



Beyond Cellular Green Generation

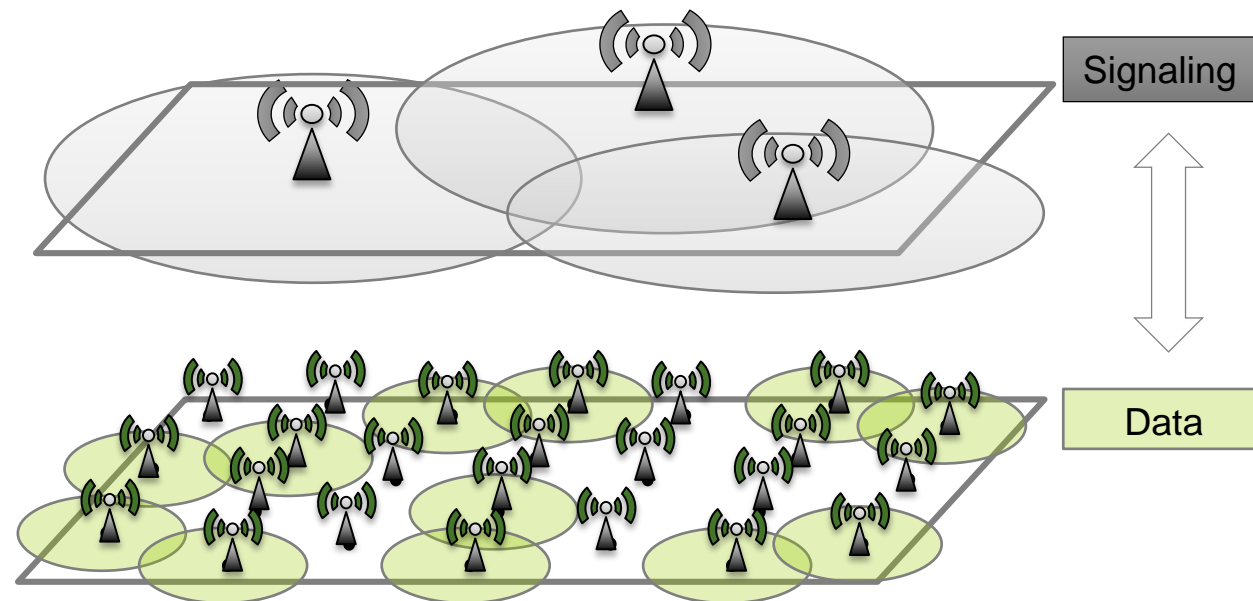




BCG² – Beyond Cellular Green Generation

CHALLENGE AND BREAKTHROUGHS

- **Traditional wireless networks** are forced to **remain active** regardless of traffic
- Unlike traditional architecture, BCG² is based on **small cells**, and a complete **separation of signalling and data** functions
- Most of the many small cells can be put in **sleep mode** when inactive and thanks to the separation accessibility is not lost



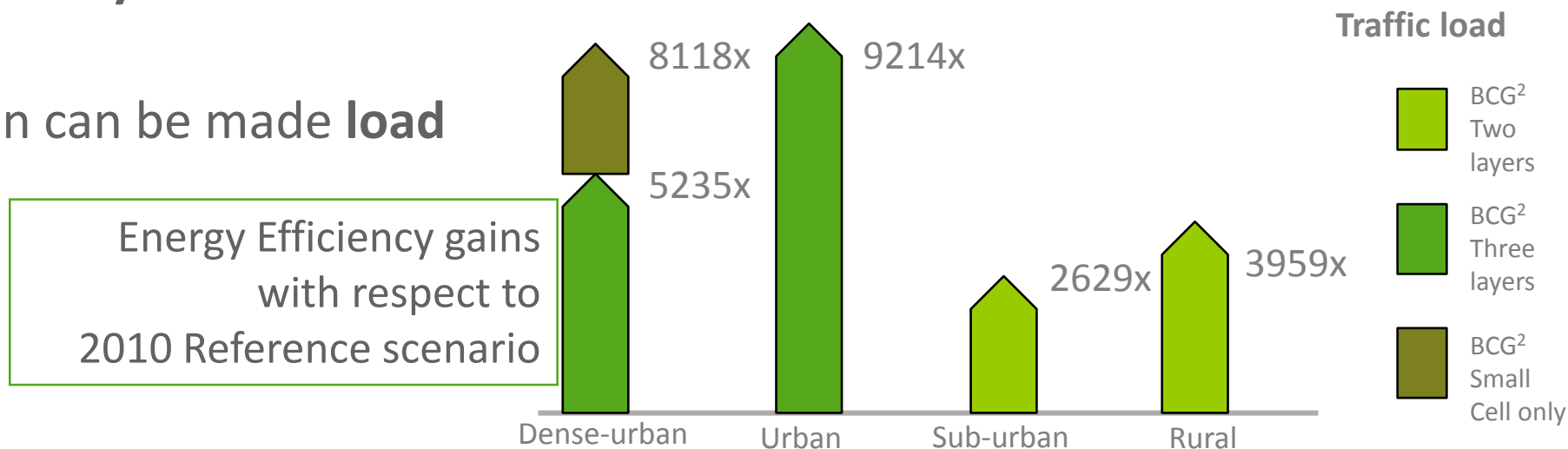
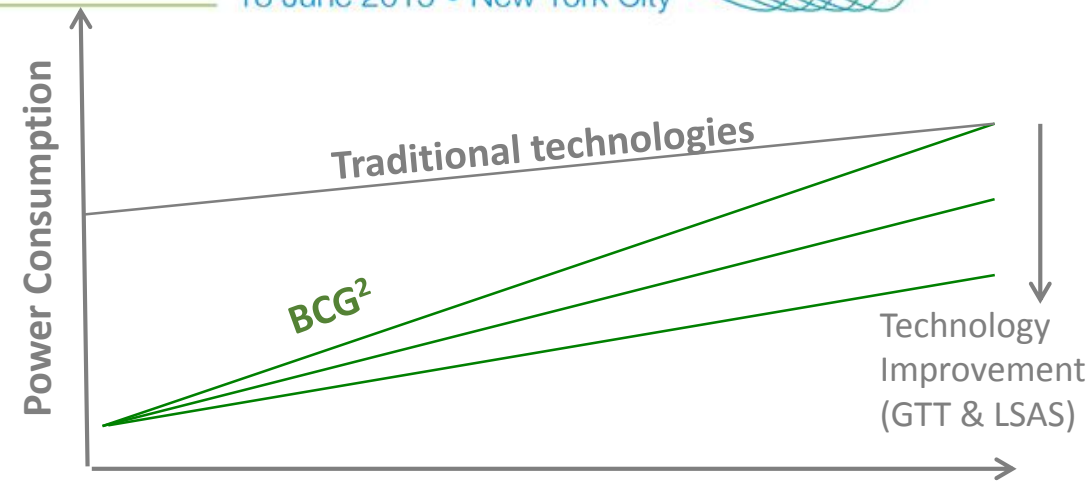
New Network Architecture with Small Cells and Efficient Use of Sleep Mode



