Spectrum Policies to Support Global Fight Against COVID-19
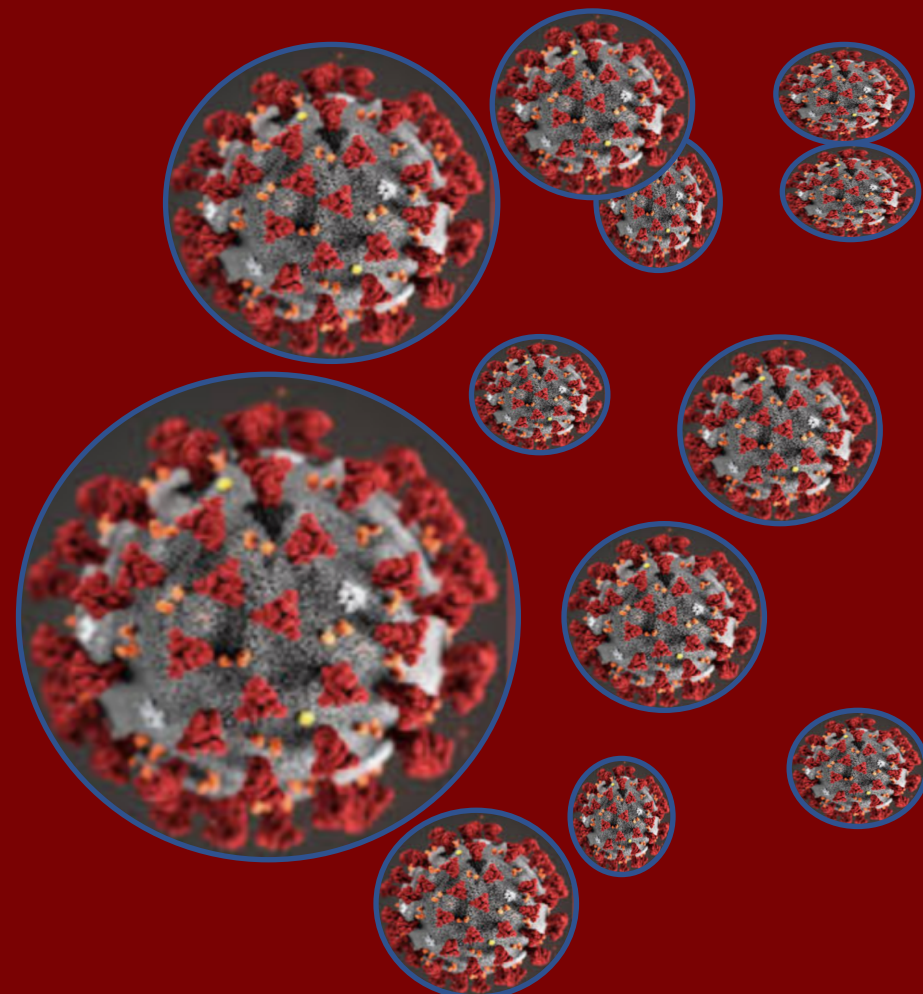
Bharat B (BB) Bhatia,
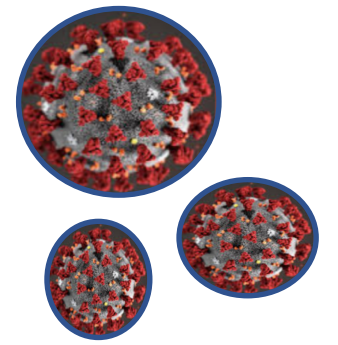President, ITU-APT Foundation of India
Chair, SWG PPDR, ITU-R WP5D
Chair, TG PPDR, APT
Member, Steering Board, WWRF
President, Wireless Radio Consulting

COVID-19 Impact on Spectrum

- ✓ COVID-19 has made everyone realize that broadband access Is a basic human need, just like water and electricity.

- ✓ Today most of the broadband access, both in developed and developing countries is provided by wireless devices, networks, and services.

