Content

2 Overview

2 Chairman's message
Secretary-General's message
About the Commonwealth Telecommunications Organisation
Our mission
Our vision
Strategic goals
Services to our members
Executive committee
Management team
Regional advisors
Strategic Plan for 2016 - 2020: Focusing on results
Enhanced value of our membership
Enabling regulatory environments
Universal broadband
Cybersecurity, cybercrime and cyber standards
Applications
Commonwealth coordination
Celebrating 115 years of collaboration in ICTs

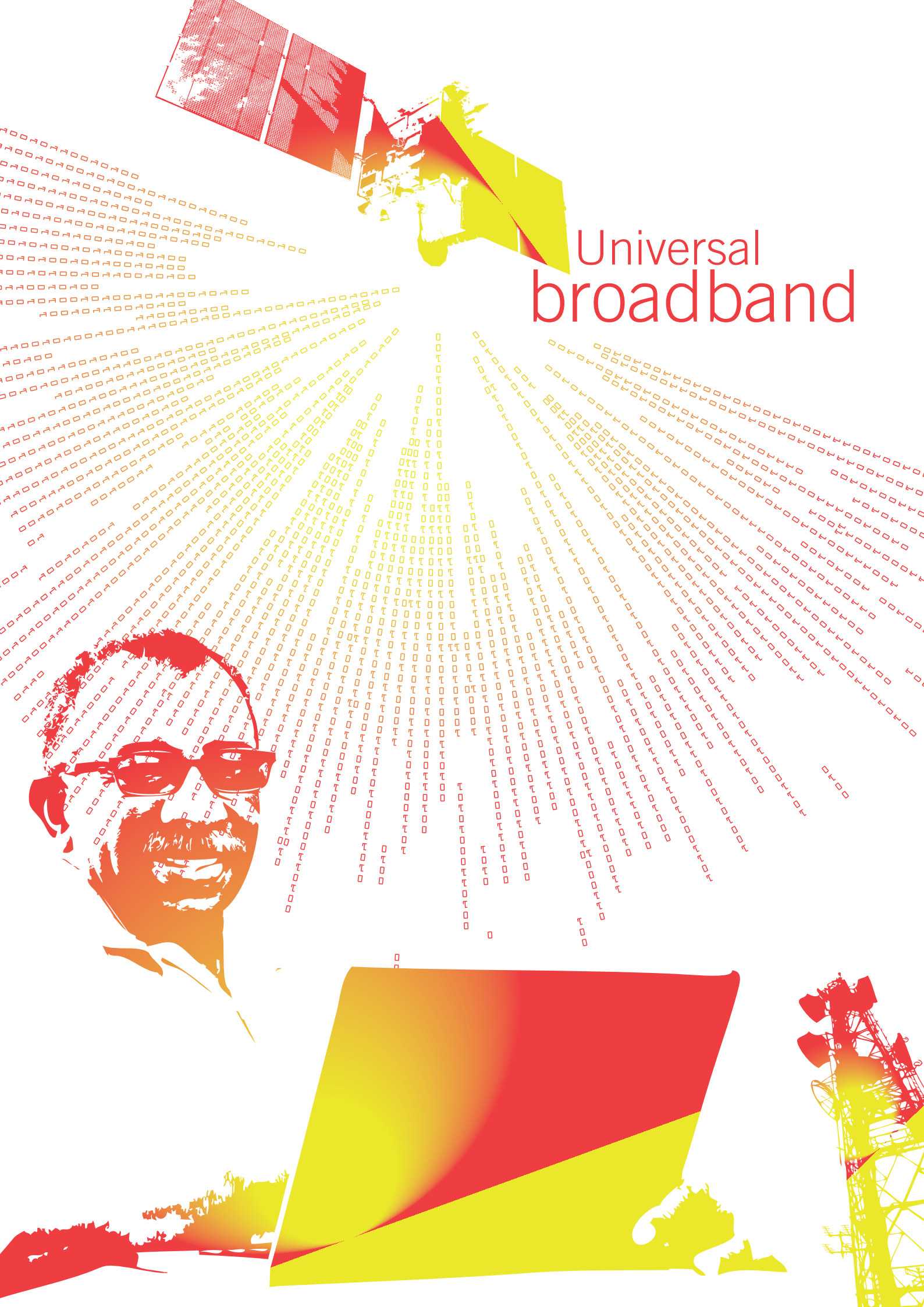
Our membership

Technical support to members

National strategies for universal broadband
Cyber security, cybercrime and cyber standards
Regulatory environments
ICT applications

International events and conferences

69 Capacity development


Universal
broadband

Chairman's message

Professor Umar Garba Danbatta
Chairman

In September 2015, we endorsed the incoming secretary-general's new vision of Transforming the CTO for Enhanced Value for its Membership, and I am delighted to see that, with the re-joining of India as Full Member Country only six months into his tenure, we begin to see early signs of this vision turning into reality.

As you are well aware, the CTO's work in the areas of capacity development and knowledge sharing brings much needed support to our countries. However, as countries, we have signed up to the UN Sustainable Development Goals (SDGs) which have put greater emphasis on using ICTs in support of economic development and social inclusion; in some respects, given the impact technology as had on some of our countries, one could say that the provisions of this new global agenda for ICTs were long overdue. Now, we must resolutely look ahead and reflect on how, through technology, the next 15 years will see much faster improvement in citizens' lives.

In many of our countries, thanks in particular to mobile technology and services, we have reached near-universal service for voice and SMS communications. However, universal access to the Internet without which the delivery of e-health or e-education services is simply not possible remains challenging for most of us, and how much of the new development agenda we will achieve through ICTs will largely depend on how successful we are at making access to broadband universally accessible and affordable.

So we must renew efforts to find solutions to the infrastructural, financial and operational challenges that persist in the majority of our countries, and I see greater Commonwealth collaboration and support as a significant part of the solution. For this reason, I am personally glad to see within the CTO's 2016 - 2020 strategic plan a new and clear impulse for technical support and advisory services to members. Indeed, this is one important area that was not sufficiently addressed in the past, but which I am confident will go a long way to enhance value for members.

Providing technical support and advisory services to members will be essential to delivering our new and ambitious strategic goals for membership, ICT regulation, universal access, cybersecurity, applications as well as more Commonwealth dialogue on international issues.

As summarised in this 2015-16 annual report, a number of innovative and exciting initiatives by the secretary-general to assist members in each of these strategic areas are already under way and others are already bearing fruit, and like members of ExCo, I look forward to further and exciting progress in the coming months in each one of the above strategic areas.

