

ITU Regional Forum on Emergent Technologies

5G Deployment : Opportunities and Business Models

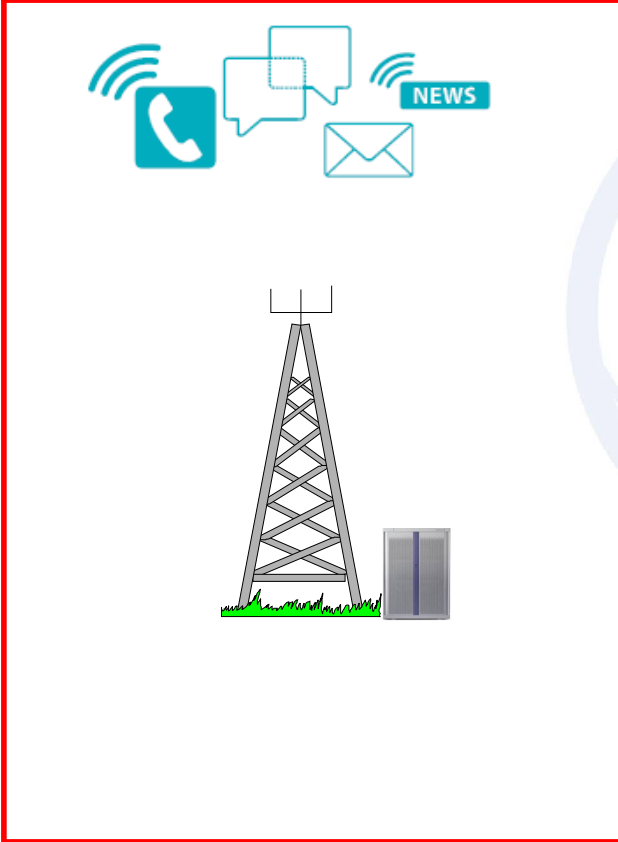
Tunis, Tunisia
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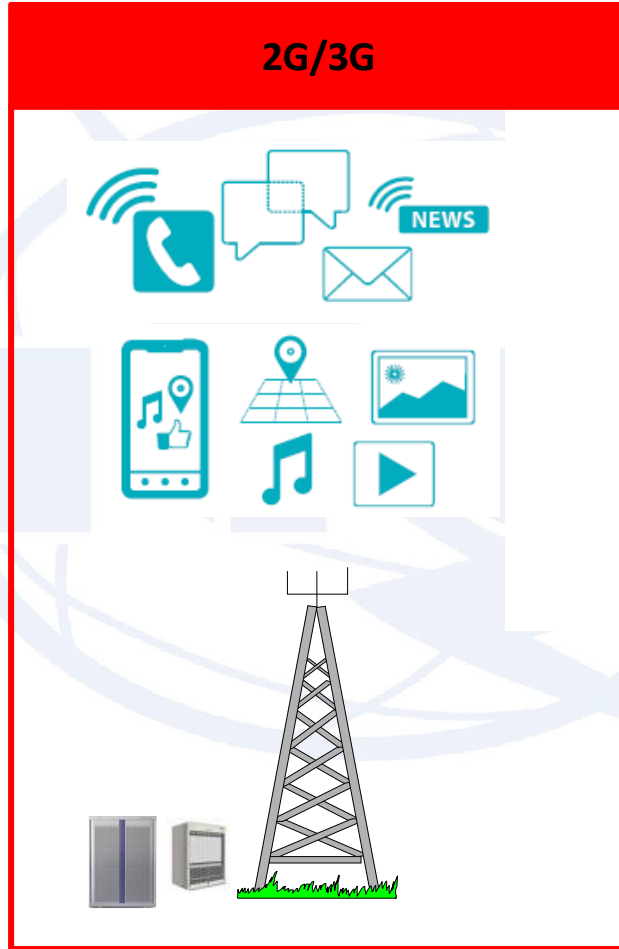


