U.S. RRH as Small Cell Lifetime Costs: *A five year cost estimate*

Market Study
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Abstract

This report estimates the cost of rolling out 50 Remote Radio Heads (RRHs) as Small Cells – i.e., deploying them in the same places as an operator might put metrocells (small cells with integrated basebands). This report models "RRH as small cell" costs over a five-year time period by using the following criteria:

- 50 LTE-centric RRHs deployed in an "urban" market.
- The RRHs are deployed on four different types of fixtures: new poles, existing poles, building sides and building roofs.
- For each type of fixture, *iG*R has assumed that dark fiber, lit by optical gear purchased and installed by the mobile operator, is used to provide fronthaul connectivity to the RRHs.

The cost assumptions *iG*R used in its model are detailed in this report and are based on primary and secondary research. 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 metrocells?
    - What are remote radio heads?
- 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 RRHs?
- How much does it cost over five years to deploy RRHs?

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.