

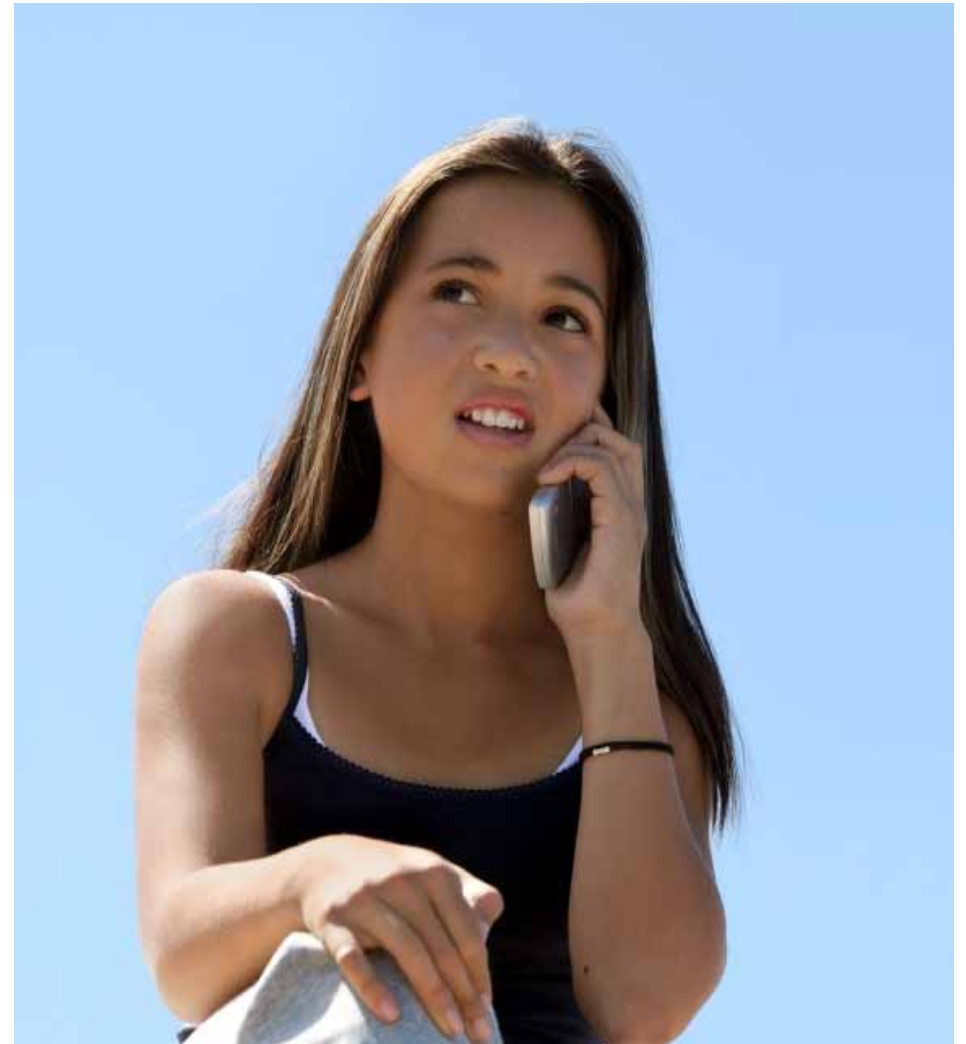


RISE ABOVE THE DATA STORM

ALCATEL-LUCENT

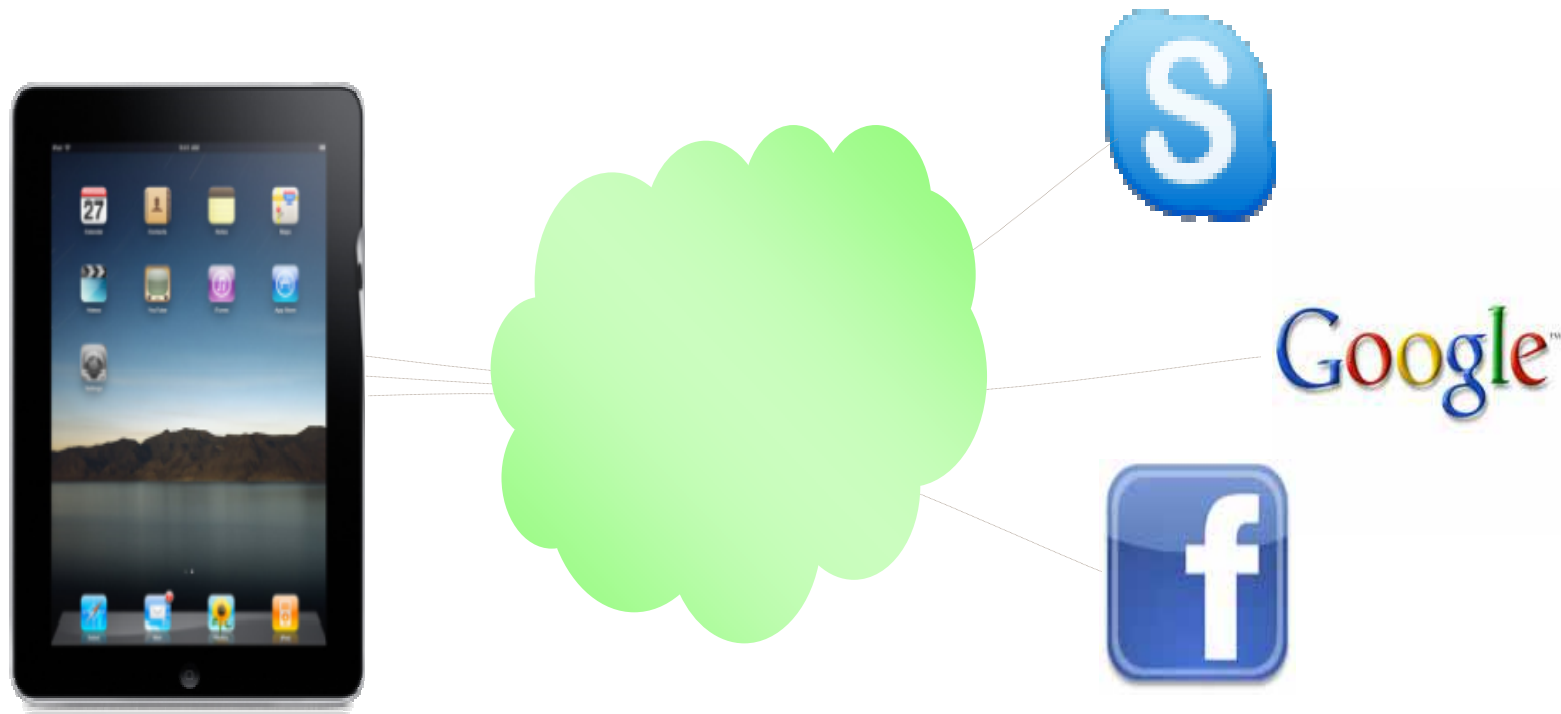
April 26, 2012 TOKYO

TWO KIDS, DIFFERENT PARTS OF THE GLOBE



.....WHAT IS THE DIFFERENCE IN THEIR MOBILE COMMUNICATION PERSPECTIVES?.....