- ✓ Adequate and timely availability of Radio frequency spectrum is critical for these wireless devices, networks, and services.

- ✓ While everyone realizes the incredible value of spectrum, governments need to understand the importance of spectrum for social good, particularly in times such as now

- ✓ Working and studying from home is not only straining the 3G/4G/5G cellular mobile networks but also slowing down the home Wi-Fi networks due to limited spectrum available. During this period, maximum connectivity is primarily required at homes.

- ✓ Till now wireless networks were not designed to handle this kind of load from residential areas. Backhaul and last mile connectivity for such a situation needs extensive support from the government in terms of policy and redesigning the regulatory framework

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Covid-19 Reminder
Spectrum is a critical resource for a range of users
All spectrum allocation methods remain important
Focus on Unlicensed and Shared Spectrum

Licensed Spectrum

Unlicensed Spectrum

Shared Spectrum

- Admin allocation
- Beauty contest
- Auctions

- Wi-Fi
- WhiteSpace
- CBRS
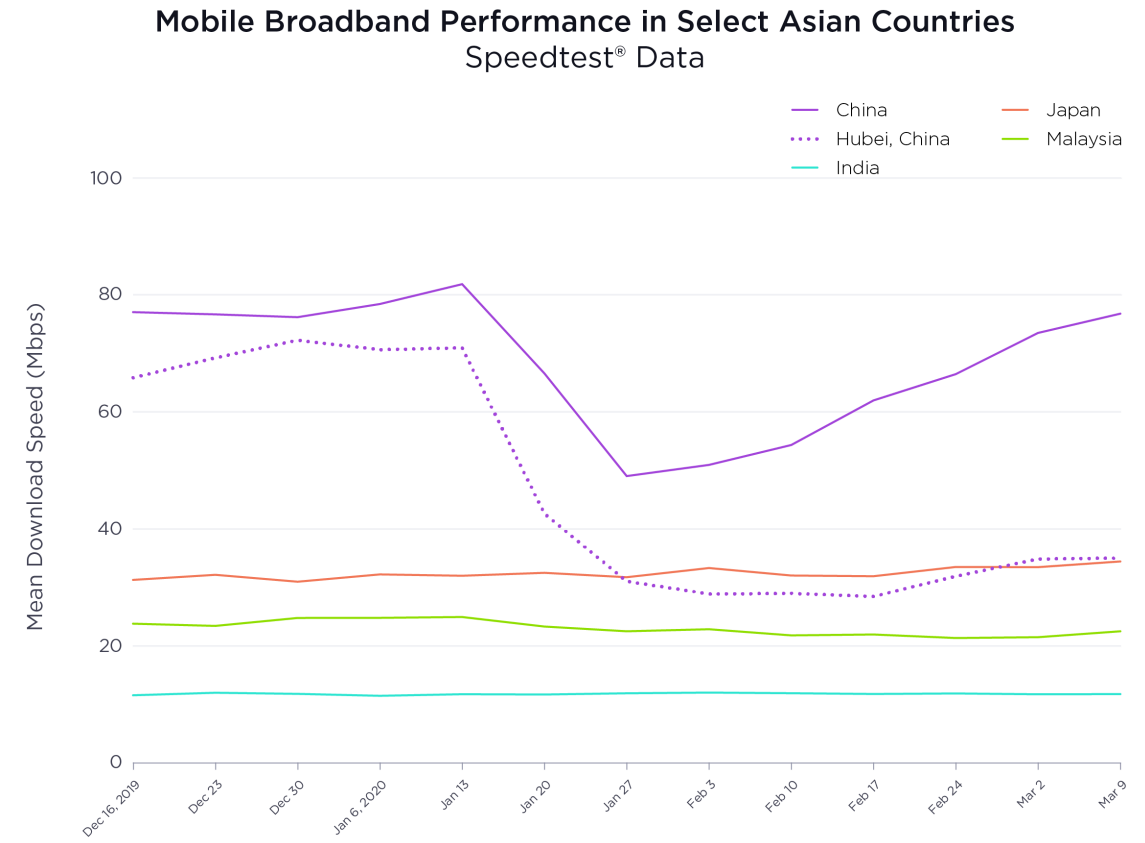- LTE-U
- MulteFire
- LSA
- LWA
- etc..etc.

