5G & Geospatial data - what are the mutually empowering dynamics?

May 2023

Why

Investment planning and performance optimisation

What

Geospatial data in telecom

How

Solution portfolio, intelligence & system integration

Why? Problems & Opportunities

Investment planning & prioritisation

- Revenue protection
- Access deployment strategy
- Access Solution Portfolio
- Future technology and spectrum evaluation

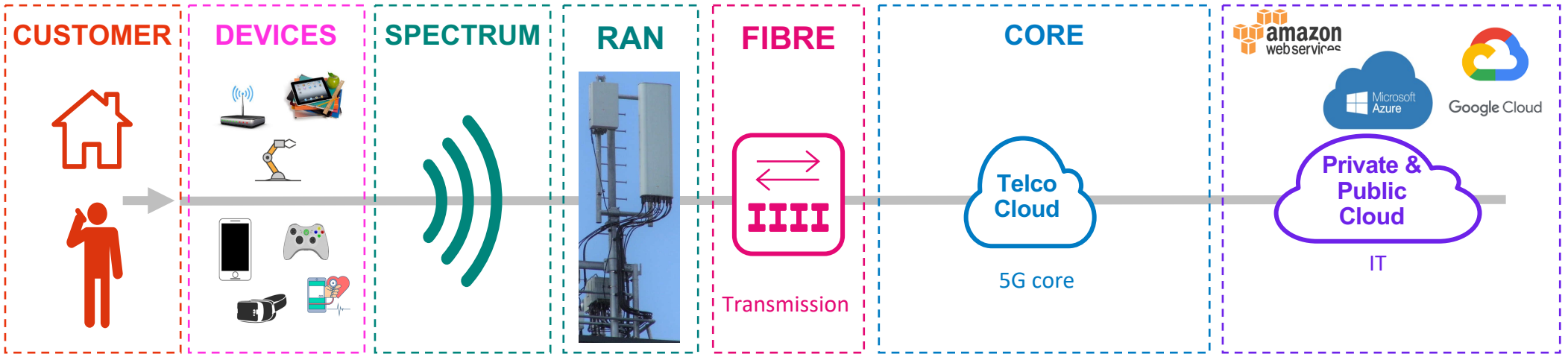
Customer experience improvement

- Spectrum Efficiency
- Network Optimisation
- Network planning

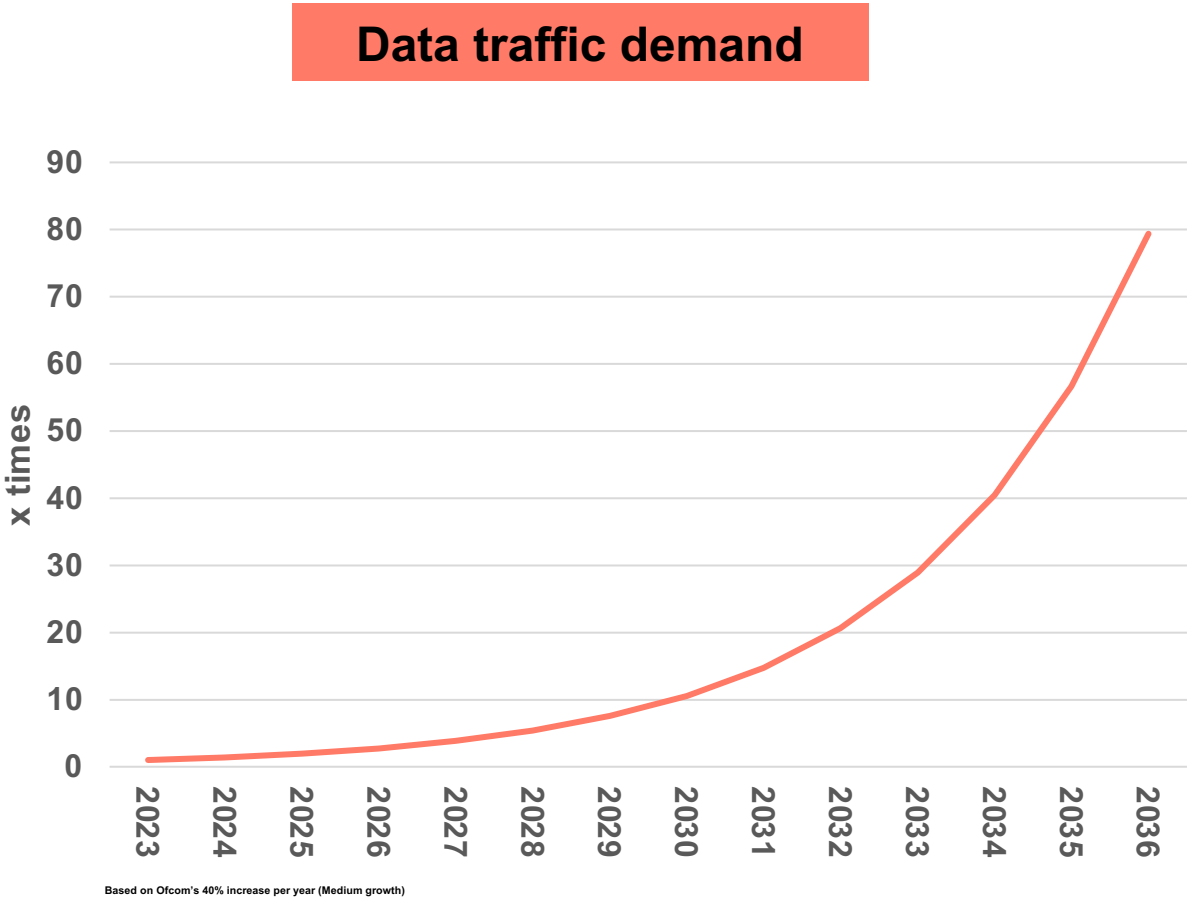
Market insights

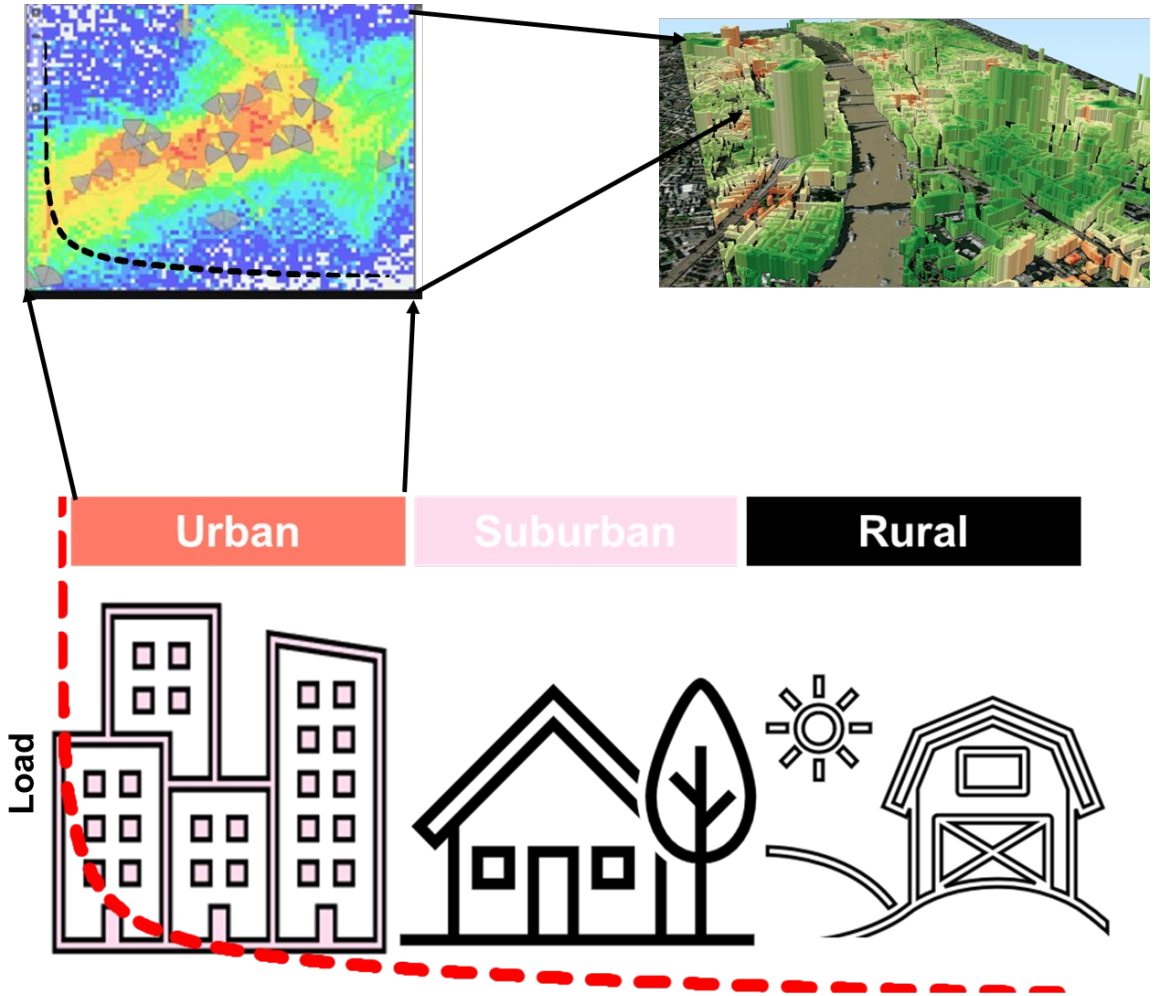
- Competitive analysis
- Market Opportunity
- Benchmarking