Mobile Network Evolution

2G



2G/3G



2G/3G/4G



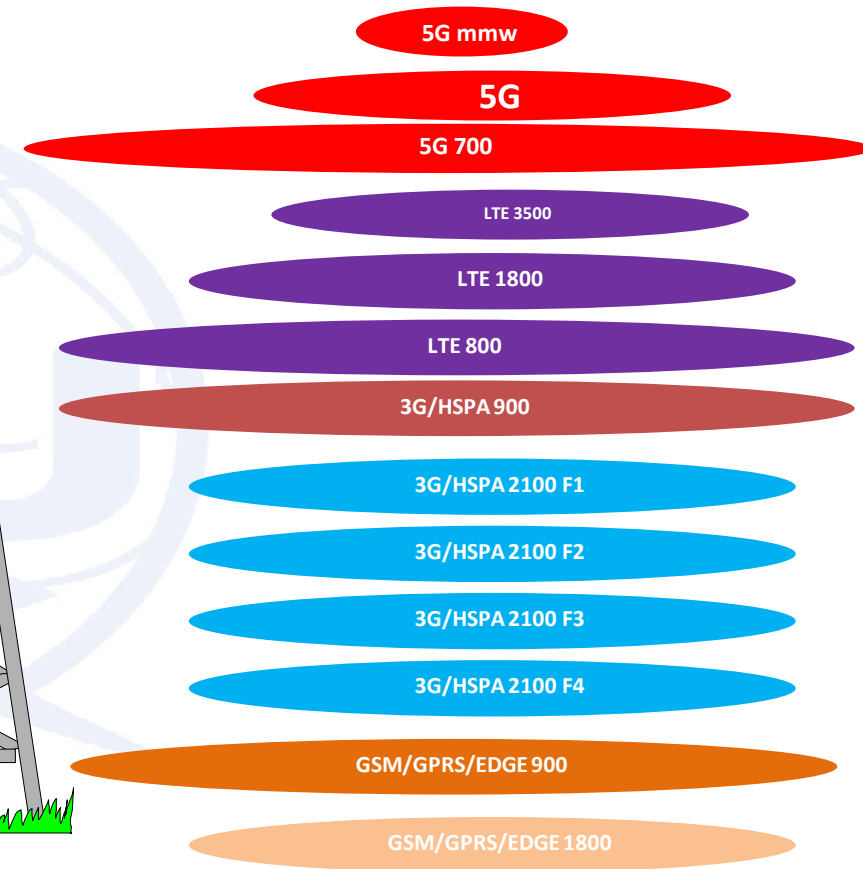
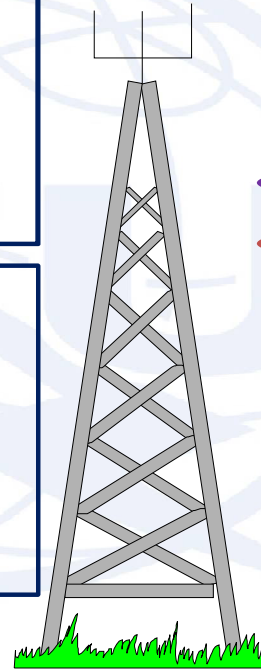
Key Challenges in 5G network deployment : Radio Part

Macro sites Configuration

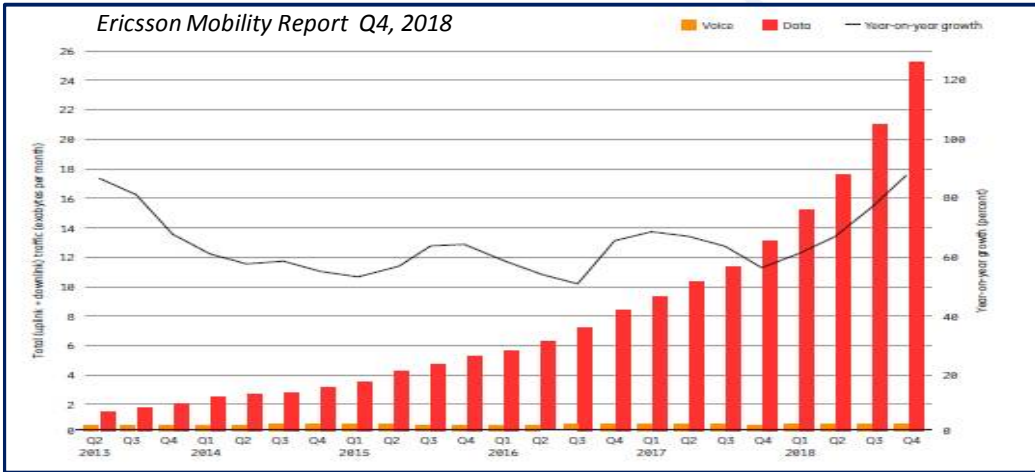
- Multi-layers/Multi-RAT
- CA/ different frequency bands
- Massive MIMO: to achieve high throughput within limited spectrum BW

