dynamic Spectrum Alliance and has over 15 years of experience in the telecommunications industry. She spent over three years as General Director of the National Spectrum Agency in Colombia, where she was responsible for promoting the efficient use of spectrum having originally joined the ANE in 2013. Suarez is an electronics engineer, with a master degree in high frequency communication systems and is Doctor in electronics.



Watch online

● ABOUT THE SPEAKER

Jonas Eneberg, VP, Regulatory Engineering at Inmarsat. Jonas has more than 30 years' experience in spectrum regulation, most of that time with Inmarsat. He is responsible for Inmarsat's ITU-R activities, including WRC participation, and frequency coordination of Inmarsat satellite networks. Before joining Inmarsat, he worked for the national regulator in Sweden.



Watch online

● ABOUT THE SPEAKER

Christopher Casarrubias, Head of Regulatory and Government Affairs (Latin America and the Caribbean), OneWeb

Accelerating digital transformation

● Moderator: Ms Juratė Šovienė, Chairwoman, Lithuanian Communications Regulatory Authority, Lithuania

The final session was moderated by Ms Juratė Šovienė, who began by saying that users can usefully be categorised into three broad sections: those who have the skills, those that want to learn, and those that try to avoid digital tools.

The pandemic, as well as highlighting the need for digital skills among the nations, has also revealed, and accelerated, digital inequalities. In addition to significant investment in resources, digital development will need to address security risks and new types of threat, such as cyber-attacks, hate crimes, and child pornography.

- *How can we address all these problems?*
- *Is digital transformation a journey or a destination?*

In order to answer the questions raised by Ms Šovienė, the industry representatives gave lightning presentations on this topic.



ABOUT THE MODERATOR

Ms Jūratė Šovienė is the Chair of the Council of the Communications Regulatory Authority of Lithuania.

She has 20 years' experience in competition policy, regulation and strategy including leading positions at the Lithuanian Competition Council. She also served as Chief Legal Adviser to the President of Lithuania holding position of the Head of Legal Affairs Group at the Office of the President of the Republic of Lithuania. Ms Šovienė has more than 10 years' experience as the Senior Expert/Project Manager in a number of EU projects in the field of competition law. Ms Šovienė has experience in Academia too as the former Member of Economics Study Program Committee at Kaunas University of Technology, research fellow and the lecturer of administrative law.



Accelerating digital transformation

● Moderator: Ms Jurate Švionė, Chairwoman, Lithuanian Communications Regulatory Authority, Lithuania

Lightning presentations

● Mr Ian McFadyen, Chief Executive Officer, Mwabu, Republic of Zambia

Mr Ian McFaden, CEO of Mwabu, provided an outline of his company product which would facilitate the distribution and use of educational materials to remote locations. His N50 product can be provided on smartphones (or tablets) to teachers in an attempt to increase digital literacy. To be viable, this product requires scale and innovative financial solutions which will allow the spread of the initial cost over a prolonged period of time. This solution would go some way to enable governments to build a digital curriculum. Some of the other products mentioned included a centralised solar power generators in multipurpose community hubs.

● Ms Vashti Maharaj, Advisor Digital Trade Policy, The Commonwealth Secretariat, Commonwealth Connectivity Agenda, Trade Oceans and Natural Resources Directorate

Ms Vashti Maharaj outlined key areas where the biggest opportunities can be obtained through digital transformation: governance, health and education, and listed six pillars of digital strategy, notably:

- Promoting access to finance;
- High level political support;
- A comprehensive policy and legislative framework;
- Effective institutional governance;
- Reliable and affordable broadband connectivity;
- Investment in people.

● Mr Bengt Mölleryd, Chairman, Working Party on Communication Infrastructures and Service Policy, Organisation for Economic Co-operation and Development

In his talk, Mr Bengt Mölleryd referred to the OECD's policy "for better living", adopted in 2004 and revised in 2021, which provides a reference point for policy makers and recommends an holistic approach to policies and regulation (The OECD Recommendations on Broadband Connectivity).

Mr Bengt Mölleryd's key recommendations for governments included:

- Pool investments;
- Share assets;
- Foster competition.



