GTPRN August 2020 Newsletter

Welcome to the GTPRN August 2020 Newsletter.

We have the privilege this issue to have several exclusive contributions for GTPRN by high profile telecom policy practitioners and academics. This include Dr Roslyn Layton, senior vice president of Strand Consult and a visiting researcher in communication, media and information technologies in the technical faculty of IT and design in the department of electronic systems at Aalborg University (Denmark). Dr. Layton has been doing a great effort in delivering important updates to the public on trendy telecom policy topic in a quite prestigious journal such as Forbes. Her article on Telecom and COVID-19, which can be found here, is a must read to understand the impact of the epidemic on network operators.

We have also a different type of contribution by Judge Abdelmohssen Sheha that addresses telecom regulations from a legal viewpoint. Judge Sheha is one of the few from the legislation sector that addresses telecom policy topics from an interdisciplinary perspective. He is currently a pre-trial judge at the State Council of Egypt (Judicial section), and soon to be awarded his PhD from the Université de Strasbourg, France. Please check his article here.

Dr. Michael Marcus, one of my favorite scholars and a spectrum management hero, has kindly agreed to share with the GTPRN community a previously published article of him that is still relevant 'Spectrum Policy for National Government Users: A Worldwide Policy Challenge'. Dr. Marcus was one of the leaders in developing the FCC policy resulted in the bands used by Wi-Fi, Bluetooth, Zigbee and unlicensed millimeter wave systems.

With respect to telecom policy journals, the October 2020 issue (Volume 53) of Telematics and Informatics is now available here, and you can also check the contents of volume 44/7 (Aug. 2020) of Telecommunications Policy here with interesting spectrum articles such as 'Will 5G lead to more spectrum sharing? Discussing recent developments of the LSA and the CBRS spectrum sharing

frameworks' by Dr. Maria Massaro and Prof. Fernando Beltrán, and also an important contribution related to the developing countries 'Forming a 5G strategy for developing countries: A note for policy makers' by Simon Forge, and Khuong Vu. Another technical journal, the IEEE Internet of Things Magazine, has issued a new issue that focuses on Blockchain-Enabled Industrial Internet of Things.

The CFP of the 13th CMI conference to be conducted in the period- November 26-27, 2020 is out now, and registration is free of charge. Deadline is by 15th of August and more information can be found here. For those who are interested in teaching, there are excellent opportunities at the University of Passau and Research ICT Africa. More details can be found at the ITSworld website.

Prof. Rob Frieden has been also quite active during last month and you can check some of his latest blogs at https://telefrieden.blogspot.com. One of our distinguished members, the multi-talented Dr. Tom Cooper, Professor of visual and media arts at Emerson College, has published a new book 'Doing The Right Thing' which addressed some of the toughest ethical decisions made throughout history, and about what we may learn from them to wisely make our own challenging ethical decisions. The book is available at https://www.tomcooper.net

I enjoyed last month a very interesting webinar by PolicyTracker, '*6G: visions, challenges and opportunities*'. PT kindly agrees to provide the presentations at the links below:

Professor Tommy Svensson, Chalmers University, Sweden

Dr Marja Matinmikko-Blue, University of Oulu, Finland

Bernard Barani, Deputy Head of Unit, DG CONNECT, European Commission

Michael Marcus, mmWave Coalition, USA

Professor Erik Bohlin, Chalmers University, Sweden

Please make sure to subscribe for their coming webinar 'Spectrum Sharing in Asia' on 19th of August.

Last month was a critical milestone for 5G where the ITU-R has determined those candidate technology submissions assessed by ITU-R to be the qualified IMT-2020 technologies and meeting the key technical criteria underpinning the IMT-2020 Vision and global 5G. More details can be found here. Talking about 5G, an interesting article within the IEEE Future Directions Newsletter is 'The Economics of Shared Infrastructure in 5G Networks' which can be accessed here.

If you are working with AI and Big data, take a look on these two events. The first is 'Women in AI Ethics Annual'. You can register here. The second is 'Practicing Data Governance to Increase Benefits and Reduce Harms of Big Data' and you can register here.

