

April 2024

# Neutral Host Solutions

The evolving value proposition

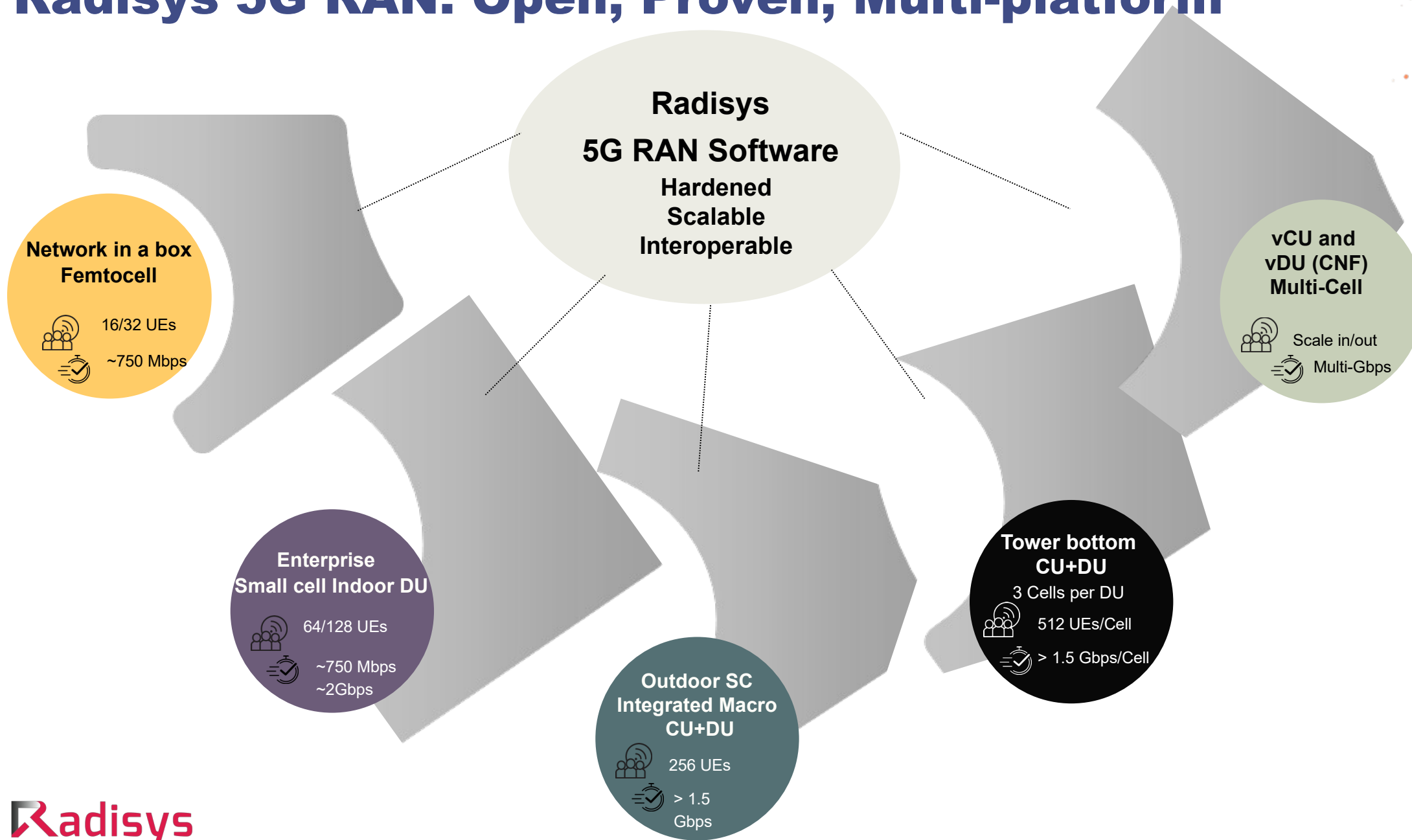


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# Outline

- Mobile Infrastructure Sharing: Standards and Reference Architectures
- Ecosystem enablers
- Open RAN and Neutral Host
- Adoption drivers
- Challenges
- Looking Ahead

