



ERICSSON

Beyond the macro – achieving
the unwired enterprise

Capture high data users

- › Improve today's indoor coverage and provide high quality voice and data services
- › Improve smart phone usage for staff and visitors; not provided by first-wave Wi-Fi solutions
- › Enable BYOD (bring your own device) schemes
- › Accommodate services like video-conferencing, corporate & cloud apps

Corporate Apps



Real time video



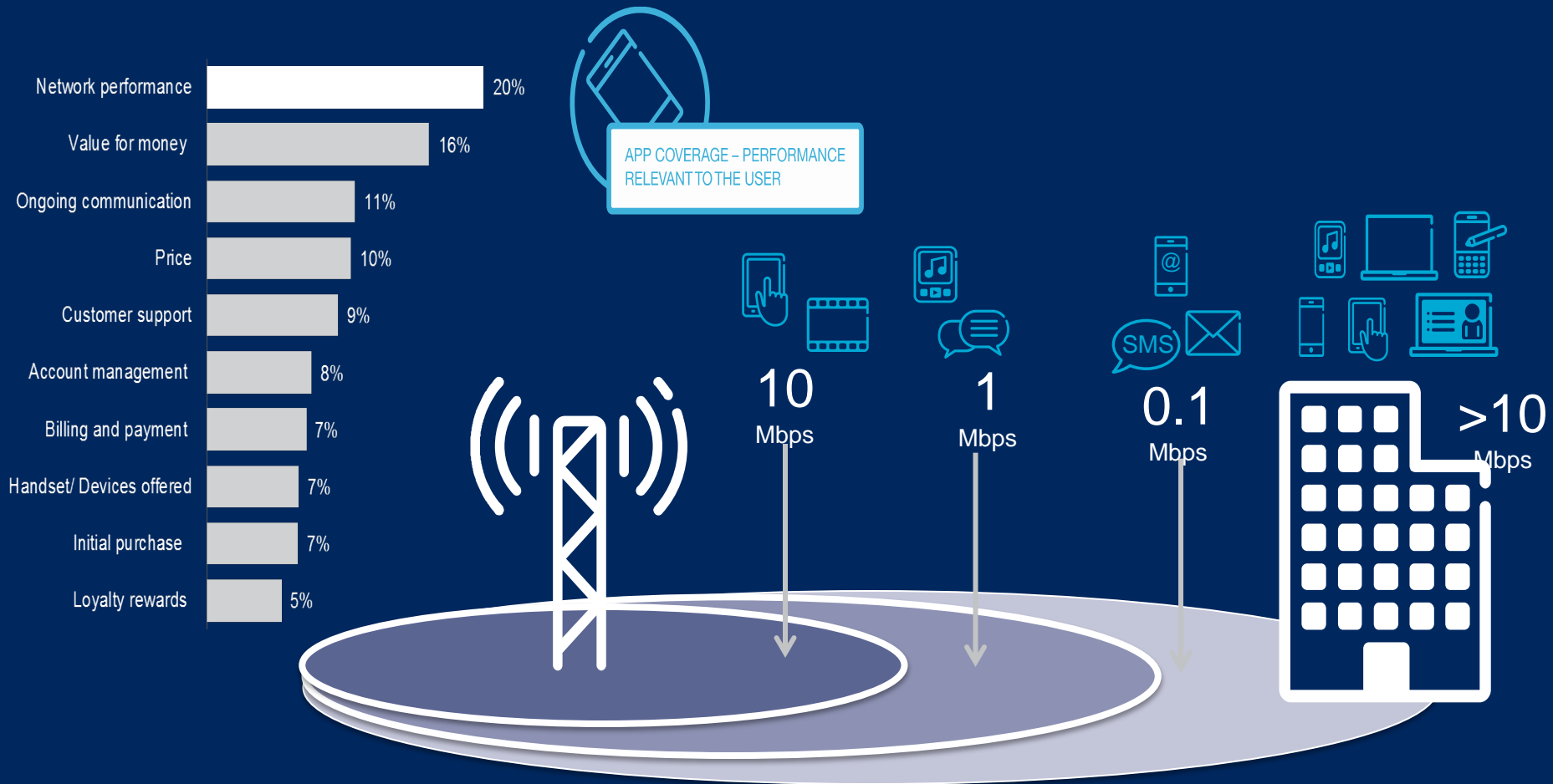
Conferencing





Of all mobile network
traffic is generated indoors

Indoor mobile performance is key



Challenges in enterprise environments



First wave Wi-Fi-only

Limited mobility;
no voice-data
integration



Macro coverage not sufficient

