

Towards 5G HetNets

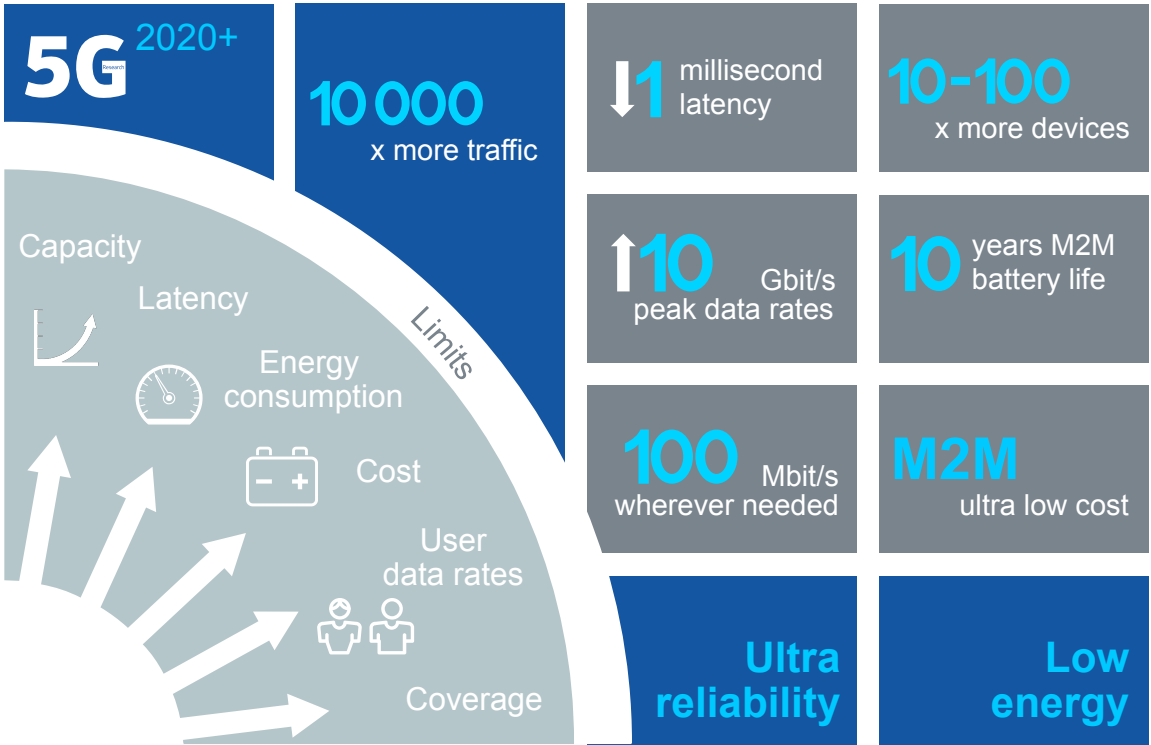
An Industry View

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CTW - 2014



Stretching performance targets for 5G

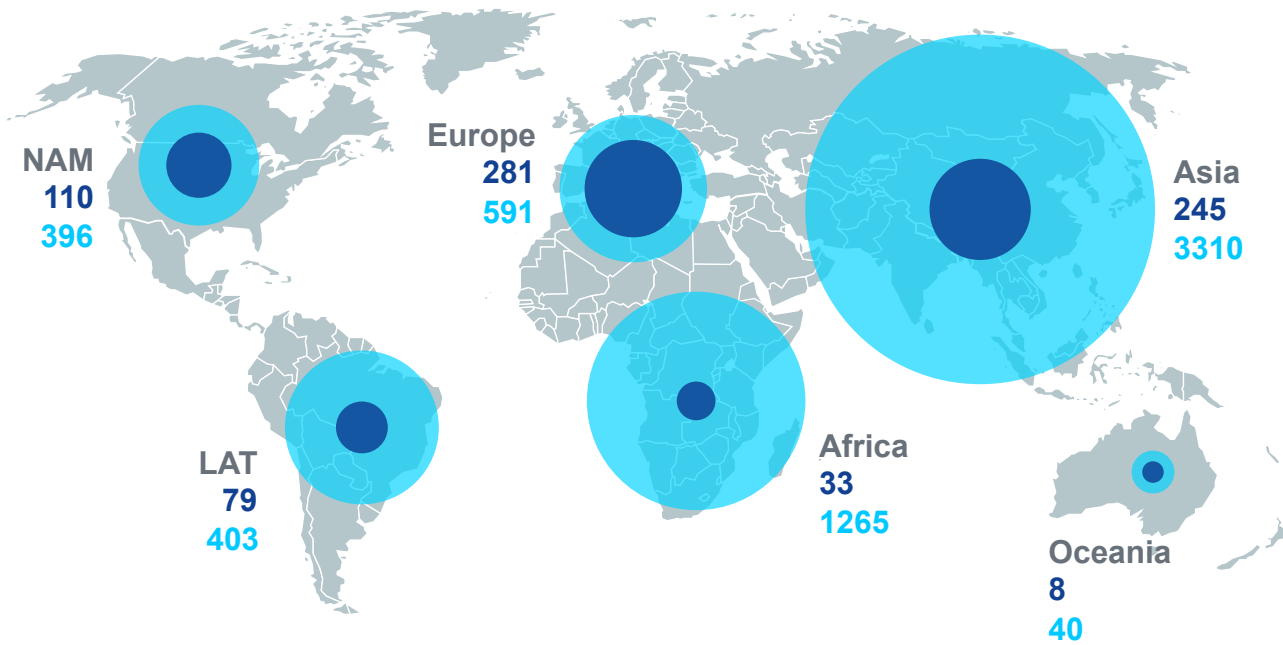


Need HetNet to meet the user experience targets



Dense environments will be the focal point for 5G where

Growing urban centers - city population 1950 and 2050 (forecast in mill.)



(R)evolutionary technologies will enable innovative solutions for many industries, ensuring sustainability







Source: Alfred Herrhausen Society, Deutsche Bank, United Nations 2013

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Operators Markets Segments

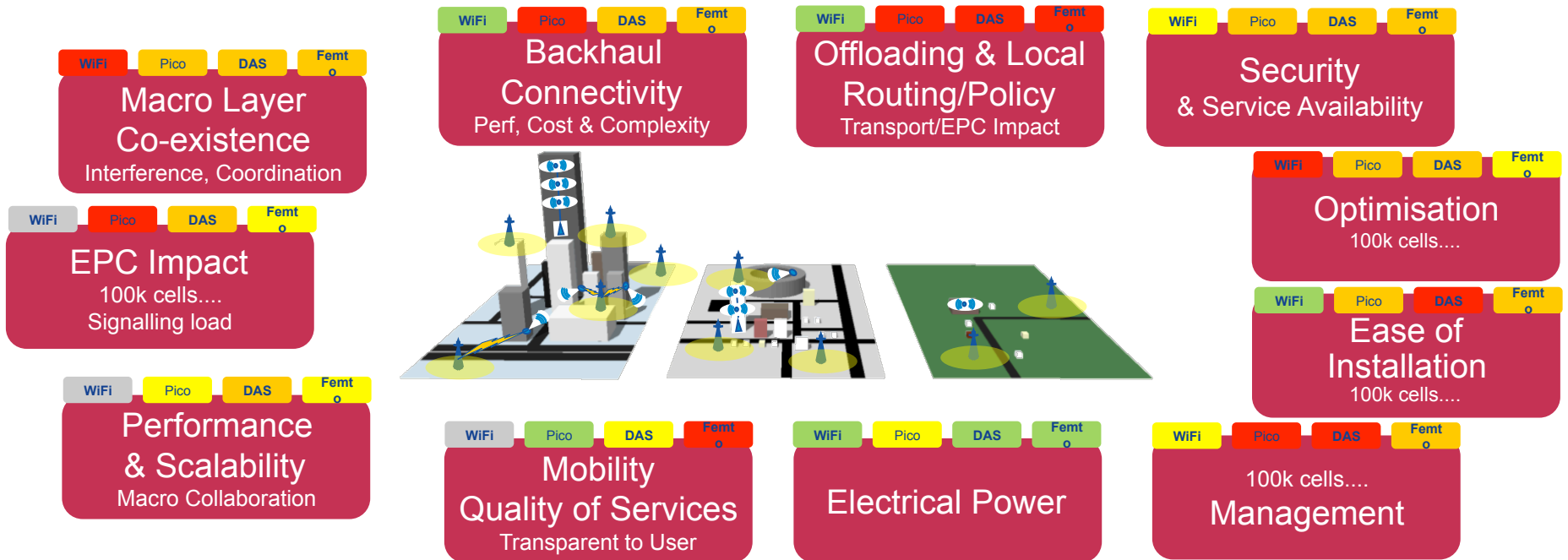
Addressing the Different Needs

	Home	Enterprise	Public Hot Zone		White Spot No Coverage	Large Area Coverage
Outdoor						
Indoor						
Objective & Needs	Coverage	Capacity (linked to Coverage)		Capacity	Coverage	
	Low Cost FLBB BH avail. Low Accessibility No Mobility Closed/Semi Open Access	Telecom Grade Enterprise BH avail. Low Accessibility Nomadic Mobility Open/Semi Open Access	Telecom Grade Ent. BH avail Low Accessibility Nomadic Mobility Open/Semi-Open Access	Telecom Grade Non-Existent BH Hard to reach All Mobility Open Access	Telecom Grade Non-Existent BH Hard to reach All Mobility Open Access	Telecom Grade Non-Existent BH Accessible All Mobility Open Access



Small Cell Capacity Underlay Challenges

Traditional Small Cells Address 1/10th of the Considerations...



Any of these Challenges can Make or Break The Bus Case
End-to-end Solution Approach is Key

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HetNet : Current Status and Future Trends

5G²⁰²⁰⁺
Research

A scalable service experience everywhere and anytime where people and objects will obtain virtual zero latency gigabit experience when and where it matters.

LTE-A small cells

Ultra Dense Small Cells

End-to-End Solution

Reliability

Flexibility