Besides setting the stage to deliver on our new strategic and ambitious plan, let us remember that 2015-16 also marked the beginning of celebrations of the 115th anniversary of the CTO since its creation in 1901. We have inherited a well-preserved tradition of collaboration between our nations which goes back to the very creation of the CTO and which has stood the test of time, and we must continue to build on this.

Finally, as I look forward to the next 12 months, I would like to thank all of you for your renewed and unabated support to me as well as to members of ExCo.

Professor Umar Garba Danbatta
Chairman

Secretary-General's message

Shola Taylor
Secretary-General

When I effectively took over as secretary-general in September 2015, half way into the 2015-16 financial year, I had a fairly clear idea of where the CTO was and where it could realistically go. I was of the view that the CTO could achieve far more for its members, not because it had failed to do so in the past, but because technology and market forces continue to evolve and with this evolution come new challenges as well as new opportunities. At the same time, as you would expect, my first six months as secretary-general have also been an exciting and highly rewarding learning curve, and I am most grateful to members for their intellectual and financial support, including towards the CTO's new Strategic Plan for 2016 - 2020 which was adopted in March 2016 at the end of a three-month process. This process coincided with the launch of the celebrations of the CTO's 115th anniversary which, among other things, gave us a historical perspective on what is expected of an organisation like the CTO.

A new Strategic Plan for 2016 - 2020 focused on membership value

Following extensive internal and external consultations, we have now adopted a new strategic plan with six clearly defined strategic goals, as follows:

- Enhance the value of the CTO membership and expand the CTO's membership base, including through Member Action Plans which define clear programmes and activities for each member.
- Promote enabling regulatory environments in key areas such as licensing, spectrum management, quality of service and over-the-top operators.
- Promote universal, affordable and high-quality broadband connectivity via enabling policies and regulatory measures that facilitate the rapid rollout of broadband infrastructure.
- Promote a culture of cybersecurity and effective cyber governance through the establishment of cybersecurity frameworks, standards and guidelines.
- Promote the development and use of ICT applications for socio-economic development e.g. e-governance, e-health, e-education and e-agriculture, among others.
- Ensure effective coordination of Commonwealth countries at international ICT conferences and meetings.

These new goals are consistent with the 2030 Agenda for Sustainable Development, the aspirations of our members and the constitutional purposes of the CTO. At the same time, they are also an accurate reflection of my vision of Transforming the CTO for Enhanced Value for its Membership, and we begin to see a positive impact on the CTO's membership with the addition of members such as India and Facebook. In addition, I am pleased to say that in a declaration issued in June 2016, Commonwealth ICT ministers meeting in London have unanimously endorsed our new strategic plan.

Such growing support puts the CTO in a strong position to do much more, and therefore members can and should expect more of the organisation. To achieve our new goals, we have embarked on a number of changes, including:

- introduction of Member Action Plans to be effective from April this year, as the main mechanism to respond to members' needs. As part of this new approach, Member Account Managers have been appointed from the existing staff to maintain regular engagement with each member of the Organisation, supplementing the dedicated membership division;
- launch of the Affiliate Membership (open to governments of non-Commonwealth countries only) and Academia Membership, both previously admitted as ICT Sector Members, to give more standing to non-Commonwealth government members such as South Sudan and encourage universities and tertiary educational institutions to take part in the organisation's work;
- adoption of the unit of membership contribution (UMC) to consolidate previously separate membership financial contribution scales into a single, simpler and fairer system.
- creation of a new Technical Support & Consultancy division to identify and respond more directly and more effectively to members' needs;
- launch of a Development Assistance Programme (DAP) to support members' ICT development efforts in such areas as broadband and cybersecurity;
- creation of a new HR & Administration department. This department will drive major improvements in recruitment, development and retention of CTO employees, as well as a closer realignment of the CTO's employment conditions to the UN

system;
• recruitment of Regional Advisors to ensure the CTO's activities reflect the regional priorities of its members; and
• a new Associate Consultants registration scheme open to qualified and experienced individuals as well as consultancy firms who will support the Secretariat in responding to needs of its members.

Working towards long-term financial stability for the CTO

Besides the changes introduced so far, it is of paramount importance that we work with our members to ensure the long-term financial stability of the CTO. Conscious of this priority, particular efforts are now in progress to improve membership contributions so as to ensure that they are sufficient to cover the core budget of the organisation, and also make adequate provisions for the CTO's long-term liabilities i.e. pensions.

Greater levels of transparency and efficiency

Beyond the range of operational activities completed during 2015-16, I am fully conscious that our members expect the highest standards of transparency and efficiency from an organisation like the CTO. In consultation with the senior management team and the staff, we are introducing changes in key areas, and especially:
• Clearer financial separation between our various programmes, including the Programme for Development & Training;
• Improvements of internal processes;
• Closer alignment to UN rules in other areas such as staff travel;
• The introduction of a more robust procurement process for the recruitment of suppliers; and
• More effective cost-cutting measures across the organisation; and
• A new and result-focused staff performance appraisal system.

Building strategic links internationally

Engaging effectively with international and regional bodies such as the ITU, APT, ATU and CTU will be critical to adding value to our common members, with a view to achieving greater Commonwealth coordination and ultimately delivering on all six strategic goals.

The Commonwealth preparatory programme for the World Radiocommunication Conference (WRC-15) saw our first successful initiative to support both the ITU as well as our members prior to, and also during WRC-15. In addition, our post-WRC-15 programme of activities includes the Commonwealth Spectrum Management Forum to take place in November 2016 in Yaoundé. Separetely, we are giving equal attention to our members' coordination needs in other areas, such as in Internet governance through the Commonwealth Internet Governance Forum and the Commonwealth Governmental Advisory Group of ICANN.

With our new vision and clearly defined strategic goals, I am confident that the CTO will deliver greater value for its membership. I am also forever grateful to the entire staff at the CTO Secretariat without whom all these initiatives would not have been possible.

About the CTO

The CTO is the oldest and largest Commonwealth intergovernmental organisation in the field of information and communication technologies (ICT). Being fully involved in the development and use of ICTs for social and economic development, the management of the organisation recognise that it must stay at the cutting edge of ICT developments in order to deliver significant benefits to its members. The history of the CTO can be traced back to 1901, although the organisation has only existed in its present form as an intergovernmental treaty organisation since 1967. The CTO has a diverse range of members including developed countries, developing countries, least developed countries, small island developing states and landlocked developing countries. Therefore policies, decisions and actions must cater to the needs of this wide range of countries, and our programmes are implemented in a manner to reflect the changes in both the Commonwealth as well as the global telecommunications/ICT community.

Our mission

To provide result-focused ICT leadership in the Commonwealth and beyond.

