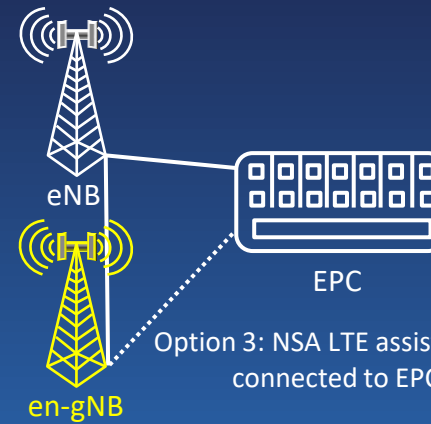




Option 1: SA LTE connected to EPC



Option 2: SA NR connected to 5GC



Option 3: NSA LTE assisted NR connected to EPC



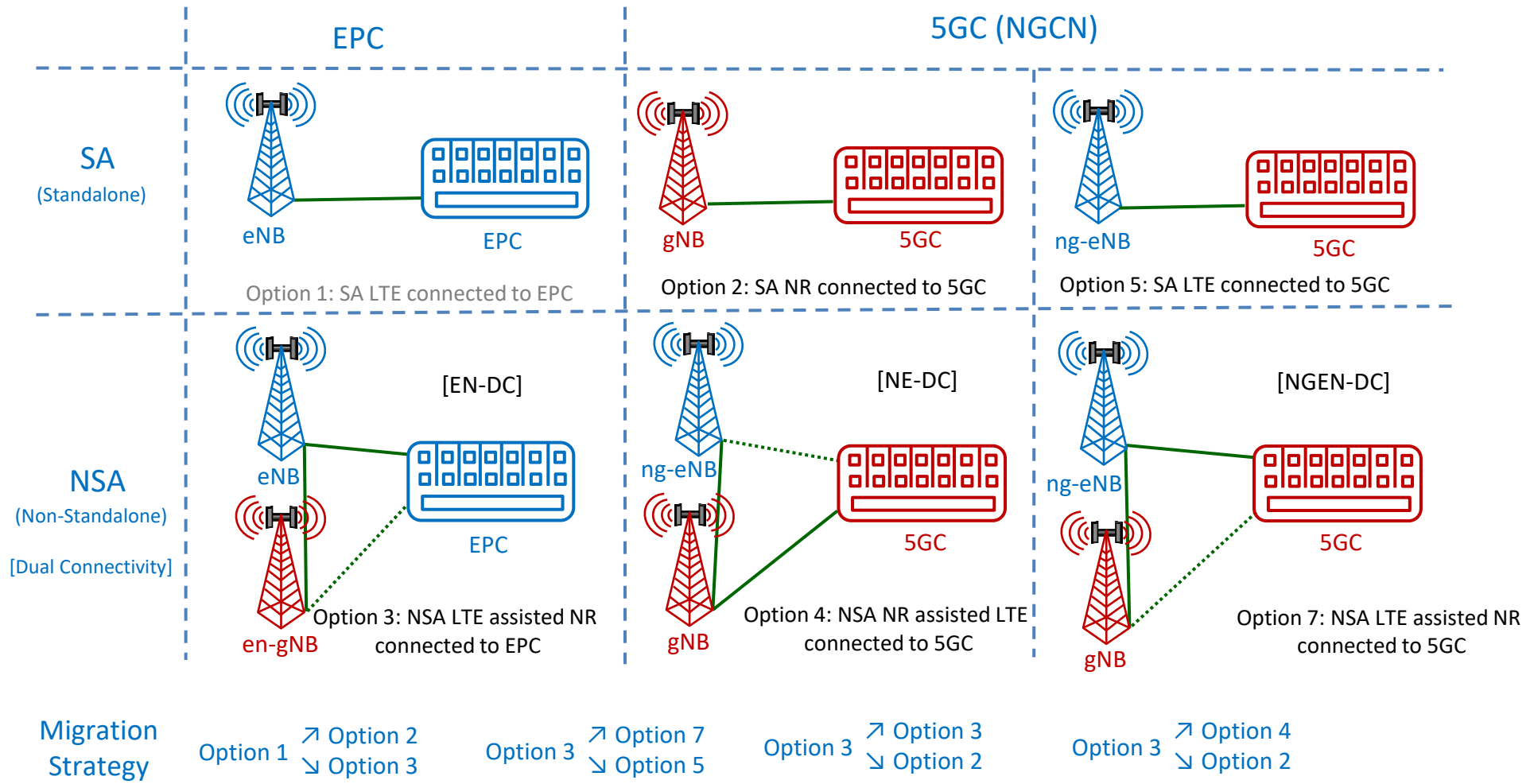
Option 6: SA NR connected to EPC

Opinion:

Why does Jio want 5G Network Architecture Option 6?

