U.S. Small Cell Costs: *How much will they cost to deploy?*

Market Report
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A Market Report

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iGR
12400 W. Hwy 71
Suite 350 PMB 341
Austin TX 78738

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Abstract

Small cells and het-nets are two common buzz words that describe how mobile operators are evolving their radio networks. Long accustomed to capital intensive macrocell networks, the key question everyone is asking is: How much will it cost to rollout small cells?

One problem, of course, is that every market is different. What costs $X in Manhattan might cost $Y in Los Angeles or $Z in Austin. This report presents a model that answers the "what will small cells cost" question by using average cost values generated from *iG*R's primary and secondary research.

The cost assumptions *iG*R used in its model are detailed in this report. *iG*R's model consists of four real-world scenarios that illustrate where small cells are likely to be located – poles (new or existing), building walls and building roofs. Each scenario includes different variables, such as type of small cell, backhaul type (fiber or microwave), backhaul speed, labor and installation, power and ancillary costs for other equipment.

The model also shows how scale affects costs across 10, 50 or 100 small cells deployed into a given market. Where it made sense, *iG*R held certain variables constant (backhaul throughput is one example), but let others fluctuate – e.g., attachment cost per pole, building side or roof.

Note that while *iG*R's small cell cost model was built on average values it can just as easily generate a much more specific answer based on variables unique to a given market.

Key questions addressed:

- What is a het-net? What are small cells?
- What are network 'pain points'?
- What is driving the need for het-nets?
- How are pain points identified?
- What are different ways to address pain points?
- Where is it appropriate to deploy small cells (indoor and outdoor)?
- What are *iG*R's assumptions regarding small cell installations?
- What outdoor locations are best suited for small cell deployments?
- What are the average costs of these outdoor locations?

- What is an attachment? What is the average cost of an attachment?
- What are the different types of backhaul with regard to small cells?
- What types of backhaul are considered in the model?
- What is the average throughput needed for a small cell? What does that throughput cost?
- How much does it cost to deploy small cells?

Who should read this report?

- Mobile operators
- Small cell equipment manufacturers
- Mobile backhaul suppliers
- Tower companies
- Antenna and tower equipment vendors
- Financial analysts and investors.