SIMILAR PERSPECTIVES OF MOBILE COMMUNICATION



1. Device

3. Cloud

2. Services

WHAT PEOPLE IS DOING ON THE NETWORK

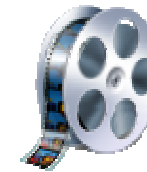
Skype or Google Talk

1/5th of US Voice in 2011



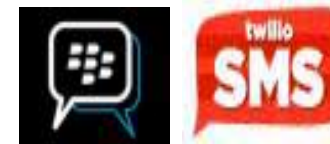
Communicate through Video

50% Mobile Data Calls Video by 2015



SMS Less, Web Message More

SMS decline ~40% next 4 yrs
~1,300 web messages a year by 2014

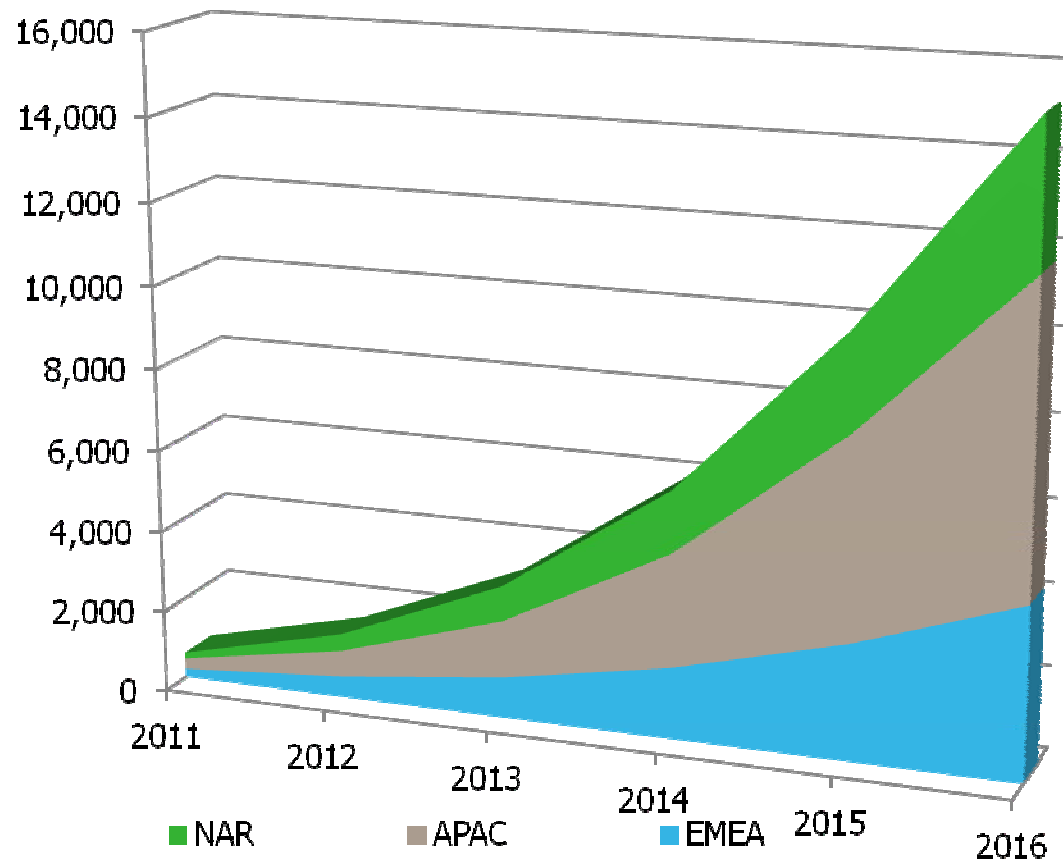


Connect Everywhere