Our vision

A trusted partner for sustainable development for all through ICTs.

Services to our members

Capacity development and training

With a network of over 250 telecom, IT and broadcasting specialists, we assist our members in a variety of ways to suit their specific needs. Services include:

- Bespoke in-country programmes
- Over 50 open courses each year
- A pooled procurement service for training
- Fellowships and secondments

ICT research

Through our research services, we support policymaking regulatory bodies, specialised agencies and the private sector in understanding the challenges and opportunities new technologies bring and facilitate evidence-based decision-making. Recent studies completed have addressed a wide range of issues, from access, to quality of service, to e-health sustainability.

Technical support, consultancy and advisory services

The CTO's undertakes consultancy projects for members and

Strategic goals

Under our new Strategic Plan 2016 - 2020 our six strategic goals are as follows:

- Enhance the value of the CTO membership and expand the CTO's membership base, including through Member Action Plans which define clear programmes and activities for each member.
- Promote enabling regulatory environments in key areas such as licensing, spectrum management, quality of service and over-the-top operators.
- Promote affordable universal and high-quality broadband connectivity via enabling policies and regulatory measures that facilitate the rapid rollout of broadband infrastructure.
- Promote a culture of cybersecurity and effective cyber governance through the establishment of cybersecurity frameworks, standards and guidelines.
- Promote the development and use of ICT applications for socio-economic development e.g. e-governance, e-health, e-education and e-agriculture, among others.
- Ensure effective coordination of Commonwealth countries at international ICT conferences and meetings.

CELEBRATING
115 Years
1901-2016
FROM SUBSEA TO CYBERSPACE

From subsea to cyberspace
Celebrating a century of

On 20 January 2016, guests from across the Commonwealth joined CTO staff in London to mark the launch of the CTO's celebrations for its 115th anniversary. Guests included ministers, secretaries general, high commissioners and industry executives.

Activities to mark the anniversary include the first Commonwealth ICT Awards, as well as the first Commonwealth Youth ICT Applications Competition results of which will be announced in September this year.

These celebrations are an opportunity for guests to learn about the history and successive transformations of the CTO since its creation as the Pacific Cable Board (PCB) in 1901, and also to reflect on the development of ICTs and to discuss present challenges and opportunities presented for social empowerment and economic development of Commonwealth nations and citizens.

Of all the factors that made the creation of the CTO possible, collaboration was perhaps the most important, and since then it as remained a permanent feature of the organisation as sea cables and early radio communication systems evolved to become the backbone of the Internet and cyberspace, and as the Commonwealth as an intergovernmental collaborative group of nations gradually took shape. So it is no surprise that collaboration remains central to the CTO's work today.

Today, the ability of the CTO to connect its members around the world and across continents to facilitate knowledge sharing is one of the organisation's greatest achievements.

Governance

Executive committee

Professor Umar Garba Danbatta
Chairman, Nigeria

Gilbert C Peterson SC
1st Vice-Chair, Trinidad & Tobago

Shivnesh Prasad
2nd Vice-Chair, Fiji

Abigail Sono
Industry Partners Representative, South Africa

Juma Kandie
Immediate Past Chairperson

Jean-Louis Beh Mengue
Development Partners Representative, Cameroon

Peter Mate Crabbe
Chairperson, PDT, Ghana

Shola Taylor
Secretary-General

Management

Shola Taylor
Secretary-General

Lasantha De Alwis
Director, ICT Development, & Corporate Secretary

Rakesh Luchmun
Director, Head of Finance & Administration

Marcel Ambiana Belingue
Senior Manager, Head of Membership & Communications

Dr Martin Koyabe
Manager, Research & Consultancy

Robert Hayman
Manager, Events & Conferences

Marianette Violeta
Assistant Manager, Finance & Human Resources

Hilda Muchando
Assistant Manager, Capacity Development & Training

Regional Advisors

Gisa Fuatai Purcell, Regional Advisor for the South Pacific
Dr Marianne Treschow, Regional Advisor for Scandinavia & Northern Europe

Strategic Plan 2016 - 2020

Focusing on results

As member countries move forward with programmes to implement the 2030 development agenda, the CTO will focus its support in six largely interlinked areas

Enhanced value of our membership

Above all, as a membership organisation the CTO is committed to delivering enhancing and delivering value to all its members. As such, it is the CTO's ultimate goal, to be achieved through specific initiatives:

Development Assistance Programme
The DAP is a new initiative which is aims to raise funds for development activities through members, ICT partners and other financial and development institutions to support members in their various objectives for ICTs. During 2015-16, the CTO secured a commitment for £500,000 from the Foreign & Commonwealth Office of the UK to support the development of members' capacity in the areas of cybersecurity strategies, cybercrime and cyber standards, with work ongoing in 10 countries (see Cybersecurity, cybercrime and cyber standards below).

Member Action Plans
MAPs are designed to guide the CTO in responding to members' needs in areas where the CTO has the capacity to assist, especially in technical support, capacity development and international coordination. Designed to ensure members derive the highest possible value from their membership of the CTO, MAPs are developed through consultation between the CTO and member organisations. MAPs will specify for each requirement the activities that will be undertaken, the beneficiary member country or stakeholder organisations as well as the source of funding. As much as possible, they are mapped to the priority areas of members, and each member has been assigned an member account manager.

Affiliate and Academia memberships
Collaboration, knowledge and experience sharing are at the heart of the CTO's work. Governments of non-Commonwealth countries who previously joined the CTO as ICT Sector Members will now be admitted as Affiliate Member Countries, in recognition of their state status, their ongoing relationship with current Full Member Countries beyond the CTO, as well as the sovereign commitment their membership represents for the CTO. Like current Full Member Countries, non-Commonwealth countries can join the CTO through a government department or a regulatory agency and have observer status at the CTO Council .

In recognition of the non-profit making and the funding challenge most academic institutions face, and considering also the special role of education in building information societies, universities and other tertiary academic institutions will no longer be admitted as ICT Sector Members, but rather as Academia Members. Benefits include annual membership contributions significantly below those paid by ICT Sector Members (see Units of Membership Contributions below).

A single unit of membership contribution
In order to consolidate previously separate membership financial contribution rates into a single, simpler and fairer system, the CTO introduced the annual unit of membership contribution (UMC), currently set at £25,000/year. Therefore, members' annual contributions now range from £2,500 to £25,000. More details are available at www.cto.int/membership

Enabling regulatory environments

The CTO is committed to assist member countries in two key areas:

- Promote, encourage and facilitate the development of modern regulatory frameworks including ICT licenses, spectrum management, quality of service, digital switchover and over-the-top operators, in order to create enabling environments for investment and development.
- Encourage the development and adoption of appropriate methods of collecting relevant statistical data.