Proposal

- Feederless sites
- CRAN
- Spectrum Neutrality
- Elimination of 2G or 3G layer (Short /medium term)
- RAN Sharing
- Reserve additional spectrum for 5G



key challenges in 5G network deployment: Backhaul Part

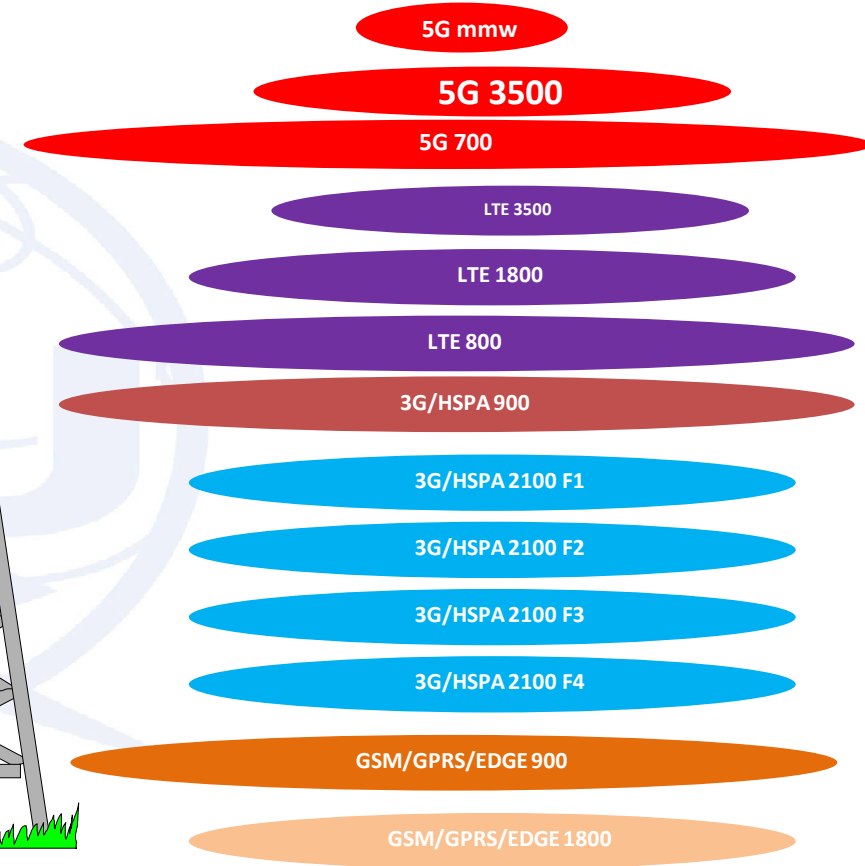
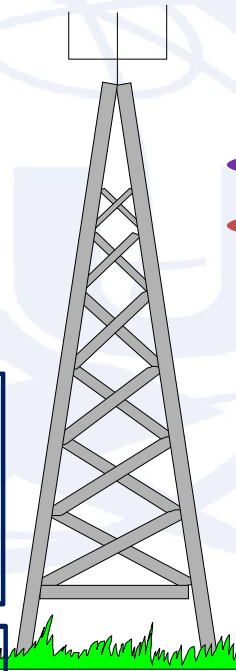


Traffic aggregation Backhaul level

- Ultra High throughput
- Reliability / high link availability
- Massive small cells traffic aggregation at Macro site (e-Relay)