Always-on, Always Connected,



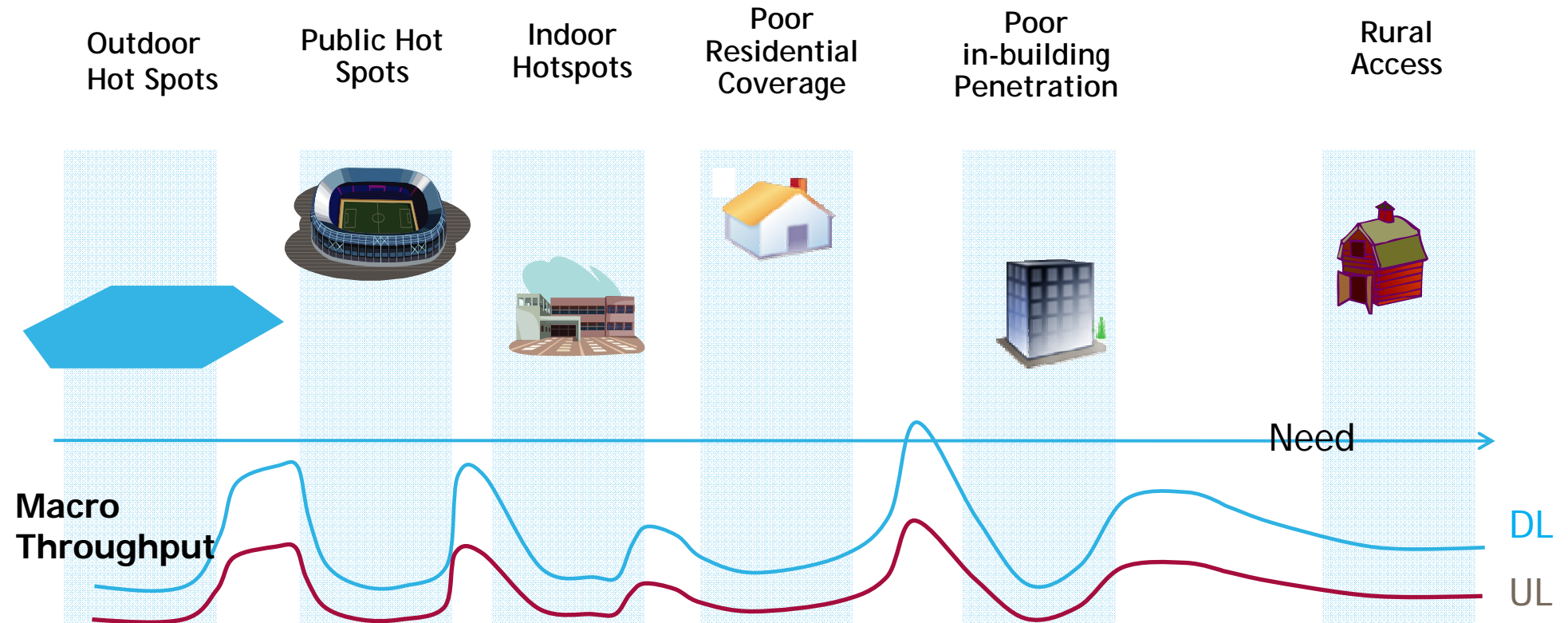
GENERATING MORE DATA TRAFFIC



25X INCREASE -
2011-16 (BELL
LABS)

*BELL LABS
TRAFFIC INDEX
01/12*

TODAY'S MACRO ONLY APPROACH IS INSUFFICIENT



70% OF CUSTOMERS SWITCH PROVIDER BECAUSE OF POOR QUALITY



IMPROVING QOE REQUIRED

1. More capacity in hotspots
2. Better UL/DL received signals

Source: McKinsey

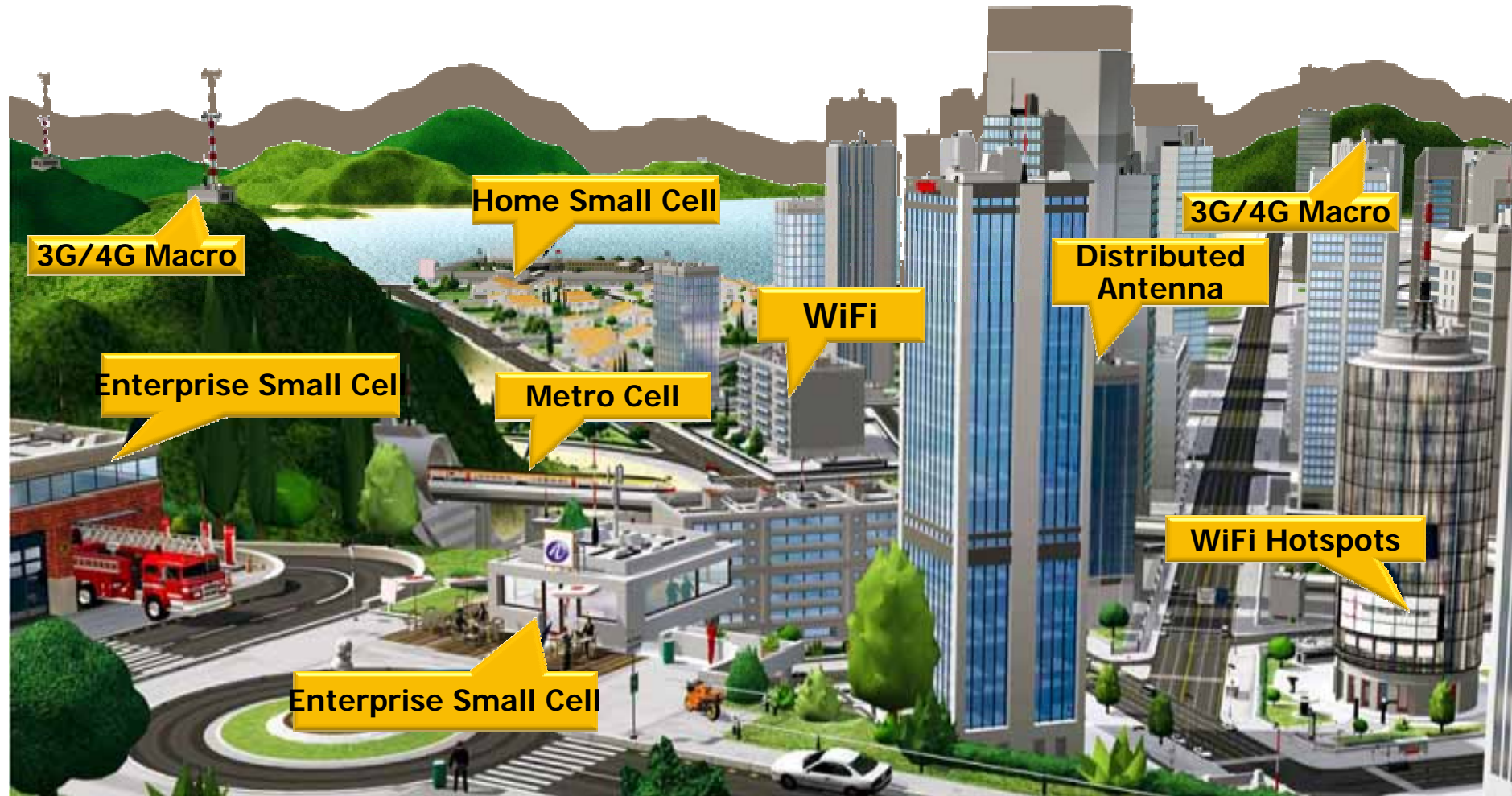
IS THERE A DIFFERENT APPROACH?