Zahid Ghadialy,
Principal Analyst and Consultant

5G Deployment Options and Migration Strategy





Opinion:

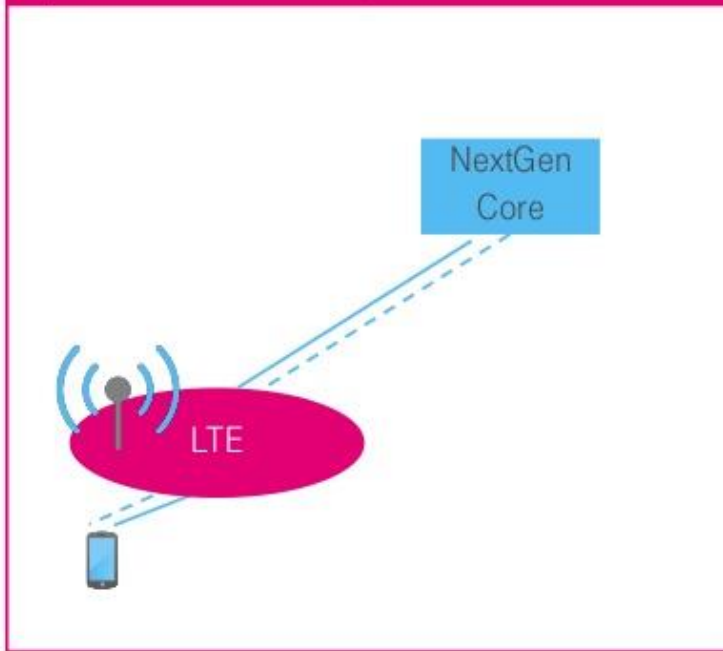
Would 5G NSA undergo Sunset?

Zahid Ghadialy,
Principal Analyst and Consultant

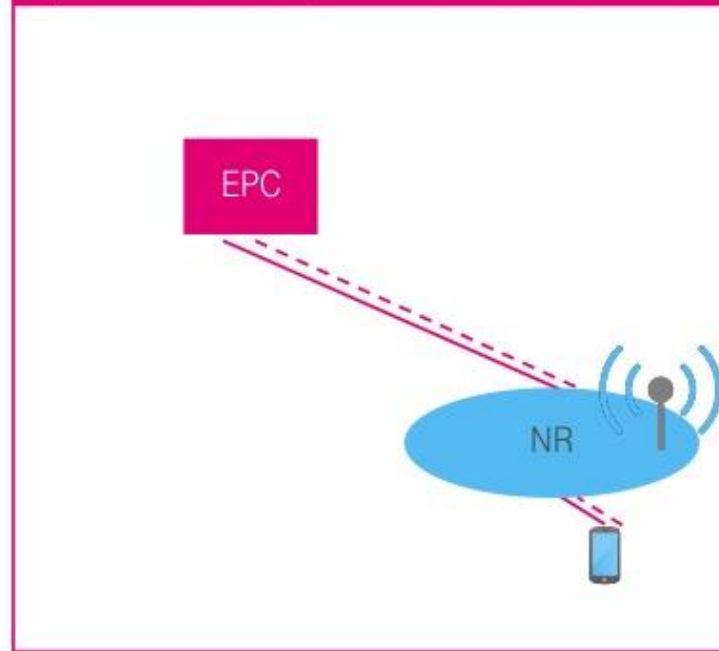


5G SCENARIOS IN 3GPP NR & NEXTGENCORE (4/6)

5) Standalone LTE Rel-15, NGCN connected



6) Standalone 5G NR, EPC connected



LIFE IS FOR SHARING.

