The densification of public access HetNets

Urban small cells

Outdoor and indoor public access areas such as:
- Shopping centers
- Airports
- Railways
- Stadiums

Urban small cells – both outdoor and indoor – are an essential tool for operators.

Primary drivers for operators

- Coverage depth enhancement
- In-building coverage
- Enhanced QoS
- Efficiency of spectrum

Secondary drivers for operators

- Cost-effective investment
- RoI of 136% with a payback period of four years and an estimated saving millions of dollars
- Traffic offloading
- Increased data traffic capacity
- Improved revenue

Case studies

AT&T's small cell deployment for Disney Parks and Resorts

- Boost for network capacity
- NodeB in the first phase. KT employed Radisys' Coverage Solution.
- World's largest indoor LTE deployment.
- Mobile broadband for every day.
- Two or more LTE small cells, covering all phases from planning to deployment.
- Field tests show peak download speed up to 140Mbps (average speed: 115Mbps);

Huawei's LampSite Large Buildings Indoor Solution

- Nice field trials in urban small cell rollout
- Improved user experience
- Delivered differentiated services
- Efficient utilization of spectrum

The future

- Mobile demand growth on all access
capacities
- Higher system capacity
- Faster backhaul
- Full utilization of small cells

Key points

- The densification of public access HetNets
- Urban small cells
- Re-use of existing spectrum in a small cell layer
- Targeted small cell deployment (such as at cell edge areas)
- Small cell rollout
- Business case
- Case studies
- Key points
- The future

Key terms

HetNet: Heterogeneous Network
Small Cell: Network architecture operating at mmWave frequencies
SON: Self-Organizing Network
LTE: Long-Term Evolution
2G: Second Generation
3G: Third Generation
4G: Fourth Generation
5G: Fifth Generation
MNO: Mobile Network Operator
DAS: Distributed Antenna System
Wi-Fi: Wireless Fidelity
SDR: Software Defined Radio
OFDMA: Orthogonal Frequency-Division Multiple Access
QoS: Quality of Service
DC: Data Centre
RAN: Radio Access Network
PRACH: Physical Random Access Channel
PRBs: Physical Resource Blocks
RS: Reference Signal
SON: Self-Organizing Network
X2: X2 interface
Gran:

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