# Radisys 5G RAN: Open, Proven, Multi-platform



# Deploy Small Cells Your Way

Flexible Software on your choice of platform

## Spectrum

- FR1
- FR2
- CBRS

## Platform

- All SoCs
- ARM
- Intel x86
- Public cloud

## RAN architecture

- All-in-one gNB
- NW in a box
- Option-2 DU
- FAPI & nFAPI
- O-RAN 7.2x

## Features

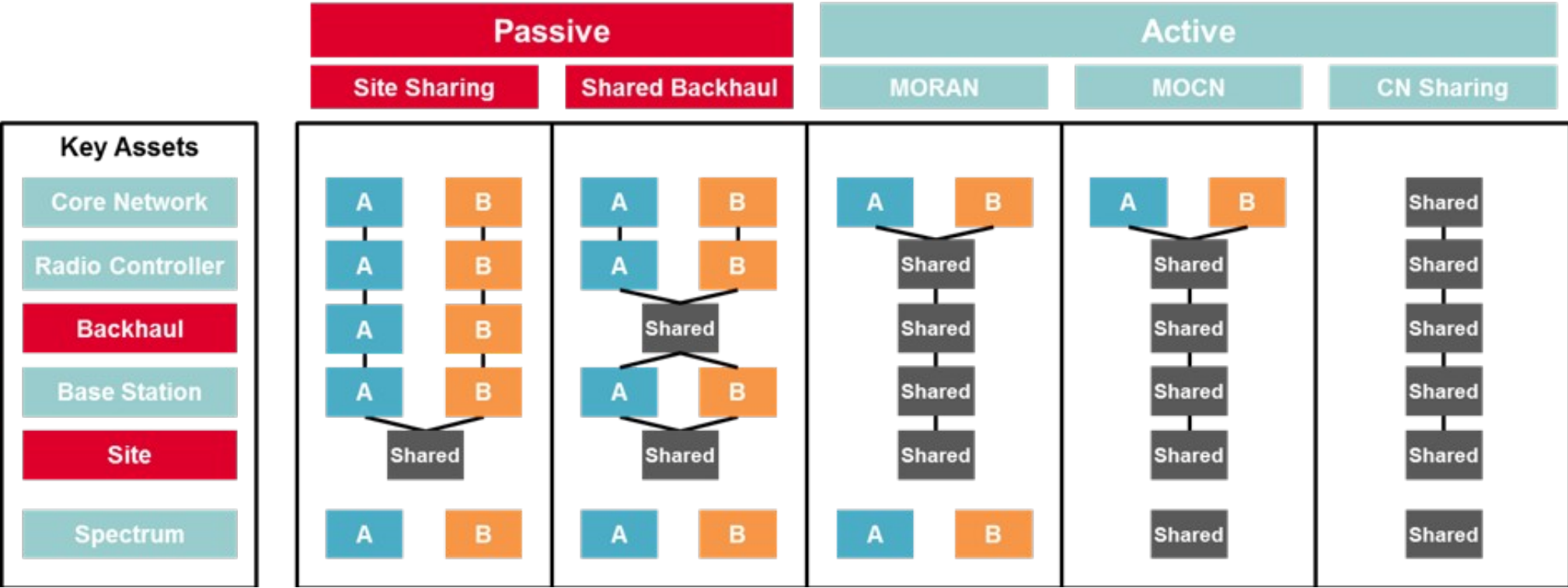
- SA and NSA
- COMP
- MORAN, MOCN
- Multi-CC CA
- TR069/Custom OAM

## Deployment Use cases

- Indoor small Cell
- Enterprise Small Cell
- Outdoor Small Cell
- Neutral Host Solution
- FWA
- Industrial 5G