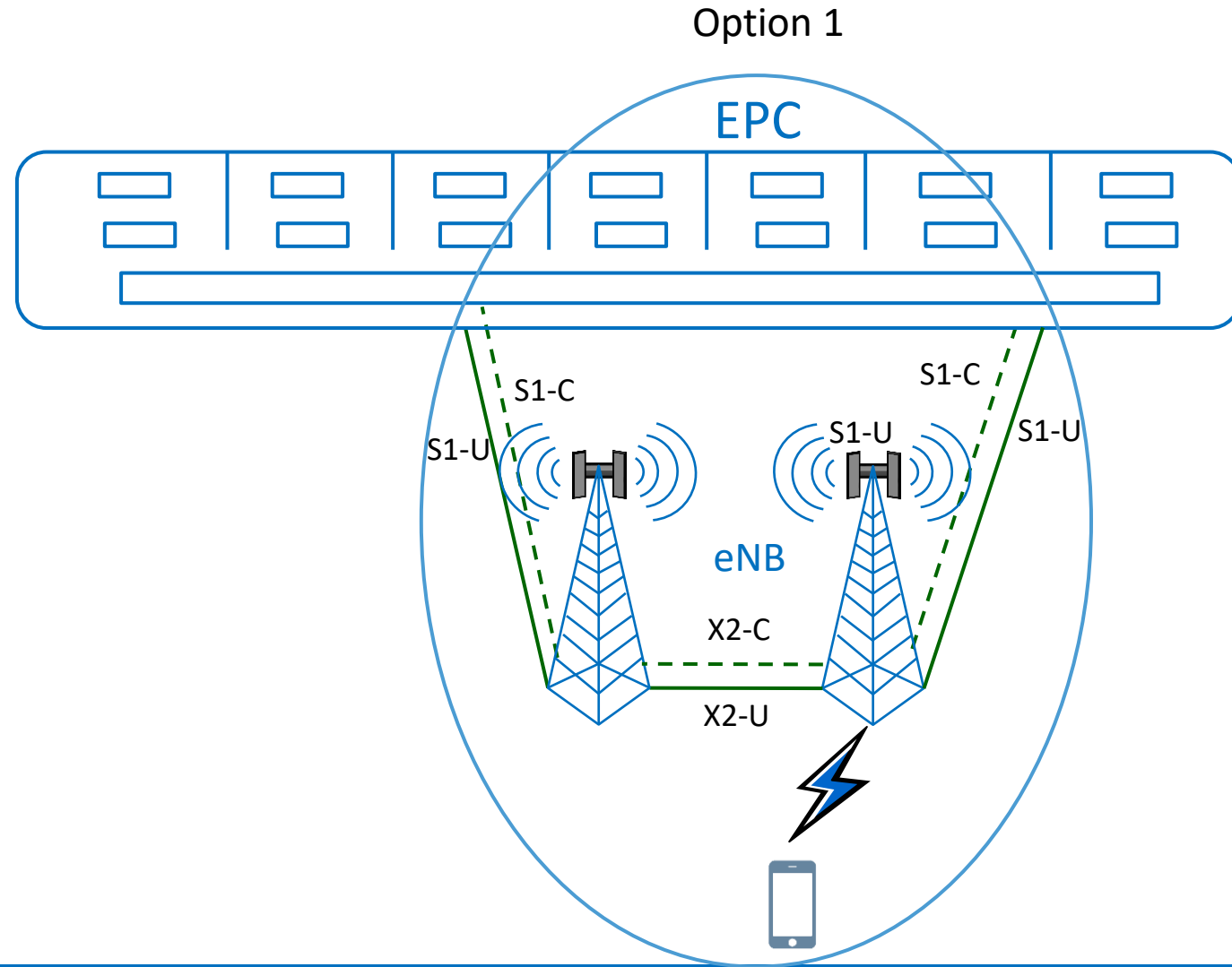
5G architecture options | RAN/SA meeting, June 2016

