



# NORTH MACEDONIA

## 3D MODELS FOR 5G PLANNING

### 1M, 2M, 5M RESOLUTION



## 3D COUNTRYWIDE MODEL

### 1 300 000 LOD 1.3. BUILDINGS

**3D MODELS** PROVIDE AN ACCURACY RANGE AT VARIOUS LEVELS OF DETAIL REQUIRED BY WIRELESS OPERATORS AND ENSURE HIGH QUALITY AND COMPATIBILITY WITH ALL WAVE PROPAGATION MODELS.

**3D MODELS** INCLUDE: TERRAIN DATA, 3D BUILDINGS, 3D TREES, 3D BRIDGES, AND OTHER ARTIFICIAL OBJECTS, VECTOR LAYERS LIKE ROADS/STREETS NETWORKS, AND LAND USE CLASSIFIED INTO 28-30 CLASSES. ALL THESE ELEMENTS TOGETHER PROVIDE AN ACCURATE AND DETAILED REPRESENTATION OF CITY INFRASTRUCTURE THAT IS AN OBVIOUS SOURCE FOR ACCURATE RF PLANNING.

**3D AND 2D DATA ARE DELIVERED IN ANY RF PLANNING SOFTWARE - FORSK ATOLL, TEOCO ASSET, INFOVISTA PLANET, ATDI ICS TELECOM, RANPLAN PROFESSIONAL, ETC.**