Penetrating
buildings from
outside is
(getting more)
difficult with
improved
isolated walls
and windows



Indoor solution face TCO challenge

Increased cost
awareness
leading to high
focus on Total
Cost of
Ownership for
indoor solutions



Parallel infrastructure deployments

Not always
possible /
allowed to have
parallel
infrastructures;
economical not
feasible



Complex deployment

Complex
cabling,
backhaul and
power set-up



Co-ordination of multiple stakeholders

Align diversified
demands of
parties; like
TelCo, property
owner,
enterprise
customer

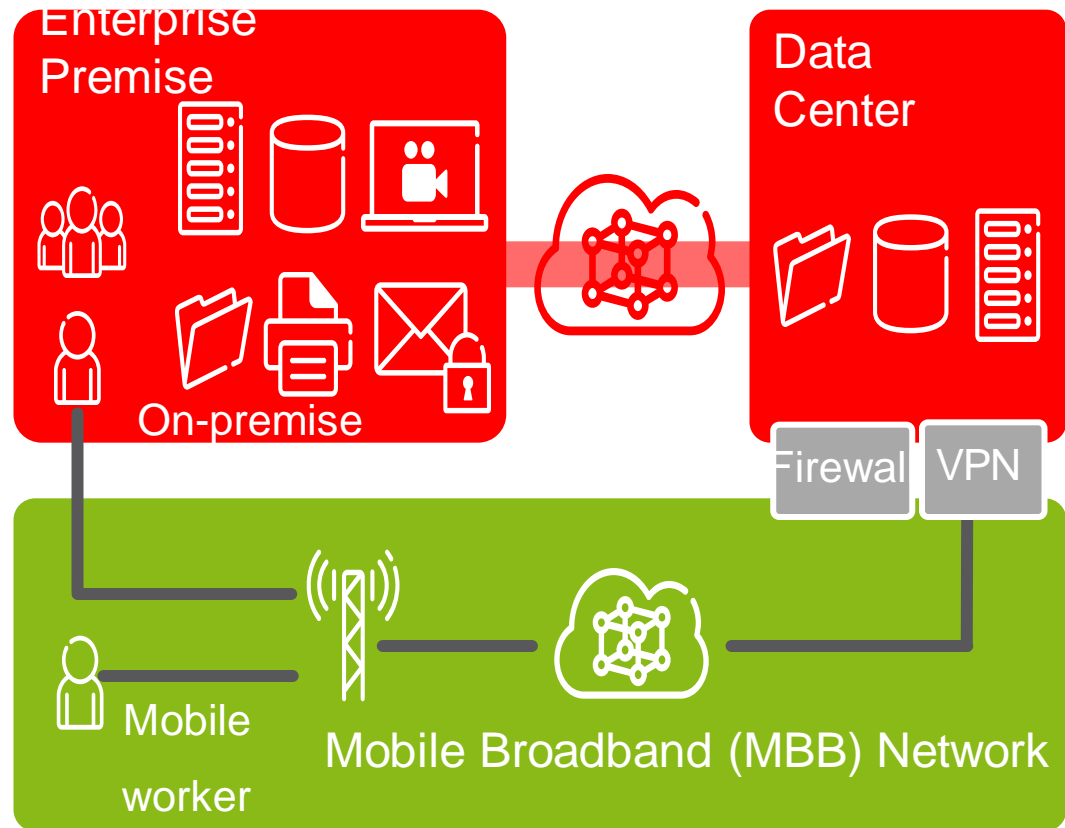


Demand for integrated data-voice solutions, smart phone support and improved indoor mobility

