

# How private 5G is transforming enterprise business operations: lessons learned from real deployments

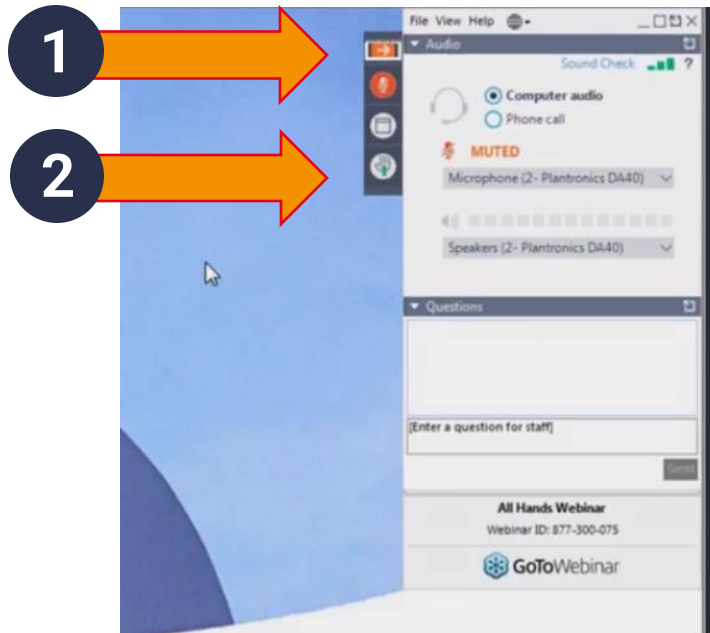
Webinar

**Tuesday 25<sup>th</sup> October**

4:00 PM BST | 5:00 PM CEST | 11:00 AM EDT



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# Agenda

- 1** Introductions
- 2** How private 5G is transforming enterprise business operations
- 3** How HPE solutions are already enabling enterprises with private 5G
- 4** Q&A session

16:00 – 16:05

16:05 – 16:20

16:20 – 16:40

16:40 – 17:00

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<b>1</b>	<b>Introductions</b>	16:00 – 16:05
<b>2</b>	<b>How private 5G is transforming enterprise business operations</b>	16:05 – 16:20
<b>3</b>	<b>How HPE solutions are already enabling enterprises with private 5G</b>	16:20 – 16:40
<b>4</b>	<b>Q&amp;A session</b>	16:40 – 17:00

# Presenters and panellists



**ODED RINGER**

Worldwide Portfolio  
Strategy

**Hewlett-Packard  
Enterprise**



**DAVID GORDON**

Consultant

**STL Partners**



**DALIA ADIB**

Director, Consulting

**STL Partners**

**STL** PARTNERS



**Hewlett Packard  
Enterprise**

# Agenda

- **How private 5G is transforming enterprise business operations** (*STL Partners*)
- **How HPE solutions are already enabling enterprises with private 5G** (*Hewlett-Packard Enterprise*)
- **Q&A & panel discussion** (*STL Partners and Hewlett-Packard Enterprise*)

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# How private 5G is transforming enterprise business operations