● ABOUT THE SPEAKER

Mwabu he is constantly seeking innovative, affordable ways of delivering Digital Transformation into under-served schools and communities.



● ABOUT THE SPEAKER

team to deliver the goals of the Commonwealth Connectivity Agenda for Trade and Investment.



● ABOUT THE SPEAKER

Policy at the OECD. Prior to joining PTS, Bengt worked as a financial analyst with a focus on the telecommunication sector at a number of investment banks.

Ian McFadyen is an engineer with a portfolio of investments across the ed-tech, connectivity and renewable energy sectors. Raised in Zambia, he has a good understanding of the challenges of delivering ed-tech solutions into rural Africa. In his role as CEO of

Vashti Maharaj currently serves as the as Adviser, Digital Trade Policy in the Trade, Oceans and Natural Resources Directorate of the Commonwealth Secretariat where she primarily focuses on advancing the Commonwealth's work on digital trade and works as part of a multidisciplinary

Bengt Mölleryd is a senior analyst at the Swedish Post and Telecom Authority (PTS). He is representing PTS in an international research project 6G Connected Sky. He is also designated Chair for the Working Party on Communications Infrastructure and Services

Accelerating digital transformation

● Moderator: Ms Jurate Šovienė, Chairwoman, Lithuanian Communications Regulatory Authority, Lithuania

Lightning presentations

● Mr Bevil Wooding, Director, Caribbean Affairs, American Registry for Internet Numbers

Mr Bevil Wooding urged governments to be clear on the value of deliverables and the nature of demand in their own countries. He stressed the importance of defining what change was needed to achieve individual governments' objectives. He summed up the best digital strategy as the one which ensures that *"technology is the servant not the master"*.

● Mr Areeq Chowdhury, Head of Policy (Data and Digital Technologies), The Royal Society

Mr Areeq Chowdhury of the Royal Society, United Kingdom expressed his desire for global cooperation. The issues that he highlighted were:

- New risks and the spread of misinformation;
- Lack of evidence about how data are being used;
- Use of data for emergencies;
- How can AI help?



● ABOUT THE SPEAKER

Bevil Wooding is the Director of Caribbean Affairs for the American Registry of Internet Numbers (ARIN) and a technologist and development specialist. He also serves in an advisory capacity to several Caribbean governments and regional institutions, including the Organization of Eastern Caribbean States (OECS), Caribbean Telecommunications Union (CTU) and Caribbean Court of Justice (CCJ). He has over 25 years of experience in pioneering information and communication technology (ICT) solutions and promoting the use of the Internet for development. He leads various regional and international initiatives focused on ICT-based innovation, education, public policy, regulation and Internet governance, Internet exchange point (IXP) development and cybersecurity. Mr. Wooding is a co-founder of the Caribbean Network Operators Group (CaribNOG), a volunteer-based association for computer engineers and network administrators and the Caribbean Peering and Interconnection Forum (CarPIF), a community for network engineers, peering coordinators and Internet content delivery organisations.



● ABOUT THE SPEAKER

Areeq Chowdhury is Head of Policy (Data and Digital Technologies) at The Royal Society. The team he leads at the Society focuses on how artificial intelligence and other data-driven technologies can, and should, be used to benefit humanity. He is the founder of the influential technology policy think tank, WebRoots Democracy, which ran between 2014 and 2020, and has authored various reports on digital democracy, social media, and artificial intelligence. Most notably, Areeq led a high-profile project on disinformation during the 2019 UK General Election.

Thank you



Discussion and wrap-up

● Professor Tim Unwin, Master of Ceremonies and Chairholder, UNESCO ICT4D

Professor Tim Unwin provided the final comments and reiterated two questions posed on the first day of the Digital Week 2023.

- What can and should CTO do?
- Have our conversations missed out any crucial areas?

Professor Unwin summarised key messages that emerged from the discussions held over the three days as:

- Huge demand for training and technical support;
- Sharing best practice — case studies to be periodically posted on CTO website and lessons learnt;
- Brokering partnerships — CTO could develop partnership templates and be involved in the discussions that individual governments are having;

- Small Islands Development States (SIDS) — departments responsible for cybersecurity may be in cooperation with the UK government and having access to emergency and disaster solutions;
- A phrase used by the Minister from Samoa, “O LE TELE O I TATOU” — the more we are, the stronger we are — aptly describes the strength of CTO as the one that comes from working together towards a common goal;
- To enable good to be achieved, we have to mitigate the harm.