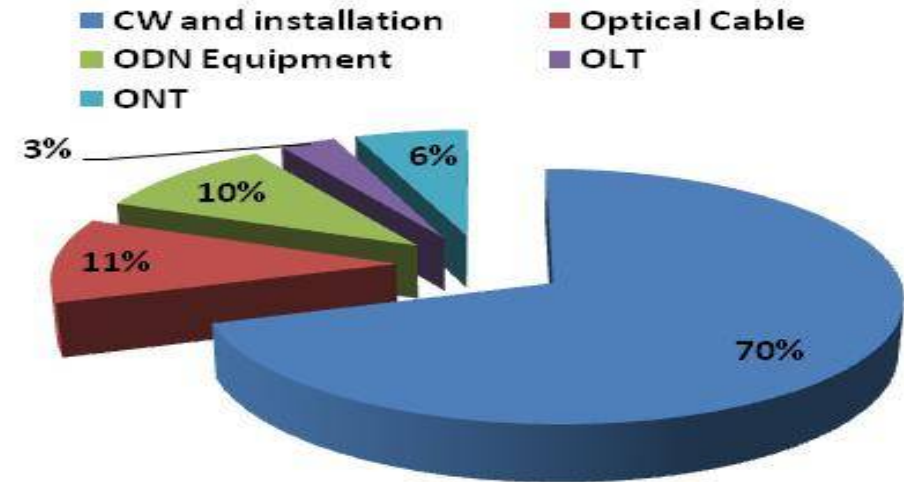
Proposal

- Optical fiber backhaul for medium/long term strategy
- Sharing infrastructure (ducts/ Dark fibers, active fibers)



key challenges in 5G network deployment: Backhaul Part Fixed- Mobile backhaul convergence

P2P Fiber	<ul style="list-style-type: none">▪ High CAPEX▪ Payback (NPV) issue
PMP Fiber +Sharing	<ul style="list-style-type: none">▪ Sharing Fiber with HBU/EBU (GPON)▪ Unified backhaul serving Mobile and Fixed users



FTTH elements cost Distribution

Integrated Backhauling solution :

- Serving enterprises and Homes located around the fiber itinerary
- Reduced OPEX and enhanced NPV

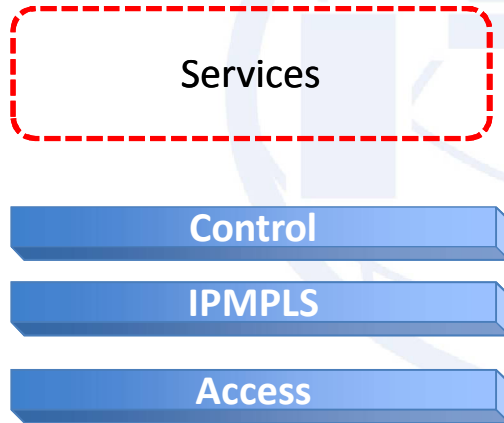
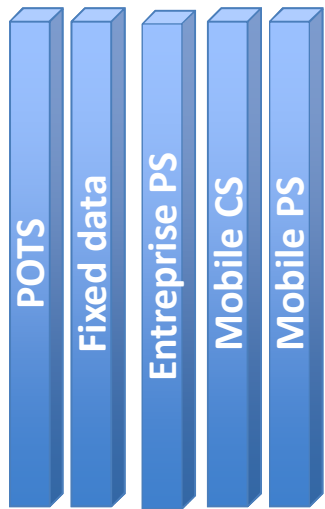
key challenges in 5G network deployment: Backhaul Part

Fixed- Mobile backhaul convergence - FWA



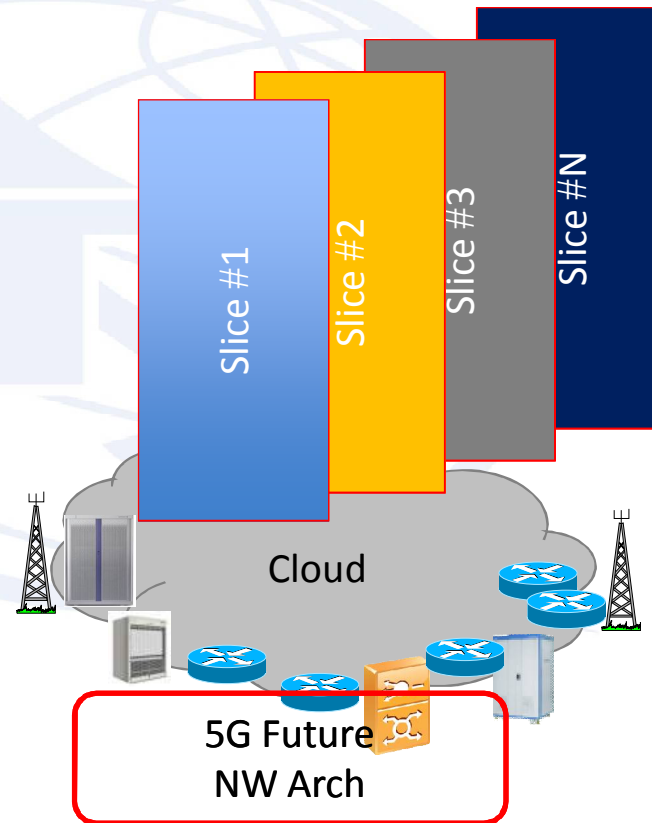
- FWA
 - Enabling easy customers connections
 - Very High BB services penetration growth
 - Radio-Fiber complementarity