“old” enterprise ICT



- IT Controlled
- Capex
- Premise based
- Walled Garden Security
- Owned Applications
- Smartphone access an overlay via VPN



unwired Enterprise



BYOD

Mobile Workforce

Seamless

Consumerisation

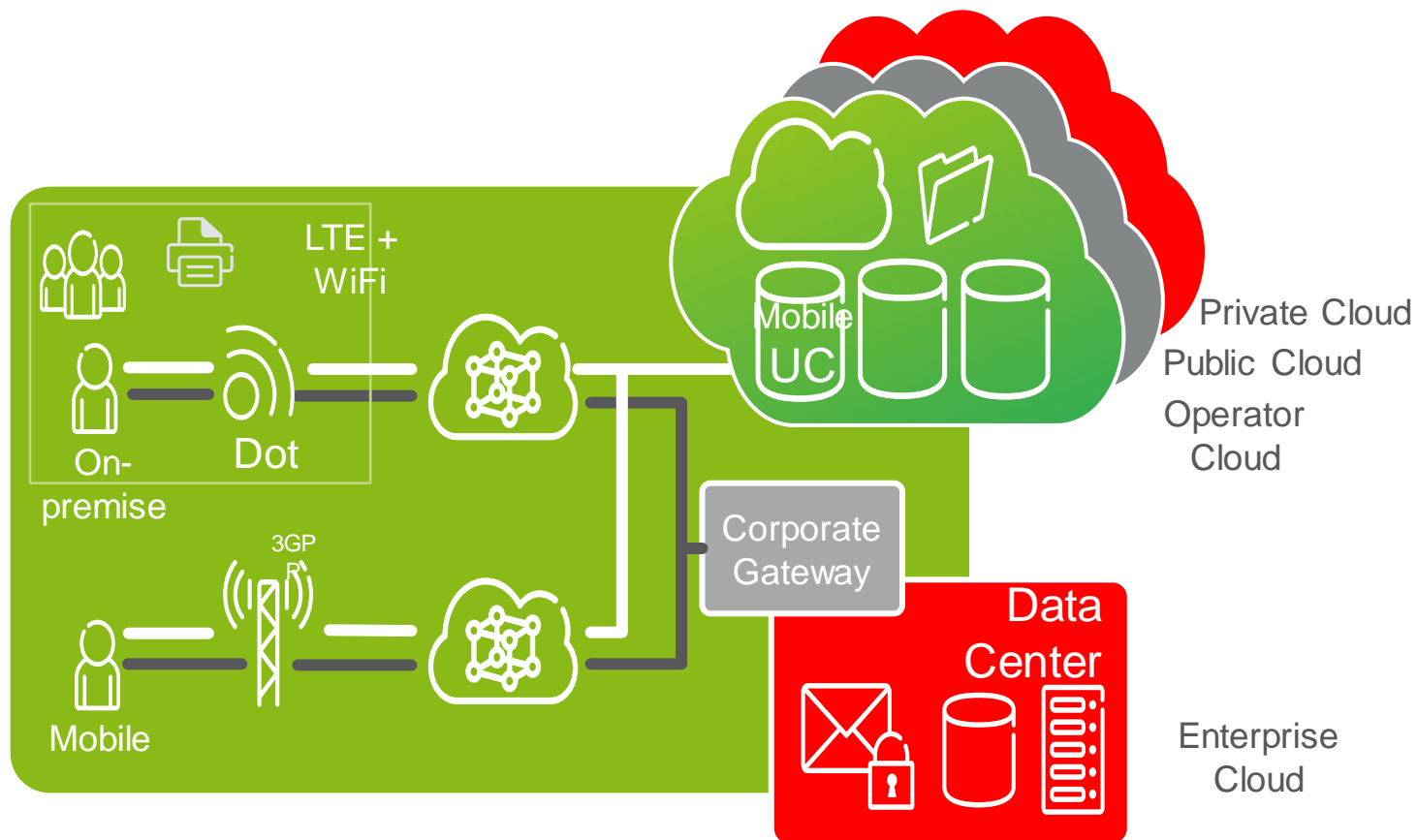
Cloud and XaaS
Applications

Per App Security

Hybrid Cloud

Network as a
Service (OPEX)