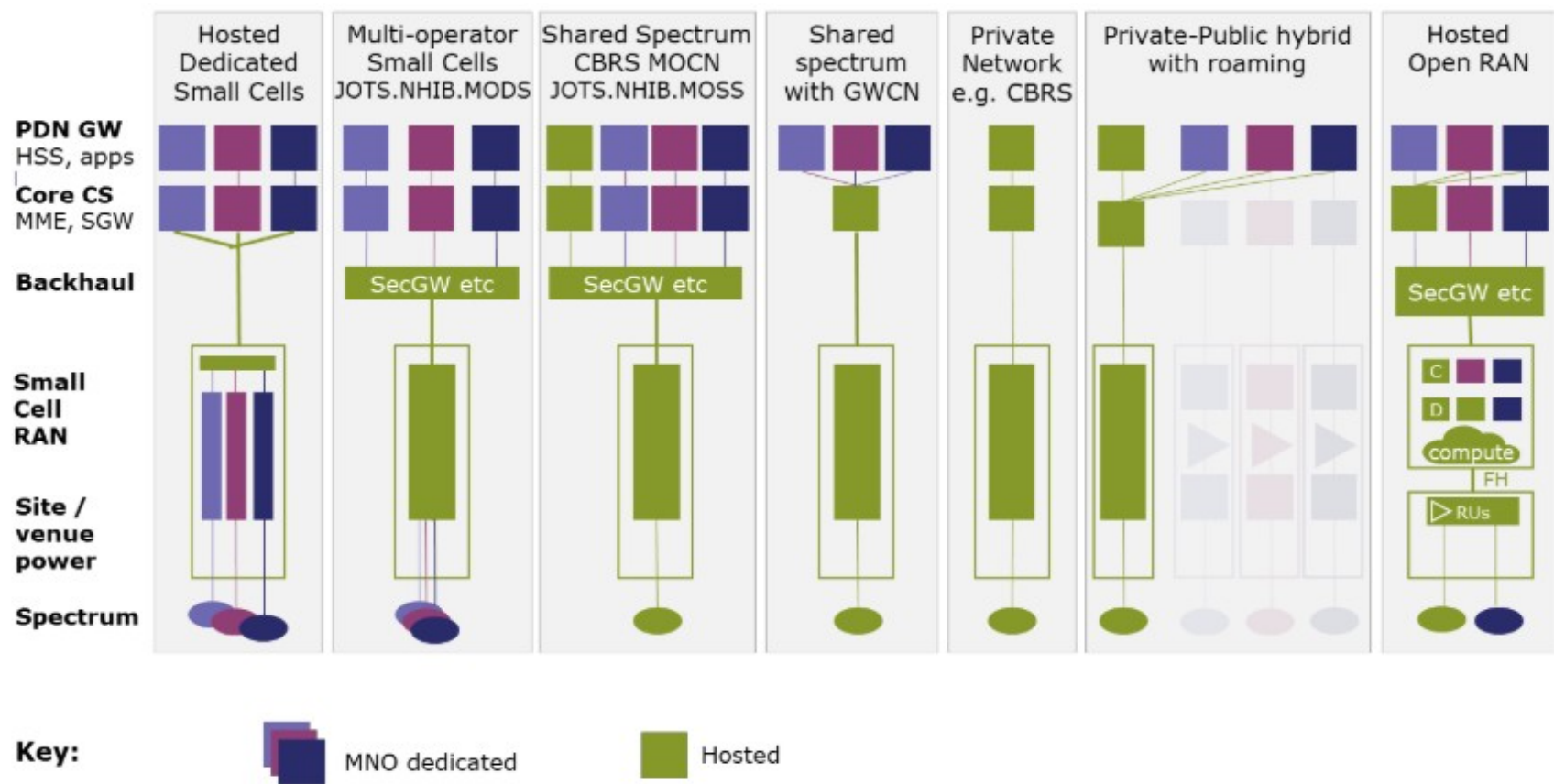
Advanced roadmap of RAN features to accelerate deployments

# Mobile Network Infra Sharing: GSMA



<https://www.gsma.com/futurenetworks/wiki/infrastructure-sharing-an-overview/>

# Neutral Hosts/Hosted RAN: SCF view



SCF 244: <https://www.smallcellforum.org/reports/neutral-host-requirements-architectures-2/>