In addition to advisory services provided to member countries in areas from licensing and tariffs to infrastructure and consumer interests, we are holding a quarterly ICT regulation roundtable series with sessions delivered by experts from the ICT sector describing the key challenges faced by the sector and presenting proven solutions that can be easily implemented.

Specific topics discussed include:

- Overview of ICT policy, regulation and operation
- Domain name system
- Transition of the IANA stewardship
- The economics of regulation and options for action
- Numbering as a public good and a key revenue generator
- Cloud and media
- Big Data, Internet of Things and spectrum management
- Influencing global decisions on ICTs: the role of international organisations
- Internet governance
- Understanding spectrum and the digital dividend
- Universal service/access funds: models around the world
- Consumer issues and management
- National broadband strategies
- Social media and regulation
- TV white space and access in Africa

Universal broadband

Broadband is and essential enabler of key applications such as e-government and e-/m-commerce. To assist member countries in achieving universal broadband access, the CTO is focusing its efforts in three main areas:

- Promoting the adoption of enabling policies, technologies and regulatory measures to facilitate the rapid rollout of broadband infrastructure
- Encouraging cooperation between governments, regulators and service providers to develop networks suitable for the needs of members.
- Assisting countries in developing and maintaining universal service fund regimes.

During 2015-16, a number of activities have taken place during the year to help achieve these objectives. Through the Commonwealth Broadband Forum 2015 held on 16 - 17 June 2015 in Abuja, Nigeria we centred our discussions on the need for national broadband plans, spectrum opportunities and social inclusion.

Beneficiary countries during 2015-16

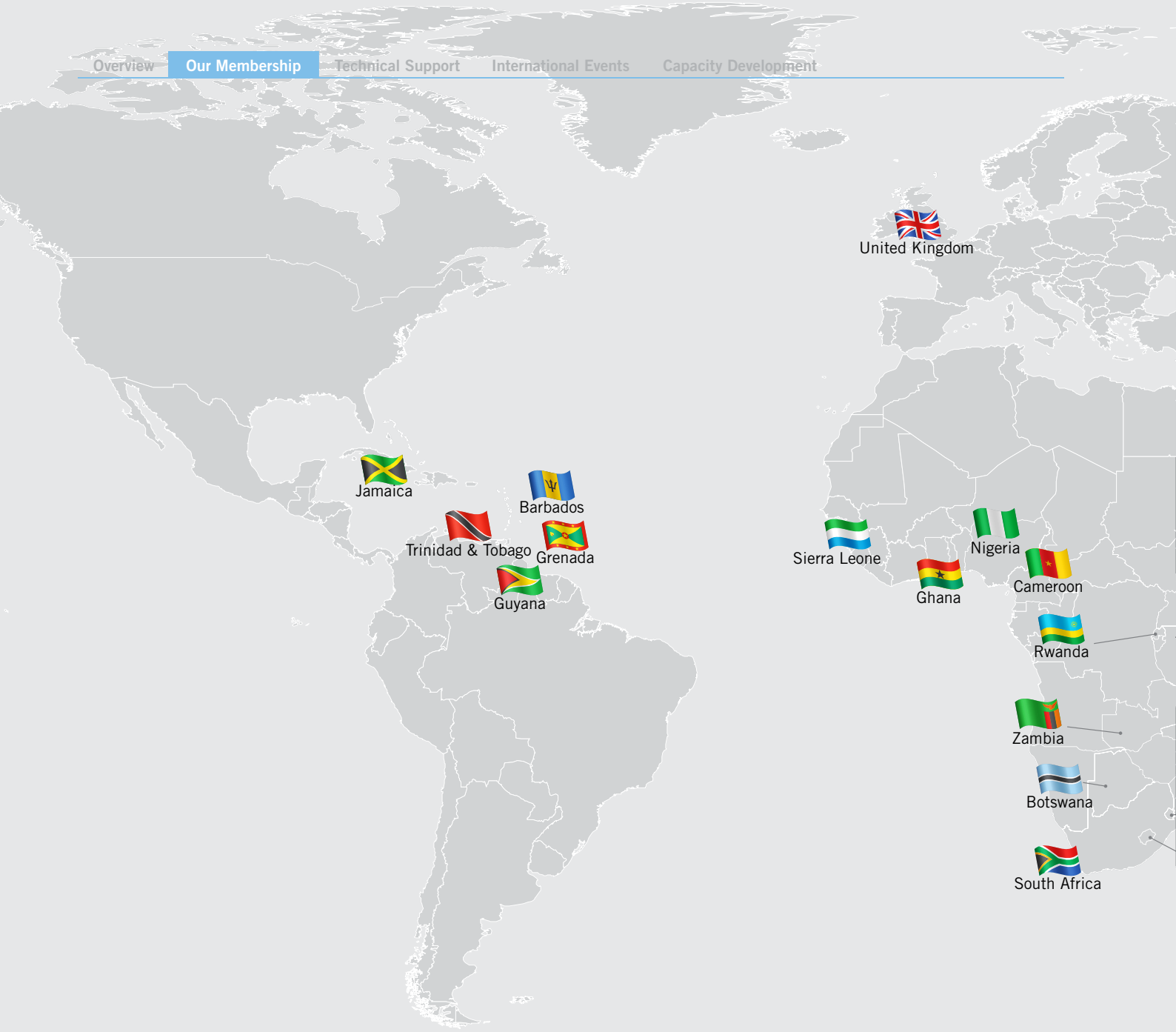
Applications

The operational year 2015-16 saw preparations in place for the first Commonwealth E-applications Forum to take place in 2017. The objective of this forum, as well as other planned initiatives such as the over-the-top study are several:

- Encourage the development and use of e-applications such as e-governance, e-health, e-education and e-agriculture, among others.
- Provide special assistance and support to countries identified by the United Nations as being vulnerable and in need of special assistance including Least Developed Countries, Small Island Developing States (SIDS), and Landlocked Developing Countries.
- Promote the utilisation of ICTs for social and economic benefits for all countries.
- Promote the empowerment of women and girls using ICTs.
- Promote the empowerment of youths using ICTs.
- Promote the use of ICTs by, disabled persons and other groups in need of special assistance.
- Assist member countries in utilising ICTs for disaster management
- Encourage the development of business continuity strategies.
- Assist in the development and adoption of suitable strategies for dealing with e-waste.