Some useful articles for PhD student who may be struggling during COVID-19 can be found here. And here you can find some main news from last month

- Telefonica Deutschland and Canada's Bell and Telus chose Ericsson and Nokia for core 5G equipment over Huawei.
- France and Germany launched the European data infrastructure project GAIA-X
- MTS receives Russia's first 5G licence
- Indian operators still seeking clarity on 26 GHz band for 5G

Finally, we are very pleased to introduce to you Mr. Kester Osahenye, one of the best African experts who have kindly joined our GTPRN editors' as our rapporteur for the African continent. Feel free to check his impressive bio at the end of this issue.

Take care, stay safe and well.

Mohamed El-Moghazi

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Telecom Networks and COVID19

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Introduction

The COVID-19 experience is an opportunity to review conventional wisdom of network policy and regulation and the premise that ex ante rules are needed to govern firm behavior to fulfill social goals. The crisis period in the US and other regions is associated with a set of societal restraints including lockdowns and social distancing. People used broadband networks to work remotely, learn online,[1] [2] and receive healthcare,[3] critical functions which allowed many to maintain some income, education, and health during the crisis. This note modestly explores the conventional regulatory wisdom that network providers, left to their own devices, will harm network services and users. It finds that network providers behaved in the opposite way during the crisis.

Network behavior under crisis

Did telecommunications network providers deceive customers, degrade content, or disfavor content?

Repealed in 2017, the Federal Communication Commission (FCC) Open Internet Order of 2015 (so called "net neutrality rules") contained a complex set of rules to control broadband

[1] It is estimated that some 55 million K-12 students were out of public school during the crisis. Private school students are additional: Jacqueline M. Kory-Westlund, "The COVID-19 Crisis Is Giving Parents a Taste of Digital 'Unschooling,'" Fast Company, March 24, 2020, https://www.fastcompany.com/90480952/the-covid-19-crisis-is-giving-parents-a-taste-of-digital-unschooling.
Before the crisis, almost 2 million US children were home schooled: "Number of Homeschooled Students in the U.S. 2016," Statista, 2020, https://www.statista.com/statistics/232917/number-of-homeschooled-students-in-the-us/.
Many suggest that going forward, online schooling and home schooling will increase: Douglas Broom, "Homeschooling during the Coronavirus Pandemic Could Change Education Forever, Says the OECD," World Economic Forum, April 3, 2020, https://www.weforum.org/agenda/2020/04/coronavirus-homeschooling-technology-oecd/.

[2] "Map: Coronavirus and School Closures - Education Week," *Education Week*, March 6, 2020, https://www.edweek.org/ew/section/multimedia/map-coronavirus-and-school-closures.html.

[3] While there are many kinds of telehealth applications, usage of telemedicine is expected to surge during the COVID-19 crisis and after. This is driven in part by the need for people to remain at home, but also the relaxing of federal regulation which inhibited telemedicine. Moreover, Medicare will now cover some essential telemedicine applications which it didn't before: "Use of Telemedicine to Surge in US as Regulations Change in Response to Coronavirus," *GlobalData* (blog), March 20, 2020, https://www.globaldata.com/use-of-telemedicine-to-surge-in-us-as-regulations-change-in-response-to-coronavirus/.

price, traffic, and technology. It observed that ". . . broadband providers hold all the tools necessary to deceive consumers, degrade content, or disfavor the content that they don't like."[4] The Order made many claims about networks providers "ability and incentive" to harm "openness." Many regulatory advocates maintain that the prevailing competition laws enforced by the Federal Trade Commission, the FCC's transparency disclosures under the 2017 Restoring Internet Freedom Order, state consumer protection laws, and market forces are insufficient to keep broadband providers in check. For example, the FTC has been policing broadband until 2015 and levied an eye-popping $100 million fine against AT&T for deception.[5]

Advocates claim that without strong ex ante rules directed by the FCC, broadband providers will deliberately harm users and content providers. Following that assertion, the lack of the 2015 rules, and the regulators not being at their posts, broadband providers would exploit their customers through harmful pricing, degraded experiences, and blocked content. To date, there are no such reports that could be uncovered for this paper. In fact, as the following will show, the opposite happened: broadband providers *lowered* prices in solidarity with their customers; traffic exploded; and content providers experienced an increase (not a blocking or degradation) of demand. Moreover, where possible, broadband providers *expanded* capacity by adding cell sites, towers, and so on. If networks could be described with one word, they were *open*.

