



MARSAL

Machine Learning-Based, Networking and Computing Infrastructure Resource Management of 5G and Beyond Intelligent Networks

Enabling New Business Roles in the 6G Ecosystem

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Infocom World

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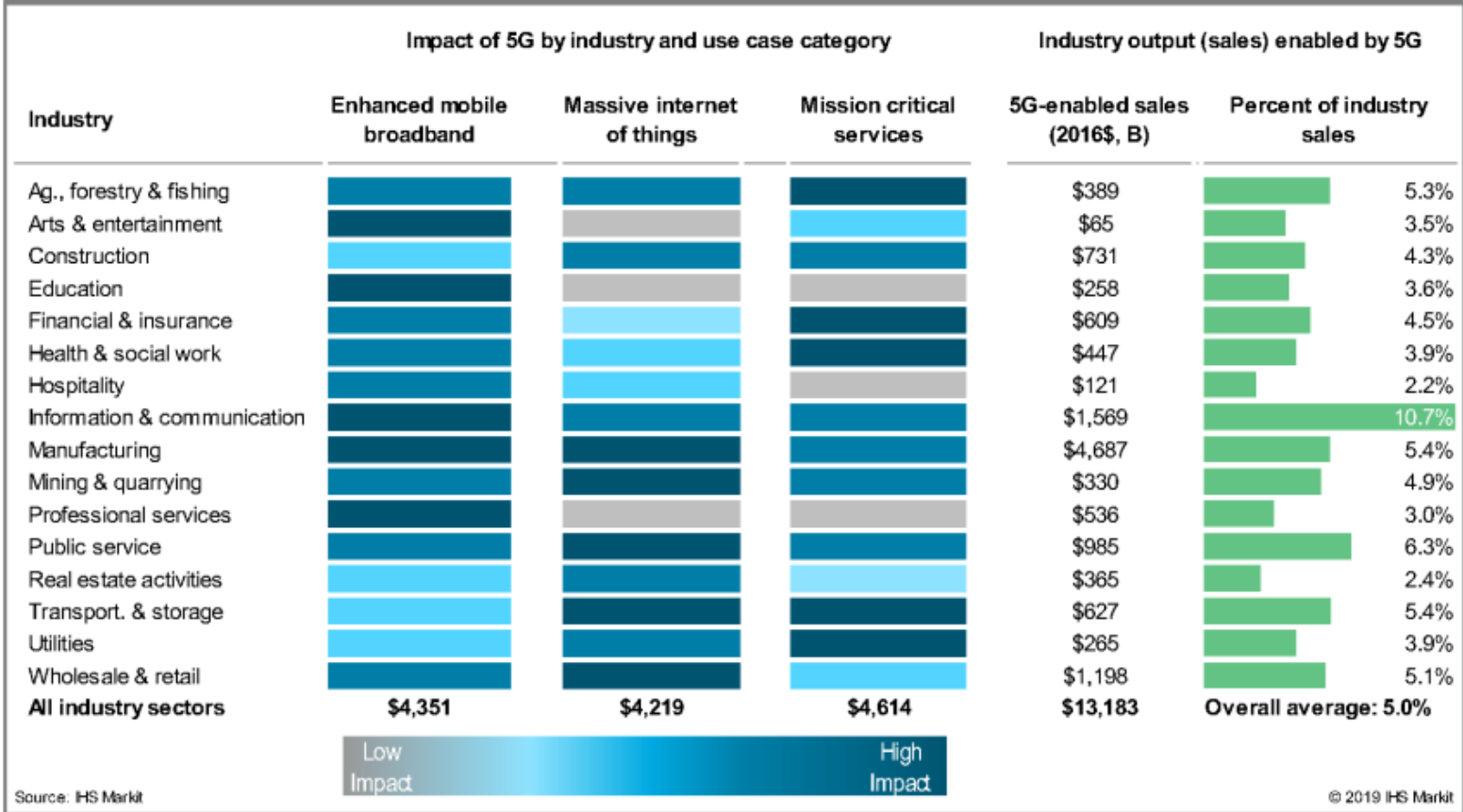


