Rethink Technology Research—Small Cells

Module 1: Small Cells Deployments and Installed base 2014 –2020

Available September 2015

This module provides a detailed five-year forecast for deployments and installed base of cellular and integrated cellular/WiFi small cells, with fully updated figures for 2014 as the starting point. The forecasts cover residential, enterprise and public access small cells (but not WiFi-only).

The forecasts are broken down by region, power level, frequency band(s), TDD/FDD and air interface, with figures recently updated to take account of LTE-Unlicensed. There is also breakdown of the environment in which they are deployed (indoor or outdoor, urban or rural), and details of average selling prices.

These data tables add up to a comprehensive overview of the patterns of deployment of small cells up until the end of the decade and the advent of 5G, and the commentary highlights the impact of trends such as densification, carrier aggregation and new operator business models.
All modules contain between 6 and 13 data tables plus regional breakdown, with accompanying commentary consisting of graphs and concise commentary on the assumptions underlying the forecasts, and the key factors driving them.

The assumptions and forecasts are based on primary research, updated twice-yearly, which focuses on Rethink’s core research base of the top 76 mobile operator groups worldwide (some groups have multiple national subsidiaries).

From the starting point of a calculation of the number of cell sites already deployed worldwide, forecasts are made of the numbers of base stations that will be rolled out a) to brand new sites and b) to replace or upgrade existing sites. These deployment forecasts are then categorized by network topology, spectrum band, spectrum mode, region and other factors.

These forecasts are based on a combination of data from:

- Detailed surveys, interviews and operator-by-operator modeling of the 76 groups to obtain a clear picture of RAN deployment plans to 2020.
- Studies of the deployments and strategies of those tier one and tier two MNOs, tracked over the past decade by Rethink.
- In-depth interviews with a targeted base of senior level respondents, many at CTO level.
- Input from ecosystem vendors on shipments, technology strategies and competitive landscape.

Based on the surveys of operators and vendors, it was then calculated how those cell sites would be equipped – by base station type, technology, frequency band etc, leading to a detailed unit and market size measurement.
Commentary to accompany data tables

Tables 1 and 2. New deployments of small cells by environment

The deployment of small cells by carriers, for public access or enterprise use, will experience CAGR of 64% in the period, far higher than the more mature residential market, whose CAGR will be 5%. The total market growth rate in this period will be 20%.

The residential forecasts are included here for context but the detailed information relates to the other four sub-sectors – private enterprise (deployed and managed by the company or its integrator in MNO spectrum); public enterprise (deployed and managed by the MNO, often public facing as in a mall); urban public access; rural public access.

The market as a whole will continue to see growth in deployments until 2019, when new build-outs will peak at 7.7m before tailing off slightly as carriers complete their 4G roll-outs and start to consider 5G. Residential deployments will peak in 2018 with shipments of 3.45m, while the other categories will see at least slight growth throughout the period. The highest CAGR will be in the urban public access space (92%), which starts from the lowest base but picks up significantly from 2017.

Acceleration in small cell deployment will be driven by the increasing pressures on macro layer capacity and the consequent move to densify operator networks. Densification programs will rely on large scale to deliver their objectives, and so will rely on the industry supporting significant levels of automation and TCO reduction, barriers which we believe will be broken in 2016.
Sample from the Report

Small cell deployments and installed base, enterprise, urban and rural 2014—2020

Table 1  New deployments of small cells 2014-2020
Table 2  New deployments of small cells by environment
Table 3  New deployments of enterprise small cells by region
Table 4  New deployments of urban and rural small cells by region
Table 5  New deployments of small cells by network technology
Table 6  New deployments of small cells, relationship with WiFi
Table 7  New deployments of small cells, by location
Table 8  Small cell installed base 2014-2020 inc residential
Table 9  Small cell deployments by mode (TDD/FDD)
Table 10 Small cell deployments - multiband and carrier aggregation
Table 11 FDD LTE frequency bands deployed on small cells
Table 12 TDD LTE frequency bands deployed on small cells
Table 13 Small cell deployments by architecture
Who Should buy these reports

Every business which is involved with - or wants to be involved with - mobile and wireless, particularly those with an interest in RAN deployments and technologies, including small cells/HetNet and virtualization. The reports include essential information and analysis for mobile and converged operators; their hardware and software suppliers; the wider value chain, including components suppliers and vertical market integrators; as well as investors in these areas, and professional institutions whose members will be affected by the shifts and changes in these markets.

Our reports are usually purchased by senior operational executives, strategists, analysts and marketing departments.

How can I buy these reports

Theses reports can be purchased individually from our website
http://rethinkresearch.biz/store/
To enquire about corporate licenses call us on +44 (0) 1794 521 411, or you can email john@rethinkresearch.biz
Subscribers to Rethink publications, including Wireless Watch and Faultline can just assume a 25% discount on the report prices. Just deduct it and say why.

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When will the other RAN Research modules be available.

Each module will be completed and published in the following months.

**Rethink Small Cells**
Module 1: Small cells deployments and installed base 2014-2020—*July and updated September 2015*
Module 2: Enterprise and urban small cells 2014-2020—*September 2015*
Module 3: MNO WiFi deployments and installed base 2014-2020—*September 2015*

**HetNet**
Module 2: Macro layer deployments and key trends 2015-2020—*September 2015*

**Optimization**
Module 1: SON deployments and key trends 2014-2020—*September 2015*
Module 2: RAN optimization deployments and key trends 2014-2020—*November 2015*

**Mobile network ownership, MVNOs and NWaaS**
Module 1: Wholesale, sharing and NWaaS 2015-2020—*September 2015*

**Virtualization**
Module 1: Cloud-RAN deployments and key trends 2015-2020—*October 2015*
Module 2: NFV and SDN deployments and key trends 2015-2020—*November 2015*

**How Much will the RAN Research Modules cost**

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