HOW TO DELIVER BETTER QOE HERE?



HETEROGENEOUS NETWORKS DELIVER SUPERIOR DATA QOE



HETNET = MACRO + METRO + SMALL CELLS + WIFI

HETEROGENEOUS NETWORKS DEPLOYMENT

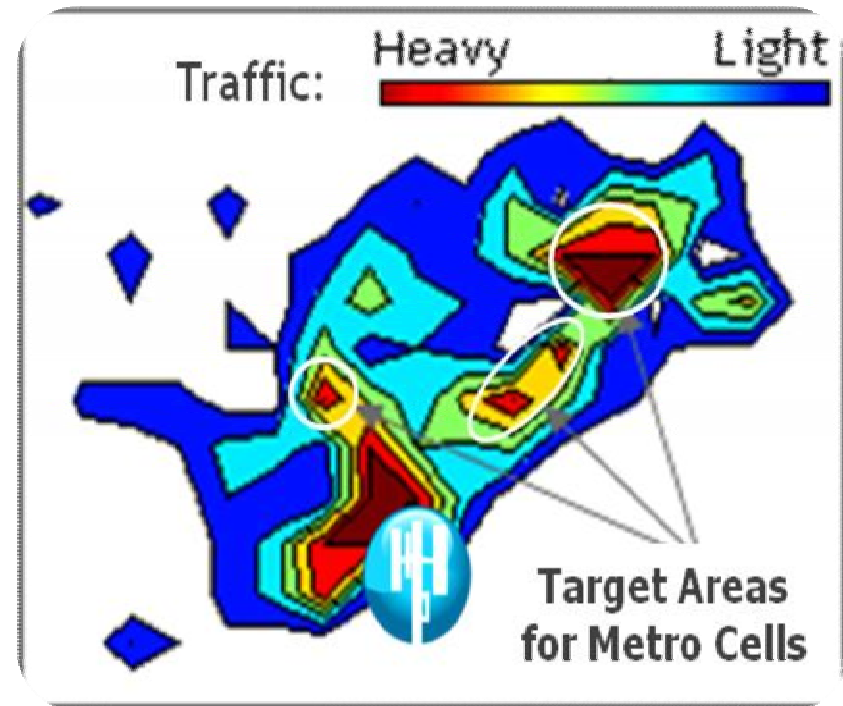
KEY UNDERLYING UNDERSTANDINGS

2%-3% users generate **40%-50%** of mobile data traffic

60% - 70% mobile data generated by nomadic users, indoors

Trials show that circa **58%** macro traffic can be captured with 10 hotspots

All hotspots have a range of 70m or 100m. About **8%** coverage area under macro

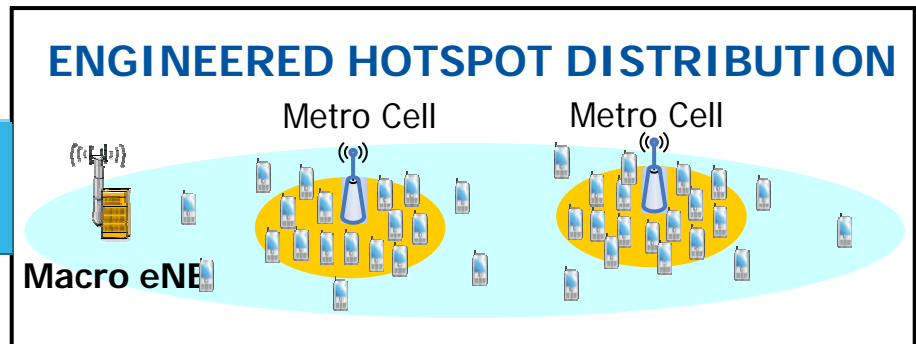
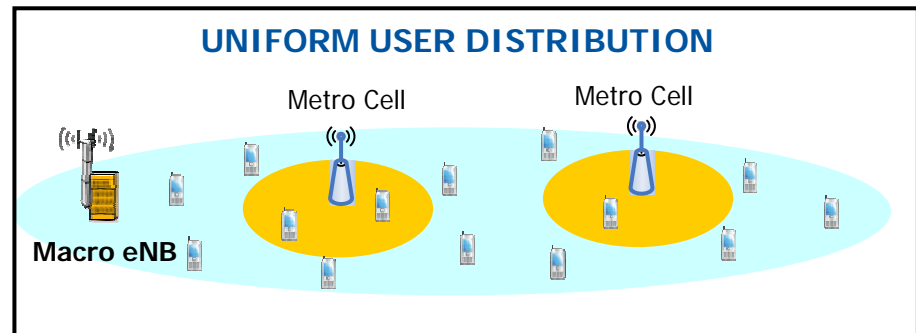


a few metro cells can provide large gains

HETEROGENEOUS NETWORKS PERFORMANCE

% GAIN IN MEDIAN USER THROUGHPUT (METRO VS. MACRO)

#MetroCell Per Macro	Gain in Median User Mbps
1	193%
2	300%
4	467%
10	960%



Good Small Cell planning provides cell splitting gains

1st LIVE LTE lightRadio™ NETWORK MWC2012 BARCELONA BEST INFRASTRUCTURE TECHNOLOGY AWARD

