

Activities on Stratospheric Platform

SoftBank Corp.

September, 2019

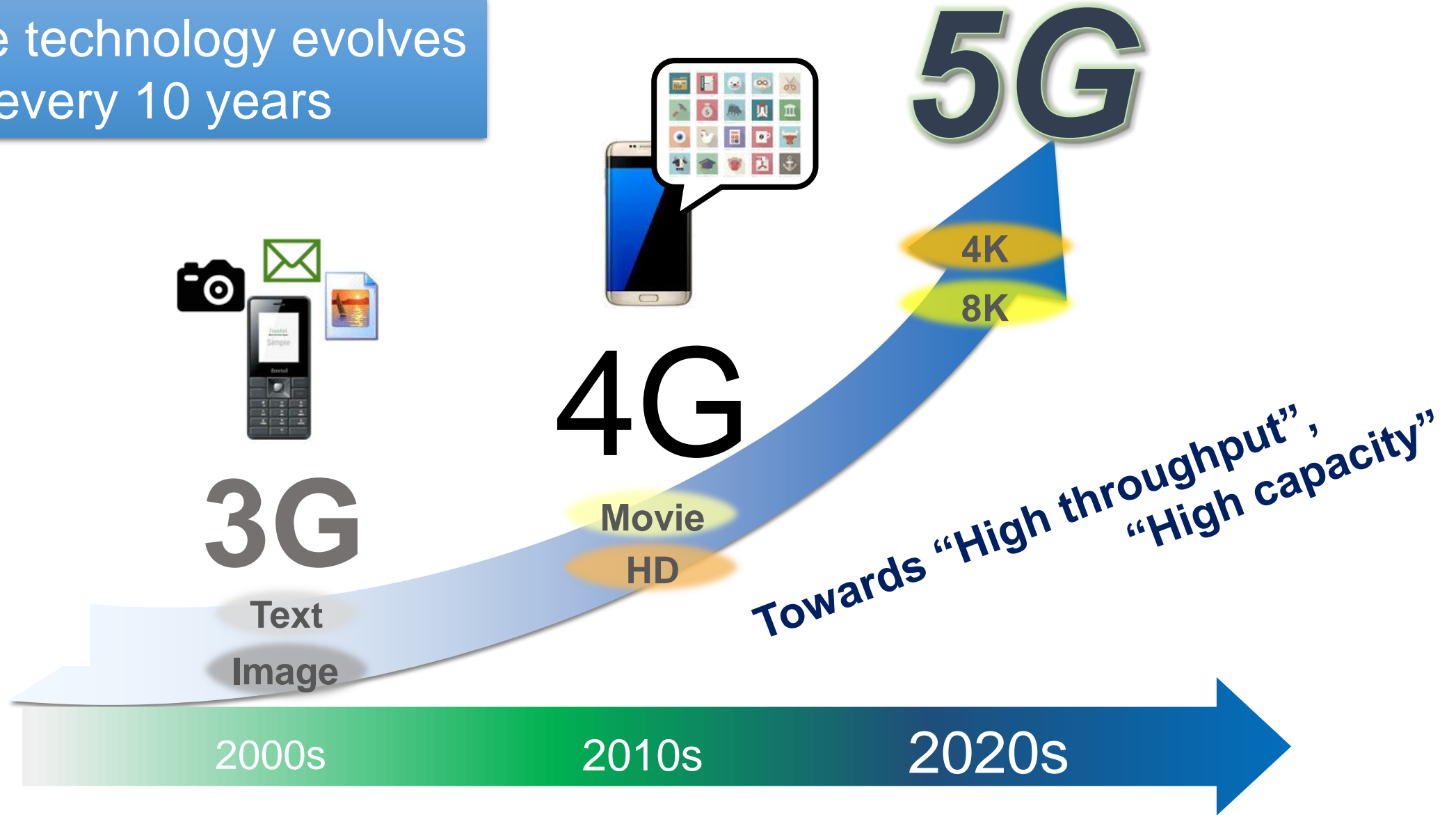
 SoftBank

Disclaimer

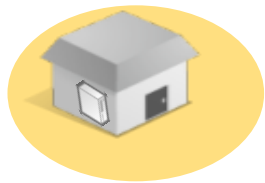
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Technology development

