U.S. LTE Metrocell Lifetime Costs: *A five year cost estimate*

Market Study
Second Quarter, 2015

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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 questions everyone is asking is: How much will it cost to rollout small cells? And how much will small cells cost to operate and maintain?

This report answers that question by building on a "Small Cell Costs" report that *iG*R published in late 2013. This report models small cell costs over a five year time period by using the following criteria:

- 50 LTE metrocells deployed in an "urban" market
- The metrocells are deployed on four different types of fixtures: new poles, existing poles, building sides and building roofs.
- For each type of fixture, *iG*R modeled three different backhaul scenarios: fiber only (aerial and underground), wireless only (microwave) and wireless backhaul in the first two years moving to fiber in year three and beyond.

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 in this report include:

- 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 LTE metrocells?
- How much does it cost over five years to deploy LTE metrocells.

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.