Commonwealth coordination

Coordination of Commonwealth views during international treaty negotiations is critical to ensuring that the CTO and the wider Commonwealth network of sister agencies fully play their part in achieving the new Sustainable Development Goals. During 2015-16, the CTO started with the World Radiocommunication Conference (WRC-15) for which a Commonwealth preparatory meeting was held last month in London, followed by regular Commonwealth WRC Coordination Meetings taking place during WRC-15 itself. A programme of post-WRC-15 activities will take place to include the Commonwealth Spectrum Management Forum 2016, and likewise preparatory meetings will take place ahead of the World Telecommunication Standardisation Assembly 2016. In addition, we have given equal attention to our coordination needs in other areas, such as in Internet governance through the Commonwealth Internet Governance Forum and the Commonwealth Governmental Advisory Group. Overall, the CTO's objective is to provide support to ensure the effective



Our membership

The CTO is above all else a membership organisation committed to supporting its members across the Commonwealth and beyond in using ICTs in their development efforts. The CTO's 2016 - 2020 Strategic Plan puts emphasis on enhancing membership value for all members.

The CTO has four broad categories of members: Full Member Countries, Affiliate Member Countries, ICT Sector Members and Academia.

Full Member Countries are member states of the Commonwealth that have given an undertaking to make an annual financial contribution to the CTO; other Commonwealth countries, simply referred to as Member Countries, are all other member states of the Commonwealth not currently contributing financially to the CTO; these can still take part in CTO activities, but they have no voting right within the CTO Council.

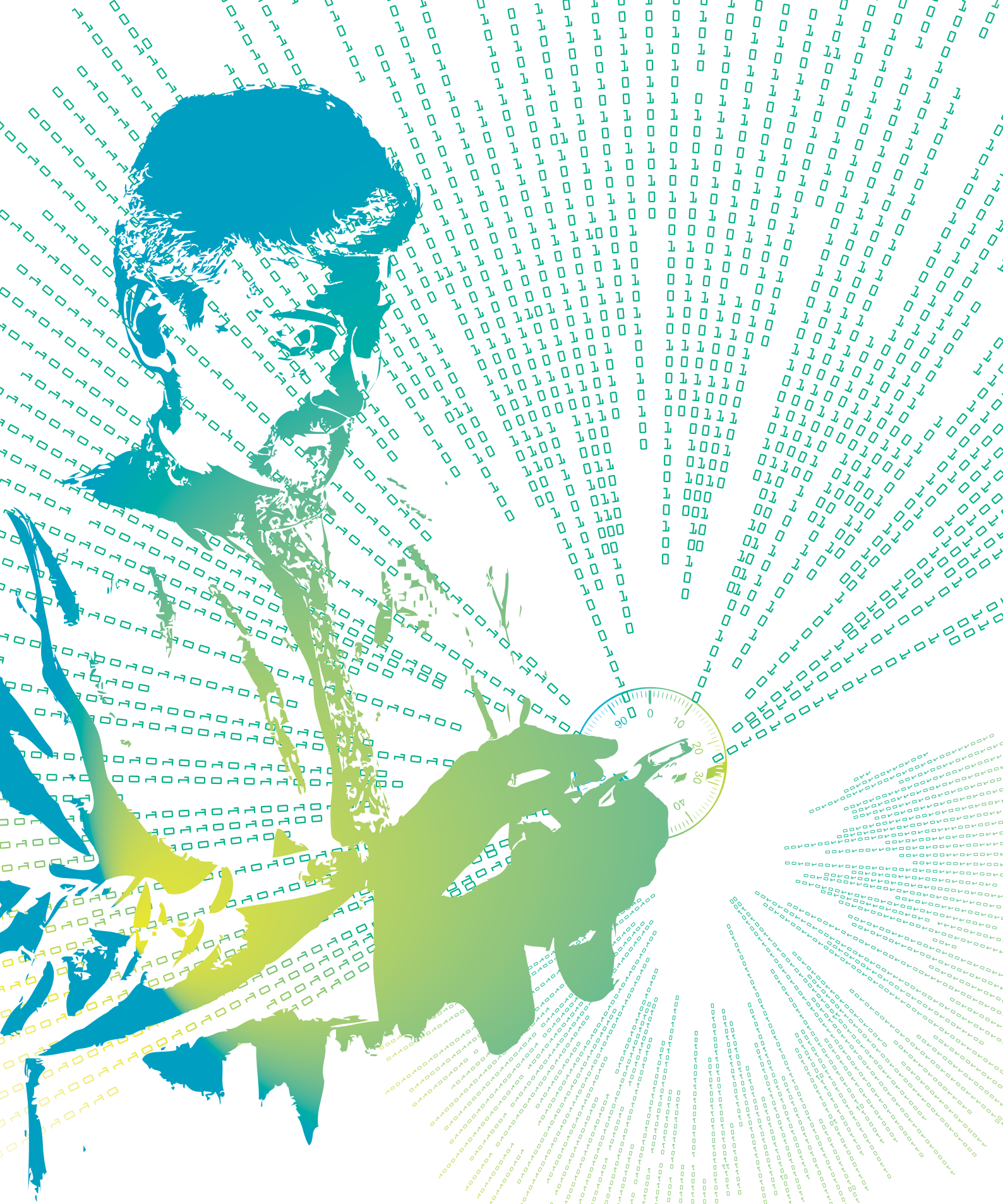
Affiliate Member Countries are non-Commonwealth states that join the membership of the CTO in order to benefit from the Organisation's programmes. In addition, they have observer status at the CTO Council. (Note: Prior to 2016, non-Commonwealth countries were admitted as ICT Sector Members as described below).

ICT Sector Members include the following:

- Regulatory agencies (telecommunication and broadcasting regulatory agencies and commissions);
- Specialised national agencies (universal access, IT, and cybersecurity agencies);
- Industry (carriers, fixed/mobile/data network operators, manufacturers, service providers);
- Civil society (professional membership bodies, industry associations, advocacy groups);

Introduced in 2016, Academia Membership is open to

Disclaimer: The above map and any other map in this report are not intended to reflect an accurate map of the world and are provided for illustration purposes only. ICT Sector Members listed above include registered members between 1 April 2014 and 31 March 2015.



Cybersecurity

Bringing technical support to members

During 2015-16, the CTO completed specific in-country programmes, the majority of which were in the key areas of regulation, universal broadband, cybersecurity and applications.

National strategies for universal broadband

Commonwealth of Dominica

In early 2016, the ITU and the CTO partnered to develop the national broadband strategy for the Commonwealth of Dominica. In April 2016, as part of the first phase of the project, a CTO team conducted a four-day strategy development workshop for the country, with participation from over 24 different national stakeholders drawn mainly from the public and private sectors. During the workshop, participants developed various components of Dominica's national broadband strategy, with the CTO team providing quality assurance and guidance. The second phase, which involves a peer review of the strategy and specification of relevant implementation framework, has also been completed. The final review of the strategy is expected before March 2017.