How telcos can seize the private 5G opportunity

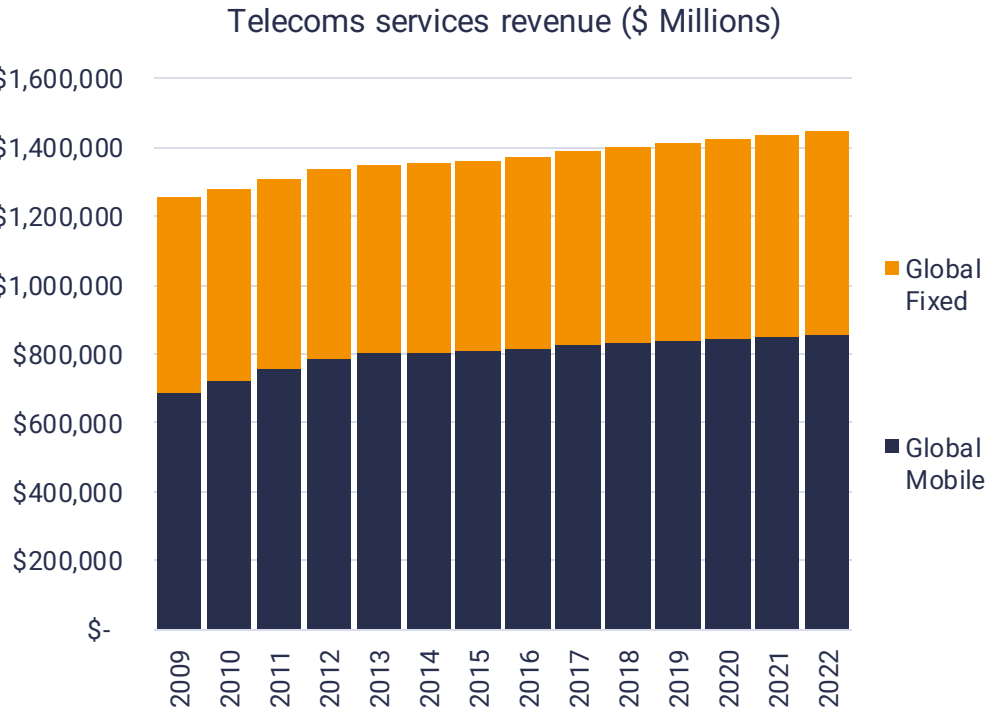
David Gordon, Consultant, STL Partners



# Private 5G is viewed as an exciting opportunity for telcos to access new revenues...

Connectivity revenues have been stagnating as a result of network commoditisation

Private 5G and other emerging technologies promise revenue growth for telcos (in B2B)

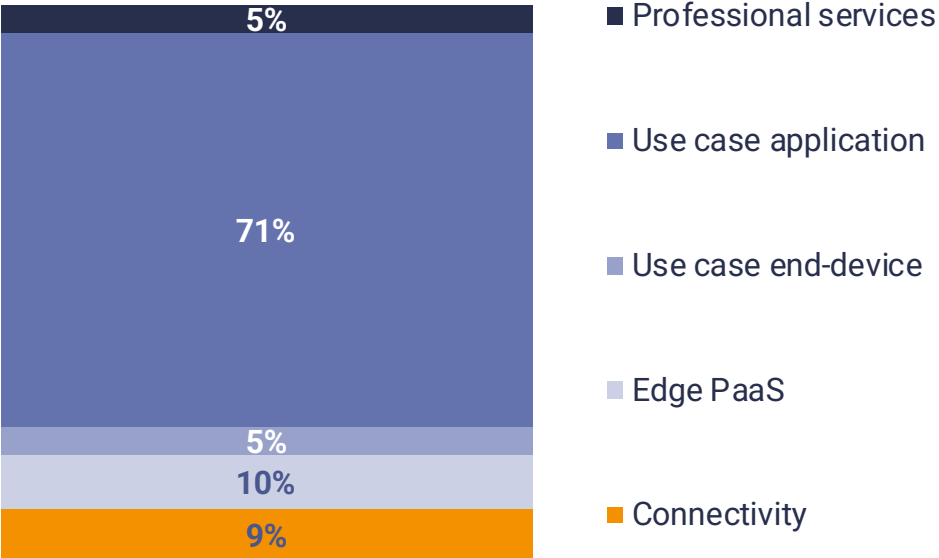


Source: Company accounts and STL Partners analysis and forecasts



# ...However, the telco role in the private 5G opportunity is not guaranteed

Connectivity is already a small part of the overall solution, seen as adding less value



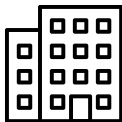
It is unclear whether telcos are needed to deploy private 5G, facing challenges from their:



**Capability** – as typically horizontal players, telcos may lack vertical and enterprise specific perspectives



**Competition** – specialised providers are deploying private 5G without telcos



**Customers** – telcos are perceived as slow to move, costly and offering minimal value

Note: this uses STL Analysis on AMR value chain













# **What is the private 5G opportunity?**

## Audience poll #1

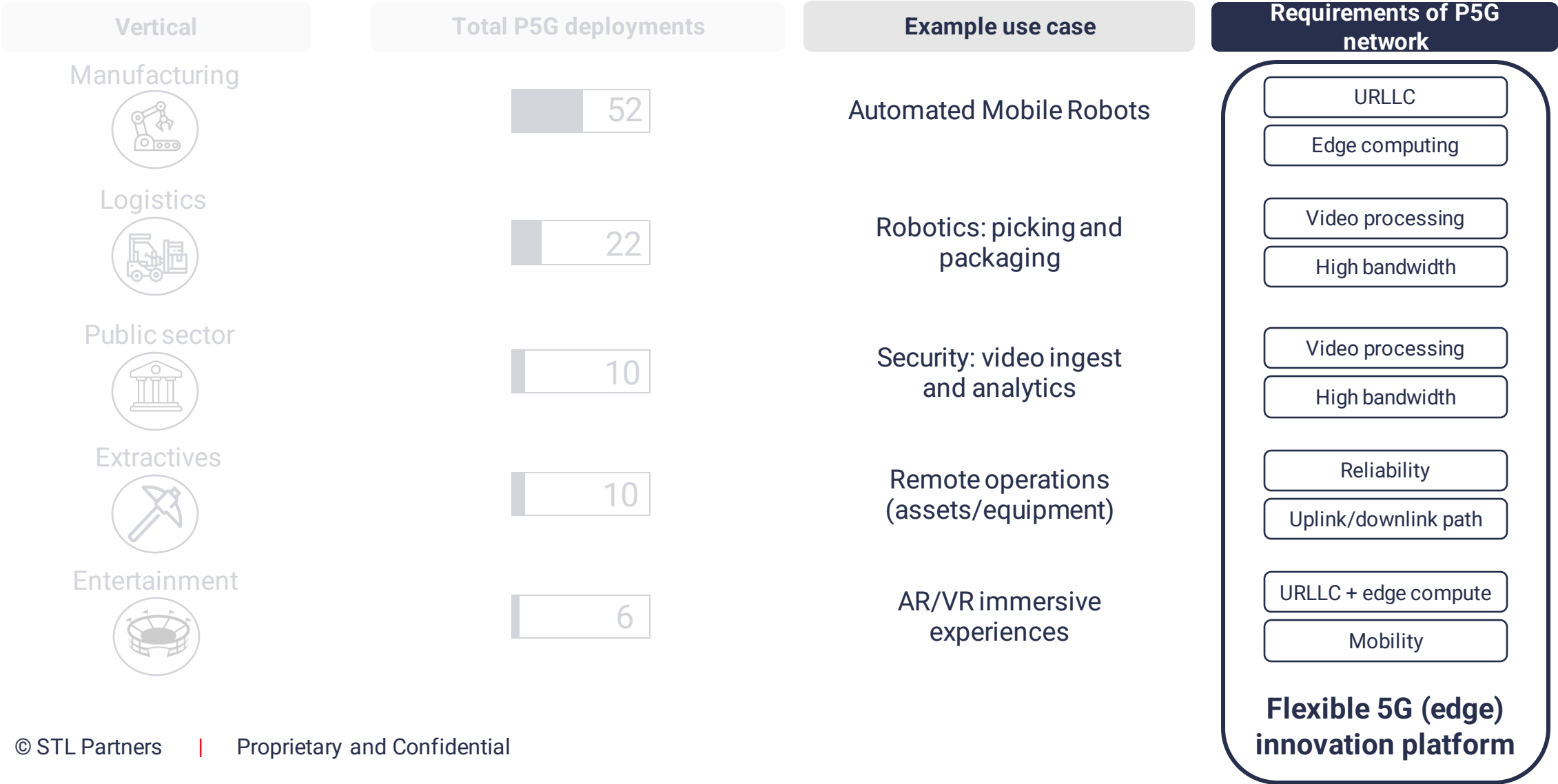
# Which verticals are you seeing as the major adopters of private 5G?

1. Manufacturing
2. Healthcare
3. Transport (airports and ports)
4. Extractives (mining, oil and gas)
5. Logistics and warehouse

# Private 5G adoption varies between verticals – each has a different set of use cases and KPIs

Vertical	Total P5G deployments	Example use case	Operational KPI impacted by use case	
Manufacturing 	<div><div></div>52</div>	Automated Mobile Robots		Cycle time
Logistics 	<div><div></div>22</div>	Robotics: picking and packaging		Handling efficiency
Public sector 	<div><div></div>10</div>	Security: video ingest and analytics		Emergency response time
Extractives 	<div><div></div>10</div>	Remote operations (assets/equipment)		Accident ratio
Entertainment 	<div><div></div>6</div>	AR/VR immersive experiences		Customer experience