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MARSAL aims to provide *an evolved architecture towards B5G, offering:*

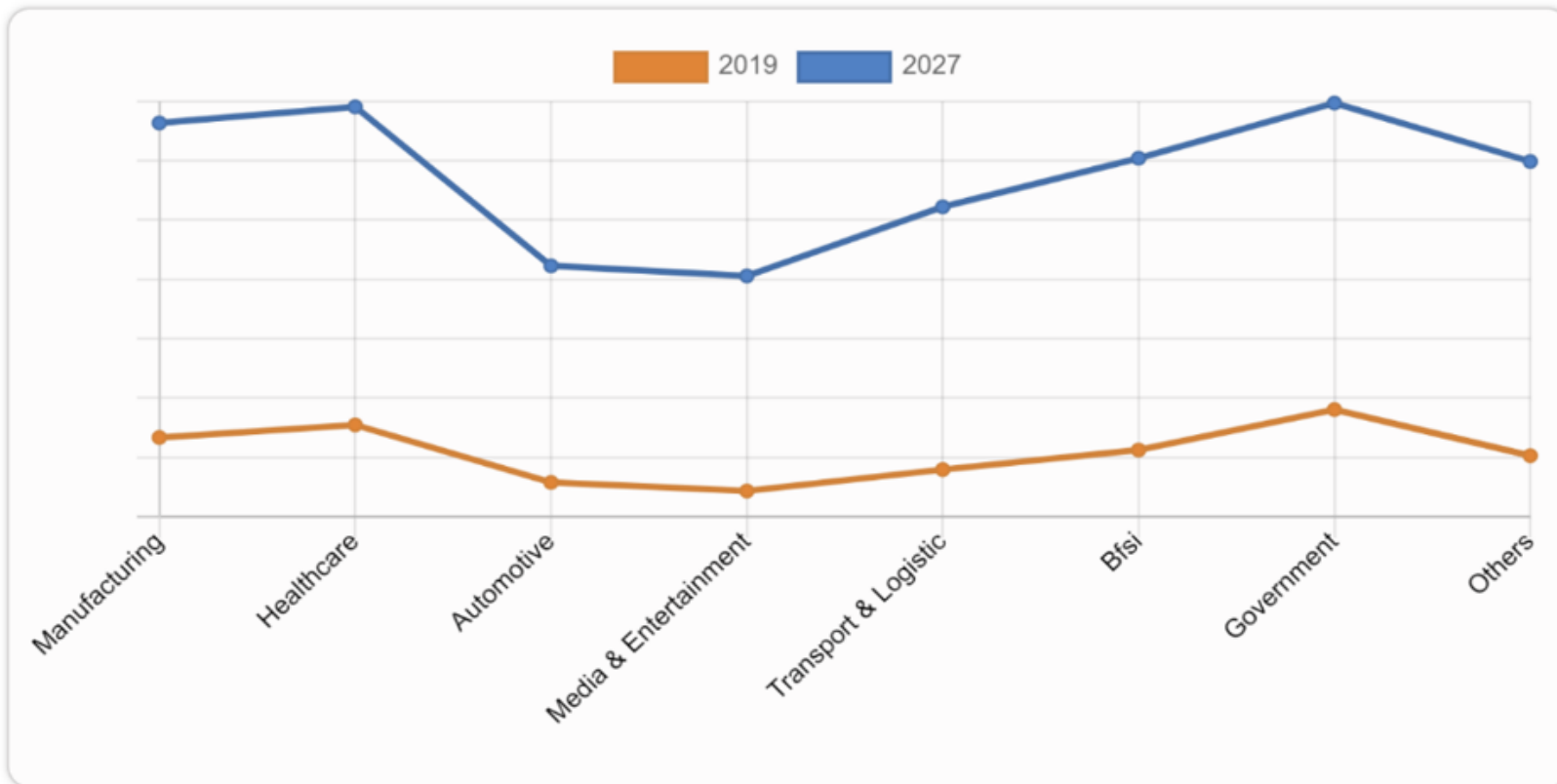
- ***unprecedented degrees of flexibility and closed-loop autonomy at all tiers of the infrastructure,***
 - ***and significantly improved Spectral Efficiency via Cell-Free Networking.***
- ❖ ***New business challenges affecting the B5G market***