Botswana

The CTO worked with 2016 Best Commonwealth National Broadband Initiative winner Botswana to review and update the country's draft national broadband strategy. The CTO worked with the country's Ministry of Transport & Communications to provide further details on the strategic foundations of the draft strategy, examining the vision, mission, outcome-based strategic objectives and expected results. The CTO made recommendations on key objectives to be adopted by Botswana to promote access and diffusion of broadband services and applications. A monitoring and evaluation framework has also been agreed for the implementation of the strategy. The final draft of the strategy for Botswana awaits adoption.

Cyber security, cybercrime and cyber standards

National cybersecurity strategies

During 2015-16, the UK funded national cybersecurity strategies for Botswana, Cameroon and Uganda. These projects were delivered by the CTO under the CTO's Development Assistance Programme for its members. The approach adopted by the CTO was based on the CTO's model national cybersecurity strategy "Commonwealth Approach to Developing National Cybersecurity Strategies", which involved the CTO working closely with national stakeholders to develop the strategies. The national cybersecurity strategies of the three countries have been finalised and await approval by each country's cabinet before adoption.

Building on this success, the UK approved funding for developing, revising or implementing national cybersecurity strategies for an additional four member countries: Malawi, Mozambique, Rwanda and Tanzania, including assistance in developing plans on critical information infrastructure protection. In the case of Rwanda it is proposed to apply the Cybersecurity Maturity Model of the UK-based Global Cyber Security Capacity Centre.

Separately, the government of the Republic of Fiji requested the technical support of the CTO to finalise the country's national cybersecurity strategy. In early 2016, the CTO completed the review of the strategy with all stakeholders in Fiji and submitted the final draft strategy, which is now awaiting formal adoption and nationwide launch.

Tackling cybercrime in Bangladesh, Nigeria and Pakistan

With the financial assistance of the UK, the CTO supported Nigeria's efforts to tackle cybercrime by enhancing the capacity of the West African country's telecommunications sector. There was a need for the country to adopt proven strategies, build the capacity of law enforcement agencies and enable them to draw on the strengths of the telecommunications sector in the investigation and prosecution of cybercrime cases. In addition, a workshop on cybercrime was held in Abuja in December 2015 to facilitate closer coordination between the relevant stakeholders. Building on the very encouraging early results achieved in Nigeria, the UK has provided funding to start similar initiatives in Bangladesh and Pakistan, with a strong focus on capacity building.

The greater need for cyber standards

The UK adopted Cyber Essentials as its standard in cybersecurity, and it is mandatory for any entity that wishes to transact with the UK Government to become Cyber Essentials certified. Recognising also the importance of standards in cybersecurity for member countries, the UK approved funding in support of joint efforts by the CTO and Information Assurance for Small Medium Enterprise (IASME), one of the four Cyber

Regulatory environments

High quality of service for Seychelles

Selected by the Government of Seychelles to develop and implement a quality of service standard and regulation for its broadcasting and telecommunications sectors, the CTO's mandate is to support the East African island nation in its goal to establish sustainable and competitive environments in all market segments for these two key ICT sectors.

Unbundling Swaziland's STPC

The Kingdom of Swaziland is committed to unbundling state-owned incumbent Swaziland Posts & Telecommunications Corporation. The CTO's task involves assessing the current legislative framework and map it against the policy priorities leading to the decision to unbundle the company; identify gaps that need to be addressed; and drafting the required legislative framework. The proposed legislation will be presented for stakeholders' consideration, with a consultative workshop scheduled for September 2016.

ICT applications

we.learn.it in support of e-education

In October 2012, the we.learn.it consortium in which the CTO was a member, received €1.4M funding from the European Union for an initiative that aimed to improve the use of ICTs for education. As part of the project, the CTO team worked with schools and students across Europe to promote the use of ICTs in education during 2013 and 2014.

In February 2015, the CTO team conducted a we.learn.it workshop in Johannesburg, South Africa. Over 20 teachers attended the workshop; they were drawn from a dozen schools/districts and other education agencies in South Africa where the project activities and Learning Expedition (LE) concept were presented. During interactive sessions, teachers discussed LEs undertaken in other schools, designed their own LEs, and provided feedback on the applicability and transferability of the project across South Africa. The project was concluded in the second quarter of 2015 after the final project review meeting with the European Commission.

E-health, satellite technology and broadband access in East Africa

The CTO conducted a study across five East African countries - Rwanda, Burundi, Uganda, Kenya and Tanzania, to assess broadband access challenges and opportunities in the public and private sectors in East Africa. The CTO's survey investigated the status of broadband in the target countries. The main focus areas that were assessed included regulation, service provision, education, health and e-commerce. During the study the team undertook in-country missions and conducted desk research for the target countries. Country missions included discussions with the national regulatory agencies, the ministries responsible for telecommunications/ICTs, and service providers. The final report will be made available to all CTO members in fourth quarter of 2016.

A new ICT strategy for Botswana

The Ministry of Transport and Communications of Botswana awarded a World Bank-funded contract to the CTO and consultancy practice Leading Associate in a joint venture to develop an ICT strategy for the country's Ministry of Transport & Communications. Deliverables are divided into four phases: Projects commencement, definition and detailed plan of activities; Situation analysis; Development of an IT strategic plan; and Deliverables submission, review and approval. Started in early 2016, the project is expected to last a year.

Maintaining support for Cameroon's transition to digital broadcasting

In early 2014, the CTO and two consortium partners were selected to assist Cameroon's digital broadcasting switchover committee CAM-DTV, the body responsible for overseeing the country's migration to digital broadcasting. The first phase of the project has been completed with the submission three main deliverables:

- a report on the current status of digital migration infrastructure in Cameroon;
- technical design specification based on best practice standards and the invitation to tender document for prospective bidders to the project.

The second phase of the project is expected to start in early 2017.

International events and conferences

Events held during 2015-16 were gradually realigned to reflect the CTO's new Strategic Plan for 2016-20. With greater focus on key issues e.g. universal broadband access, they attracted participation from leading bodies such as the ITU, UNCTAD, World Bank Group and ICANN, as well as delegates participation from beyond the Commonwealth.

Commonwealth Cybersecurity Forum 2015

22 - 24 April 2015, London, United Kingdom

Held annually in London since 2010, the Commonwealth Cybersecurity Forum which is established as a unique platform to discuss best practices in cybersecurity will play an important role in the CTO's strategic objectives for 2016-20. The 2015 event brought together delegations from 26 countries in London on 22 - 24 April. They discussed the growth of cyberthreats and their wider economic and social impact on governments, businesses and citizens. Participants included communications ministers and their advisors, security and communications regulatory agencies, international organisations, research institutions, academia, network operators, service providers, IT firms and civil society organisations.