Deploying ‘fast 5G’ costs 3~4x more compared with traditional system…..



Data traffic is not uniformly distributed, and ‘fast 5G’ is needed to justify the return on investment in high-traffic demand areas.



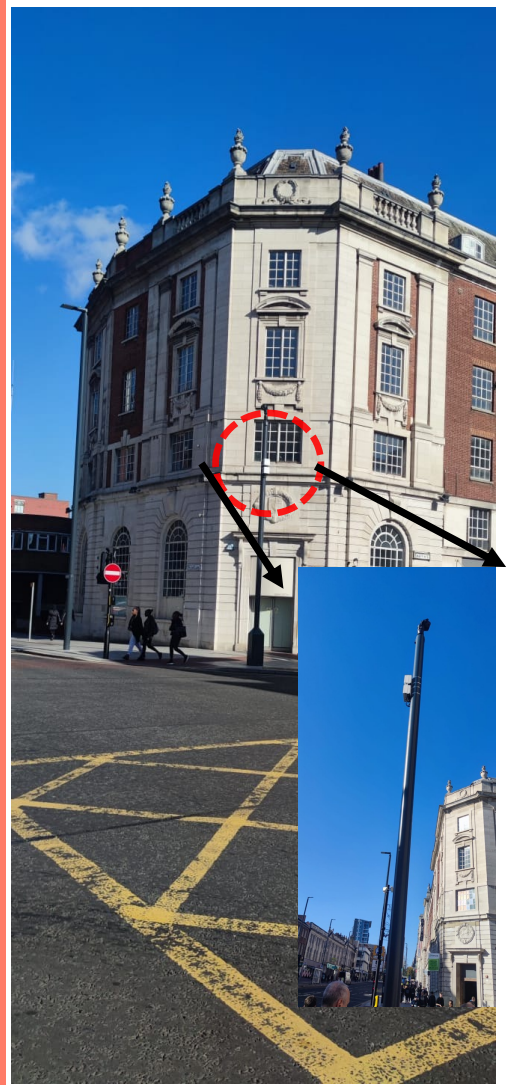


Network Solution Portfolio

There are different 5G solutions suitable for different environments:

1. Macro sites
2. Small cell
3. Indoor system

Small cell



Macro site

Indoor system

What the solution could look like

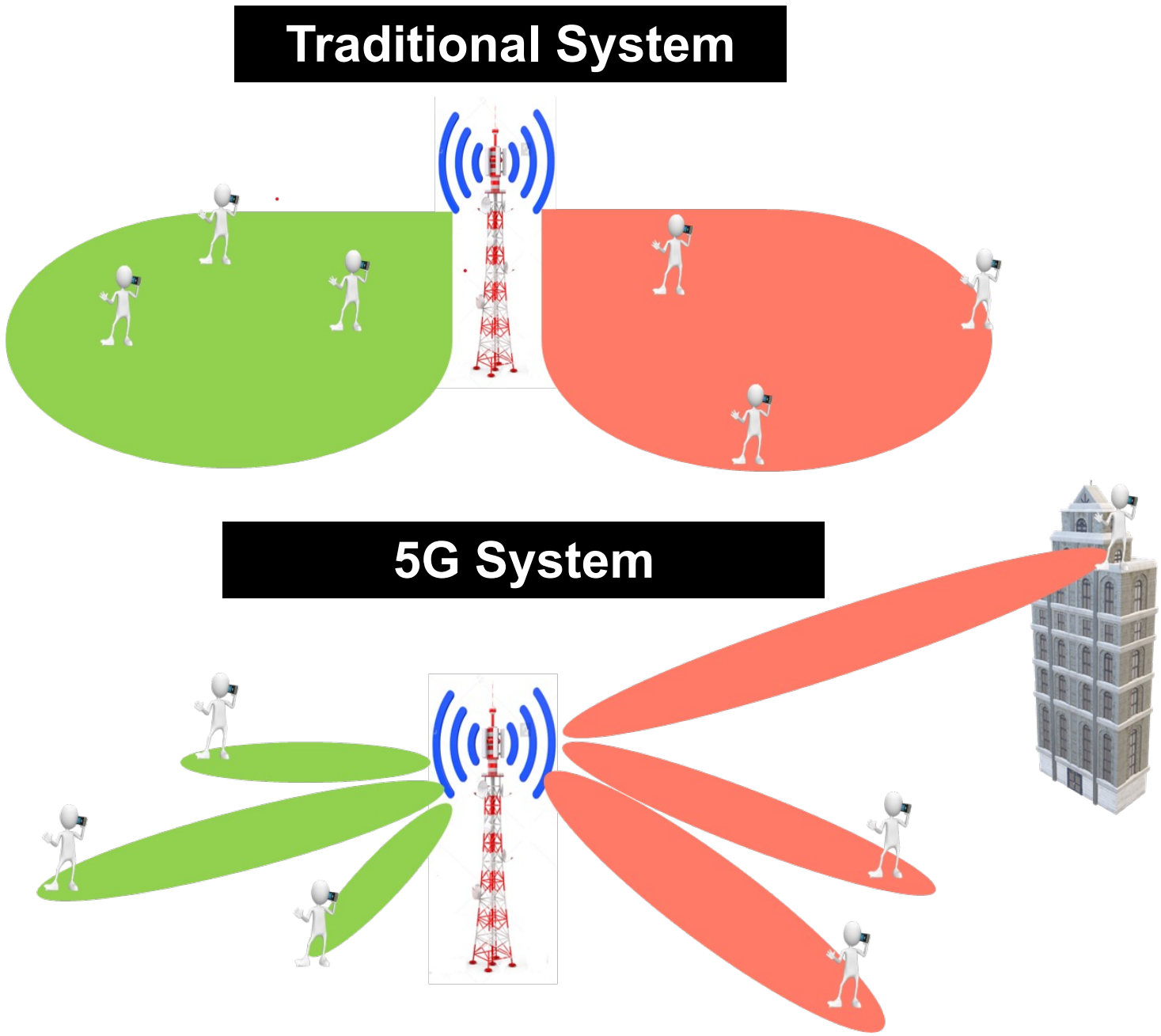
Enhancing the business awareness of their consumers' needs by tagging their key performance indicators with a specific location.