Spectrum for Mobile and other (FX, BC, Sat..) Operators
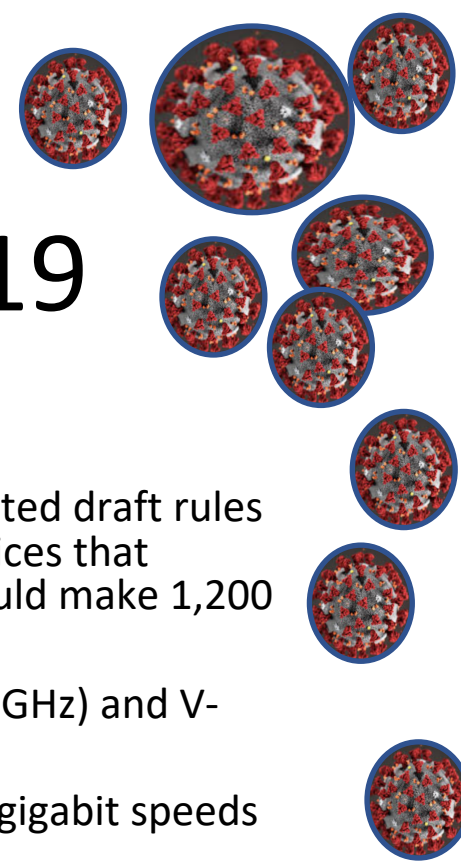
Unlicensed Spectrum for consumers

Spectrum for Critical Services Such as PPDR, Utilities, transport, etc.

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Mobile broadband in many Asian countries due to COVID-19 did not jump as was initially expected

✓ COVID-19 has clearly shown how most of the increased traffic load due to home working was taken by Wi-Fi rather than mobile broadband in many Asian countries

✓ Demand for Wi-Fi equipment more than doubled in India during first two weeks of March

✓ Mobile operators in India, who initially asked the government for urgent release of additional spectrum withdrew their request on April 1 as there was not much spurt in demand (Data demand in metros only jumped about 3-6%)

Mobile Broadband Performance in Select Asian Countries
Speedtest® Data

Legend:
— China
···· Hubei, China
— India
— Japan
— Malaysia

Y-axis: Mean Download Speed (Mbps) — 0, 20, 40, 60, 80, 100

X-axis: Dec 16, 2019, Dec 23, Dec 30, Jan 6, 2020, Jan 13, Jan 20, Jan 27, Feb 3, Feb 10, Feb 17, Feb 24, Mar 2, Mar 9

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A New Look at unlicensed and shared spectrum is a must response to COVID-19

✓ Exploding use of Wi-Fi during COVID-19 calls for new look at unlicensed Spectrum:

  ✓ FCC Chairman Ajit Pai, responding to COVID-19 increased demand for Wi-Fi, on April 1 circulated draft rules permitting unlicensed devices to operate in the 6 GHz band , saying that everyday use of devices that connect to the Internet over unlicensed spectrum has exploded . The proposed FCC rules would make 1,200 megahertz of spectrum available for unlicensed use

  ✓ Many advanced countries have already unlicensed use of spectrum in E-band (71-76 / 81-86 GHz) and V-band (57-64MHz) for high-capacity backhaul and local broadband.

  ✓ **Use of** 57 to 71GHz for indoor wireless applications allows devices to communicate at multi-gigabit speeds meeting the needs of home working and HD entertainment at Home.

  ✓ Asian countries need to delicense 6 GHz (5.925-7.125 GHz), 60 GHz (57-66 GHz) and 70 GHz (66 –71 GHz) bands on priority while making sure that there is adequate protection to the satellites and the fixed links that use these frequency bands.