During the crisis, broadband networks experienced significant, if not record, increases in traffic. For example, AT&T noted that compared to an average day, core network traffic was up by one quarter; wireless voice minutes by 29 percent, landline voice minutes by 28 percent, and Wi-Fi calling by 88 percent.[6] Comcast noted that network traffic was up by one-third;[7] Verizon; one-fifth.[8] Meanwhile content providers experienced record traffic and usage. Netflix

[4] "FCC Releases Open Internet Order," Federal Communications Commission, December 9, 2015, https://www.fcc.gov/document/fcc-releases-open-internet-order. Paragraph 8

[5] Roslyn Layton, "Net Neutrality Without the FCC?: Why the FTC Can Regulate Broadband Effectively | The Federalist Society," The Federalist Society, November 15, 2017, https://fedsoc.org/commentary/publications/net-neutrality-without-the-fcc-why-the-ftc-can-regulate-broadband-effectively.

[6] "What AT&T Is Doing to Help Prevent the Spread of Coronavirus, COVID-19," accessed April 14, 2020, https://about.att.com/pages/COVID-19.html.

[7] "COVID-19 Network Update," Comcast, April 15, 2020, https://corporate.comcast.com/covid-19/network.

[8] Howard Waterman, "4/15 Update: How Americans Are Spending Time in the New Normal," Verizon, March 17, 2020, https://www.verizon.com/about/news/how-americans-are-spending-their-time-temporary-new-normal.

claimed its highest traffic ever.[9] Phone and video conference platform Zoom ballooned from 10 million to 200 million users.[10] If ever there was a time for the "captive" broadband customer to be exploited, it was during the crisis. But that didn't happen. Broadband providers behaved in the opposite way of regulatory advocates' predictions.

In fact, over 800 US communications service providers pledged not to cut service or add fees for 90 days. [11] The collective efforts were promoted through the FCC's Keep America Connected Pledge featuring more than a dozen elements including free Wi-Fi hotspots to those who need them, hundreds of millions of dollars to telehealth programs, spectrum grants to increase capacity, waived regulatory requirements to speed delivery of service, waivers to allow workers to work from home in serving the disabled, and warnings about text and phone scams. In fact, many firms went above and beyond this, offering free service, expanded eligibility for many offers, increased speeds at no added cost, free data for educational programs, suspended usage limits, waived installation fees, new hotspots, free international calling, and tens of millions of dollars in grants to schools and other valuable programs.[12] Comcast extended free WiFi access to the end of 2020[13] and another 60 days of free internet to its Internet Essentials customers.[14] Wall Street downgraded the earnings expectations a result of the action, but the firms continued the offers in solidarity with their customers during the crisis.[15]

There could be a variety of reasons to explains why the behavior is opposite to regulatory advocates' predictions. For example, network providers may have sensed an opportunity to demonstrate commitment and goodwill during the crisis. It could be that the FCC, even without

[9] Simon Chandler, "Netflix Traffic Hits All-Time Highs Amid Coronavirus Pandemic, Says AT&T," Forbes, accessed April 14, 2020, https://www.forbes.com/sites/simonchandler/2020/03/24/netflix-traffic-hits-all-time-highs-amid-coronavirus-pandemic-says-att/.

[10] Subrat Patnaik, "Zoom Pulls in More than 200 Million Daily Video Users during Worldwide Lockdowns," *Reuters*, April 2, 2020, https://www.reuters.com/article/us-health-coronavirus-zoom-idUSKBN21K1C7.

[11] "Keep Americans Connected," Federal Communications Commission, July 1, 2020, https://www.fcc.gov/keep-americans-connected.

[12] "Companies Pledging to Keep Americans Connected During Pandemic Go Above and Beyond the Call," Federal Communications Commission, March 20, 2020, https://www.fcc.gov/companies-pledging-keep-americans-connected-during-pandemic-go-above-and-beyond-call.

[13] "Comcast Extends Free Public WiFi Access to Everyone for the Remainder of 2020," *Bloomberg.Com*, June 19, 2020, https://www.bloomberg.com/press-releases/2020-06-19/comcast-extends-free-public-wifi-access-to-everyone-for-the-remainder-of-2020.