Regulating ICTs Roundtables

6 - 12 June 2015 and 26 - 30 October 2015, London, United Kingdom

Participants from 25 countries took part in this high-level programme during 2015-15, including members of boards of national communications regulatory and specialised agencies. This unique programme has been adopted to help strategically align, support and address the needs of Commonwealth ICT regulatory agencies and the critical role played by their boards. To increase experience sharing among participants, a new roundtable format has been adopted in early 2016. The event took place twice, on 6 - 12 June 2015 and 26 - 30 October 2015 in London.

Commonwealth Broadband Forum 2015

16 - 17 June 2015, Abuja, Nigeria

Over 130 delegates gathered in the Nigerian capital city to discuss the impact broadband can have on the lives of citizens of the Commonwealth and beyond. The Commonwealth Broadband Forum 2016 took place on 16 - 17 June, with participants including ministers and their advisors, regulatory agencies, international organisations, network carriers and operators, universal service fund administrators, IT firms and civil society organisations. Issues discussed during the event included:

- National broadband plans
- Regulatory strategies
- Cross-border connectivity
- Next-generation broadband services
- Universal broadband for all, and
- 4G and 5G.

“A platform to network with experts and share experiences, and is an excellent navigation tool for broadband development in developing countries.”

Dr Emmanuel Ekuwem, Chief Executive Officer, Teledom Group, Nigeria

“The Broadband Forum organised by the CTO is a one-stop shop to learn everything about the issues and challenges about broadband.”

Parvez Iftikhar, International ICT Consultant, USAID-GBI

Commonwealth Human Resources and ICT 2015

6 - 7 July 2015, Maputo, Mozambique

The Commonwealth Human Resources and ICT annual series of conferences provides HR executives with a useful platform to examine shifts in human resource management in the ICT sector. HR management concepts and practices have to adapt to the ever changing operating environment of today's ICT sector. Over 60 participants from the sector benefited from the conference held in Maputo, Mozambique on 6 - 7 July. In his opening address, His Excellency Carlos Mesquita, Minister of Transport & Communications of Mozambique referred to the need to create, maintain and enrich a talent pool that contributes to the development of the ICT sector through a multi-stakeholder approach, combining government, formal education, informal education and the private sectors.

Commonwealth Telecommunications Organisation Forum 2015

14 - 18 September 2015, Nairobi, Kenya

Over 400 participants took part in the Nairobi event at which in-coming CTO Secretary-General Shola Taylor took his oath of office. International organisations represented included the ITU, ICANN, the GSMA, the World Bank Group and UNCTAD. Private sector participation was led by satellite carriers, operators, banks and software manufacturers. Held under the theme Towards a Connected Commonwealth, the three-day event focused on a range of issues, such as:

- International connectivity, and connectivity for rural communities
- Regulation
- Broadband
- M-commerce and mobile money
- The emerging consensus over the governance of the Internet
- Use of connectivity in health, education and agriculture
- Technology trends
- Youth and ICTs

"Digital services such as e-banking, e-health, e-commerce, e-education are now a mantra among Kenyans as more and more people access affordable smart devices."
Francis Wangusi, Director-General, Communications Authority, Kenya

The Forum, the annual ICT event of the Commonwealth of Nations, aims to facilitate the exchange of ideas between senior country officials, the private sector and civil society within the Commonwealth and beyond.

Commonwealth WRC-15 Preparatory Meeting

7 - 9 Oct 2015, London, United Kingdom

At this preparatory meeting held in London ahead of the 2015 World Radiocommunication Conference (WRC-15), Commonwealth countries adopted an action plan towards achieving consensus at the international conference to take place from 2 to 27 November 2015 in Geneva, Switzerland. Convened by the International Telecommunication Union, WRC-15 was to allocate new spectrum for radio communications, including for international mobile telecommunication (IMT) services. The successful Commonwealth preparations which had active participation from the ITU included a review of all regional groups' positions of WRC-15 agenda items in order to help achieve greater consensus.

"This meeting has helped to better understand the various positions by different regions, and has also highlighted areas where clarity was still required, and we are grateful to the ITU for its contributions throughout our discussions."
Shola Taylor, Secretary-General, CTO

Key outcomes of the London meeting included:

- Strong support for identification of additional spectrum for IMT in most parts of the L band;
- Resolve to protect digital terrestrial television in the UHF band;
- Future studies on potential use of part of the S band for IMT;
- Mechanisms to achieve consensus on the lower part of the C band taking into account the growing demand for mobile broadband and the needs of countries like in the Pacific which depend heavily on satellites;
- Support for future studies for IMT above 6 GHz to accommodate 5G, excluding Ku and Ka satellite bands;
- A mechanism for further engagement with various regions on the possible use of FSS for unmanned aircraft, taking into account aviation safety concerns;
- Support for global harmonisation on Earth Stations on Mobile Platforms; and
- Recognition of the importance and urgent treatment of global flight tracking.

Private-sector operators such as Inmarsat, Avanti Communications Group, Google, mobile industry association GSMA and broadcaster BBC also took part in the meeting to present their interest in specific spectrum bands.

"The meeting has given Caribbean participants a great opportunity to understand within a single forum the views of all other regions that have some of their members in the Commonwealth."
Kirk Sookram, Executive Officer for Technical Service & Development.

Commonwealth Transforming Telcos Workshop

28 - 29 January 2016, Johannesburg, South Africa

Over 40 participants from Europe, Asia and Africa took part in this two-day fixed-line operator workshop in Johannesburg, South Africa on 28 - 29 January 2016. Organised by the CTO in partnership with global operator BT, this workshop series is designed to assist fixed-line operators faced with the challenges of decreasing revenue from traditional fixed-line services and the increasing dominance of mobile networks. A number of regulators also took part in the workshop. Based on BT's transformation over the past 10 years from a fixed-line operator to an ICT service provider, the event highlighted the following:

- Evolving regulatory landscapes
- Extracting value from big data
- Meeting consumer expectations
- New business models
- Content and digital TV
- Driving growth through innovation, and
- Opportunities in cyberspace

