

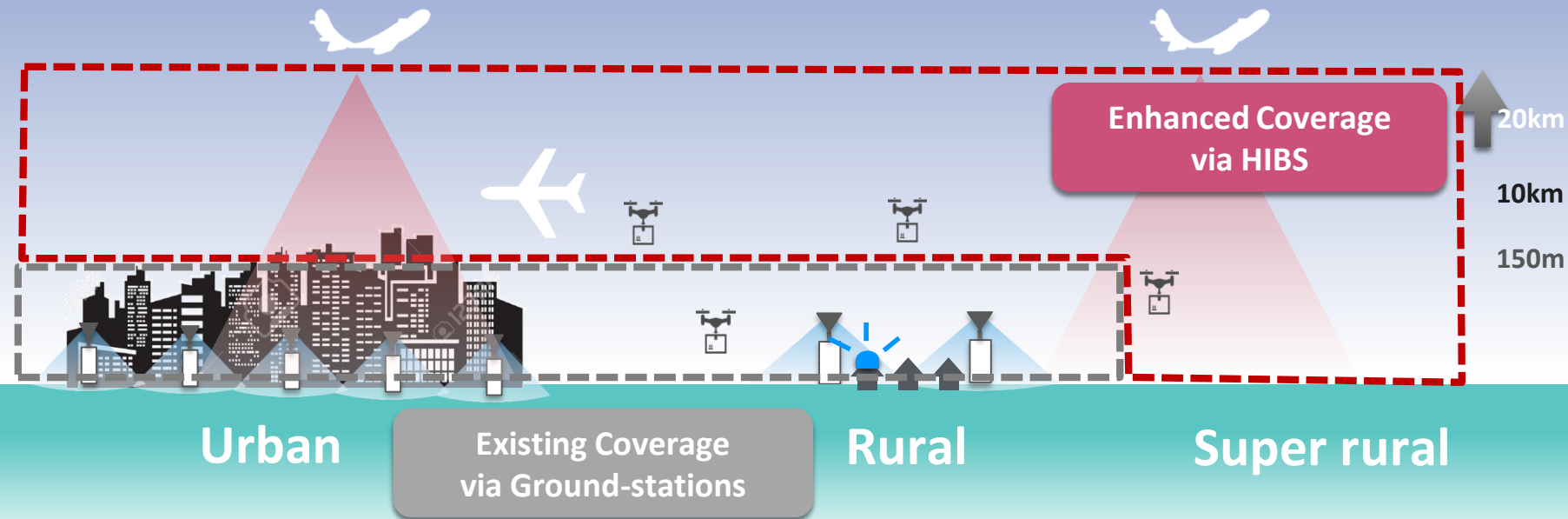


Supporting HIBS for Expanded IMT Coverage

July 2019

Why Do We Need HIBS?

- Mobile connectivity anytime, anywhere to meet growing need for broadband
- Bridging digital divide through enhancement of IMT coverage
 - Expand IMT coverage at ground level, but also for airborne use cases (planes, drones)
- Safety and security
 - continuity of coverage during natural disasters

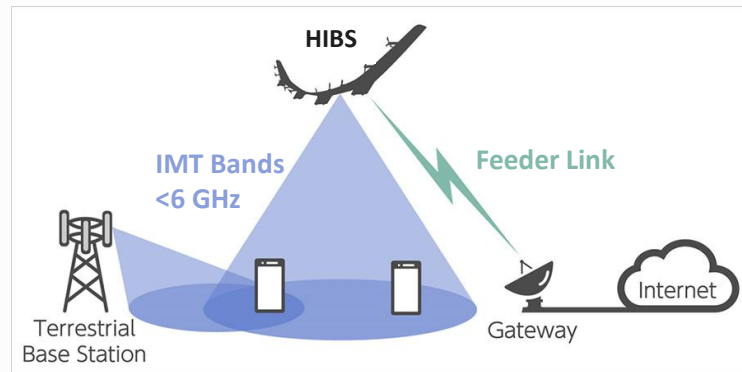


Advantages of HIBS

Widespread deployment of HIBS would provide a highly-effective and efficient way to meet the growing demand for mobile broadband in underserved areas.

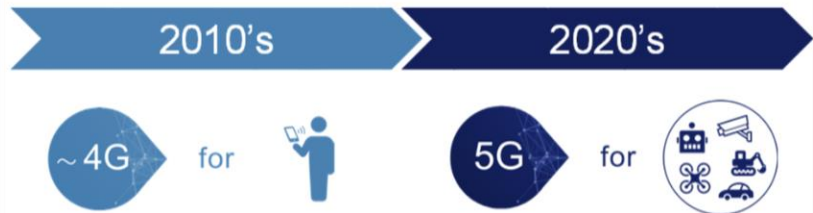
- HIBS offers:
 - Very large footprint that can complement the coverage provided by mobile network operators (MNOs) in rural areas
 - Lower latency than higher-orbit satellite systems, including the latest “non-GSO” (geostationary satellite orbit) solutions
 - Minimal ground infrastructure and maintenance requirements
 - Usage scenarios include coverage enhancement, safety and security, IoT, and drones

- HIBS are effectively a different type of base station – a super microcell that can expand coverage and complement existing macro, micro, and picocells used for urban and rural coverage.