Focus on
Business
Transformation



One Network, Cloud Based, Fully Mobile

Growth into enterprise —

the next wave of opportunity



Integrated ICT Solution



Indoor
App Coverage



Capacity

- Integrated WiFi
- Video



Indoor
Voice Coverage

- VoLTE Quality of Service
- Traffic Steering



Coverage

- Rapidly deployable
- Monetization achievable

App coverage



City plan view without mapped coverage



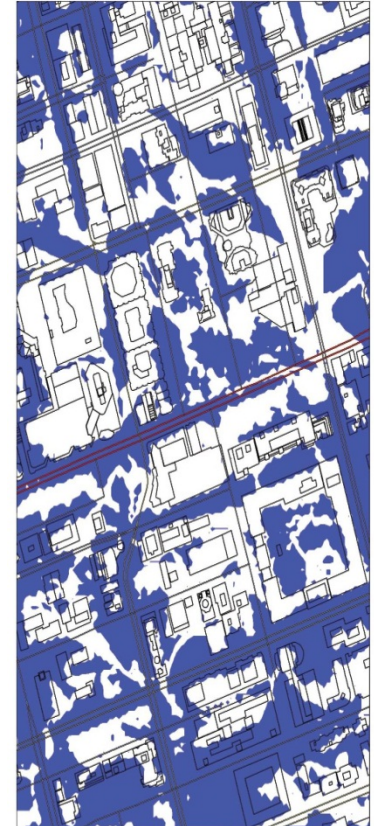
Voice coverage



Music coverage



Video streaming coverage

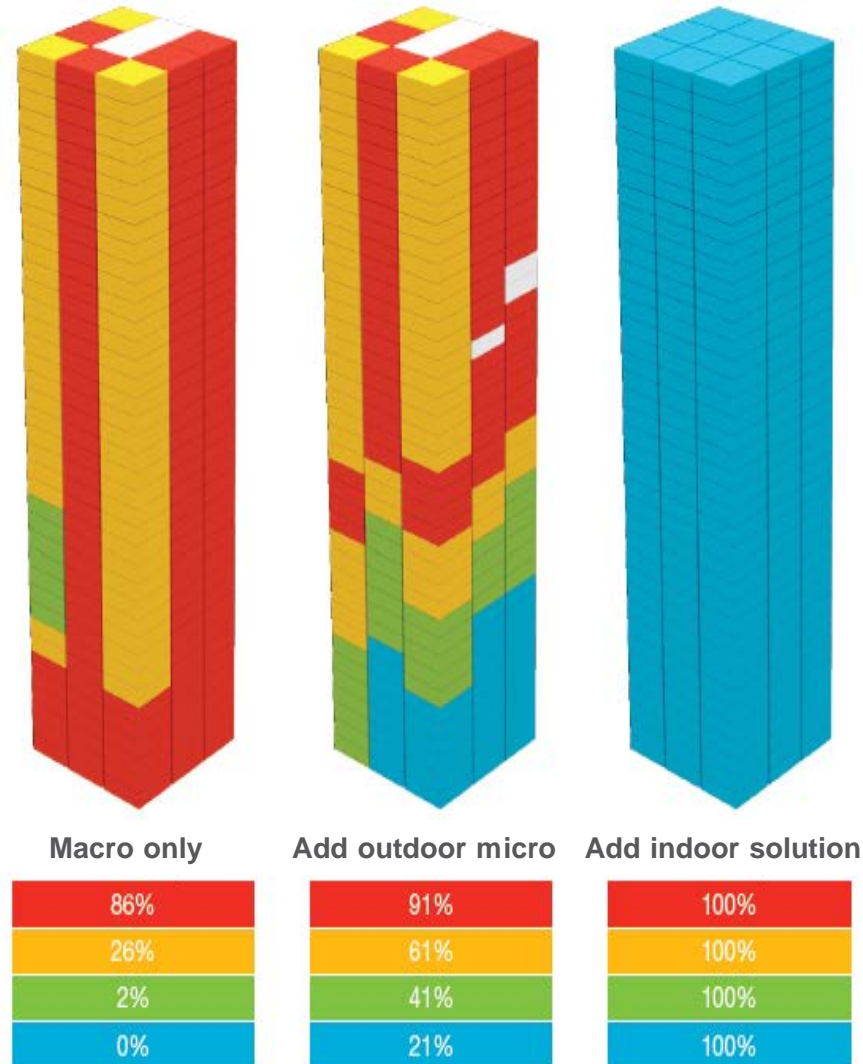


“Every app has its own coverage map”

App coverage - indoor



- › App coverage in buildings present a significant challenge
- › In-building app coverage can be improved with suitable radio network deployment