5G will enable \$13.2 trillion in global sales activity in 2035



¹ AI and Operations Automation in 5G Networks:

<https://www.abiresearch.com/press/bid-capture-new-growth-telcos-turn-ai-and-operations-automation-5g-networks/>

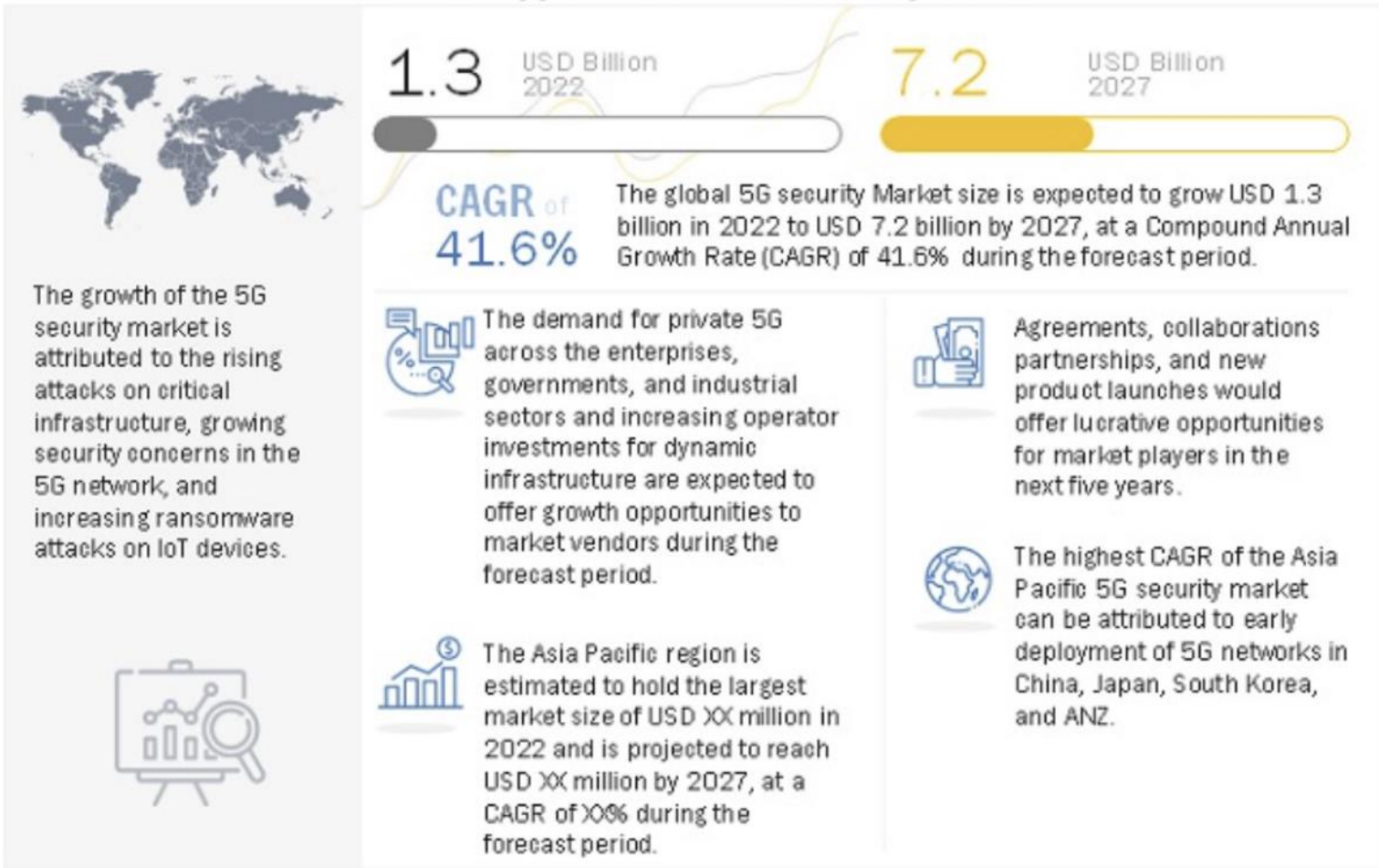


Network slicing market by industry vertical (2019-2027)