[14] "Comcast Extends 60-Days of Free Internet Service to New Internet Essentials Customers," June 18, 2020, https://corporate.comcast.com/press/releases/comcast-extends-free-internet-service-new-internet-essentials-customers.

[15] Frank G. Louthan, "T, VZ, CMCSA, CCOI: Adjusting Estimates on COVID-19 Impact" (Raymond James, April 1, 2020).

ex ante rules, is can guide and direct firm behavior. It could also be powerful watchdogs, journalists, and customers, armed with transparency-creating platforms, keep firms in check. This suggests that market forces and consumer expectations pressure broadband network providers to behave responsibly. There was no regulatory requirement to make them behave in a responsible way, nor is there one needed.

Roslyn Layton, PhD is Senior Vice President of Strand Consult which produces independent research about mobile wireless technologies. She is a Visiting Researcher in Communication, Media and Information technologies in The Technical Faculty of IT and Design in the Department of Electronic Systems at Aalborg University (Denmark), one of the world's top 40 schools for engineering. She is the Co-Founder of China Tech Threat dedicated to improving cybersecurity policy to protect people from the Chinese government. She serves as Vice Chair of the Program Committee of the Telecom Policy Research Conference (TPRC). Dr. Layton earned a PhD in business economics from Aalborg University by examining telecom network regulation across 53 countries to uncover the instruments provided the most effective regimes for mobile wireless innovation; her doctoral thesis remains as one of the few international empirical investigations of net neutrality. She is a Senior Contributor at Forbes where she translates academic tech policy for a business audience.

TELECOMMUNICATIONS AND BEYOND: WHAT IS NEXT FOR TELECOM REGULATORS?

Abdelmohssen Sheha
Pre-Trial Judge at the State Council of Egypt

In most countries, Telecom regulators were created to handle the transition of the Telecom sector from monopoly to competition. This model of sectoral regulation, firmly associated with ex-ante regulation, has appeared as an alternative to an ex-post intervention. The later, to be undertaken by anti-trust authorities when anti-competitive practices are observed, was believed to be inefficient in liberalizing monopolized Telecom markets. Such a retroactive process could have taken much longer to accomplish the transformation of the sector. Instead, an ex-ante retrospective approach was believed to deliver quicker results, by providing the sector, in advance, with the necessary conditions for a smooth economic take-off. More specifically, ex-ante regulation was used in the Telecom sector to lower barriers to entry, legal, economic, and technical. Beyond market-entry issues, ex-ante regulation was also necessary, in some cases, to enable new players to achieve a critical mass to be able to compete with the already existing players, hence serving the public interest attached to the establishment of competitive markets.

To resume, two key words identify Telecom regulators: liberalization and ex-ante regulation. Yet, liberalization is a process, not a status. In other words, liberalization is deemed to be a transitional process that starts with the end-up of monopoly and ends with the establishment of sustainable competition. Once this goal is achieved, Telecom regulators may lack a raison d'être, as ex-ante regulation will be no more needed. A sole ex-post intervention, by antitrust authorities, should be sufficient to follow-up the state of competition in the Telecom market and intervene only in case of market failures.

Although most of the countries are already far from achieving this process, many of the Telecom sectors in the European Union (EU) have already been widely liberalized. Fixed and mobile markets become already highly competitive. Therefore, light-touch regulation is being widely applied and Significant Market Power (SMP) regulation has been considerably lightened.

With the multiplication of self-regulated markets and the approach of a sustainable competition, it becomes legitimate to wonder if Telecom regulators are doomed to disappear once the liberalization mission is accomplished?
Although being challenging, the answer is probably no. Two main on-going trends are shaping the future of the next 'regulatory job' for Telecom regulators, beyond the traditional Telecom regulation.