key challenges in 5G network deployment: Core NW Part



Past Status
NW Vertical Arch

Present Status
NW Horizontal Arch

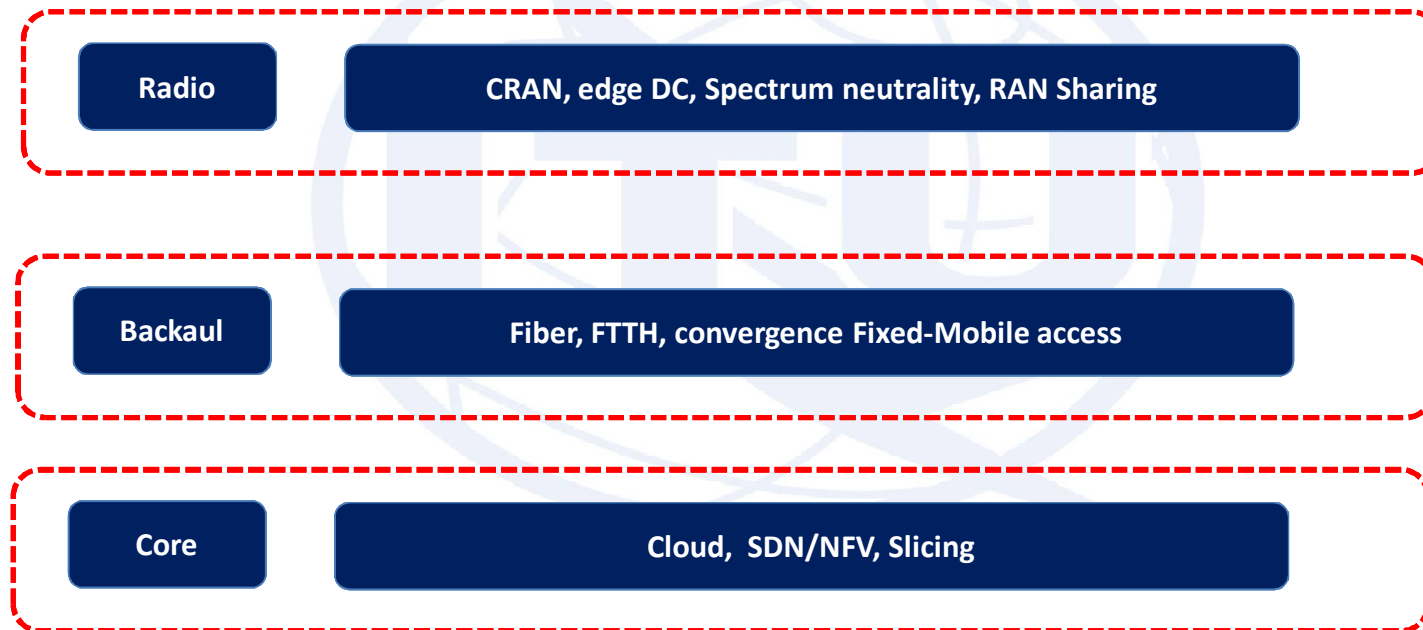


5G Future
NW Arch

Prepare the Core NW for the future

- Cloudify the Core NW
 - Upgrade the core to SDN/NFV
 - Mini DC at Edge NW

key challenges in 5G network deployment: summary



“Digital Growth Depends More on Business Models than Technology”

[Mark W. Johnson](#)

Harvard Business review, December 14, 2018





Thank you

