Rethink Technology Research—RAN Optimization

Module 2: RAN Optimization deployments and key trends 2015—2020

Updated in May 2016

All modules contain between 6 and 15 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 wireless forecast included in this report is based on research on the top 40 international mobile operator groups, which account for 80% of the global mobile subscribers (IMG-40). A total of 125 operating companies are included. From this representative group of operators, the forecasts are developed.

From the starting point of a calculation of the number of cell sites already deployed worldwide, forecasts were made of the numbers and type of RAN optimization tools and services that would be required. These included manual and automated (eg SON) processes. They included software tools, services provided by a third party onsite, and hosted services.

The forecasts were based on a combination of data from:

- Detailed surveys, interviews and operator-by-operator modeling of the IMG-40 groups, covering 125 opcos.
- Studies of the deployments and strategies of the top 100 4G operators, as tracked by Rethink Technology Research's biannual surveys, interviews and desk research.
- An in-doth study of 25 tier one operators about their detailed plans for RAN optimization deployments to 2020.
- Input from ecosystem vendors on shipments, technology strategies and competitive landscape, also updated quarterly.

Definitions and scope of key categories of RAN software are outlined here:

Category	Key tools and services covered
RF testing and monitoring	Monitoring, probes, drive tests, device-based tools New generation probes including virtualized
RAN planning	Site survey, parameter design, capacity planning, coverage planning, interference management, macro/small cell/transport interaction
RF optimization	RF optimization including neighbor list optimization, parameter optimization, simulation, signal and protocol analysis
Video optimization	RAN-based video efficiency (not CDN etc) – congestion management, cell site caching, traffic prioritization
QoE - Traffic shaping according to QoE levels	Shaping and prioritizing traffic according to QoS levels, subscriber, traffic type
SON	Centralized, distributed and hybrid self-optimizing network and self-organizing network, Cloud-SON
RAN analytics	Real time analytics of data from probes and other RAN monitoring etc.
VoLTE and video	Optimization projects are divided into four main categories – video, web, VoLTE, IoT. Deployments specifically geared to VoLTE and video are separated out, as these are currently key use cases

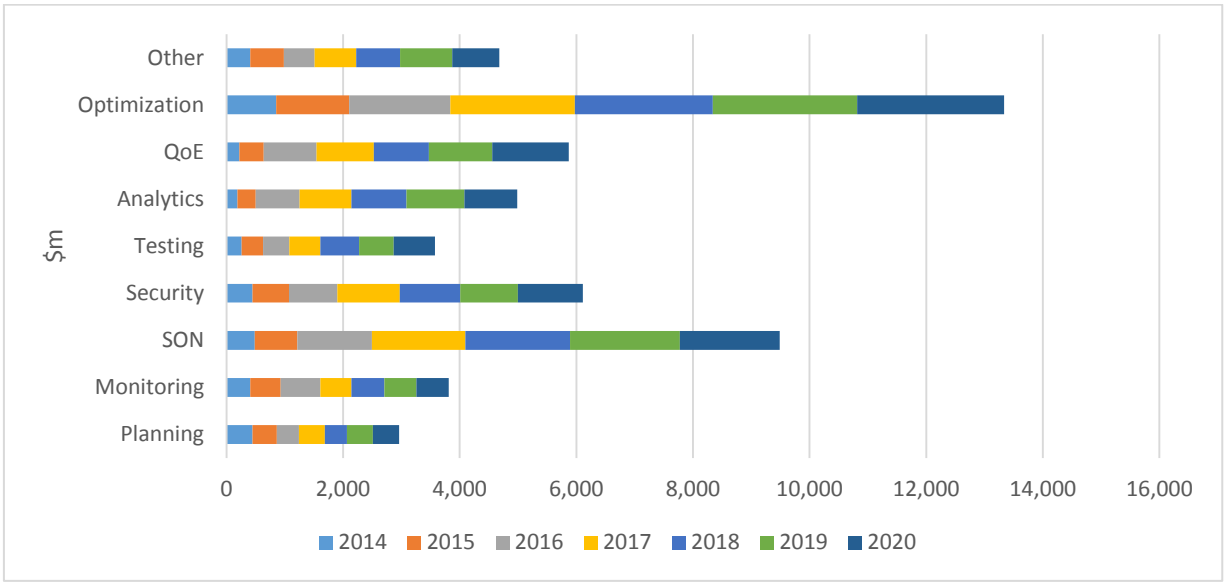
Sample from the Report

Some trends are becoming certainties. One, mobile operator growth (or sometimes survival) will depend on implementing ever-more heterogeneous networks, virtualizing many of their functions, and supporting a wide range of services and applications.

Two, attracting and retaining customers is increasingly down to the quality of user experience, not price, which means taking a far more rigorous approach to managing and optimizing the network.

These two are very hard to support in parallel. Monitoring, performance management and optimization approaches need to evolve rapidly to support these new requirements. Management and orchestration of virtual or hybrid networks are immature and the subject of deep splits over the best approach. Even without considering NFV/SDN, there is limited ability to optimize wireless, WiFi and wireline networks in a unified manner, even though a rising number of operators are differentiating themselves based on converged services.

Certain services raise particularly difficult optimization challenges. VoLTE and even ViLTE (video over LTE) require extremely good quality of service to provide a superior experience to 2G/3G voice and video, or over-the-top alternatives. This requires end-to-end optimization and some early VoLTE deployments have suffered from a failure to carry out this difficult task.



Sample from the Report

Enterprise small cell deployments and installed base 2014—2020

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.

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What RAN Research modules are available.

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Module 1: Small cells deployments and installed base 2014-2020

Module 2: Enterprise small cells 2014-2020

Module 3: MNO WiFi deployments and installed base 2014-2020

HetNet

Module 1: HetNet deployments and key trends 2015-2020

Module 2: Macro layer deployments and key trends 2015-2020

Optimization

Module 1: SON deployments and key trends 2014-2020

Module 2: RAN optimization deployments and key trends inc VoLTE 2014-2020

Mobile network ownership, MVNOs and NWaaS

Module 1 : Wholesale, sharing and NWaaS 2015-2020

Virtualization

Module 1: Cloud-RAN deployments and key trends 2015-2020

Module 2: NFV and SDN deployments and key trends 2015-2020

Pricing Per Module	US Dollar	GBP Pound (Exc VAT)	Euro (ExcVAT)
Single copy	2,000	1,300	1850
Single copy with updates over 12 months	4,000	2,600	3,700
Single copy with updates over 12 months and a Q&A session	8,000	5,200	7,400

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