Net neutrality can be considered as the first trend. Actually, over the last two decades, the cut and clear difference between container, i.e Telecom networks, and content, i.e data content, has been eroded. A cross-movement has been witnessed: on the one hand, Telecom operators are providing content, and, on the other hand, content providers are investing in Telecom infrastructure. Sometimes, Telecom operators and content providers engage in commercial negotiations and agreements for data-processing arrangements. This cross-movement is very significant as it can have an important impact on competition, simply by segmenting the internet network depending on the type of the data transferred, its origin, or its destination. A more neutral basis for data processing, such as the rule of best effort, can then be a memory of the past.
The issue of Net neutrality has been widely debated over the last 15 years. Since 2015, the EU has adopted the Open-Internet directive (2015/2120), setting Net neutrality rules. These rules seek to ensure an open and neutral digital communications networks that treat all data equally, according to its technical properties. Practices of throttling, slowing, or blocking data transfer and processing are, in principle, prohibited. The non-discriminatory treatment is believed to protect innovation and the right of all users to equal access. To that purpose, the directive imposes tight obligations on Telecom operators and content providers to refrain from engaging in any sort of agreement that would give any preferential treatment. Hence, the European NRAs are intensifying their efforts in the last couple of years to identify and tackle any potential threats to Net neutrality. Consequently, besides Telecom operators and Internet service providers (ISPs), content providers operations are being closely monitored.

Beyond Net neutrality, a glance at the tremendous rise of Internet giants, GAFA (Google, Apple, Facebook & Amazon), is prominent. The GAFA are holding a crucial digital infrastructure. This infrastructure, although being different in nature, is very similar in effects to the physical infrastructure of Telecom operators. By playing the same role as a platform, on which people can be put together, this digital infrastructure profits from significant club effects.

In the case of Facebook, people tend to be concentrated on its platform to benefit from the positive externalities associated with the huge number of people already subscribed to that same network. The idea of subscribing to other alternative platforms may not be very appealing. Hence, along with the acquisition practices in which Facebook is engaged, the company is drawing on its first-mover position to dominate the social media market. In the case of Google, Apple, and Amazon, they are holding a crucial infrastructure for digital commerce, known in the Economic theory as a two-sided markets. Producers of goods and services have to rely on their platforms to reach their targeted customers online. Hence, the control of this worldwide platform is very similar to the control of an « essential facility », which is a competition bottleneck. Besides, the GAFA are engaging in sophisticated use of big data and AI to collect and process data. The monopoly of this tremendous database will probably have adverse effects on innovation and competition unless other competitors can have access to it on reasonable and non-discriminatory basis.

The similarities between what is stated above with the Telecom sector at the age of monopoly are astonishing. In both cases, the externalities associated with the monopolistic position reinforce the operators' ability to consolidate its market power. The negative impact on competition and innovation, at least on the long-run, is to be awaited. For these reasons, remedies are already being discussed worldwide to impose a « technology regulation ». Some of these remedies are similar to these already used to liberalize the Telecom sector. Unbundling represents an example.

Wither it be for Net neutrality or GAFA regulation, ex-ante regulations are being currently reconsidered to tackle the process of recreation of digital monopolies, and re-liberalize the digital markets. Capitalizing on their previous experience and their technical and economic expertise, Telecom regulators appear to be the best suited to undertake this new mission. In this case, the Telecom regulator of today is to be the Digital networks' regulator of tomorrow.

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3- https://www.dw.com/en/eu-calls-for-greater-regulation-of-us-tech-companies/a-53717205, retrieved on 26 of July 2020
4- https://www.usnews.com/news/best-countries/articles/2020-01-15/the-world-wants-big-tech-companies-to-be-regulated, retrieved on 24 of July 2020.
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Mr. Abdelmohssen Sheha is a pre-trial judge at the State Council of Egypt (Judicial section). He has served, as a State Commissioner, at various chambers of the Court of Administrative Justice, especially at the Investment Chamber. Also, Mr. Sheha is a former member of the technical bureau of the inter-ministerial committee for settlement of investment disputes at the Egyptian Cabinet of Ministers. He was also a teaching assistant at the Faculty of Law of the British University in Egypt (BUE), teaching administrative law and contracts.

Since 2016, Mr. Sheha is a Ph.D. student at the *Université de Strasbourg*, France. He is preparing a dissertation on public comparative law, dealing with Telecommunications regulation in European, French, and Egyptian laws. Mr. Sheha had various publications, in English, French, and Arabic, in renowned specialized revues. With regard to Telecom, he has most recently contributed to the *Revue Lamy droit de l'immatériel* and *LexisNexis MENA*. His

most recent publications dealt with specific issues in the Telecom regulation: Net neutrality in the European law and Interconnection agreements under the Egyptian Telecom law.