Commonwealth Cybersecurity Forum 2016

23 - 24 March 2016, London, United Kingdom

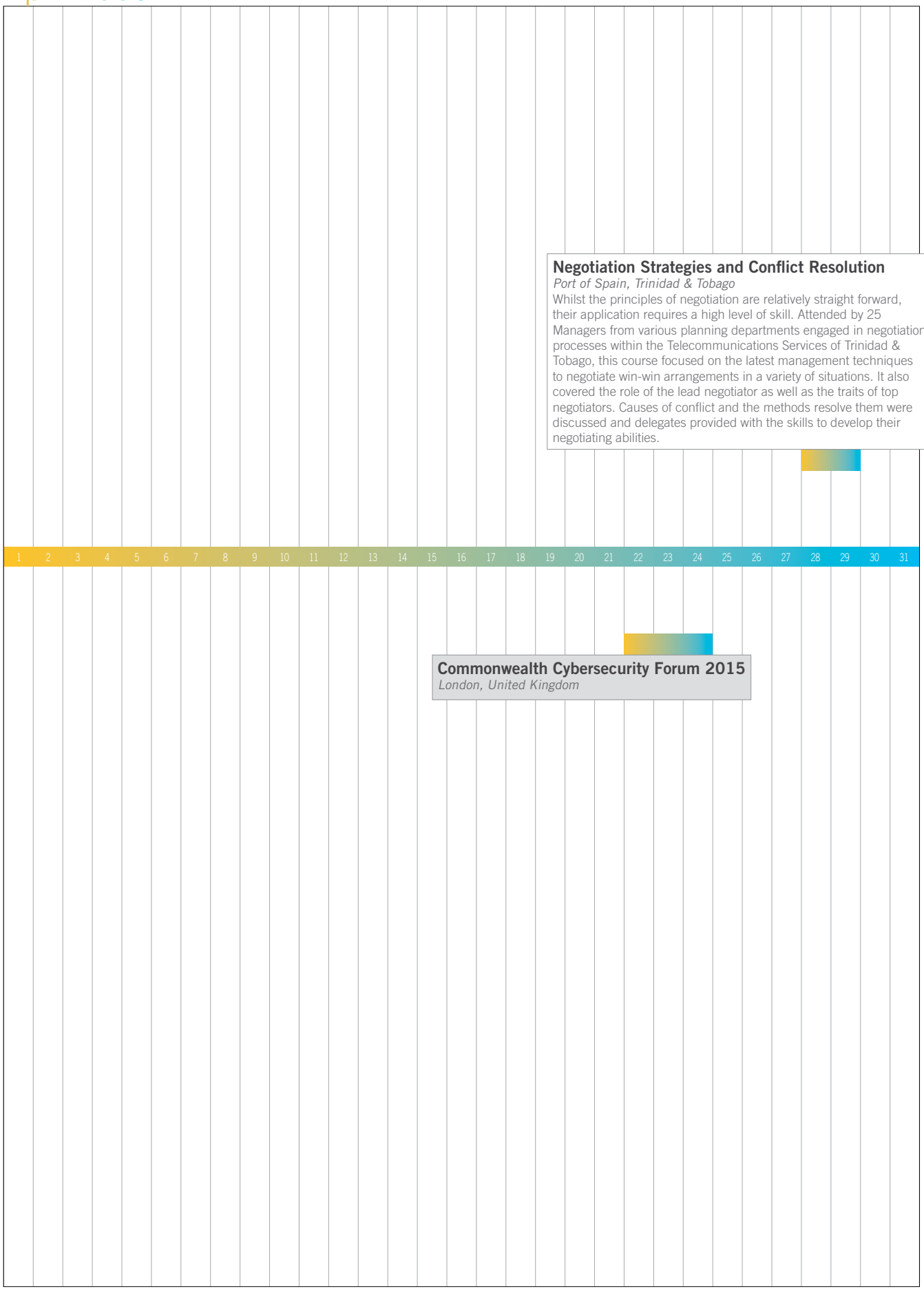
Building on the 2015 event and incorporating the outcomes of the CTO's regional and country capacity development programmes for cybersecurity over the previous 12 months, the Commonwealth Cybersecurity Forum 2016 attracted some 110 participants from 25 Countries, with the key objective to reflect on ways to build better international cooperation among cybersecurity stakeholders. Key outcomes of the event included:

- Forum 2016 was to establish a clear understanding about the need for an effective national cybersecurity strategy for each and every Commonwealth country.
- The Forum was attended by around 110 participants representing 25 Countries. It was conducted in 11 sessions, 24 presentations and 11 panel discussions with 58 resource persons. The programme of the event is in the annex of this report.
- Cybersecurity strategies are critical as ICT usage is increasing constantly and cyberattacks, including on critical information infrastructure, are proliferating locally and regionally. Moreover countries need to be up to a reasonable standard to be a partner of global e-economy
- Legislation and regulation relating to cybercrime need to be harmonised across borders to prevent criminals from taking advantage of gaps across borders. UNODC has recently established a repository of cybercrime laws and lessons learned for the purpose of facilitating continued assessment of needs and criminal justice capabilities, and the delivery and coordination of technical assistance.
- Cyber vulnerabilities in space infrastructure are serious risks for the ground-based critical infrastructure at national, regional and international levels that must be addressed, as much of the world's critical infrastructure e.g. communications, air-transport, maritime shipping, financial services, weather and environmental monitoring and defence systems depend largely on space infrastructure.
- The incident response community cannot be successful in isolation. Cooperation and coordination is essential.

Capacity development

Capacity development remains an area of high expectations for members and partners. During 2015-16, no less than 45 courses were delivered, mainly through the Programme for Development & Training, benefiting 700 ICT professionals in over 30 countries.

April 2005



Negotiation Strategies and Conflict Resolution
Port of Spain, Trinidad & Tobago
Whilst the principles of negotiation are relatively straight forward, their application requires a high level of skill. Attended by 25 Managers from various planning departments engaged in negotiation processes within the Telecommunications Services of Trinidad & Tobago, this course focused on the latest management techniques to negotiate win-win arrangements in a variety of situations. It also covered the role of the lead negotiator as well as the traits of top negotiators. Causes of conflict and the methods resolve them were discussed and delegates provided with the skills to develop their negotiating abilities.

Commonwealth Cybersecurity Forum 2015
London, United Kingdom

May 2005

Introduction to Telecommunications Management
Yaoundé, Cameroon
Changes in the telecommunications are enabled by evolving technologies, empowered by increasingly more capable, powerful user devices and embraced by forward-looking ICT service providers. Designed for and attended by staff and trainers at Cameroon Telecommunications Regulatory Board (TRB), this 5-day programme reviewed basic telecommunications services and became familiar with evolving services. They were taught to identify service target markets and their applications by utilising service innovation strategies and breaking out of service imitation cycles. At the end of the course, participants were able to appreciate the opportunities offered by evolving technologies, changing customer behaviour, and collaboration, as well as competition between telecommunication service providers, app developers and off-network information sources.