400%
CAPACITY
INCREASE

40%
TCO
SAVINGS

35%
LESS
POWER



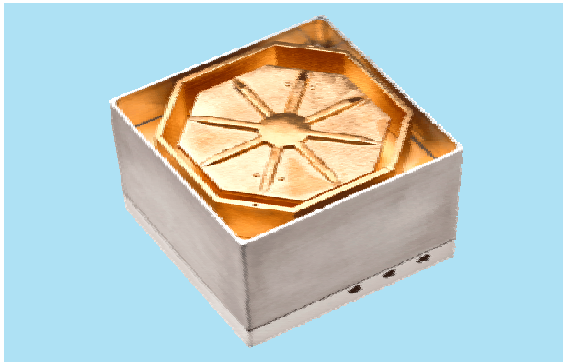
... FURTHER STRENGTHENED WITH lightRADIO™



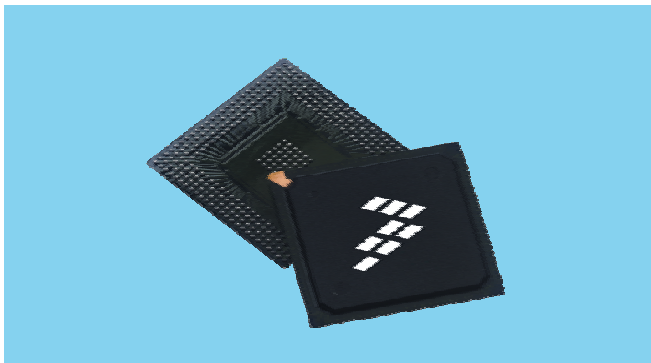
"Co-development with Alcatel-Lucent Bell Labs will benefit evolving our network technology to support the next generation of mobile-based applications, experiences, economies, and social networks."

Wang Jianzhou, China Mobile

Aug, 2011: First Trans-Pacific Video Call with lightRadio™ over China Mobile TD-LTE



Radio Innovation +



Software Defined +



Cloud

lightRadio™ - PRODUCTS ALREADY IN TRIALS

Cube-Metro

3G Metro + WI-FI

- Multiple trials in Europe
- Integrated BBU



LTE Metro

- Trialing in US and Europe
- Distributed BBU



Cube-Macro

Active/Passive Antenna

- Completed first call in Dec
- Doubles capacity



PRODUCTS AVAILABLE LATER THIS YEAR

lightRadio™ CO-CREATION PARTNERS



AT
THE
SPEED
OF
IDEAS

www.alcatel-lucent.com