



Contact *iGR*

Iain Gillott

(512) 263-5682

iain@iGR-inc.com

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***iGR* study forecasts the U.S. Total Addressable Market for 3G and 4G LTE Metrocells, Residential Femtocells and Picocells in the years 2012 - 2017**

Major new study defines each type of small cell's potential market, example deployments, and business and market drivers

AUSTIN, Texas, February 6th, 2013 – To meet the rising demand for mobile data, operators will need to pursue a multi-pronged approach to upgrading and backfilling for capacity and throughput on their cellular voice/data networks. This approach, which combines RAN upgrades, new licensed spectrum, Wi-Fi, small cells and distributed antenna systems (DAS), is typically referred to as the heterogeneous network or het-net.

iGR has released a new small cell study, *U.S. Small Cells Total Addressable Market, 2012 – 2017: Sizing a Growing Opportunity*, which is a combination of three recent studies regarding 3G and 4G LTE metrocells, residential femtocells and enterprise picocells. The new market study includes forecasts for the theoretical maximum size of the market for each type of small cell, example deployments, business and market drivers and detailed profiles of twenty-seven companies that provide solutions in the small cell market.

“By 2016, *iGR* expects the average consumer’s consumption of mobile data in the U.S. to increase by ten times over the level in 2011. The mobile networks must adapt to this vastly increased demand and we see small cells as an important part of the solution,” said Iain Gillott, president and founder of *iGR*. “This new study shows that the total addressable market for residential femtocells, picocells and metrocells is significant but also that the opportunity for the different types of cells grow at different rates. For example, we expect the total addressable market for 4G LTE Metrocells to grow at a CAGR of 239 percent, while the picocell and residential femtocell markets will grow at a much lower rate.”

The small cell term is relatively new and is sometimes used in different ways. *iGR* defines a “small cell” as a low power product (relative to macrocells) that operates on licensed

frequencies and functions as small, self-contained cellular base stations. Small cells include metrocells, femtocells, and picocells:

- Metrocells are, as compared to macrocells, low power cell sites that operate on an operator's licensed frequency to provide additional coverage and/or capacity in a given area. There are three types of metrocells: those that operate on 3G only, 4G only and those that can operate on both.
- Residential femtocells are one way mobile operators can improve the quality of their subscribers' cellular voice service – primarily from the standpoint of creating or improving coverage inside a home. Most residential femtocells deployed in the U.S. today were rolled out to improve coverage for high-value customers.
- A picocell is, in essence, a larger femtocell that is deployed into a business or small venue. The typical picocell is physically larger than a femtocell, has a higher power output (between 100 to 150 milliwatts) and, consequently, has a longer range and the ability to support a larger area, traffic capacity and/or more concurrent users (between 8 to 32).

The following key questions are addressed in *iGR's* research study:

- How does *iGR* define small cells in general?
- What are metrocells, femtocells, and picocells?
- How do metrocells, femtocells, and picocells work?
- What are the benefits of small cells?
- How do metrocells fit into operators' evolving networks?
- Where are metrocells, femtocells, and picocells most likely to be located? What is their role?
- How much mobile data do U.S. end users consume and/or demand?
- How much mobile data capacity will be required in the next five years?
- What are the limitations / technical challenges surrounding small cell deployments?
- What are the use cases for metrocells, femtocells, and picocells?
- What is the total addressable market forecast for metrocell installations in the U.S.?
- What are the key elements and assumptions in *iGR* total addressable market forecast for U.S. picocells?
- What is the total addressable market forecast for picocell installations in the U.S.?
- What qualities do consumers consider when they rate the quality of the voice reception in their home?

- How do consumers rate the quality of the voice reception in their home?
- What is the total addressable market for residential femtocells in the U.S.?
- How many femtocells are installed in U.S. households?
- How do these aggressive and conservative use cases impact the installed base forecast?
- How can femtocells be used to offload macro cellular network traffic?
- What are the forecasts for femtocell installation in the U.S.?

The information in this report will be valuable for:

- Mobile operators
- Infrastructure OEMs
- Small cell product and solution vendors
- Backhaul service providers and equipment OEMs
- Financial analysts and investors.

The report can be purchased and downloaded directly from *iGR's* website at www.iGR-inc.com. Alternatively, contact Iain Gillott at (512) 263-5682 or at iain@iGR-inc.com for additional details.

About iGR

iGR is a market strategy consultancy focused on the wireless and mobile communications industry. Founded by Iain Gillott, one of the wireless industry's leading analysts, in late 2000 as *iGillottResearch*, *iGR* is now entering its thirteenth year of operation. *iGR* continuously researches emerging and existent technologies, technology industries, and consumer markets. We use our detailed research to offer a range of services to help companies improve their position in the marketplace, clearly define their future direction, and ultimately improve their bottom line.

iGR researches a range of wireless and mobile products and technologies, including: smartphones; tablets; mobile applications; bandwidth demand and use; small cell architectures; DAS; LTE; WiMAX; VoLTE; IMS; NFC; GSM/GPRS/UMTS/HSPA; CDMA 1x/EV-DO; iDEN; SIP; macro-, pico- and femtocells; mobile backhaul; WiFi and WiFi offload; and SIM and UICC.

A more complete profile of the company can be found at www.igr-inc.com.