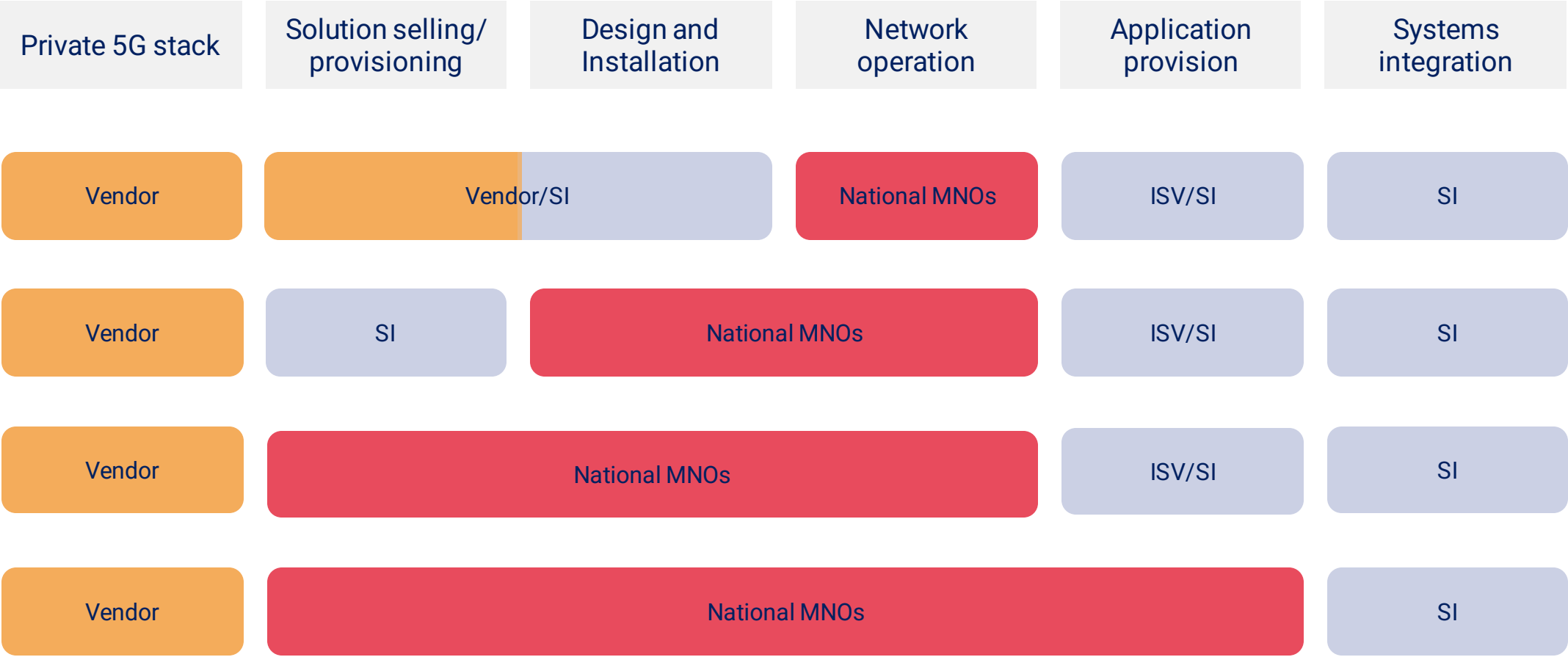
# Flexibility in 5G as an innovation platform is key to cater to different use cases