Professor Unwin acknowledged that the event was very special and thanked everyone involved in its organisation.



O le tele o taimi tatou — the more we are, the stronger we are — aptly describes the strength of CTO, as the one that comes from working together towards a common goal

Thank you



Vote of thanks, actions going forward and conclusions

● Ms Bernadette Lewis, Secretary-General, CTO

Ms Bernadette Lewis, thanked everyone involved, sponsors, the honourable ministers for participation in this event and their input. She also offered to broker and set-up of a community fund and several countries accepted that offer.

Conclusion

In conclusion, the feeling among the participants was that of increased motivation and renewed energy to face the forthcoming challenges in their respective countries and desire to work together, and with CTO, to ensure the greatest benefits can be obtained from the collaboration which the UK government will support.

Digital has often been defined as *“applying the culture, processes, business models and technologies of the internet era to respond to people’s raised expectations”*. Digital transformation strategy therefore is about ensuring that both government institutions and users are equipped to apply new technologies in their day-to-day activities.

One of few positives during the Covid-19 pandemic was that world economies have seen an increase in technology start-ups, but a question remains whether this will continue without government support. The answer to this question was clear to all participants of the Digital Week 2023. The participating governments agreed that their priority was to help further broadband development and incentivising investment in hard-to-reach places.

Rapidly evolving technology means rapidly evolving jobs in this sector such and consequently the focus is on skill and training, the common theme across all CTO member states. Going forward, governments will need better ways of measuring knowledge contribution to the growth of their economies.

With an uncertain economic outlook, governments face tough trade-offs between competing social, environmental and security concerns. Investments in resilience must focus on solutions that address multiple risks, particularly in areas that strengthen human capital and digital developments. Countries will increasingly see their digital industries’ developments as not only a way to create wealth, but also to weather environmental and economic downturns.

The issue of affordability although improving year on year is a barrier to internet access, particularly for low-income countries. The current precarious global economic and political situation makes connectivity challenge even greater. Ministers asked for CTO assistance in helping them to achieve greater understanding of the cost of product delivery and universal connectivity, and how different business models can help.

Technology changes have had an impact on government processes, often resulting in unintended consequences with negative impact on digital inclusion and lack regulatory oversight. A well designed digital and regulatory policy, a good programme of training and knowledge sharing platforms are just what CTO was asked to help deliver. This will go some way in helping countries to bring stability into this sector, prevent it from exacerbating existing inequalities and allow the 2.3 billion people living in CTO member states to benefit from these technologies while limiting the risks.

Next steps

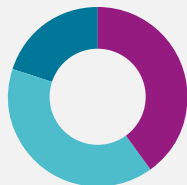
The CTO continues to build momentum in helping CTO members achieve their digital transformation vision. CTO will ensure that members can access learning content easily and will continue to work with member states through continued consultations to ensure all Commonwealth nations have the necessary support to realise their ambitious Digital Transformation plans.

The Digital Transformation Centre Stage webinar series is set to continue in 2023, with the United Kingdom, Mozambique, Mauritius, and Samoa expressing interest to report on their progress in delivering Digital Transformation.

Appendix 1

Delegate survey results

How did you hear about Digital Week?



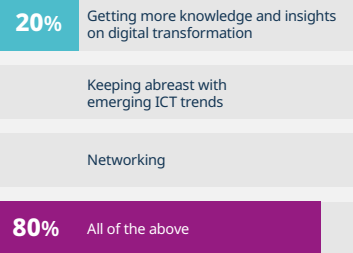
40% Direct mail
40% Email/newsletter
20% CTO website

How would you rate the registration process?



60% Fast and pleasant
40% Somewhat pleasant

What was your motivation for attending?

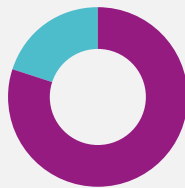


How would you rate the event organisation?