RP-161266

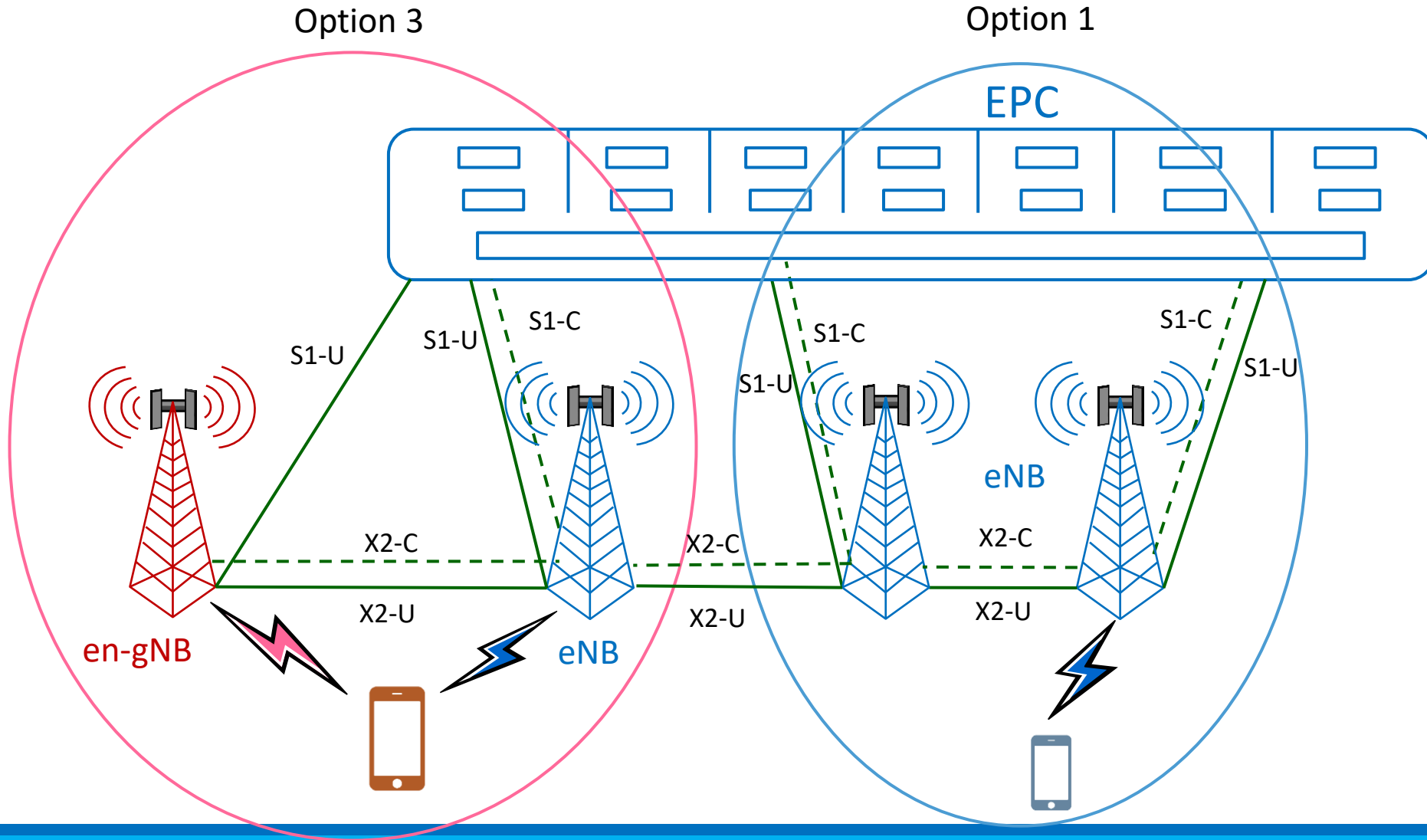
15.06.2016

6

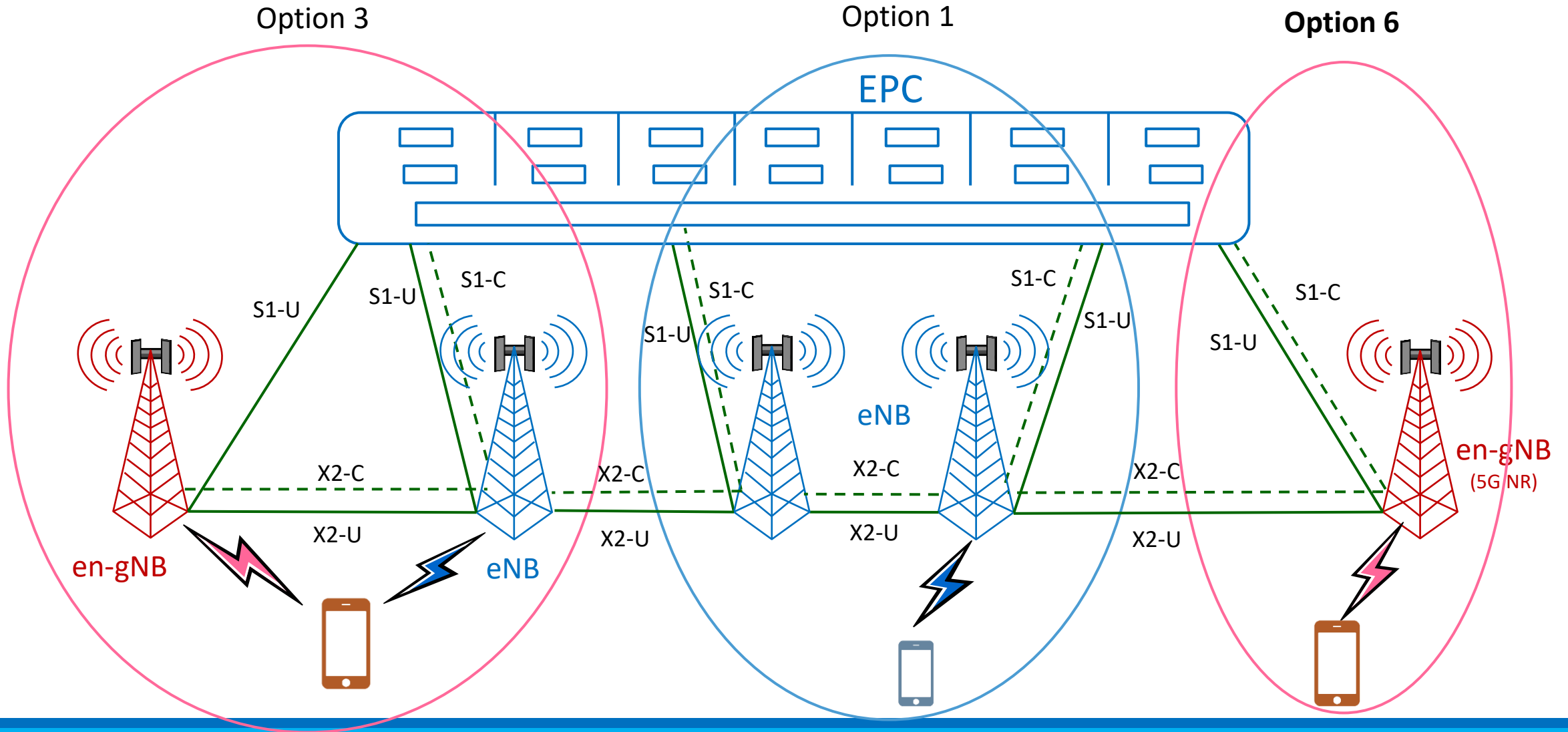
Comparison of Option 1, 3 & 6



Comparison of Option 1, 3 & 6



Comparison of Option 1, 3 & 6



Why Option 6?

A recent article from Mint ([link](#)) points out the reason Reliance Jio (Jio) is pushing for Option 6:

- It will save costs for the company, allowing it to leverage parts of the existing 4G network for providing 5G service, at least initially.
- But it will only be a better version of 4G with higher capacity, rather than the “true 5G” the world is anticipating.
- The non-standalone mode is not suitable for India (at least Jio) as the 4G network is running at almost full capacity due to an exponential rise in user base.
- In India, LTE [4G] cells are 90-98% clogged, in contrast to other countries which are at 5 to 40% capacity.