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KEY ACCOMPLISHMENT AND RESULTS

- BCG² energy efficiency improvement is obtained by exploiting **traffic load variations**
- **On demand connectivity** based on **user context information**
- Energy consumption can be made **load proportional**



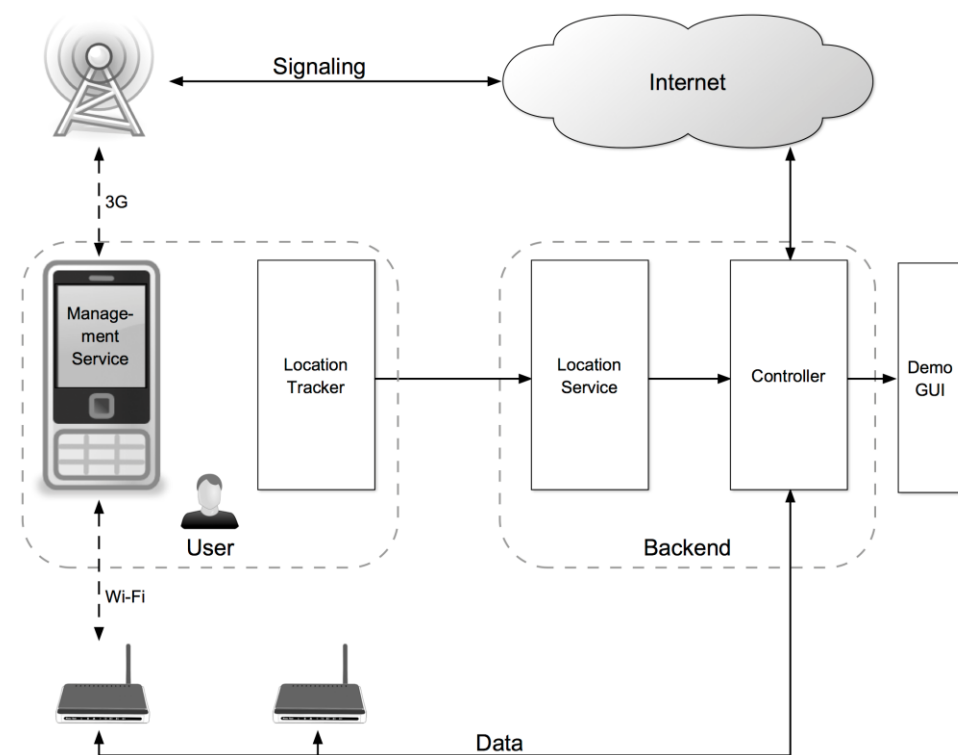
6100x Average Energy Efficiency Improvement Compared to 2010 Reference Scenario



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DEMO DESCRIPTION

- Localization system provides information on **terminal positions**
- Application status and location are provided to the system by mobile terminals through the **signaling interface**
- **Access points are switched on and off** based on **context information** gathered from system and terminals
- Network status and **power consumption** are shown on the map in real time



Live Demo Shows Feasibility of BCG² Architecture and Small Cell Management