# Neutral Host Ecosystem Enabling Multiple Use Cases

## SDOs and Industry Forums

3GPP, SCF, TIP, OnGo, JOTS

## Technology Providers

Chipsets, OEMs, SW, SIs

## Regulators

## Operators

## Neutral Host Solution Providers

## Infra Providers

Towercos, Hyperscalers, Transport, IT Infra

## Target Users

- Homes
- Venues
- Indoor
- Outdoor
- Pvt NW

# Neutral Host Solutions and Open RAN

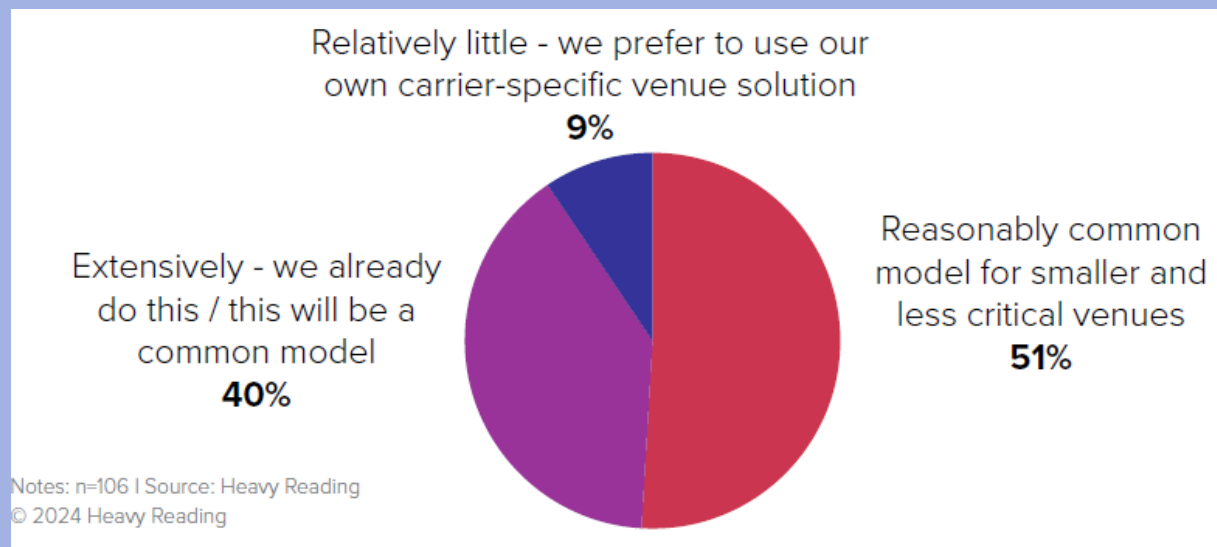
- **Disaggregation**
  - Disaggregated RAN architecture with flexible splits (FAPI/nFAPI)
  - HW and SW decoupling
- **Virtualization**
  - vRAN scaling and resiliency
  - Applicability of FAPI/nFAPI standards
- **Open Interfaces**
  - Open fronthaul, mid-haul, management and control interfaces
- **Vendor Diversity**
  - Variety of HW and SW options – Best of breed components
- **Manageability and Control**
  - Consistent management interface and data models
  - Fine grained control enabling various use cases



# Market Traction for Neutral Host Solutions



## Heavy Reading 5G Network Strategies Operator Survey (2024)



<https://www.lightreading.com/5g/5g-network-strategies-operator-survey-powering-5g-sa-networks>

## ABI Research report on Neutral Hosts (2024)

- Growth forecast of \$1.3B by 2030
- Demand across all regions

<https://www.abiresearch.com/press/neutral-hosts-to-generate-more-than-us13-billion-in-enterprise-cellular-connectivity-by-2030>

## Boldyn Networks Research (Nov 2023)

- Survey across UK, Ireland and US
- 92% likely to use neutral hosts

<https://www.prnewswire.co.uk/news-releases/92-of-telcos-public-and-private-sector-experts-see-neutral-host-as-the-answer-to-5g-densification-challenges-301974702.html>

**Broad based growth across regions forecast over next several years**

# Top 5 Drivers for Neutral Host Solutions in 5G Era



Limited high capacity spectrum (Mid-band)



Higher Capex in 5G buildout and expansion



Cost of energy and energy efficiency mandates



Flat or reducing ARPU



Explosive data consumption growth

# Top 5 Challenges for Neutral Host Solutions



Perceived lack of control  
and 3<sup>rd</sup> party risks



Fear of losing  
differentiation



Emerging ecosystem of  
frameworks and solution  
providers



Unclear TCO benefits and  
business models



Regulatory concerns

# Looking Ahead

- **Coverage and Capacity Needs in Urban and Rural locations**
  - Unfulfilled coverage in indoor/outdoor locations
  - Increasing data usage
  - Special needs: Events, Smart cities
- **Monetization and profitability for Telcos**
  - Optimal leverage of network resources and spectrum
  - Increased customer satisfaction
- **Enabling Regulation and Policies**
  - Need for resilient network infrastructure
  - Supportive policy and regulatory measures for broader societal benefits

**Neutral host solutions will lead to densified 5G networks**

# References

- SCF 248: Neutral hosts value proposition
  - [https://scf.io/en/documents/248\\_Neutral\\_hosts\\_value\\_proposition\\_Functions\\_advantages\\_and\\_benefits.php](https://scf.io/en/documents/248_Neutral_hosts_value_proposition_Functions_advantages_and_benefits.php)
- SCF 244: Neutral host requirements: Architectures
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- Joint Operators Technical Specifications
  - <https://www.mobileuk.org/jots>
- <https://ongoalliance.org/resource/ongo-neutral-host-business-update>
- Study paper on NW sharing: To share or not to share? The impact of mobile network sharing for consumers and operators
  - <https://www.sciencedirect.com/science/article/pii/S016762452300046X>
- The evolution paths of neutral host businesses: Antecedents, strategies, and business models
  - <https://www.sciencedirect.com/science/article/pii/S0308596121001051>
- <https://hellofuture.orange.com/en/network-sharing-and-neutral-networks-how-far-to-go-and-for-what-benefits>



Thank You