² Allied Markets Research: <https://www.alliedmarketresearch.com/network-slicing-market-A07916>



³ Markets & Markets: <https://www.marketsandmarkets.com/Market-Reports/network-slicing-market-120515704.html>



⁴ Markets & Markets: <https://www.marketsandmarkets.com/Market-Reports/5g-security-market-261636732.html>

Definition of requirements, specifications, KPIs and test scenarios for the following MARSAL PoCs

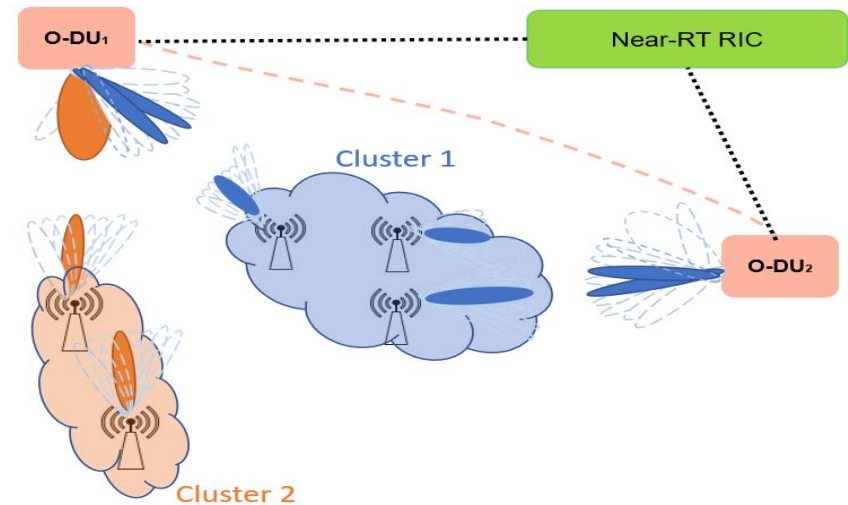
- ❑ **PoC1: Cell-free networking in dense and ultra-dense hotspot areas**
 - *Experimentation Scenario 1.1: Dense User-Generated Content distribution with mmWave Fronthauling.*
 - *Experimentation Scenario 1.2: Ultra-dense video traffic delivery in a converged Fixed-Mobile network.*

- ❑ **PoC2: Cognitive assistance and its security and privacy implications**
 - *Experimentation Scenario 2.1: Cognitive Assistance and Smart Connectivity for next-generation sightseeing.*
 - *Experimentation Scenario 2.2: Data security and privacy in multi-tenant infrastructures.*

➤ Dense User-Generated Content distribution with mmWave Fronthauling

Stakeholders

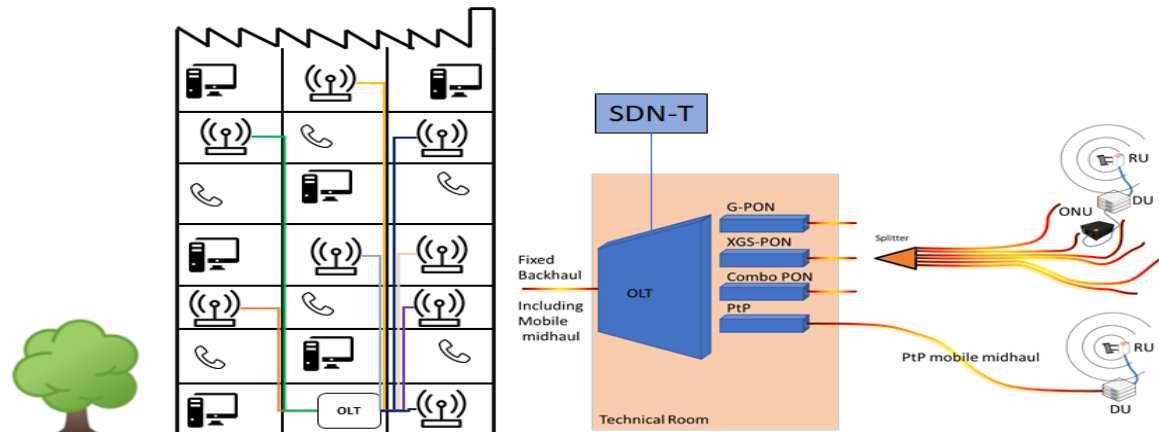
- Cell-free mMIMO infrastructure provider
- Cell-free vRAN VNFs provider
- RAN intelligent controller and xAPPs provider
- mmWave fronthaul provider
- mmWave transport network
- Network equipment manufacturer



