U.S. Outdoor and Indoor DAS Forecast, 2017 – 2022: *Redefining DAS, Eventually*

Market Study
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Abstract

DAS began years ago with passive systems, donor antennas and coaxial cable. Today's DAS may look a bit different – with remote units, fiber, maybe even a CPRI connection or a small cell as the radio source, but the function is unchanged. That is, provide coverage inside a building (iDAS) or in an outdoor area (oDAS).

Tomorrow's indoor DAS will perform the same function – provide coverage and capacity indoors – but the RF source and the processing will no longer be in the building. Outdoor DAS is already getting supplanted by what is now called Distributed RAN (D-RAN), which is the term that has displaced Centralized RAN. Eventually, D-RAN will get supplanted by Cloud RAN (C-RAN). And as all this happens, what we think of as a DAS today will be tomorrow's C-RAN.

But that's tomorrow. Today, buildings increasingly need indoor cellular coverage and capacity. Most venues that need DAS – stadiums, hotels, airports, etc., – already have it. *iG*R believes that the market for oDAS is a fading market because "RRH as small cells" provides a similar level of coverage/capacity with better future flexibility – i.e., moving toward baseband hoteling D-RAN and/or C-RAN. Also, mobile operators need coverage/capacity in different places in an urban/metro area so, as compared to indoors where shared antennas can enable lower costs, that same shared antenna model may not work quite as well.

*iG*R splits the DAS market by indoor and outdoor and then further divides the indoor market into commercial buildings and residential (multiple dwelling units or MDUs). *iG*R's oDAS forecast grows out of its "outdoor small cell" model and market study, while its iDAS forecast grows out of its "indoor small cell" model and market study. This market study highlights the DAS-specific portions of those models and market studies. The commercial building segment is where *iG*R believes most of the DAS growth will occur over the next five years.

This market study provides a brief overview of the different types of small cells, including DAS, and the goals around future iDAS and oDAS deployments. It then provides an explanation of the methodology used to create the actual iDAS and oDAS forecasts, both for nodes and DAS systems.

Key questions addressed in this market study include:

- What is an outdoor small cell? What are metrocells, RRHs and oDAS?
- What is an indoor small cell? What are femtocells, picocells and iDAS?
- What is a DAS?
- Why do the mobile networks need iDAS and oDAS?
- How does DAS fit into operators' evolving networks?

- What are the issues with deploying DAS in the U.S.? How do these issues impact the number of small cells in the market?
- What is the role of CPRI with iDAS and oDAS?
- How is DAS changing/evolving?
- Where are DAS nodes most likely to be located? What's their role?

Who should read this market study?

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