Prior to his Ph.D., Mr. Sheha obtained a triple Masters' degree in public law (Cairo University, Egypt), Public administration (Université de Strasbourg, France), and Economics and Public Finance (Université d'Auvergne, France). His undergoing Ph.D. projet is drawing on this multidisciplinary background. Besides, Mr. Sheha is a former fellow of the French National School of Public Administration (Ecole Nationale d'Administration 'ENA', CIP, Promotion Jules Vernes 2014).

The domain of interest and expertise of Mr. Abdelmohssen Sheha is administrative law, economic regulation law (i.e regulation of network markets), digital communications law, competition law, and arbitration. In Economics, he is interested, *inter alia,* in network Economics and Economics of development.

Spectrum Policy for National Government Users: A Worldwide Policy Challenge

Michael J. Marcus

National governments around the world are generally large scale spectrum users for their military and civil governmental operations. Today, many governmental functions are spectrum intensive due to the increasing mobility and use of information in today's societies and economies. The civil functions range from air traffic control to public safety operations to fixed and mobile wireless networks to support other functions that are key to toady's societies. The spectrum resources that are used for such governmental functions are generally not available for private sector users, although some sharing is possible in classic spectrum policy. National government spectrum use is a difficult regulatory issue because the very same national government that is using such spectrum includes the regulator that sets the rules for private sector use. In many countries military authorities play a key role in national spectrum management.

Spectrum is generally fungible for national government and private sector use and is a key input to wireless systems that have a large impact on national economic growth which in turn impact national government revenues. This article will explore the policy challenge of regulation national government spectrum use and discuss a recent US report on the issue.

Different countries have chosen different mechanisms for balancing national government and private sector spectrum use. In Japan, the Ministry of Internal Affairs and Communications (MIC) is the unitary regulator of all spectrum use and consistent with the Japanese style of government deals with other agencies on a somewhat distant basis. In the US, spectrum policy responsibility is split between the independent Federal Communications Commission (FCC) with jurisdiction over private sector and local government use and the executive branch's National Telecommunications and Information Administration (NTIA) with jurisdiction over national government use. In the United Kingdom the Office of Communications (Ofcom) has responsibility for the "communications sector" while the national government, acting through a little known official committee of the Cabinet Office, the UK Spectrum Strategy Committee (UKSSC), has responsibility for national security and public safety spectrum use.

In the UK, the government has stated that "public bodies will acquire spectrum through the market, with administrative assignment by Ofcom only being made in exceptional cases" and that "(t)he Government is committed to paying administered incentive pricing (AIP) on its

spectrum holdings".[16] (AIP is an estimate of spectrum value based on spectrum scarcity and other factors.[17]) In the US and some other countries, national government spectrum users pay a small fee for spectrum use that is calculated only on NTIA's administrative costs and is independent of free market spectrum value. Thus the UK is unique in the world for its progress in treating spectrum use by the national government basically on the same economic terms as private sector use. While this may seem unusual to people who have dealt with spectrum for a long time, national governments around the world generally pay market prices from other key resources and products they use ranging from electricity to fuel to vehicles to land.

In July 2012 the US President's Council of Advisors on Science and Technology (PCAST) released a report on national government spectrum use policy entitled "Report to the President: Realizing the Full Potential of Government-held Spectrum to Spur Economic Growth"[18]. Parts of this report has been very controversial[19] within the US because it advocates limiting previously planned reallocations of national government spectrum to commercially-operated mobile broadband systems and focusing on accommodating commercial spectrum use on increased sharing of spatial and temporal bands by national government users and private sector users. But in addition to this controversial recommendation there are several other recommendations that have received little attention and may be applicable to situations in other countries.

The report finds that "(t)here is no incentive system today for Federal (national) Government agencies to be efficient in their use of spectrum or to share spectrum allocated to them with the non-Federal (private/local government) sector" and recommends that the "essential element of this new Federal spectrum architecture is that the norm for spectrum use should be sharing, not exclusivity." Because much national spectrum use is different in temporal and geographic characteristics than much of the other use, it finds that sharing will be possible in many cases with the provision that non-national government users must change their spectrum use temporarily when and where there is a surge of national spectrum use, for example during military training exercises.