5G: Multiple Layers for multiple needs

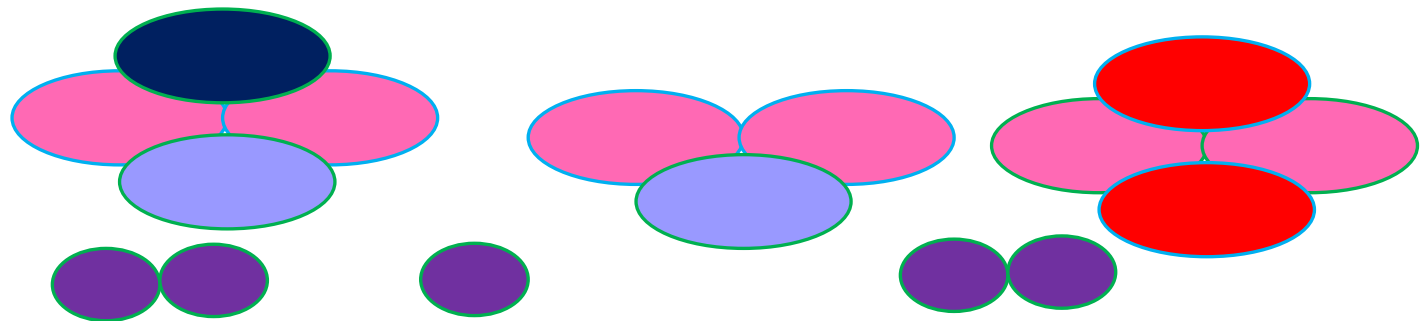
Coverage Layer
Sub-1GHz



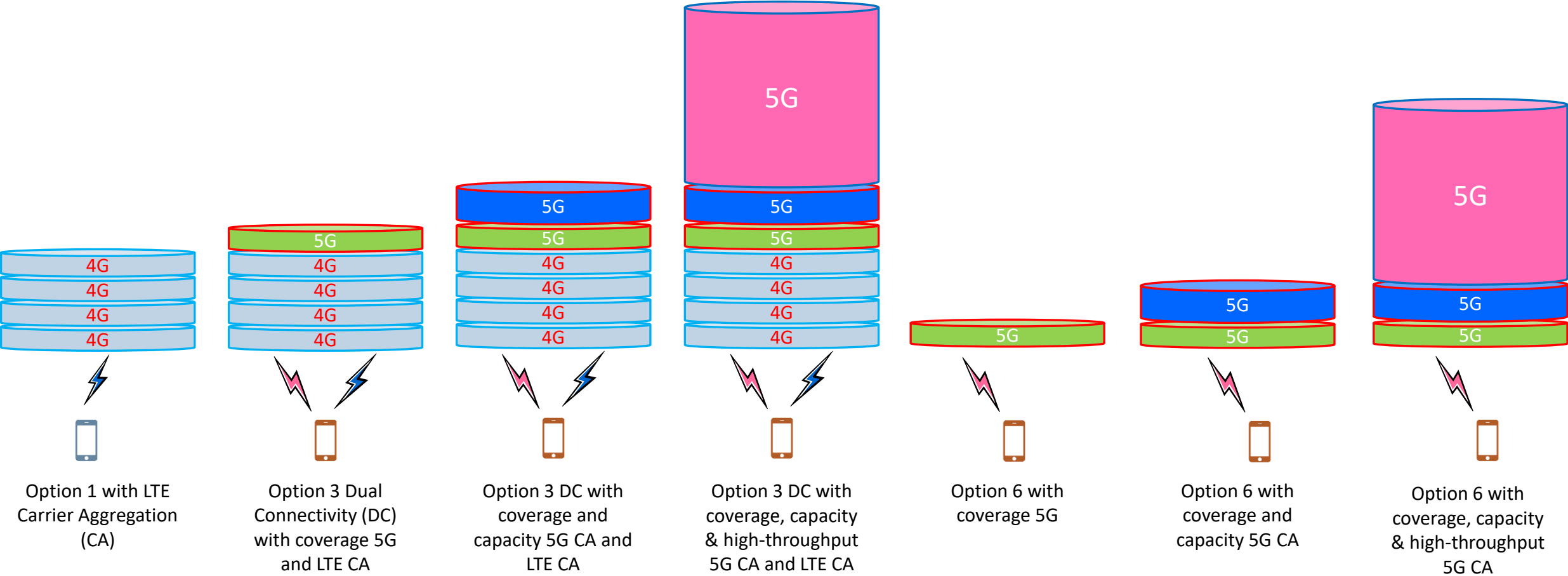