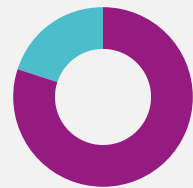
60% Very organised
40% Somewhat organised

How engaging were the panel discussions and Q&As?



80% Very engaging
20% Extremely engaging

How helpful were the staff at the event?



80% Very helpful
20% Somewhat helpful

How would you rate the programme structure?



80% Exceptionally structured
20% Fairly structured



Appendix 1

Reviewing Digital Week 2023 **CTO interviews with ICT Ministers**



Feedback from delegates

CTO Week was an excellent start to the new CTO and it is expected that the high standards will be maintained.

The event improved my knowledge on certain issues.

More discussion on 5G, DNS abuse and CTO coordination.

Digital Week 2023 event photos

flickr

CTO Forum
photos

Ministerial Alliance
for Digital Nations
2023 photos

60th CTO Council
Meeting photos

Appendix 2

Digital Week 2023: Participating organisations

NATION	ORGANISATION
Republic of Botswana	<ul style="list-style-type: none">• Botswana Communications Regulatory Authority (BOCRA)• Ministry of Transport & Communication
Republic of Cameroon	<ul style="list-style-type: none">• Ministry of Posts and Telecommunications• Telecommunications Regulatory Board
Republic of Cyprus	<ul style="list-style-type: none">• Office of the Commissioner of Electronic Communications and Postal Regulation (OCECPR)
Kingdom of Eswatini	<ul style="list-style-type: none">• Eswatini Communications Commission (ESCCOM)
Republic of Fiji	<ul style="list-style-type: none">• Ministry of Communications, Digital Government Transformation Office
Republic of Gabon	<ul style="list-style-type: none">• Ministry of Communication and the Digital Economy• Regulatory Authority for Electronic Communications and Posts (ARCEP)
Republic of Ghana	<ul style="list-style-type: none">• Ministry of Communications and Digitalisation• Vodafone Ghana
Gibraltar	<ul style="list-style-type: none">• Gibtelecom• HM Government of Gibraltar
Grenada	<ul style="list-style-type: none">• The National Telecommunications Regulatory Commission (NTRC)
Republic of Guyana	<ul style="list-style-type: none">• Office of the Prime Minister, Government of Guyana
Republic of India	<ul style="list-style-type: none">• Ministry of Communications, Department of Telecommunications
Republic of Kenya	<ul style="list-style-type: none">• Communications Authority of Kenya (CA)
Kingdom of Lesotho	<ul style="list-style-type: none">• Ministry of Information, Communications, Science, Technology and Innovation
Republic of Lithuania	<ul style="list-style-type: none">• Communications Regulatory Authority of the Republic of Lithuania (RRT)
Republic of Malawi	<ul style="list-style-type: none">• Malawi Communications Regulatory Authority (MACRA)• Ministry of Information and Digitalization, Department of E-Government
Republic of Mauritius	<ul style="list-style-type: none">• Information and Communication Technologies Authority (ICTA)
Montserrat	<ul style="list-style-type: none">• Government of Montserrat• The Ministry of Communication, Works, Labour & Energy (MCWLE)

Appendix 2

NATION	ORGANISATION
Republic of Mozambique	<ul style="list-style-type: none"> Ministry of Transport and Communications National Institute of Communications of Mozambique (INCM) - Regulatory Authority of the Postal and Telecommunications Sectors
Republic of Namibia	<ul style="list-style-type: none"> Ministry of Information and Communication Technology (MICT)
Republic of Nigeria	<ul style="list-style-type: none"> Ministry of Communications and Digital Economy Nigerian Communications Commission
Islamic Republic of Pakistan	<ul style="list-style-type: none"> Ministry of Information Technology and Telecommunication (MoITT)
Independent State of Samoa	<ul style="list-style-type: none"> Ministry of Communication & Information Technology
Republic of South Africa	<ul style="list-style-type: none"> Department of Communications and Digital Technologies (DCDT)
Sweden	<ul style="list-style-type: none"> Swedish Post and Telecom Authority
United Republic of Tanzania	<ul style="list-style-type: none"> Ministry of Information, Communication and Information Technology Tanzania Communications Regulatory Authority (TCRA) Tanzania High Commission UK
Republic of Trinidad and Tobago	<ul style="list-style-type: none"> Ministry of Digital Transformation Telecommunications Authority of Trinidad and Tobago
Turks and Caicos Islands	<ul style="list-style-type: none"> Ministry of Home Affairs & Transportation and Communication Turks and Caicos Telecommunications Commission
Republic of Uganda	<ul style="list-style-type: none"> Uganda Communications Commission
United Kingdom of Great Britain and Northern Ireland	<ul style="list-style-type: none"> Cabinet Office Central Digital and Data Office (CDDO) Department for Science, Innovation and Technology (DSIT) Foreign, Commonwealth & Development Office (FCDO) Home Office Liverpool Hope University Middlesex University Ofcom The Royal Society
Virgin Islands (British)	<ul style="list-style-type: none"> Ministry of Communications and Works Telecommunications Regulatory Commission
Republic of Zambia	<ul style="list-style-type: none"> Mwabu
Republic of Zimbabwe	<ul style="list-style-type: none"> Ministry of ICT, Postal and Courier Services NetOne Cellular Pvt Ltd