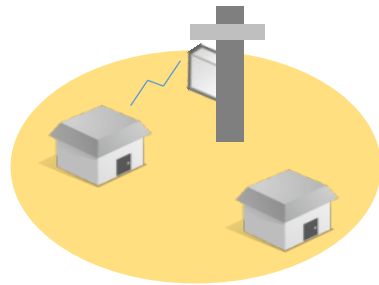
Mobile technology evolves every 10 years



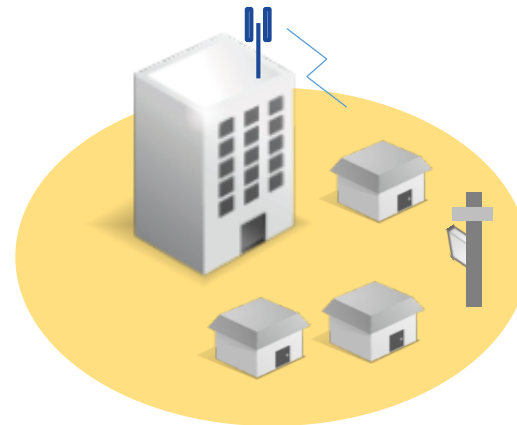
Current area coverage methods



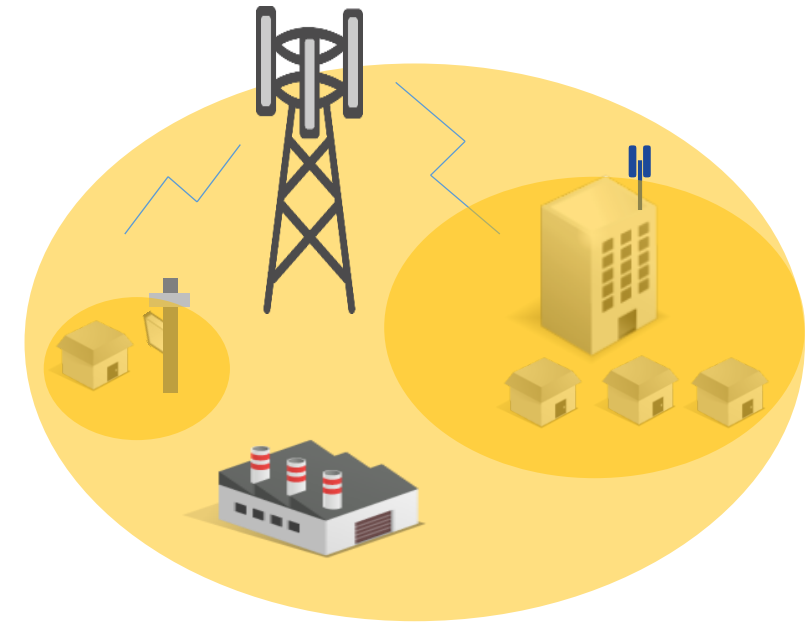
Picocell
(indoor BS)



Microcell
(hotspot BS)

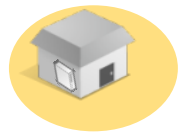


Macrocell
(rooftop BS)

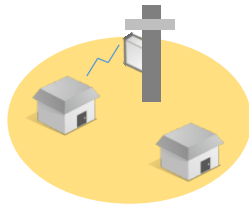


Wider Macrocell
(tower BS)

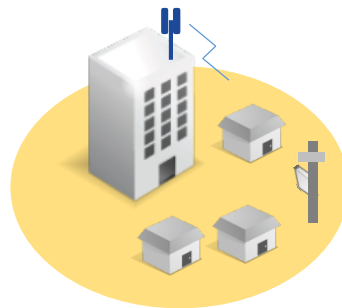
New area coverage method needed



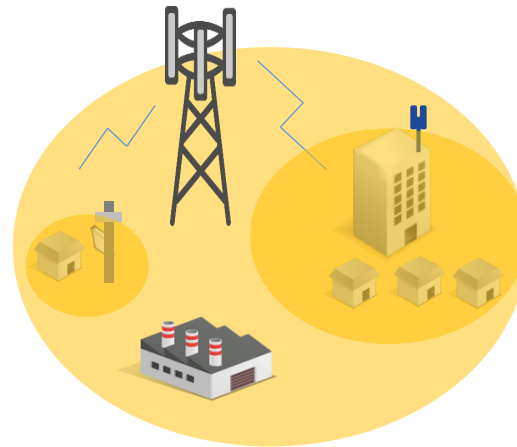
Picocell
(indoor)