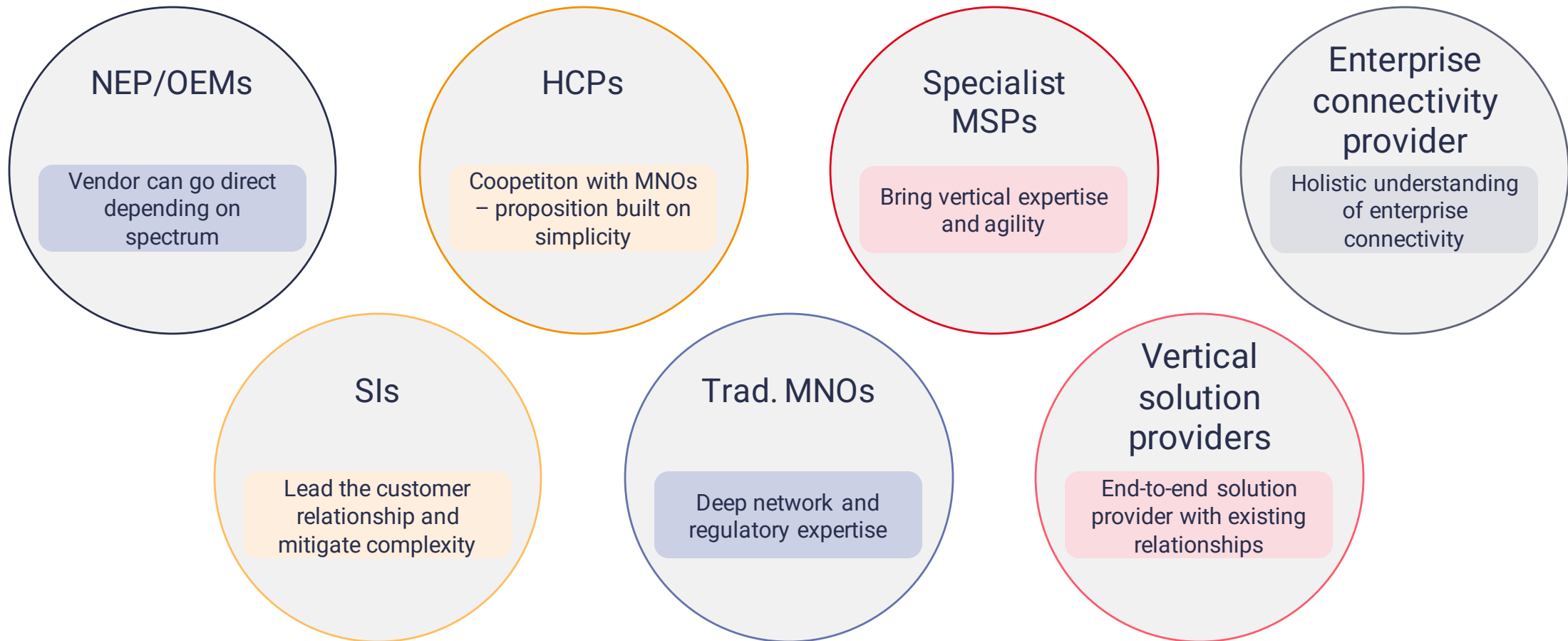
**How can telcos successfully  
seize the private 5G  
opportunity?**

# These are the key models we are seeing for telcos deploying private 5G solutions





# The ecosystem is complex as companies are both partners to the telcos and competitors



## Audience poll #2

# Who do you see in the value chain leading the go-to-market with enterprise customers?

1. Telecoms operators / CSPs
2. NEP/OEMs
3. Hyperscalers
4. Systems integrators
5. Specialist MSPs

# Telcos have lost some of the private 5G connectivity market share to more specialised competitors



# Telcos must adapt to retain and expand their role in private 5G network deployments

## Challenges telecoms operators face

## Opportunities to overcome challenges

Disconnected from enterprise's needs and wants

Understand vertical stakeholder needs

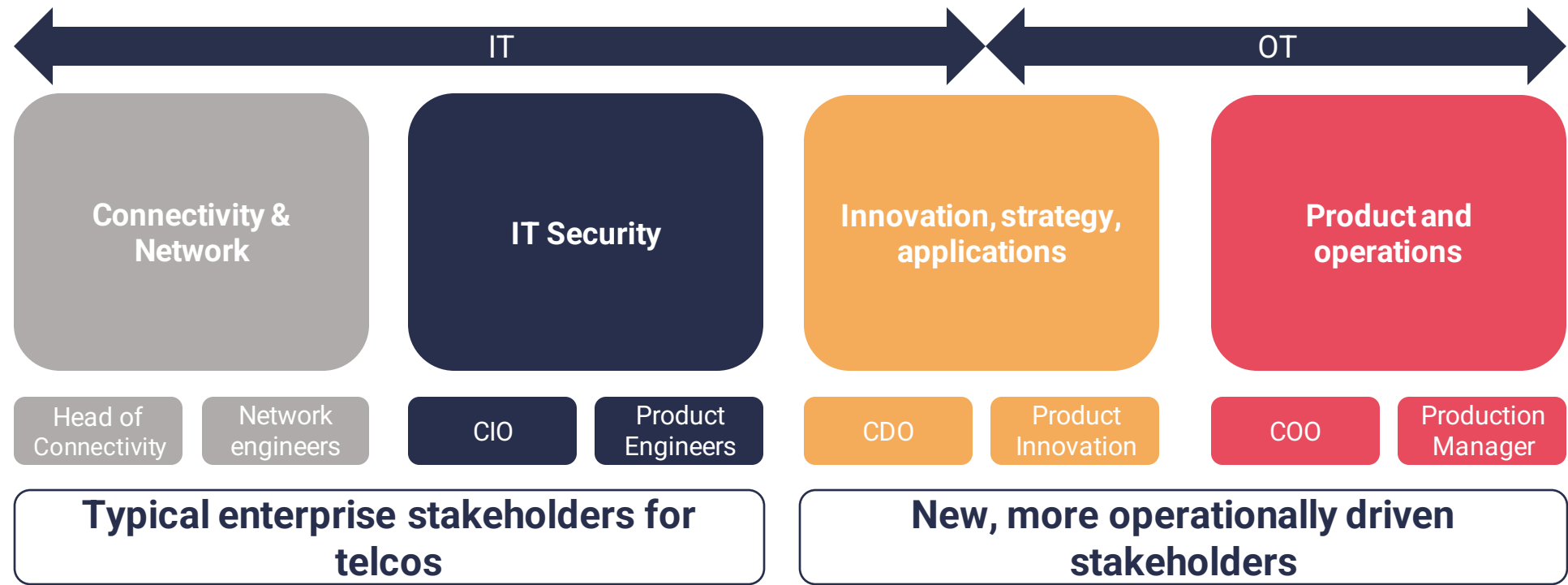
Complex ecosystem and heterogenous customers