Traffic Model



Downtown result area

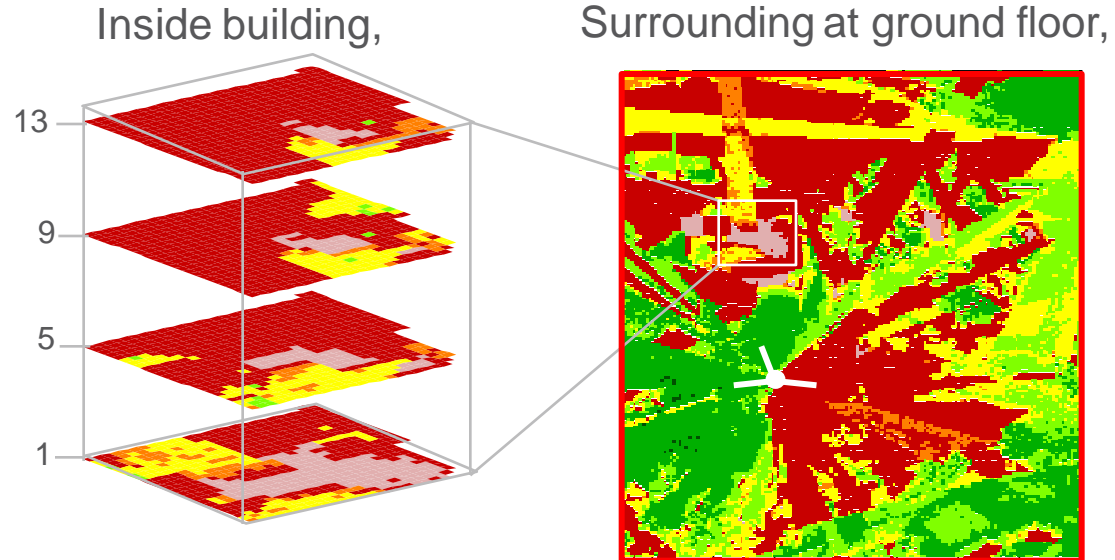
Office Building



impact on macro

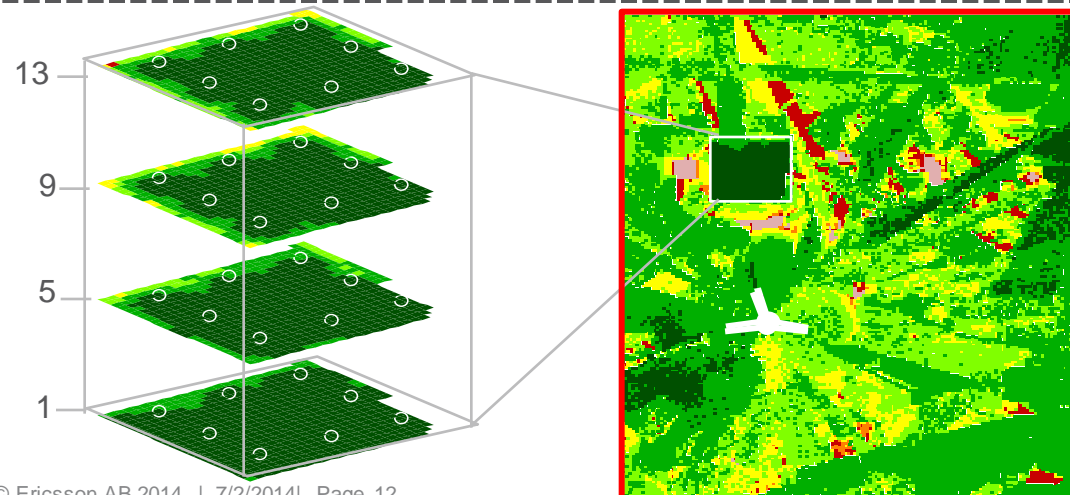


LTE speeds in Building and Macro networks prior to C-RAN deployment

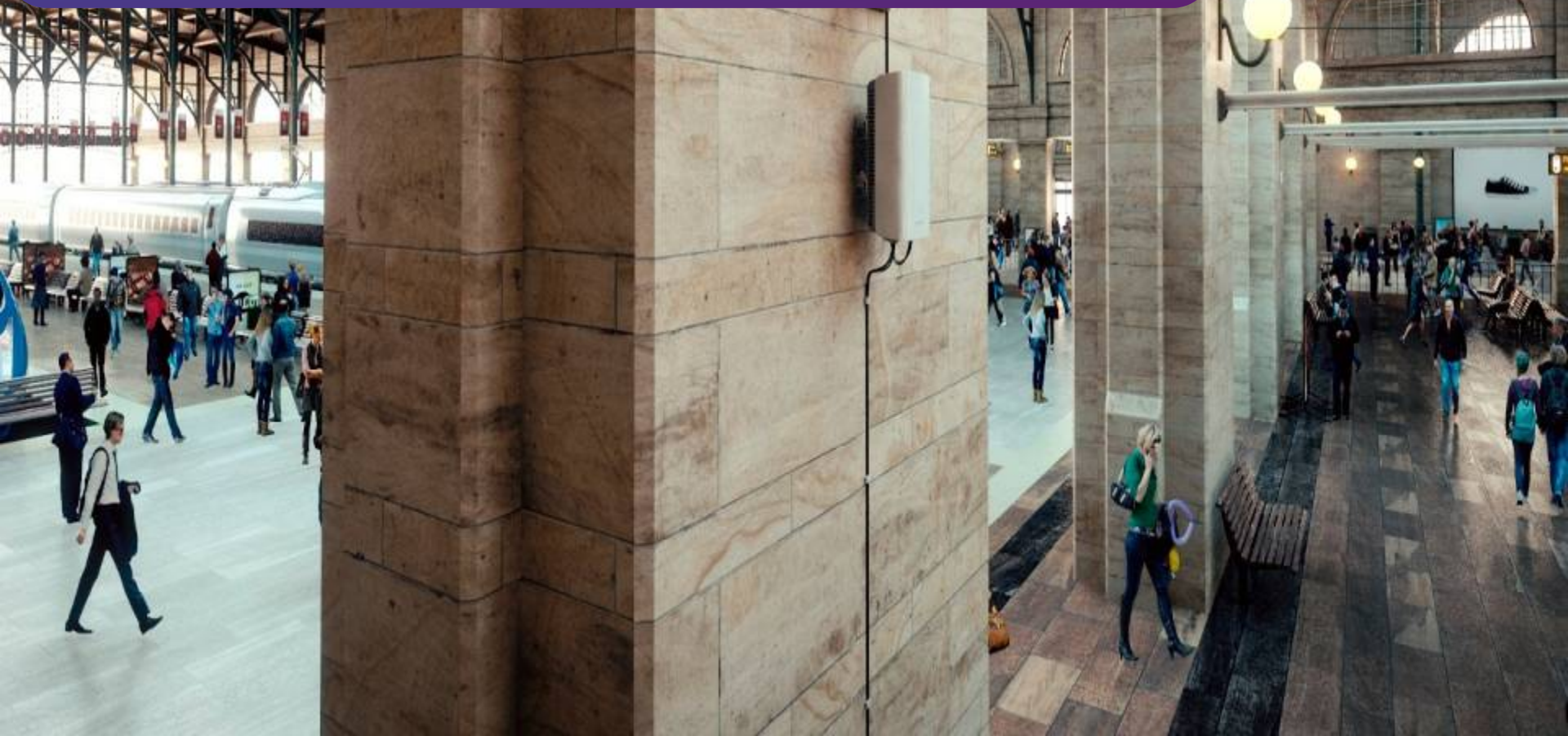


C-RAN offloads the macro network

→ Both macro and small cell users benefit



HetNet solution approach

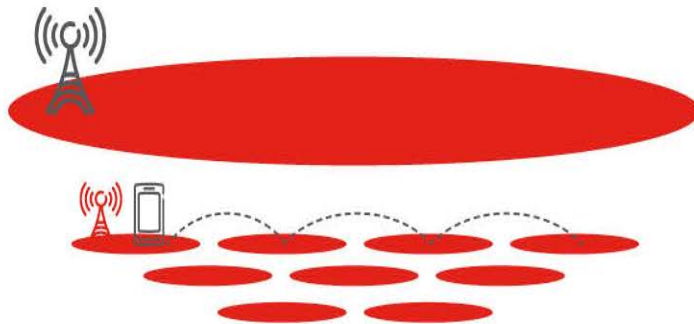


Coordination is key



Uncoordinated Cells

Split Spectrum