Geospatial data

Geospatial: Traditional vs 5G

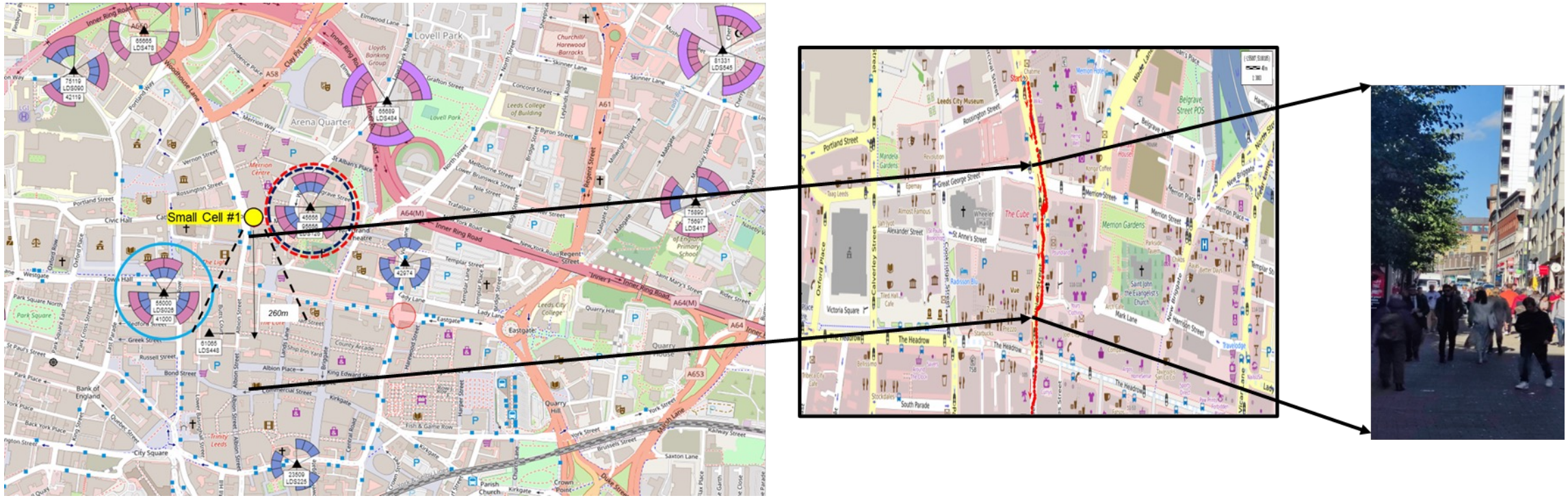
Location awareness underpins 5G performance boost, which drives:

- 3.5~5x more capacity
- 4x better speed
- 2x less energy consumption
- 2x wider coverage



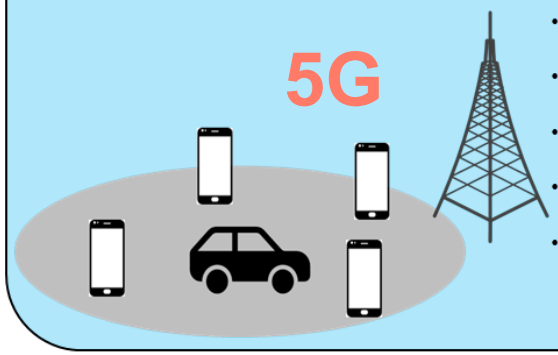
Geospatial identification of traffic hotspots is fundamental to identify the most cost effective solution to deploy 5G.

- One small cell helps to improve the user experience by offloading up to 70% of traffic from Macro sites
- Significant performance improvement, 250Mbps from 2~10 Mbps



How?

Drive test



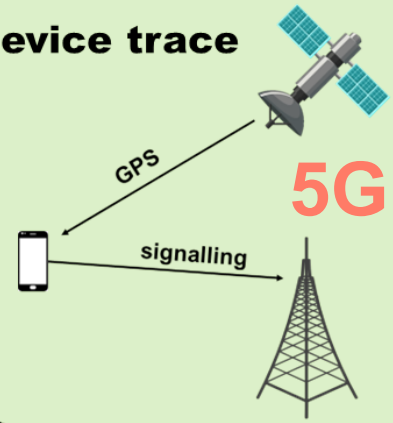
- Accuracy: Low
- Complexity: Low
- Indoor/outdoor: Low
- Cost: High
- Dataset : Low
- User consent: N/A

MNO App

- Accuracy: Medium
- Complexity: Medium
- Indoor/outdoor: Low
- Cost: Medium
- Dataset: Medium
- User consent: Yes

Geospatial Portfolio

Device trace



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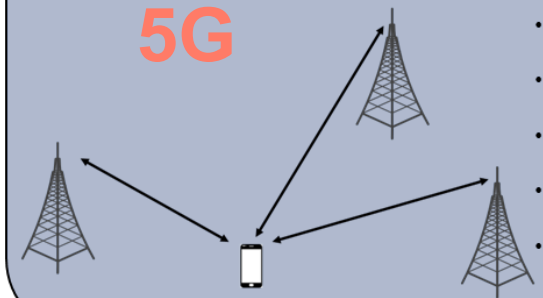
Network trace