Partner and develop flexible private 5G

Connectivity is a small part of overall value

Expanding solution to include application and edge computing

# Operators will need to engage with different stakeholder groups



# Conclusion and recommendations

- Telcos can't rely on their historic role as a connectivity provider to guarantee their involvement in private 5G deployments in the future...
- ...To guarantee their place, telcos need to:
  - Develop private 5G solutions that demonstrably help enterprises to transform their business operations
  - Leverage strategic partnerships to deliver private 5G as an innovative platform solution that meets requirements flexibly to coordinate next-gen technology
  - Seek out new paths to revenue through the application layer and untapped monetisation opportunities

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# PRIVATE 5G - TYPICAL MOTIVATIONS



1

Enable autonomous operations

*5G in-a-box*

2

Support critical applications

*Distributed private 5G*

3

Dedicated use network

*Virtual Private, on public*



# PRIVATE 5G – KEY CONSIDERATIONS



## Deployment

Between Edge and Cloud



## Operation

By Enterprise or Service Provider



## WiFi interworking

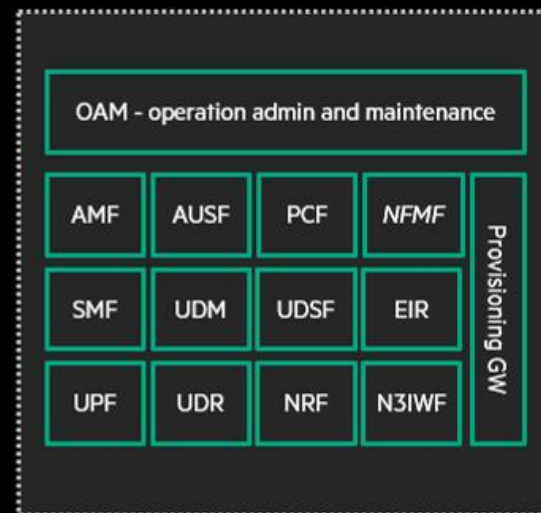
Like a single network

# PRIVATE 5G DEPLOYMENT OPTIONS

## HPE 5G Core Stack

1

### In a box

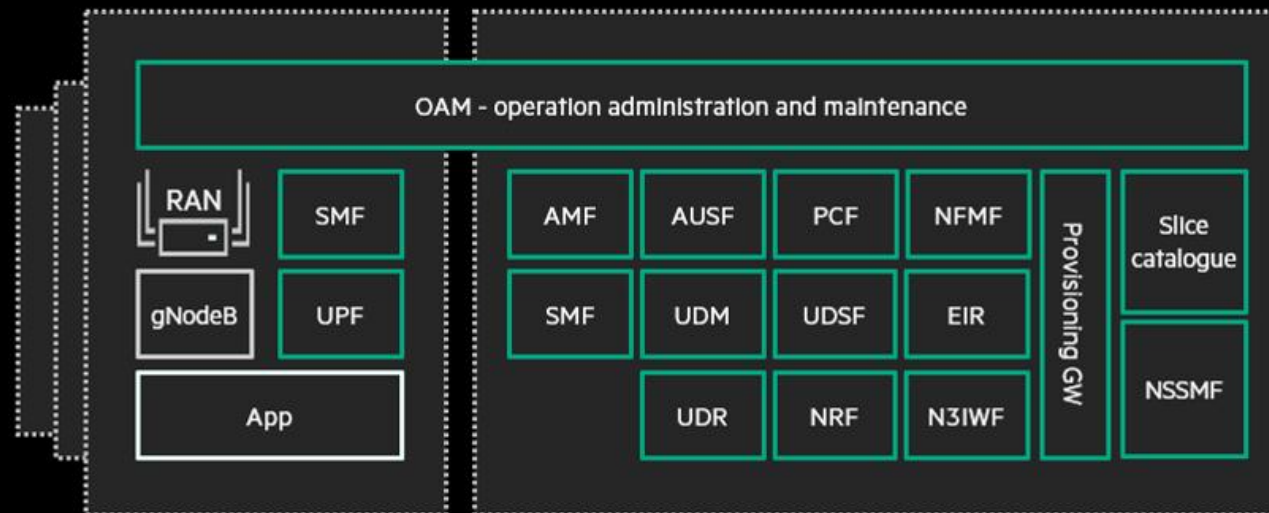


Single chassis portability

- Transportable, fully featured, 5G core
- Scales down - as low as few subscribers.
- Scales up - multi-nodes cluster

2

### Distributed Cloud



User functions  
at the Edge

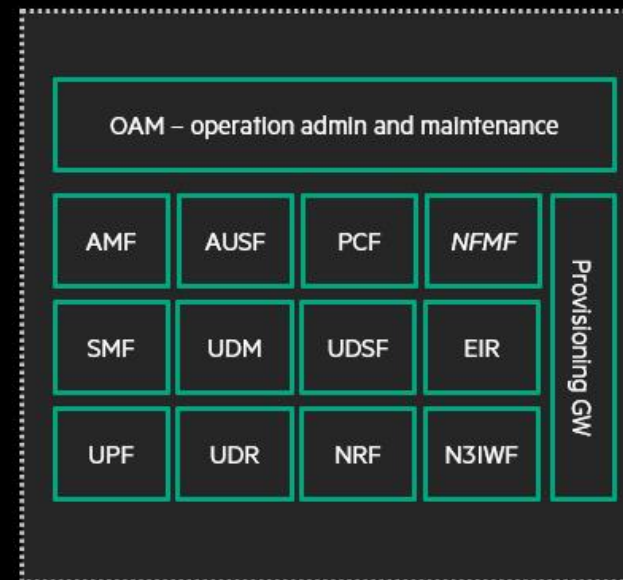
Central control functions

- User functions - at the Edge, for local availability and low-latency
- Control Functions - centralized, at either:
  - Enterprise datacenter
  - Service provider - partitioned per enterprise customer (tenant)



# 5G IN A BOX

Autonomous networking at the edge



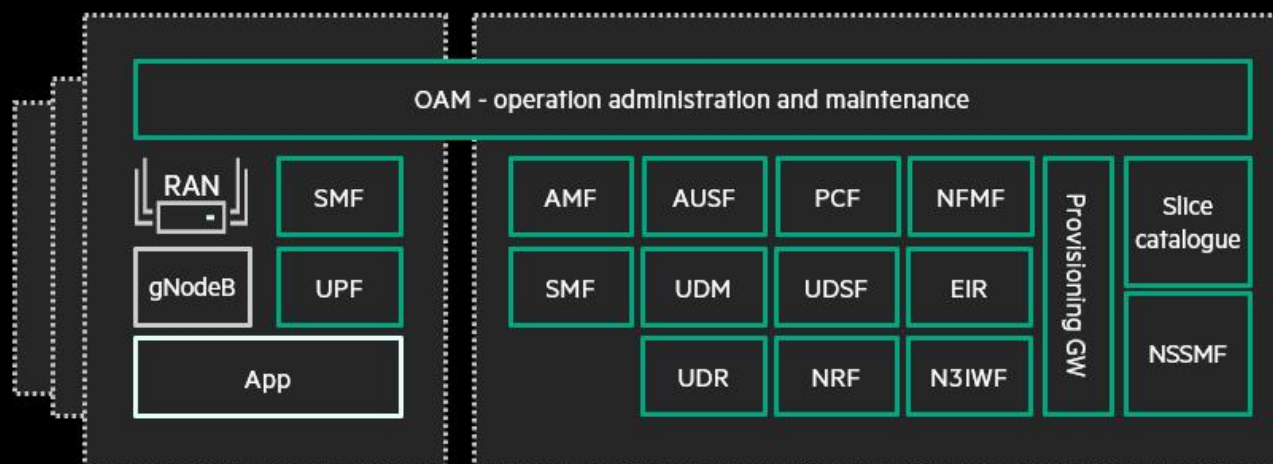
## HPE 5G Core Stack – 5G in a box

- Operated by field teams
- Scales down - as low as few subscribers.
- Scales up – multi-nodes cluster
- Transportable, Minimal footprint, Ruggedized