Limited Mobility



Add **9** Cells for 2x Capacity

Coordinated Cells

Shared Spectrum
X2 Mobility, CoMP



Add **3** Cells for 2x Capacity

50-70% Reduced TCO
Improved User Experience

Indoor wireless solutions



Small

Building < 10000 sqft

Outside In



Lowest Cost



Small

< 100K Sqft

mRRUS mRBS



Fast Deployment



Large size

> 100K Sqft

Radio Dot mRRUS



Efficient indoor
Coverage+Capacity



Complex Venues

>1M Sq.ft

DAS



Efficient indoor
Coverage

**Fully integrated 3GPP network toolbox for
every in-building segment**

HetNet SOLUTION OPTIONS



IMPROVED MACRO

More spectrum, Multi-Carrier, MIMO, Advanced Antennas, 64 QAM, TD/IS, LTE, etc.



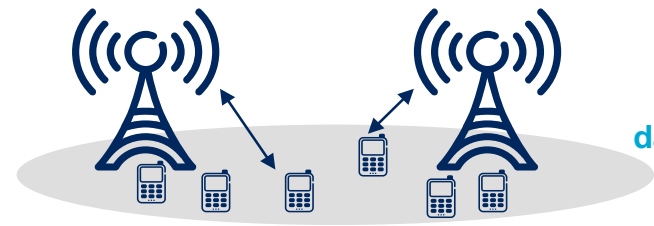
DENSIFIED MACRO

Additional sites, Main-Remote (RRU), AIR



ADD SMALL CELL

mRRUS, mRBS, pRBS, DAS, WiFi
Coordination functionality



Higher capacity

Higher data rates



Very high capacity

Very high data rates

Heterogeneous Networks (HN)