HIBS and 5G

HIBS can also offer benefits in the transition to 5G



Coming paradigm shift towards greater connectivity and expanded use cases



HIBS can accelerate the transition to 5G by providing supplemental coverage in rural areas



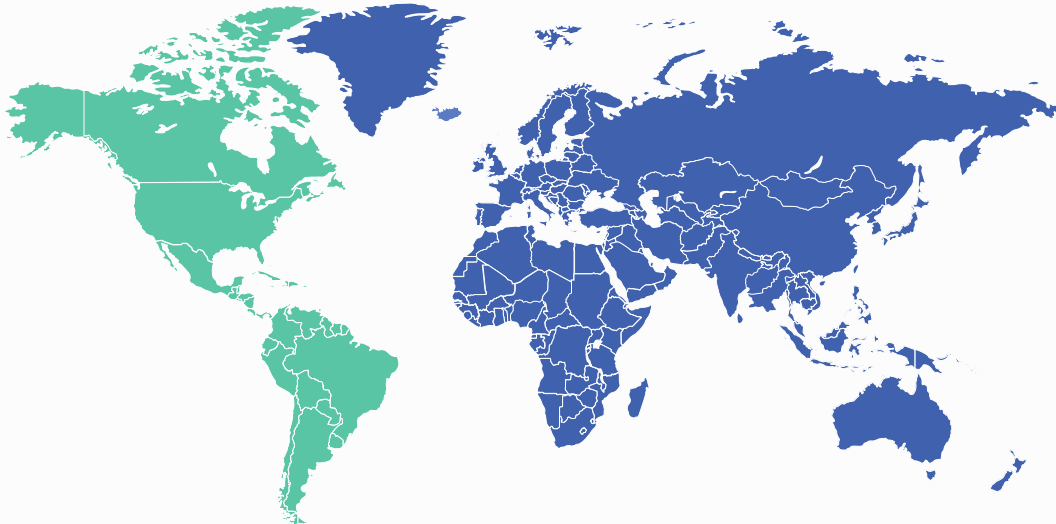
Relevant ITU Radio Regulations

HIBS is already permitted on a global basis in IMT bands (2 GHz band) through footnote 5.388A in accordance with Resolution 221

Further Regional Regulations:

- **5.388B**, adopted by 44 countries, establishes technical requirements to protect fixed and mobile services, including IMT, from co-channel interference.

ITU spectrum permission for HIBS



ITU Region 2

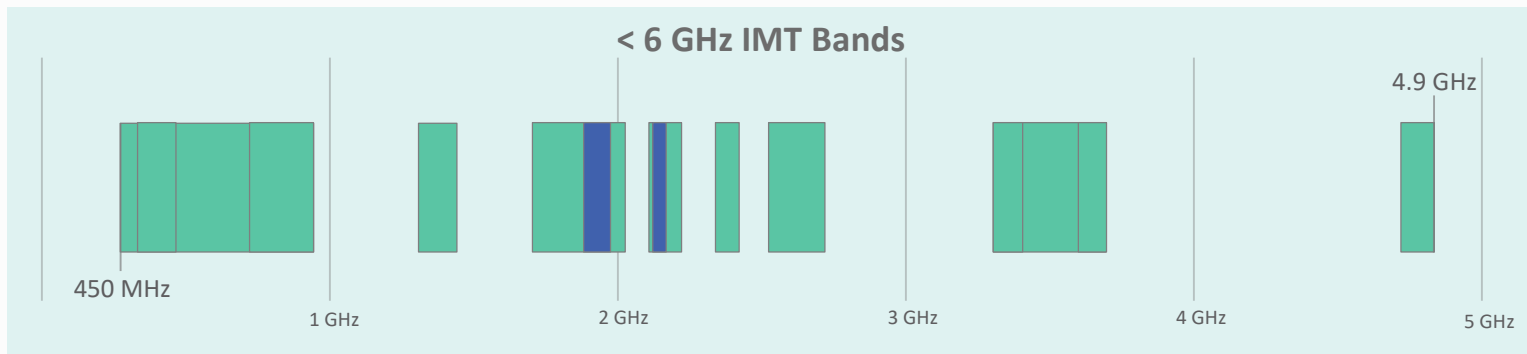
HIBS permitted in 1 885-1 980 MHz and 2 110-2 160 MHz


ITU Regions 1 and 3

HIBS permitted in 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz


The Need for Flexibility in <6 GHz IMT Bands

Increased flexibility for HIBS would allow to use more extensively mobile operators spectrum holdings



 HIBS already permitted under 5.388A:

2 GHz

 Additional IMT bands where HIBS could potentially be deployed:

450 MHz	1.5 GHz	3.4 GHz
700 MHz	2 GHz	3.5 GHz
800 MHz	2.3 GHz	3.6 GHz
900 MHz	2.5 GHz	4.8 GHz

WRC-19: Future Agenda Item Proposal

Proposal to Study HIBS in IMT Bands under 6 GHz in advance of WRC-23

Future Agenda Item:

- Invite ITU-R to conduct sharing and compatibility studies with existing services allocated in IMT frequency bands and, as appropriate, adjacent band studies, taking into account studies already performed and in progress in ITU-R.

IMT identified bands To Be Studied:

450 MHz	1.5 GHz	3.4 GHz
700 MHz	2 GHz	3.5 GHz
800 MHz	2.3 GHz	3.6 GHz
900 MHz	2.5 GHz	4.8 GHz