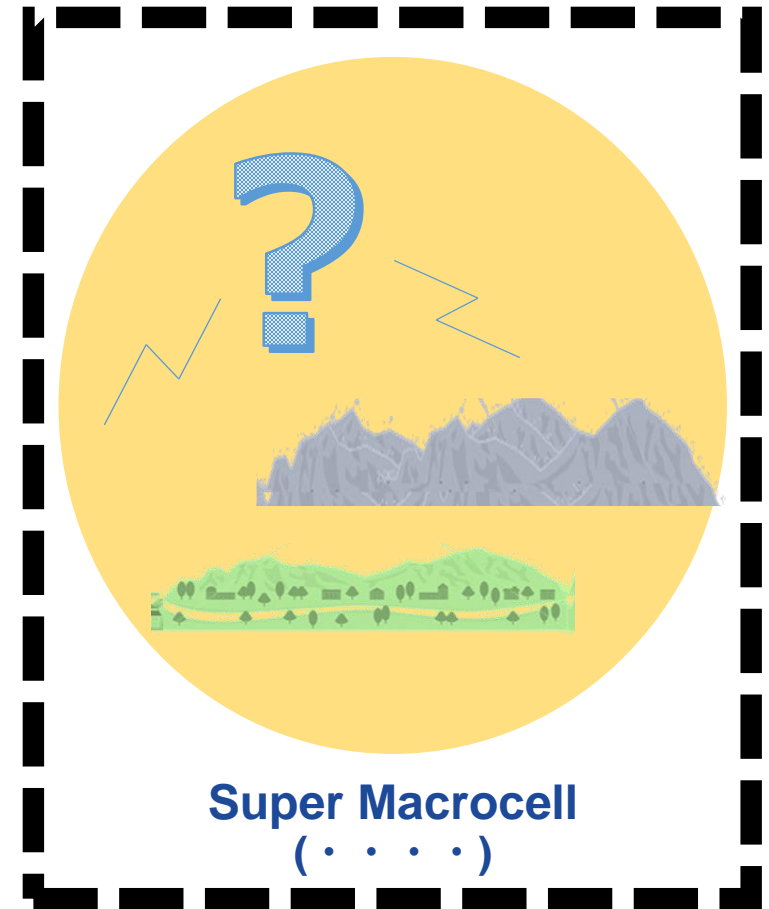
Microcell
(hotspot)



Macrocell
(rooftop)



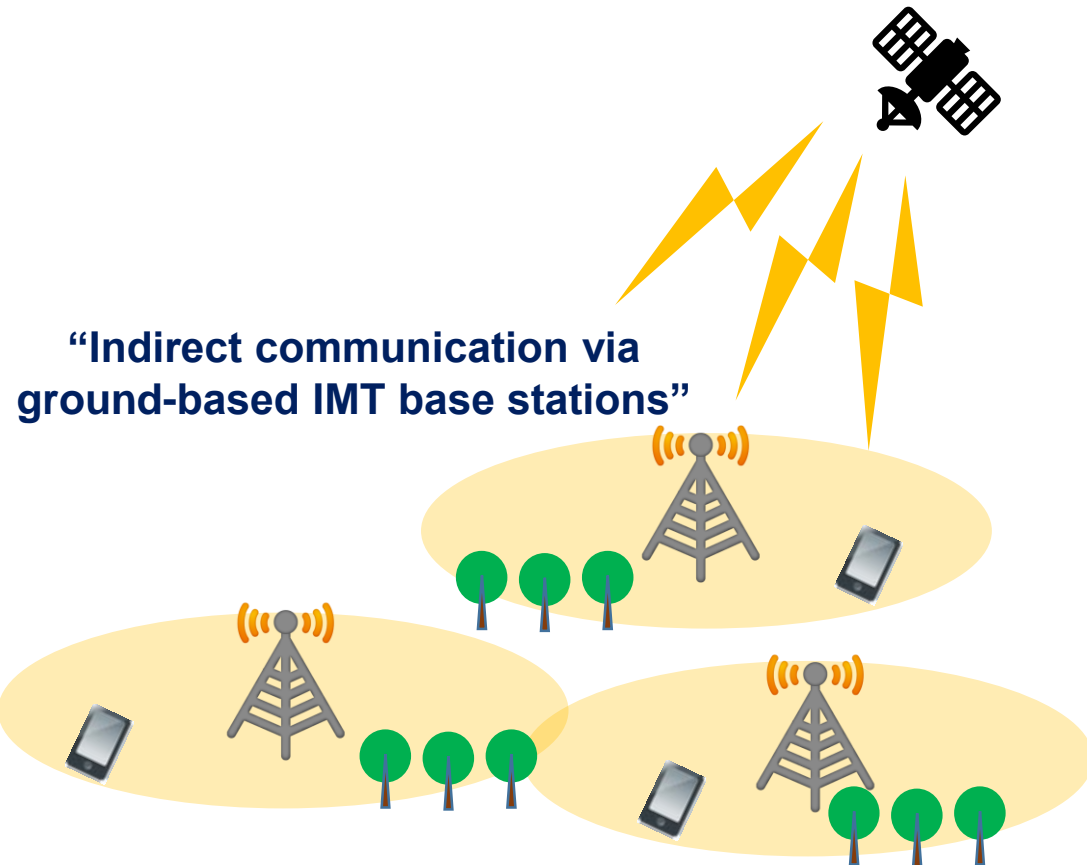
Wider Macrocell
(tower top)