Capacity Layer
1GHz – 7.125GHz



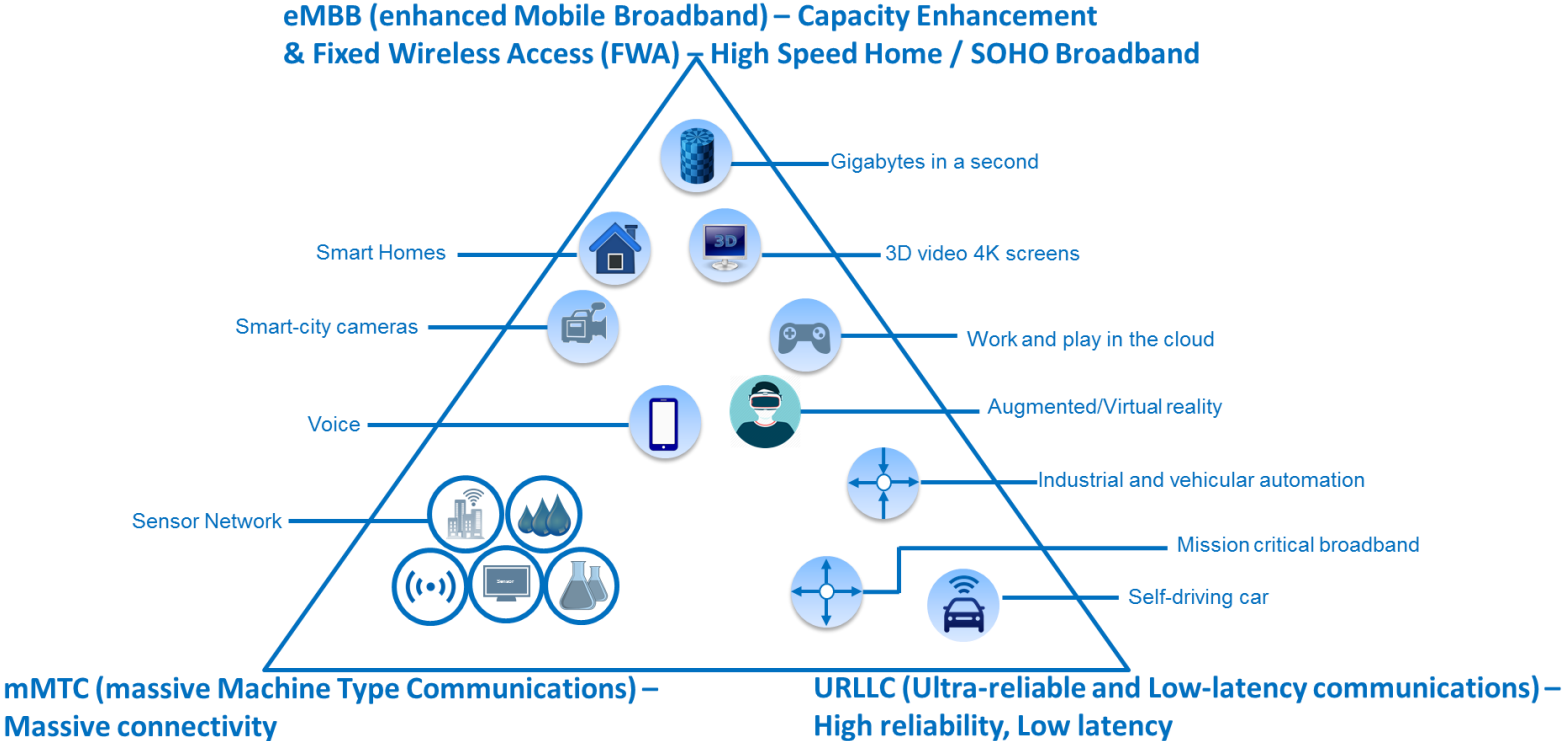
High Throughput Layers
24.25GHz – 52.6GHz



