

# Telecommunication

The worldwide telecommunications market has demonstrated an above average rate of growth over the past decade. Even with the recent economic downturns in various regions of the globe, the sector still has significant potential for continued expansion. Traditionally, high resolution elevation data was not of much interest to telecommunications companies, but today it represents an important factor in enabling efficient, cost-effective operations.

The availability of up-to-date, reliable and accurate height information is of great importance, especially for the planning, setup and maintenance of wireless networks. For some companies, it is still daily practice to determine whether a transmitter is visible or not from the location of a key customer by labor-intensive field work. Hence, in a competitive environment, leading-edge firms are seeking more efficient ways to:

- Plan and build up new wireless networks
- Expand existing networks
- Find the best suitable locations for transmitters
- Analyze and model possible impacts of changes to the network

Accurate elevation data, acquired by airborne laser scanning (lidar), can be applied in planning of telecommunications networks for both urban and rural areas. Locations for transmitters can be efficiently identified by combining this high-resolution elevation data with polygon outlines of buildings, spatial land-use information and economic data (for example 'telecom spend', the potential revenues for a certain area).

By using these combined data sets to create advanced information products, it can be rapidly determined by the telecommunications firm whether an existing or proposed location is truly viable or not.

At TerraImaging we have developed a method to efficiently generate wireless networks using 3D surface models and polygon outlines of buildings and other objects. With our in-house software tools, it is possible to create a basis for wireless network planning in a quick, efficient and cost-effective way.

For our telecommunications clients we provide the following information products and data collection & processing services:

- Elevation data in map or table format
- 3D city models
- Spatial analysis and modeling using GIS

Such analyses and models can also be adapted to solve various other planning needs such as:

- Visibility studies for transmitters
- Revenue optimization during strategic planning
- Land-use analysis
- Customized GIS-applications for network planning, maintenance and future upgrades

TerraImaging acquires the data for 3D surface models using innovative techniques like airborne laser scanning and digital aerial photography. Using image processing software and tools developed in-house by TerraImaging, this data is processed in to accurate, reliable information products for clients that need answers, not data.



*France, Strasbourg:  
colour-coded elevation model of the city center*



**TerraImaging B.V.**  
Groenewoudsedijk 40  
3528 BK Utrecht  
The Netherlands  
Tel.: +31 (0)30 686 61 60  
Fax: +31 (0)30 686 61 66  
E-mail: [info@terraimaging.nl](mailto:info@terraimaging.nl)  
Web: [www.terraimaging.nl](http://www.terraimaging.nl)

**TerraImaging B.V. Berlin**  
Köpenicker Str. 10a  
10997 Berlin  
Germany  
Tel.: +49 (0)30 53 21 77 20  
Fax: +49 (0)30 53 21 77 26  
E-mail: [info@terraimaging.de](mailto:info@terraimaging.de)  
Web: [www.terraimaging.de](http://www.terraimaging.de)

**TerraImaging B.V. France**  
99 bis avenue du Général Leclerc  
Paris 75014  
France  
Tel.: +33 (0)686 511 463  
E-mail: [info@terraimaging.fr](mailto:info@terraimaging.fr)  
Web: [www.terraimaging.fr](http://www.terraimaging.fr)