Super Macrocell
(. . . .)

Require mobile direct communication solution

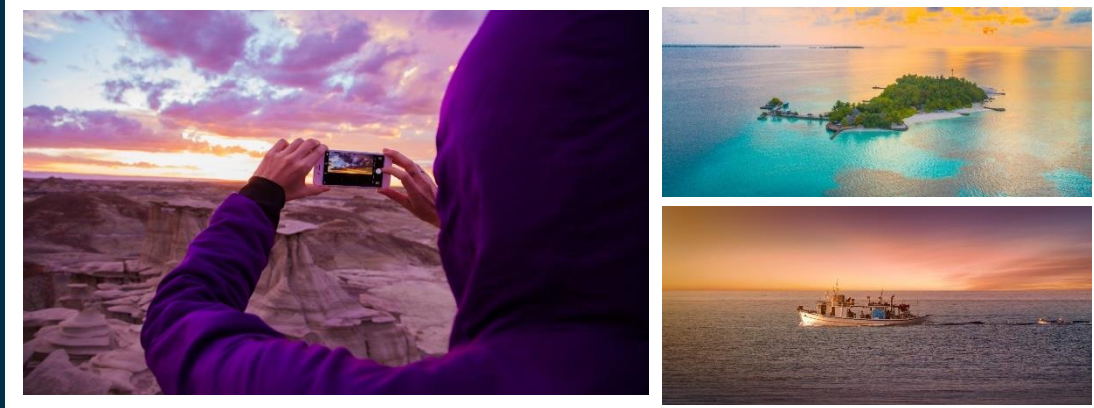
Satellite System in general



Stratospheric Platform



Usage Scenarios

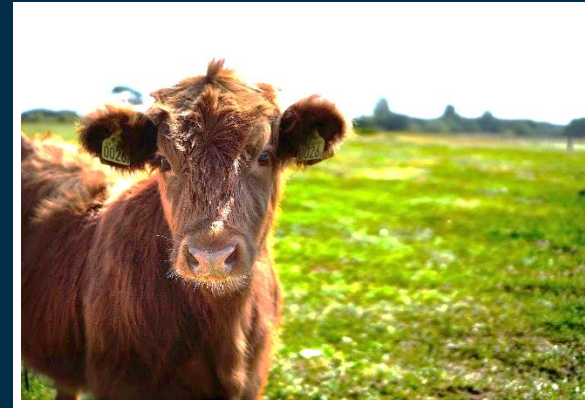


Coverage Enhancement



Safety and Security

"Towards 5G era"