# DISTRIBUTED PRIVATE 5G



## HPE 5G Core Stack - Distributed cloud deployment:



**User Plane Functions**  
Enterprise / Telco Edge

**Control Plane Functions**  
Enterprise datacenter / Telco cloud / SI / Hyperscaler



# WI-FI AND 5G INTER-WORKING



Operated together

*One pane of glass*



Device authentication

*Common control plane*



Application handover

*User plane access via N3IWF*

# PRIVATE 5G AS-A-SERVICE, with HPE GreenLake



Pay only for what you use <sup>1</sup>



Scale as needed



Increase business agility



Choice and flexibility



Simplify operations



Speed time to market

**Growing cost with usage and freeing up capital**



# STADIUMS - MEDIA OPERATION

Japan, July 2021

5G SA system supporting LIVE broadcast of Sports Games to the world.

High Performance uplink connection: 150Mbps per cell

No down-time for 4 months duration during the event

- HPE 5G Core NFs
- AWS public cloud deployment
- 6 UPF instances residing in 2 servers served for 6 different media companies





# AUTOMOTIVE MANUFACTURER

Germany

A high-performance network for a paperless ultra-dense Operational Technology (OT) environment

- Continuous bidirectional segregated data flows among OT and IT, with reliable, efficient and ultra low-latency connectivity
- Designed to support “digital twin” solutions

HPE 5G Core Stack  
HPE Service Director  
HPE Dynamic SIM provisioning





# TELEMEDICINE PRIVATE 5G

India, Sep 2021

The Government of India allows large enterprises to leverage non-radiating experimental indoor spectrum license, specially allocated for non-Mobile Operator.

Telemedicine provider deployed a central 5G Core lab evaluate Private 5G services for their healthcare solutions such as Mobile X-ray units and scanners

Utilized eMBB, URLLC and MEC

HPE 5G Core Stack centralized deployment  
+ Airspan 5G indoor RU: AV 2700 Sub 6GHz



# PETRO-CHEMICAL COMPANY, USA

## Connectivity during maintenance

With large area remote facilities, and  
metallic interferences, Petrochemical  
companies turn to cellular coverage  
Autonomous connectivity is needed  
for site maintenance at co-existence  
with in-building Wi-Fi

HPE 5G Core Stack  
JMA wireless radio units  
HPE ProLiant DL360

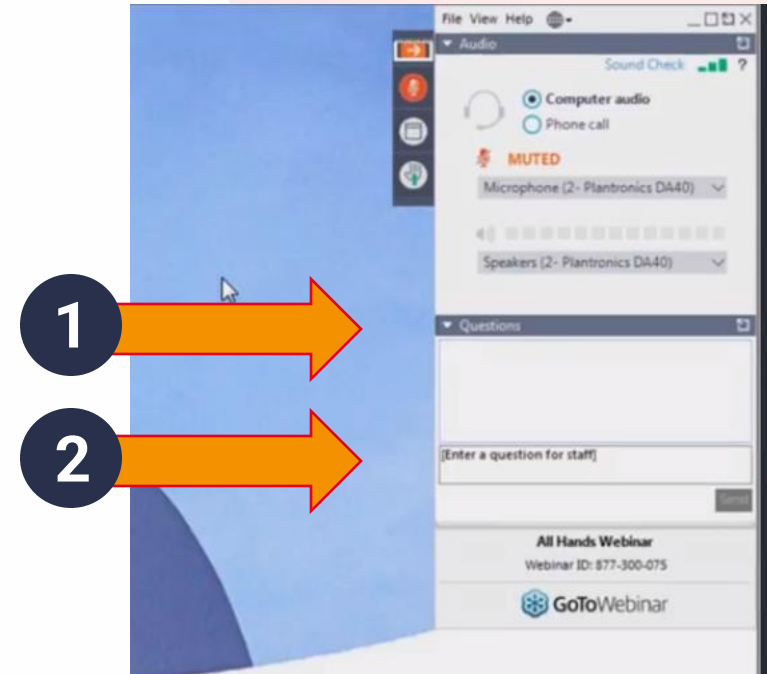


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# Q&A session

Please submit any questions using the GoToWebinar control panel



# Thank you for joining!

All registrants will be receiving the link to the recording and slides shortly to watch back or to share with colleagues, plus a Q&A write-up in due course.

For any other questions, please contact:

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- Oded Ringer, [oded.ringer@hpe.com](mailto:oded.ringer@hpe.com)