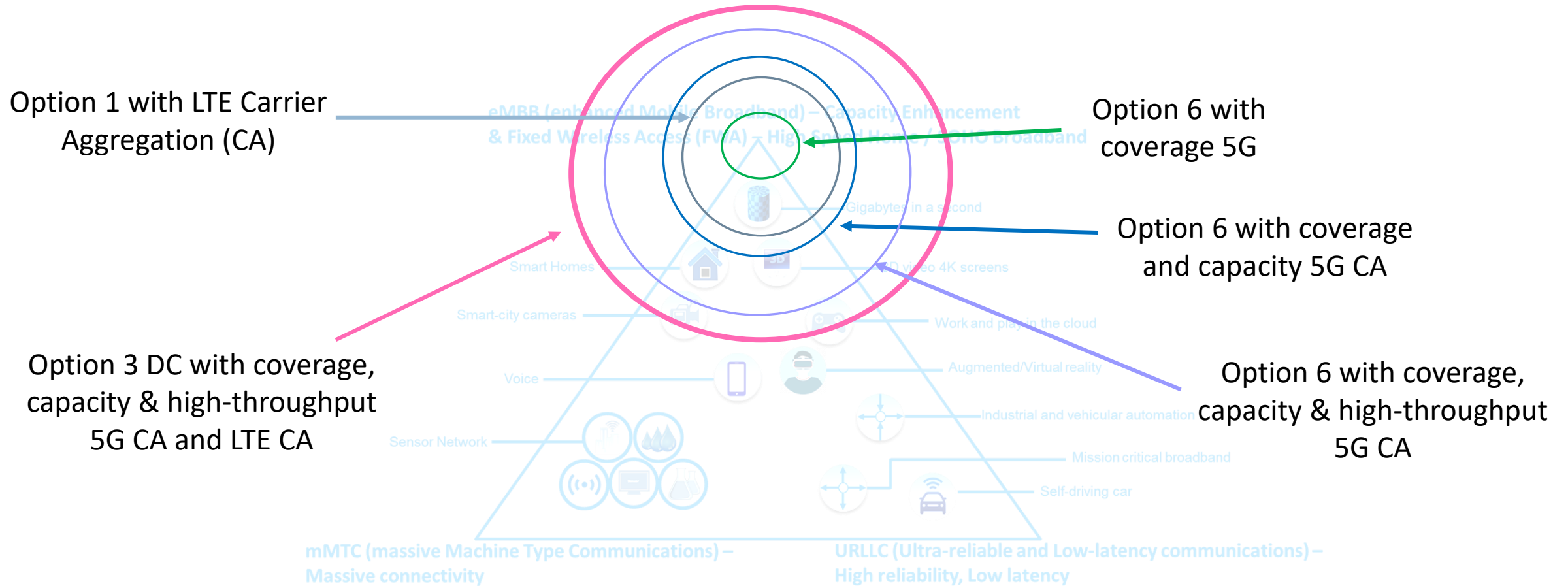
Comparison of Option 1, 3 & 6



Comparison of Option 1, 3 & 6

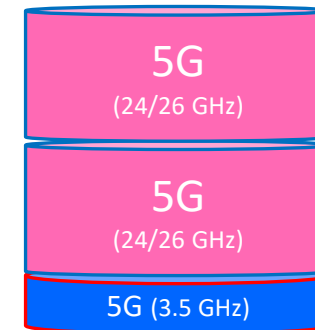


Comparison of Option 1, 3 & 6



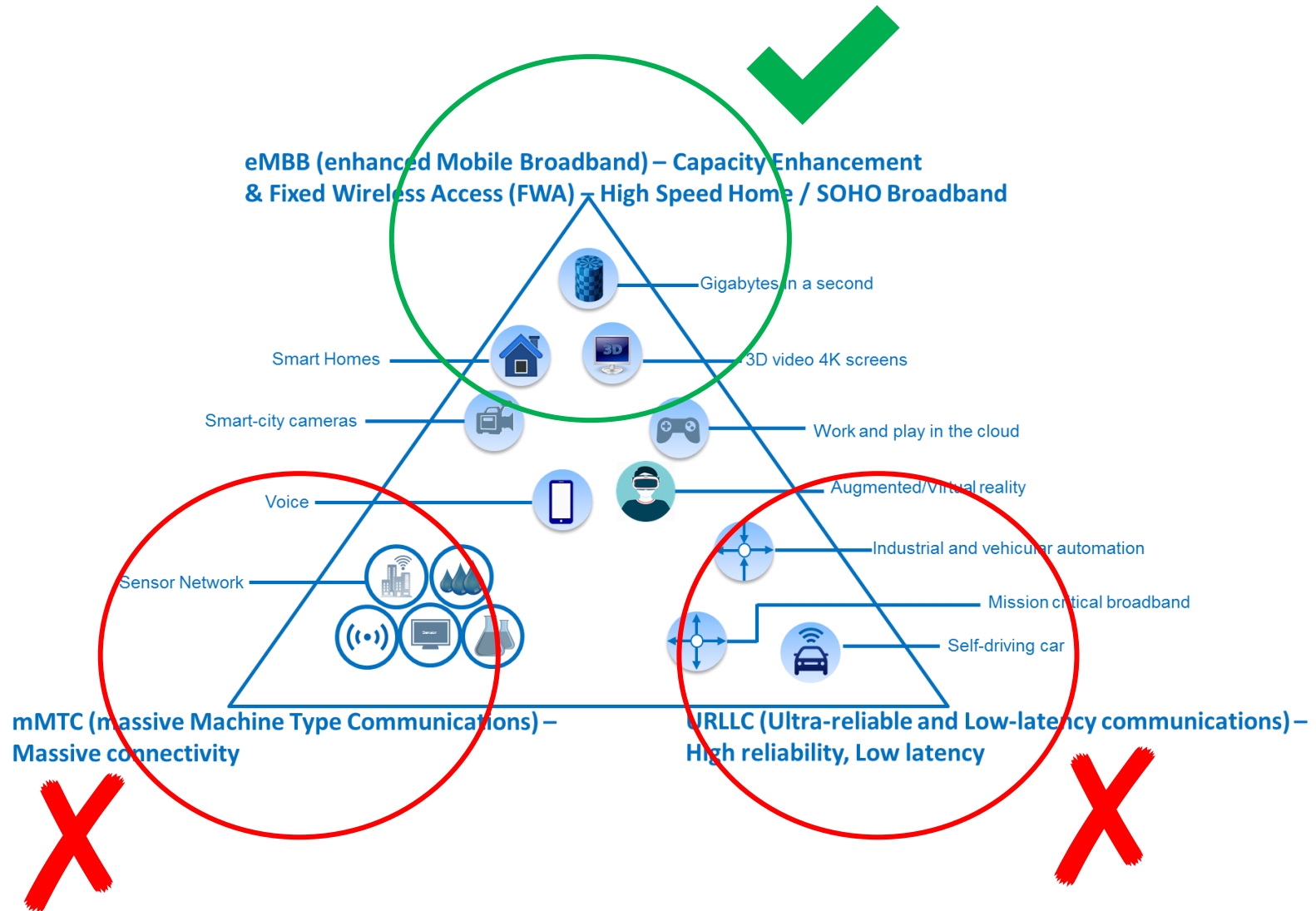
What 5G Spectrum Does Jio Have?

- They haven't got any 5G spectrum as Spectrum has not been auctioned.
- In July, they had requested for 800 megahertz of frequencies in the 26 gigahertz (Ghz) and 24 Ghz band as well as 100 Mhz in 3.5 GHz band for running field trials.



Jio possibly planned trials using 5G CA with Option 6

5G with Option 6



What's stopping Jio in Going Alone?

- No support from 3GPP Standards.
- No support from devices (because of no support from standards).
- No support from the main industry drivers and ecosystem.
- Advanced features like Network Slicing not available with 4G EPC (Evolved Packet Core).
- New features bringing wireless & wireline together (WWC / FMC) only supported with 5G Core.

References & Further Reading

- The 3G4G Blog: 5G Network Architecture Options ([link](#))
- The 3G4G Blog: Would 5G NSA undergo Sunset? When? ([link](#))
- The 3G4G Blog: 5G New Radio (NR), Architecture options and migration from LTE ([link](#))
- Mint: Inside Reliance Jio's game plan for 5G ([link](#))
- The 3G4G Blog: Carrier Aggregation (CA) and Dual Connectivity (DC) ([link](#))
- Mint: Reliance Jio seeks spectrum for 5G trials, plans to sell tech overseas ([link](#))
- The 3G4G Blog: When does your 5G NSA Device Show 5G Icon? ([link](#))
- The 3G4G Blog: 5G and Fixed-Mobile Convergence (FMC) ([link](#))
- The 3G4G Blog: What about 5G Network Architecture Option 4 (a.k.a. NE-DC) ? ([link](#))

Thank You

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