  ✓ CBRS and simpler local area LTE licensing rules for meeting the huge data demands for housing societies, industrial complexes and utilities is a critical spectrum requirement to respond to COVID-19

  ✓ 26 GHz mm Waves based 5G solution provides excellent solution having beamforming techniques, small cells and ultrawide bandwidth. This band must be released immediately.

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700 MHz and 1.4 GHz early release is critical to meet broadband mobile data needs of Mobile Operators.

➢ 700 MHz should be released asap. If auctions are not possible due to COVID-19, an interim allocation should be made wherever possible:

  ➢ Many countries in Asia have still not released 700 MHz even where this spectrum is unused. For example, the band is lying vacant in India but has not been allocated as yet. Similarly Indonesia is yet to clear this band.

  ➢ There is 45+45 MHz critical broadband 4G/5G spectrum that can provide excellent broadband mobile capability with Low initial investment, not just in cities but in rural and suburban areas as well

  ➢ In addition Asian administrations should start looking at 600 MHz as the next digital dividend band.

  ➢ 600 and 700 MHz bands provide coverage as well as in-building penetration to cover consumers staying in rural/remote areas as well as in concrete urban areas where in-building penetration of higher frequency bands is limited due to their propagation characteristics.

  ➢ Some countries have reserved 10+10 MHz in this band for PPDR or other mission critical communications. Effective steps are needed to implement these project on a war footing. Additional needs of spectrum for telehealth and emergency services need to be kept view

➢ L Band - 1427-1512 MHz band was identified for 4G/5G at WRC-15 but has still not been released in many countries. This band provides an ideal mix of coverage and capacity but is held up due to band plan discussions and adjacent band protection issues. Urgent action is needed to resolve this deadlock.

Importance of Satellite Communications to COVID-19

Spectrum needs of Satellites is a critical requirement when planning response to COVID-19.

There will be increasing needs of Inflight connectivity when flights are resumed and necessary spectrum and regulations for earth stations in Motion are another priority for administrations
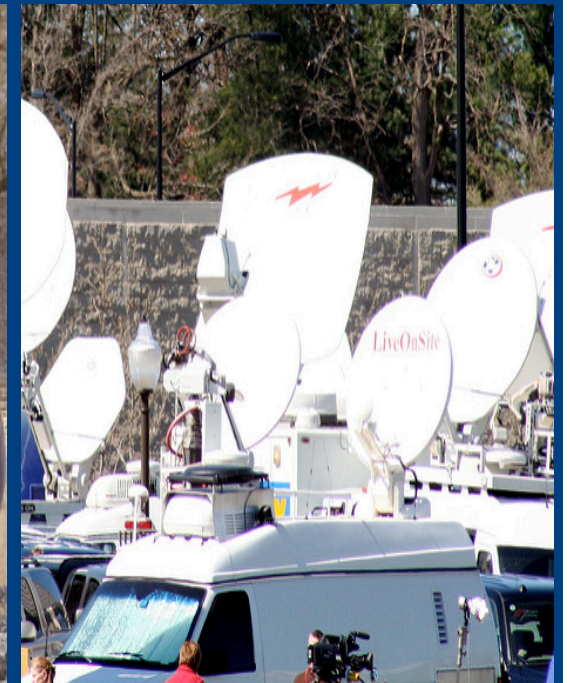
E-learning - E-health - E-government - E-farming

Disasters and Emergency situations

Access to information & broadcasting services

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Actions from UNO and ITU to support global policies on COVID-19

- **ITU** has launched a new global network resiliency platform #REG4COVID

- This platform has enabled ITU members to share and pool experiences, ongoing initiatives, and innovative policy and regulatory measures

- ITU had invited inputs to this platform on initiatives that policy makers, regulators and operators are introducing in the wake of COVID-19

- Several initiatives taken by various countries can be seen at this platform.

- An emergency virtual meeting of the Broadband Commission for Sustainable Development of the UNO was convened last week

- The Commission, a UN advisory body, laid down an Agenda for Action to ensure that the networks are robust, resilient and within reach of as many people as possible

Thank You

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