Mobile Enterprise

A new Opportunity for operators



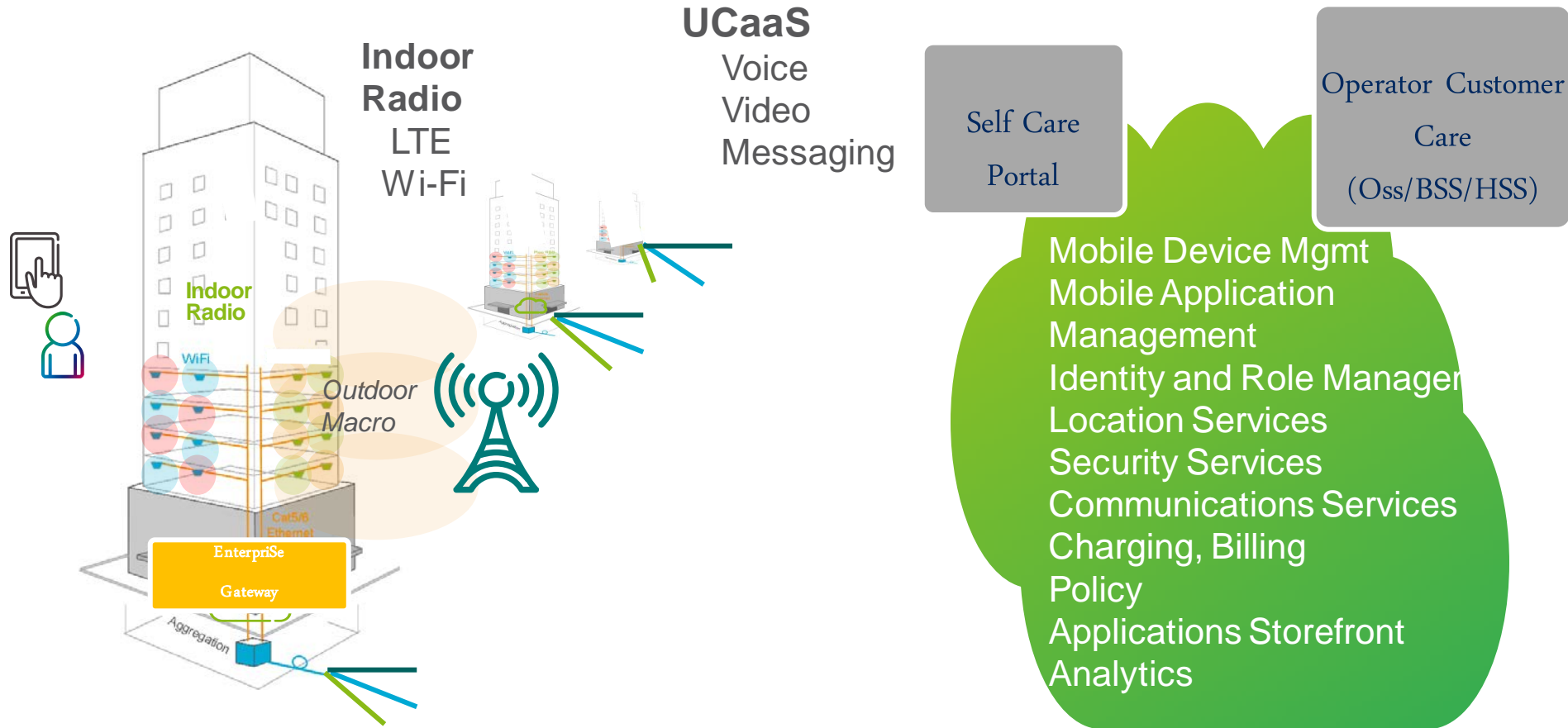
Connectivity (indoor
mobile application
coverage)

+

Communication Services

+

Cloud Applications & End
to End Control





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