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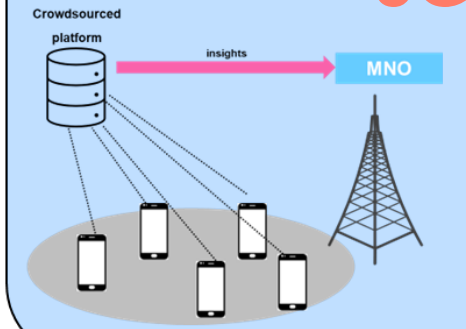
Crowdsourced



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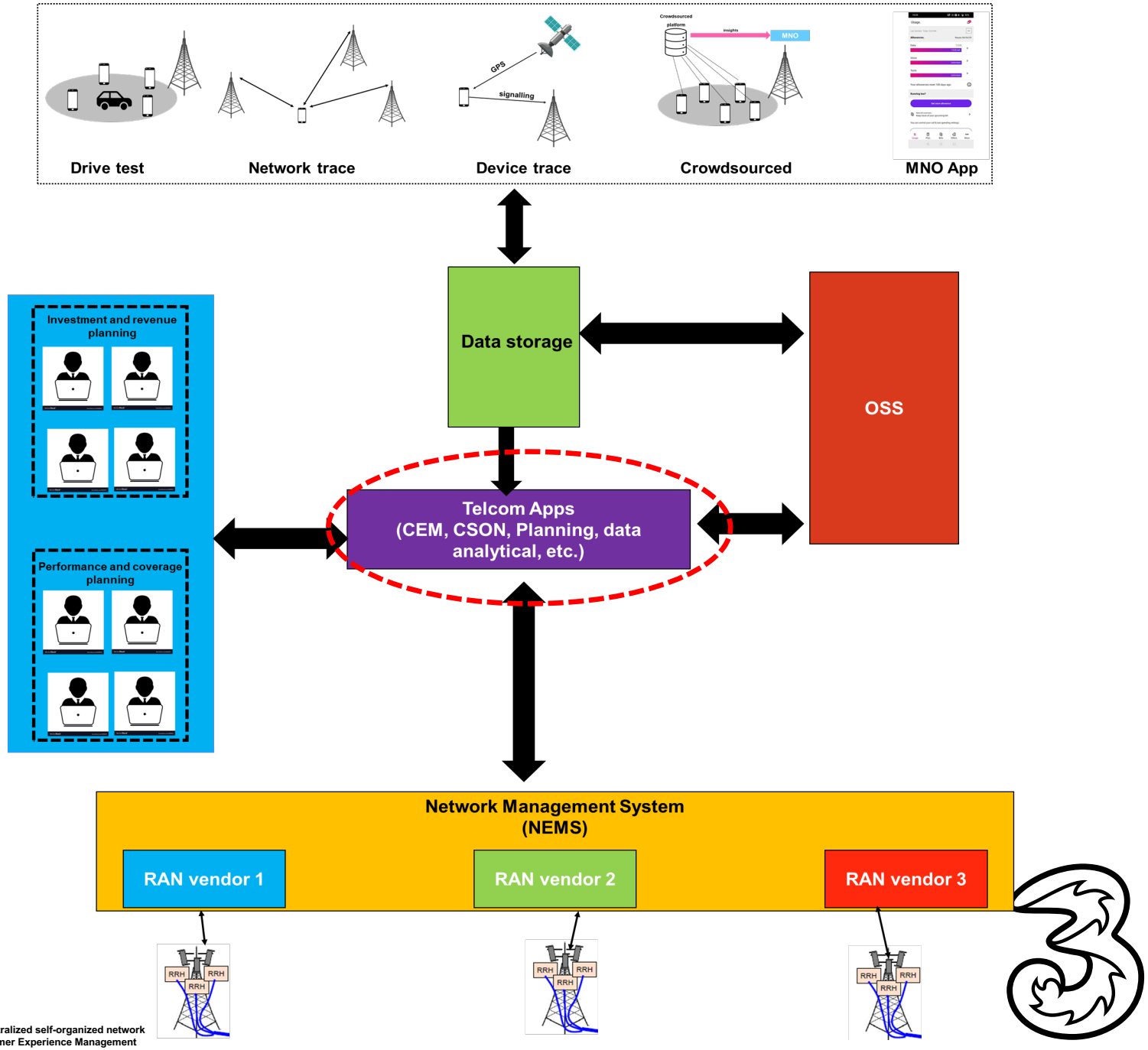
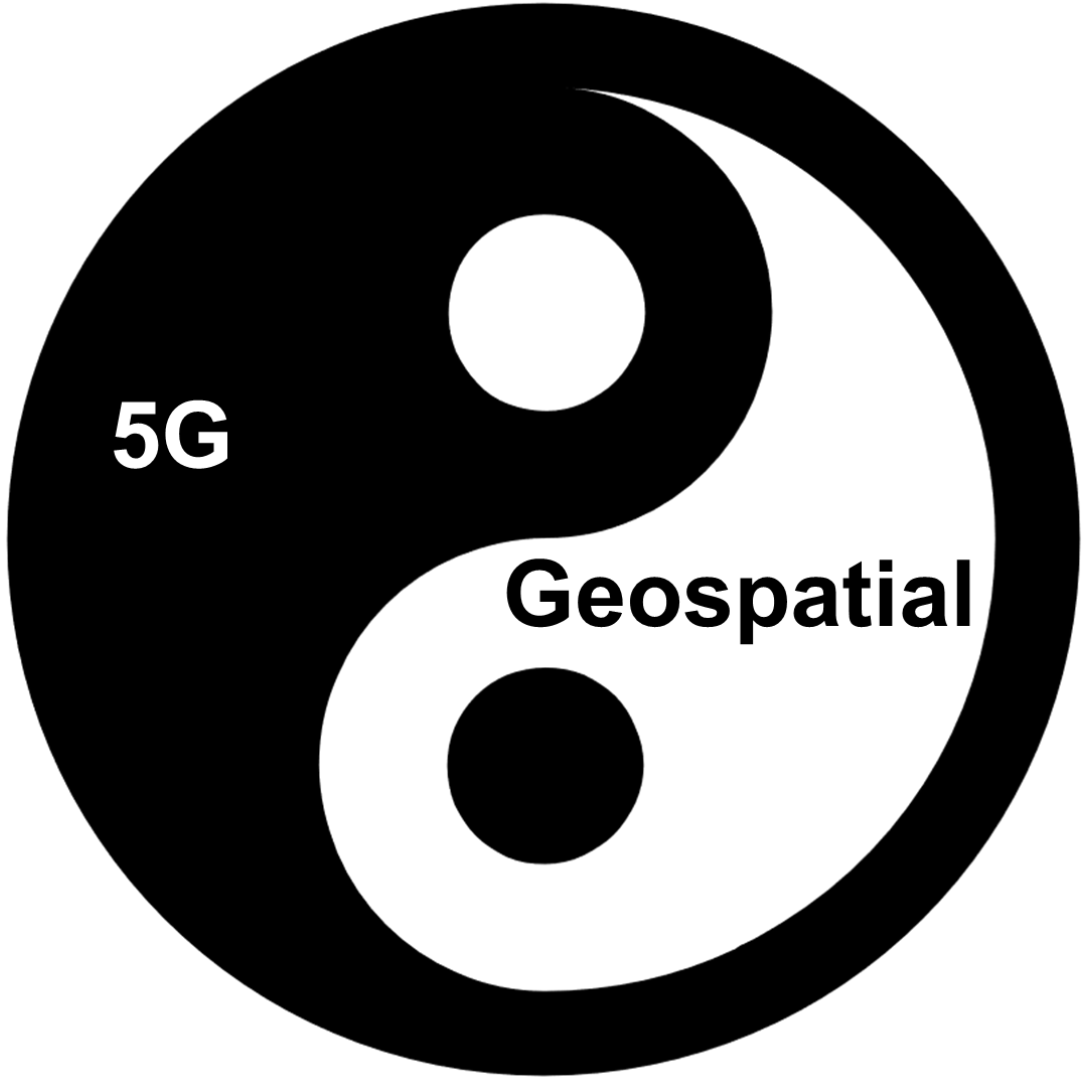
High Level Architecture

It is not just about collecting the geo info, but together with the effective E2E architecture and implementing the right intelligence ensuring:

1. better investment; and
2. improved user experience



CSON: Centralized self-organized network
CEM Customer Experience Management



5G and Geospatial data work in tandem, empowering each other and creating a virtuous circle