IoT



Drones

Mobile Communication Anytime, Anywhere

Covering image



Altitude: 1000 km~

Stratosphere



Altitude: 20km

Holding around (n)km in diameter

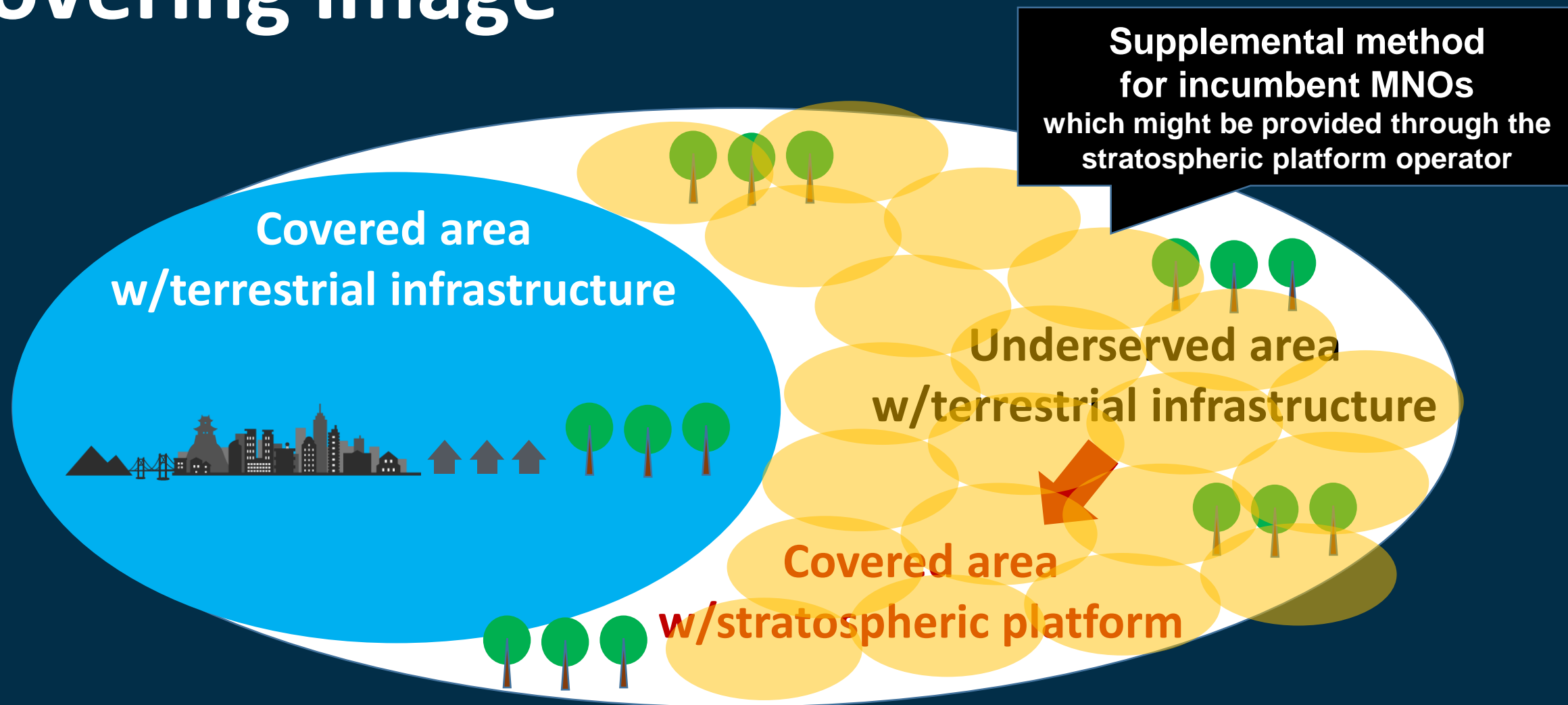
Altitude: 10km



Maximum to over 200km in diameter

Providing coverage in areas where no current terrestrial solution

Covering image

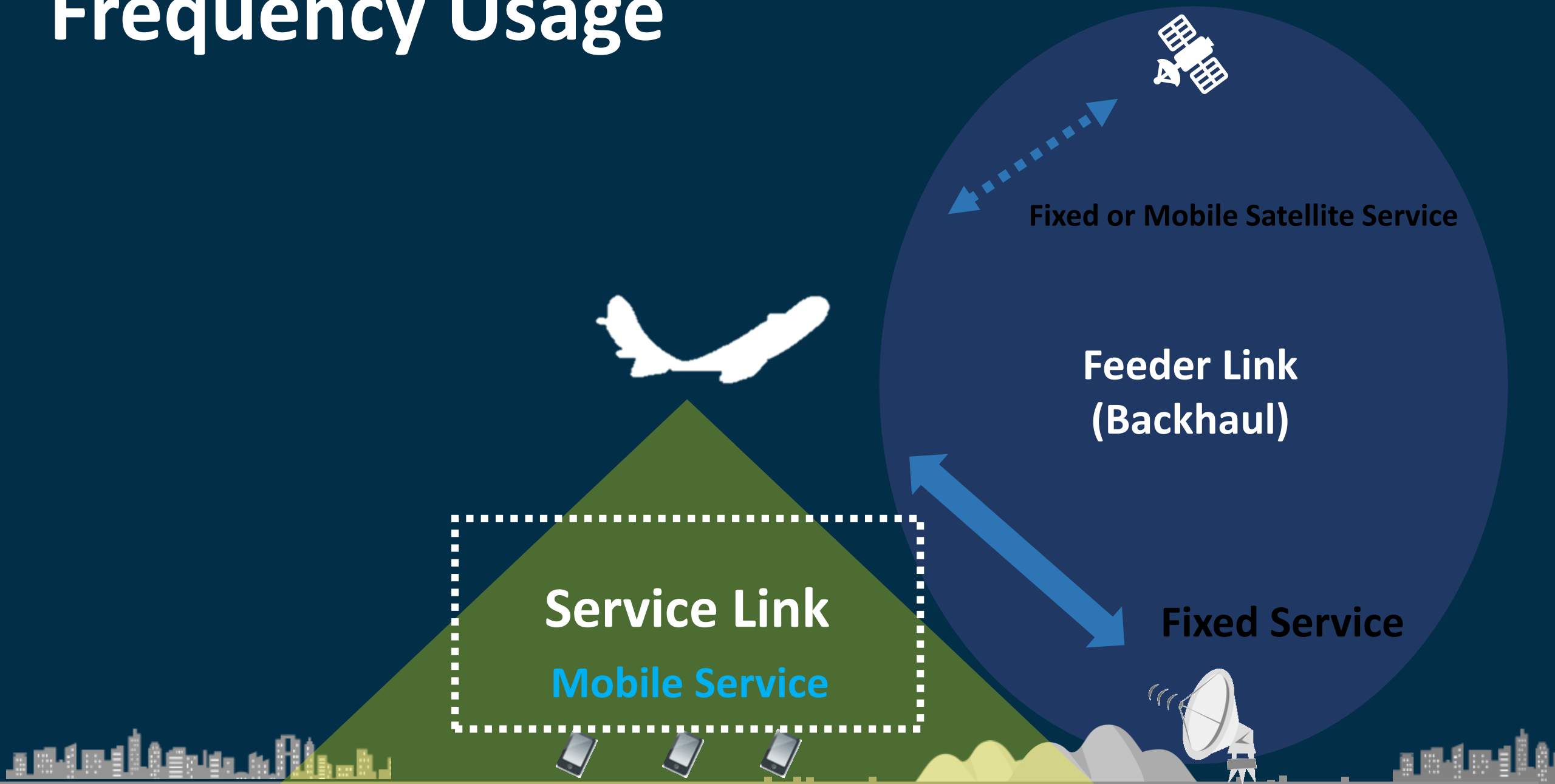


Providing coverage in areas where no current terrestrial solutions

Agenda Item 10

**New Agenda Item for WRC-23 on
HIBS (High Altitude IMT Base Stations)**

Frequency Usage



Frequency bands available for Service-Link

Existing bands identified for IMT (below 2.7GHz)



1.9/2.1GHz can only be used for HIBS service-link (RR 5.388A)

***No flexibility in use**

Aiming at expansion of available frequency bands ***Flexibility in use**



(Candidate bands are TBD)

➔ New agenda item proposal for WRC-23

Difference from AI 1.14

“AI1.14 HAPS”

Identification of
new frequency band

for

Fixed service usage

“AI10 HIBS”

Authorization of
new usage in *existing*
IMT frequency band

for

Mobile service usage

Status of HIBS proposal in each region



Asia-Pacific: Japan proposed in APG19-3 (Mar. 2018)

➔ APT adopted HIBS proposal as “PACP” in APG19-5 (Jul/Aug. 2019)



Americas: Brazil proposed in 34th CITELE PCC2 (Aug. 2019)

➔ CITELE adopted HIBS proposal as “IAP” with 13 countries supports



Africa: SADC & EACO proposed in 3rd ATU WG (Jun. 2019)

➔ ATU adopted HIBS proposal as “AFCP” in APM19-4 (Aug.2019)

Potential Schedule for New Regulations



Essential that WRC-19 adopts a new Agenda Item to allow for timely deployment of HIBS

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