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DIGITAL MAPS WORLDWIDE



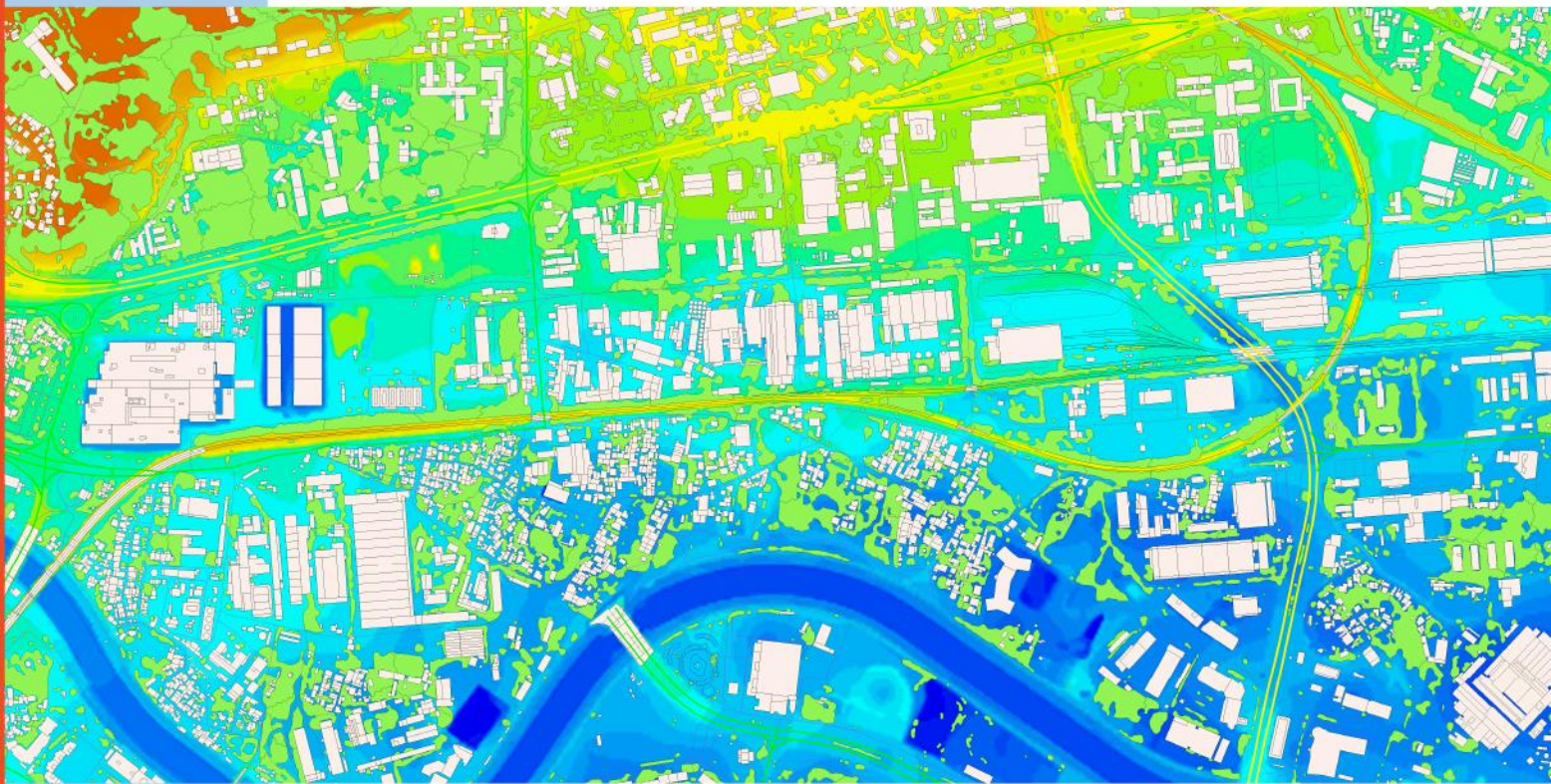
# NORTH MACEDONIA COUNTRYWIDE MODEL

2D

2.5D

**WE FOCUS ON THE PRODUCTION OF DIGITAL MAPPING PRODUCTS FOR THE WIRELESS TELECOMMUNICATION INDUSTRY**

STARTING WITH THE IMPLEMENTATION OF THE 2G NETWORKS AND FURTHER DEPLOYMENT OF 3G, 4G AND 5G ONES WE SUPPORT OUR CUSTOMERS BY PROVIDING THEM WITH HIGHLY ACCURATE GEOSPATIAL DATA. TAILORED FOR THE NEEDS OF THE TELECOM MARKET, OUR GEODATA PRODUCTS ENABLE YOU TO ACHIEVE ACCURATE RESULTS ALONG WITH NETWORK PLANNING AND OPTIMIZATION



**REGIONAL 2D MODEL WITH TOTAL AREA - 25397 KM<sup>2</sup>**

**RESOLUTION: 10M OR 5M**

**REGIONAL MODELS DATA SET:**

- DIGITAL TERRAIN MODEL (DTM)
- CLUTTER / LAND USE MODEL (UP TO 22 CLASSES)
- VECTOR MODEL
- TEXT LABELS (NAMES OF SETTLEMENTS, RIVERS, RAILWAYS, ETC.)
- POPULATION DISTRIBUTION MODEL
- DETAILED ADMINISTRATIVE BORDERS

**REGIONAL MODELS MAY BE INTEGRATED WITH 2D URBAN ONES TO IMPROVE THEIR ACCURACY IN URBAN AND SUBURBAN AREAS**



# NORTH MACEDONIA

## GEOSPATIAL DATA



### DELIVERED DATA SETS

3D BUILDINGS LOD1.3	1 300 000 buildings around the country, all big cities are included Buildings include: usage type, roof shape, address, number of floors
3D VEGETATION	3D Tree model with individual crowns
3D BRIDGES	All bridges in the country with length < 10m with heights and thickness
ROAD AND RAILWAY NETWORKS	Total length - 35 000 km
HYDROGRAPHY	All water objects with names in English: Rivers, Lakes, Reservoirs, Sea, Sea Bay, Sea gulfs, Springs, Flooding areas, Swamps, Waterfalls
ADDRESSES	300 000 Address points
POPULATION MAP	5m resolution Population Maps for the nationwide All levels of administrative division