Geodata for wireless network planning

As the telecommunications industry moves steadily forward towards 5G and IoT, network planners need to build denser networks in suburban and rural regions that previously could be served with simple macro coverage. To design complex networks in these vast geographies while maintaining manageable costs, DigitalGlobe has partnered with Vricon to develop accurate and scalable clutter height data for use in network simulations. With accurate and cost-effective coverage models based on true clutter height data, you can achieve optimal usage of network infrastructure investment immediately after your initial deployment.

Plan your network with realistic 3D

Help your organization overcome the increasing complexities of network planning. DigitalGlobe offers the most accurate geodata and GIS products globally available for large-area telecommunication markets.

Efficient network planning

Mobile network planning has traditionally relied upon low-quality 2D geodata for large areas, but the lack of detail inherent in this data results in significant time and expense for drive testing, model tuning and line of sight validations. High-accuracy 3D building models allow for much better RF modeling in metropolitan areas, but are only available for limited geographies and aren’t cost effective for wide-area network builds.

DigitalGlobe (in conjunction with our partner Vricon) offers clutter class height and terrain data at highest accuracy available across the globe—eliminating the choice between the precision constraints of 2D clutter and the time and cost constraints of 3D vector building models.

“We used to rely on lower quality clutter data in the New York area. With this data, 60% of all our planned links failed when they were checked by our surveyors. Now, thanks to the accurate and complete representation of building and foliage in the Vricon 3D data provided by DigitalGlobe, we are able to confidently reject blocked links and pick the clear links, all within our virtual desk plan. Thanks to this high-quality clutter height data, we have seen a 98% decrease in false positives.”

—Wade McKin
Microwave Solutions Architect V, Fujitsu Network Communications

3D CLUTTER HEIGHT DATA

www.vricon.com
Plan with confidence—from the office

Confidently build virtual network models that identify high-frequency line-of-sight, model path loss, signal attenuation and frequency re-use for any location on Earth from the comfort of your own desk with high-resolution 3D elevation and clutter data.

Armed with accurate X, Y and Z values and a clutter classification assigned to each 50 cm bin, network planners will experience substantial benefits to both project budgets and timelines. RF engineers will find improved propagation model accuracy and model re-usability—helping reduce reliance on costly field validations and model calibrations.

Telecommunications solutions by DigitalGlobe

Available for almost every location in the world, DigitalGlobe (in partnership with Vricon) provides geodata layers that feature the best accuracy at a significantly lower price than comparable data suppliers. Each product is available at varying levels of detail, resolution and accuracy to meet your individual project specifications and budget.

- **Clutter height data**: Available with 50cm to 10m resolution to provide a detailed representation of all buildings, structures and vegetation features within your specified market. For accurate line-of-sight analysis and propagation modeling with software like Planet, SignalPro and Atoll.

- **Clutter class (Land Use)**: Shows what is covering the earth in your area of interest so you can assign attenuation and absorption values to each individual bin. The Vricon clutter map layer matches exactly with the obstruction height data to show every urban and residential structure, as well as classifying all foliage, water and open ground features.

- **Terrain Data**: Detailed and accurate ground heights with measurements available with 50cm to 10m resolution and an absolute accuracy of 3m. Known as elevation, DEM or DTM, this 3D representation of topography is crucial in determining potential obstructions to radio signals.

- **Vectors**: Geographic map data—streets, roads, rivers, political boundaries, demographic data and place names—are represented by lines, polygons or points.

- **Ortho-image**: Orthorectified high-resolution satellite images tied to the dataset as a visual reference of the area of interest. Provides critical planning and visualization for assuring connectivity to target customers.

Powering Vricon 3D technology

Multi-view photogrammetry is the process of using many images to create a single 3D model. Our partner Vricon has created highly advanced and scalable algorithms that build very accurate and precise telco geodata layers from DigitalGlobe’s industry-leading image library. Based on decades of research in highly advanced optoelectronics and image processing, Vricon and DigitalGlobe are enabling network planning workflows to access the entire world quickly and affordably.