

Noise Mapping

As part of the effort to tackle noise pollution, the European Union has laid down a common approach to avoiding, preventing or reducing the harmful effects of exposure to environmental noise. Since June 2005 (and after that every five years), member states must inform the Commission of the major roads which are used by more than six million vehicles a year, railways which have more than 60,000 train journeys per year, and major airports, towns or cities with more than 250,000 inhabitants. Strategic noise maps need to be produced showing the situation in the vicinity of the infra-structures and in the towns and cities.

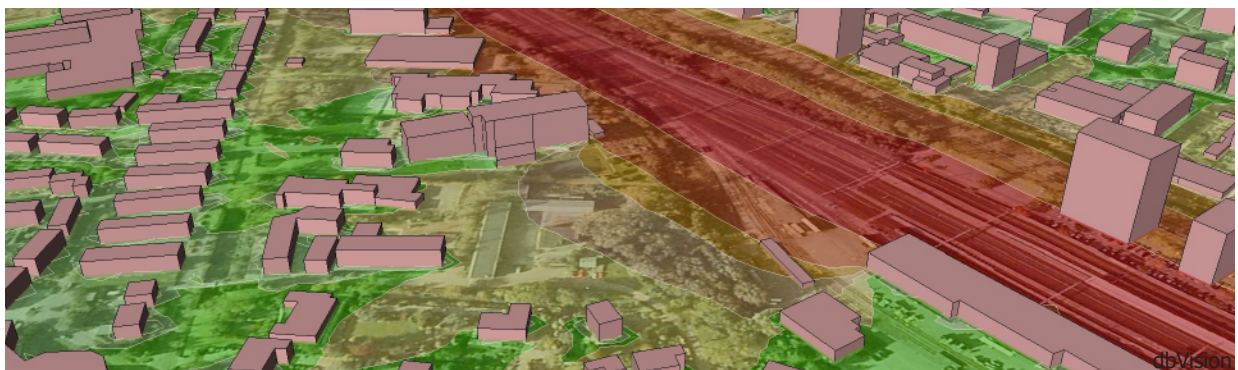
For the accurate calculation of noise levels, different geographical factors, such as the height of buildings, have to be taken into account in the computer models that are used to make these maps. Many communities and public authorities affected by these regulations currently have no detailed height information on file. Historically, the height of buildings or of significant infrastructure facilities was generally not recorded or registered by public authorities in digital format. Until now, it has been common practice for these authorities to use ground crews in the relevant urban areas to measure the heights of buildings and infrastructure in a time-consuming and costly field survey approach.

This type of manual inventory not only takes a long time and is very expensive, but also introduces a subjective aspect to the studies, since only buildings and features deemed to be of concern are actually measured by the field crews.

With the combination of high resolution digital elevation data generated with laser scanning (LiDAR) and digital topographic maps, TerraImaging has developed information products that provide a faster, less cost-intensive and more precise method to create noise models of entire municipalities. By adapting the Lidar-derived elevation data into a mapping product that can be directly imported into high-end noise/sound modelling software packages such as Geonoise from DGMR, TerraImaging allows urban planners to access the full advantage of the rapid, dense, accurate elevation data generated by laser scanning. Advantages of this new approach include:

- High accuracy
- Reliability
- Rapid availability of data
- Cost-effectiveness
- Possibility of easily mapping entire municipalities
- Objectivity and impartiality
- Meets the national regulations for noise modelling
- Meets the European directive for noise modelling

3D-mapping for noise modelling is yet another example of how TerraImaging combines advanced remote sensing data with customised software tools to create information products that meet the needs of our clients, providing them with information, rather than data.



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