The report recommends that national government agencies using spectrum should be given

[16] Cabinet Official Committee on UK Spectrum Strategy (UKSSC), Government Response and Action Plan for Independent Audit of Spectrum Holdings, March 2006 (http://www.spectrumaudit.org.uk/pdf/governmentresponse.pdf)

[17] Ofcom, Our current practice in setting AIP fees, 29 March 2010 (http://stakeholders.ofcom.org.uk/binaries/consultations/srsp/appendixA.pdf)

[18] http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf

[19] http://ctia.org/media/press/body.cfm/prid/2196

incentives to decrease their spectrum use because increased spectrum availability for the private sector has real economic benefit. Generally government entities are subject to strict budget constraints that make it difficult to impossible to explore system design changes to existing systems that could lower their spectrum requirements. While US already now provides for agencies to be reimbursed for the cost of moving to new bands, the cash flow of agency expenditures to plan and implement such a change and the reimbursement to the agency do not match well in terms of timing and amounts.

The report suggests creating a revolving Spectrum Efficiency Fund that

> "recycles private sector payments for use of Federal spectrum into reimbursements to Federal agencies for investments that facilitate spectrum sharing and enhance spectrum efficiency. Congress should allow the Fund to reimburse qualifying costs by any Federal service, not just those in revenue-generating bands."

The new fund would not have the cash flow limitations of the present scheme that discourage agency investments in planning studies and small scale tests of new technology since they can not be reimbursed presently until the spectrum has been auctioned to private users – possibly years later. The report goes further in recommending a major accounting change to facilitate agency changes that make more spectrum available to others:

> "Spectrum currency is our name for a synthetic currency that would give agencies a means to identify the opportunity costs associated with their use of spectrum and to obtain benefits by sharing or vacating some parts of their assigned spectrum and provide a way for them to "buy" their spectrum usage rights and reduce their spending by improving spectrum efficiency…To turn their gains in efficiency to practical advantage, agencies desiring to accelerate their transition to the new scheme could use their spectrum currency to bid every year for equipment credit from the Spectrum Efficiency Fund … that would enable them to increase their service quality."

The UK has led the way in holding national government spectrum users more accountable for their spectrum use through the pricing of spectrum for most government and private spectrum users. The recent US PCAST report explores new options to try to balance the equities of national government and private sector spectrum use. These will generally be controversial in each country and it is important that the technical wireless community become familiar with the issues involved in order to contribute to national deliberations on what is the best approach for each country.

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Kester Osahenye

Kester Osahenye presently works with MTN Group as a Senior Manager, Trade Communications. He was at various times in MTN Regional Marketing Manager, Retail Channel Manager and Regional Sales Manager. Kester worked TGI Group the makers of Chivita, Hollandia where he managed the CHI brands of juice in tetra Pak and Caprisun for couple of years, the CHI group is now part of Coca Cola Company in West Africa. Kester was a newspaper reporter before working with top-notch advertising agencies such as JWT Nigeria and Ideas Communications where he worked on the marketing communication campaigns of several global brands.

Kester holds graduated from the University of Strathclyde in 2008, UK where he got the prestigious British Chevening scholarship, he also holds another Masters degree from the University of Ibadan Nigeria. He currently shares his time writing on Value Added Services, the sharing of pies between Mobile Network Operators and the OTT, he has presented papers at Conferences and seminars on Mobile financial services as a product for development and financial inclusion

Kester is also a creative writer, his first book on Poetry, Cacophony would be published soon. He has travelled to Germany, France and African States to deliver lectures on socio economic issues in Africa. Kester has been on creative writing residencies and fellowships in the US, UK, South Africa and France. He also attended Cederberg Art Festival in Jo'burg, he participated and read his poems at the foremost Franschhoek Literary Festival, FLF, [http://www.flf.co.za] which has gained an international reputation as a respected celebration of books and writers from Africa. Kester has been a guest to many TV programmes where he spoke about his writings and socio-political issues.