➤ Ultra-dense video traffic delivery in a converged Fixed-Mobile network

Stakeholders

- Optical access networks and fiber infrastructure provider
- Radio intelligent controller provider
- The RAN components provider
- Network equipment manufacturer



- **Cognitive Assistance and Smart Connectivity for next-generation sightseeing**
 - **High-level definition of two real-time, interactive, cloud-native AR applications for 6G outdoors sightseeing, supporting human-centered interaction via 3D cameras, equipped with untethered AR glasses.**
 - ✓ **APP1: real-time video analytics, visual guidance**
 - ✓ **APP2: cognitive assistance, virtual representation of an artefact projected at AR glasses**
 - **Provide a flexible network architecture** capable of adapting to fulfil applications performance requirements.
 - **Cope** with the *challenging applications requirements*, while keeping the SLAs of the rest running apps.
 - **Load balancing** according to *priority services*.
 - **MEC approaches:**
 - *lighten the network burden of the AR applications,*
 - *leverage the use of edge computing nodes.*



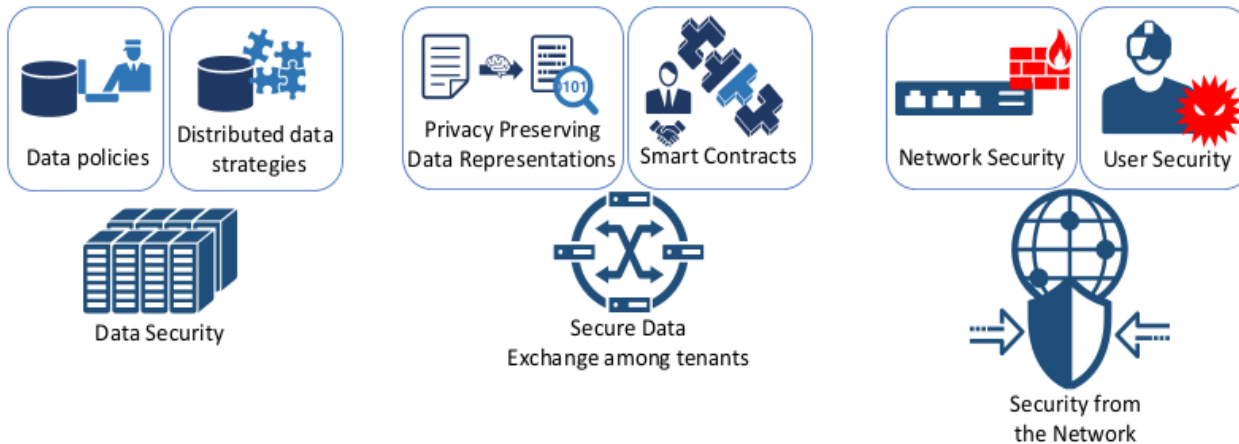
➤ Stakeholders

- End-user
- User equipment manufacturer
- Network equipment manufacturer
- Connectivity provider
- Service provider
- Service Virtualisation Platform Operator
- Applications developer

➤ Data security and privacy in multi-tenant infrastructures

Stakeholders

- Network operator
- Cloud providers
- Slice tenants
- Network equipment manufacturers
- End-users



Thank You!!!

Questions?

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