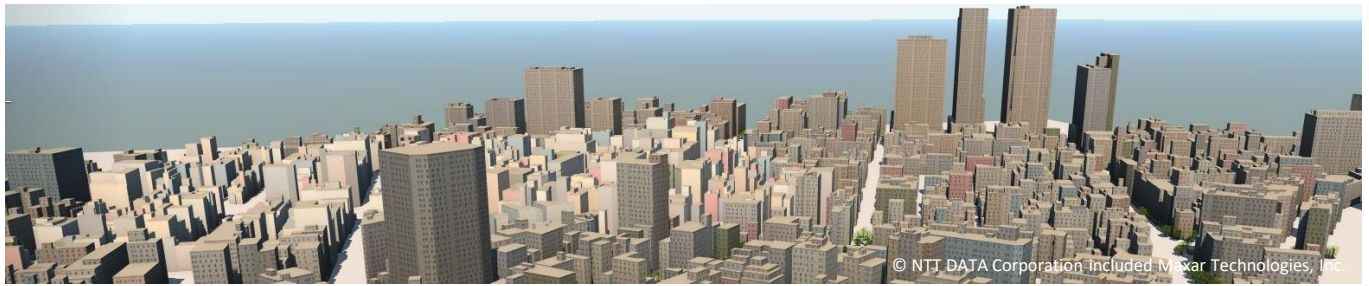# AW3D Telecom for 5G

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Advanced 3D digital map package for 5G

In recent years, further advanced network is required in mobile communication network due to diversification of contents and evolution of IoT, etc., and 5G services to achieve ultra high-speed, ultra low-latency, and multiple connections is underway to be deployed worldwide. Accurate 3D models are crucial for designing 5G networks, which use millimeter-spectrum waves that are highly sensitive to interference from natural and manmade objects. Buildings, trees, bridges, flyover roads, etc. need to be expressed precisely in 3D models and incorporated in network-planning software.
Highly accurate and detailed 3D digital maps also support on-sight investigations and the optimal placement and tuning of network infrastructure.

Features & Benefits

✓ Advanced 3D digital map package for 5G compatible with global standard wireless network design software used for radio frequency (RF) simulation.

✓ Prediction and measurement based planning and optimization

✓ Highly accurate 3D map coming from NTT DATA's in-house processes incorporating multi-view technology powered by Maxar Technologies' highest resolution satellite imagery

✓ Detail objects are captured and modeled using artificial intelligence (AI) technology for image processing.

✓ High scalability in production utilizing automated process and cloud platform which enables shorter delivery timeline.
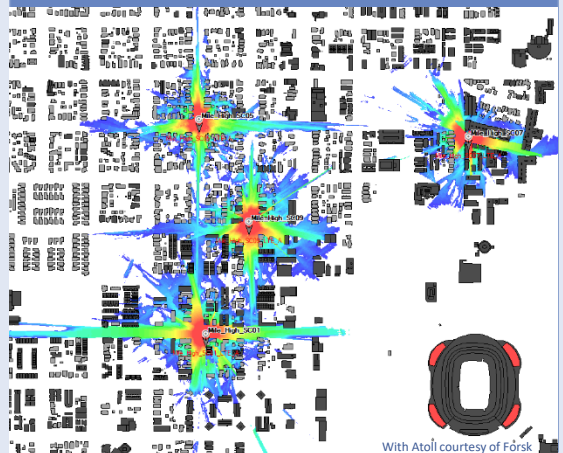
3D Vectors (building)

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3D vectors (vegetation)

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Simulation result

With Atoll courtesy of Forsk

NTT DATA

AW3D Telecom for 5G

Data layers of AW3D Telecom for 5G

3D Vector
These dataset are developed from high accurate building footprint and elevation model. 3D vegetation and bridge can be offered as well.

DLU (clutter)
Land-use classification map for analysis of radio propagation and deviation.

DHM (clutter height)
Height model expresses the height of the buildings, vegetation, and others from the ground. It is also referred as "2.5D model".

DTM
Bare-earth 3D elevation model in raster format, height of building, vegetation, bridges are extracted from digital surface model.

Base Map (optional)
A high-resolution orthorectified imagery for base map to display AW3D Telecom for 5G dataset.

Specifications of AW3D Telecom for 5G

Data layers	Spatial resolution	Horizontal accuracy	Vertical accuracy	File format	Descriptions
3D vector	1:5,000 level	1 to 2m	1 to 2m	TAB, SHP	3D vector model expresses shapes and heights buildings, vegetation, and bridges.
DLU (clutter)	1m/2m (urban) 10m/20m (rural)	1 to 2m (urban) 5m (rural)	-	BIL, MRR, BIN	Land-use classification map for analysis of radio propagation and deviation.
DHM (clutter height)			1 to 2m (urban) 5m (rural)		Height model in raster format ("2.5D model")
DTM					Bare-earth elevation model without heights of buildings, vegetation, and other objects
Base map	-	From 2.5m	-	SHP, etc.	Optional data layers: base image and 2D vectors (roads, rivers, coastlines, etc.)

- Minimum order quantity is 25km2.
- This packaged dataset is designed for use with RF planning software – Atoll (Forsk), Planet (InfoVista), ASSET (TEOCO), and others.

Comparison images between the data for 3G/4G and 5G

Conventional building data

Building data of AW3D Telecom for 5G

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