Appendix 2

INTERNATIONAL ORGANISATIONS

- African Telecommunications Union (ATU)
- American Registry for Internet Numbers (ARIN)
- Commonwealth Secretariat
- Commonwealth Telecommunications Organisation (CTO)
- Dynamic Spectrum Alliance
- Global Satellite Operator's Association (GSOA)
- GSMA
- International Telecommunication Union (ITU)
- Smart Africa

ICT SECTOR COMPANIES AND ORGANISATIONS

- Amazon
- Cenerva
- Digicel Group
- E-Space
- Extensia Limited
- Geeks Without Frontiers
- Global Digital Inclusion Partnership
- Global Good Net Works
- Hewlett Packard Enterprise
- Inmarsat
- Meta
- Motorola Solutions
- OneWeb
- Rohde & Schwarz GmbH & Co
- SpaceX
- telcoconsulting
- Telesat
- Transforma Insights
- Welchman Keen

Overview of the **Commonwealth Telecommunications Organisation**

The CTO is the oldest and largest Commonwealth information and communication technologies (ICT) organisation. Established as the Pacific Cable Board in 1899 to complete a global telegraph network, in its latest manifestation the CTO is an international treaty organisation, dedicated to facilitating effective adoption ICT and accelerating digital transformation and sustainable development in the Commonwealth and beyond.





In 2020 the CTO charted a new course to support its members by streamlining the Secretariat's activities to help its members in every step of their digital transformation programme. Through the provision of technical advice, consultancies in digital development, capacity building and training, the Secretariat will be working with each member country to formulate and execute digital transformation plans that have a measurable impact on the lives of citizens. In the current environment of rapid technological innovation, the CTO is committed to helping Commonwealth countries leverage the potential of information and communication technologies (ICT) to accelerate digital transformation and achieve the United Nations 2030 Sustainable Development Goals.

FULL MEMBER COUNTRIES

<i>Bangladesh</i>	<i>Mozambique</i>
<i>Barbados</i>	<i>Nigeria</i>
<i>Botswana</i>	<i>Pakistan</i>
<i>Cameroon</i>	<i>Rwanda</i>
<i>Fiji</i>	<i>Samoa</i>
<i>Gabon</i>	<i>Seychelles</i>
<i>Gambia</i>	<i>Sierra Leone</i>
<i>Ghana</i>	<i>St. Kitts and Nevis</i>
<i>Grenada</i>	<i>Tanzania</i>
<i>Guyana</i>	<i>Tonga</i>
<i>India</i>	<i>Trinidad and Tobago</i>
<i>Jamaica</i>	<i>Tuvalu</i>
<i>Kenya</i>	<i>Uganda</i>
<i>Kingdom of Eswatini</i>	<i>United Kingdom</i>
<i>Kingdom of Lesotho</i>	<i>Vanuatu</i>
<i>Malawi</i>	<i>Zambia</i>
<i>Mauritius</i>	

OTHER MEMBER COUNTRIES

<i>Bermuda</i>	<i>Montserrat</i>
<i>Cayman Islands</i>	<i>St Helena</i>
<i>Gibraltar</i>	

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