Delivering authoritative height data
for urban areas in Poland

To meet end user requirements regarding data content and quality, Copernicus Services need access to up-to-date, and harmonised geospatial information across Europe. Data produced by National Mapping, Cadastral and Land Registration Authorities, the members of EuroGeographics, is therefore key to its success.

Typically, geospatial data is relevant for all the different services, but we have identified three key services which require geospatial data: the Copernicus Emergency Management Service and its rapid mapping, and risk and recovery mapping; the Copernicus Land Monitoring Service; and the Copernicus Security Service which supports, inter alia, the EU External Action Service.

By working closely together, we can improve the use of authoritative data and services by Copernicus and ensure National Mapping, Cadastral and Land Registration Authorities are recognised for their essential contributions.

Jose Miguel Rubio Iglesias
Copernicus In-Situ Component ,
European Enviironment Agency (EEA)

Introduction

National LiDAR data provided by Poland's Head Office of Geodesy and Cartography is enabling important analysis of the urban environment – from population density to energy use.

Challenge

Information about building heights is vital for urban analysis. The Copernicus Land Monitoring Service (CLMS) Urban Atlas Building Block Height product provides 1: 10 metre data for selected core urban areas in 870 cities across Europe (EEA38). Previously, optical satellite photogrammetry technology was used to deliver the data but to ensure the continuous improvement of quality and accuracy, an additional method of remote sensing was introduced.

Benefits

- Provides trusted, accurate data that gives users confidence in the CLMS product portfolio.
- Contributes to greater accuracy and higher quality information for the Urban Atlas Building Block Height product.
- Enables calculation of Building Block Heights and data validation.
- Underpins creation of simple 3D visualisations of structures for use in a wide range of analysis.
- Demonstrates value of cooperation between EEA and European National Mapping, Cadastral and Land Registration Authorities.

Solution

"Knowing that data comes from authoritative sources gives users confidence in the Copernicus products. As the official national source of geospatial data, the Head Office of Geodesy and Cartography is pleased to contribute LiDAR data to the CLMS Urban Atlas Building Block Height product which is essential for anyone wanting to understand the urban environment."

Alicja Kulka
General Surveyor of Poland

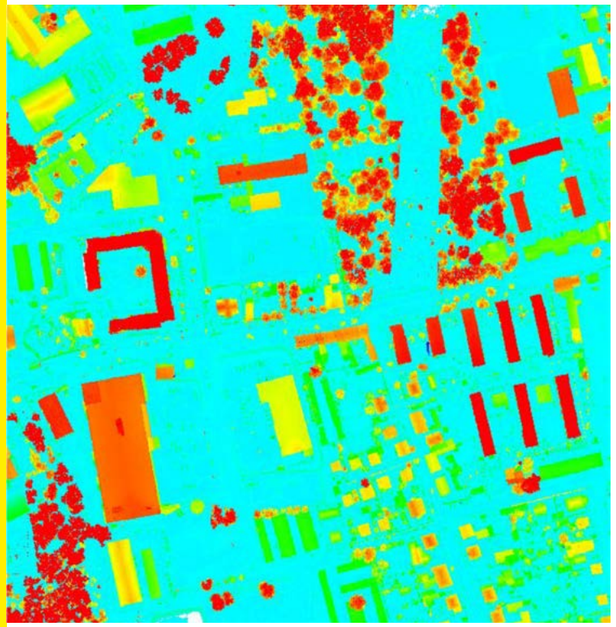
Greater accuracy and higher quality information for the Urban Atlas Building Block Height product was achieved using LiDAR data in conjunction with optical satellite photogrammetry.

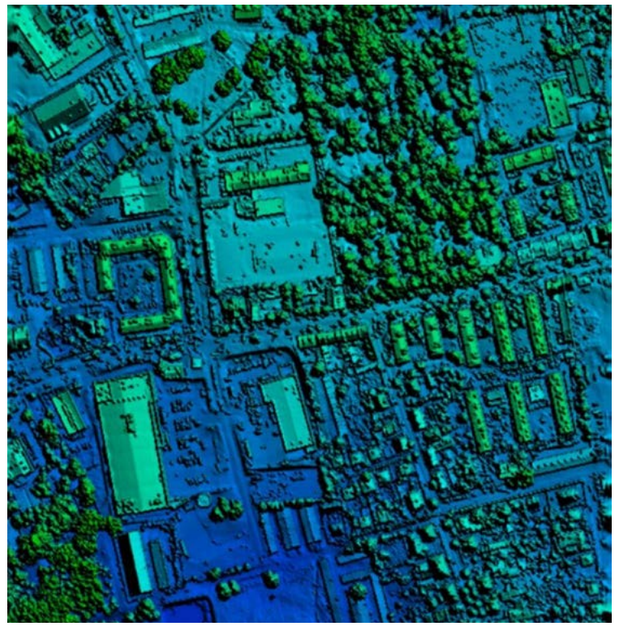
For Poland, this was provided by the Head Office of Geodesy and Cartography. The national LiDAR dataset is not only used for calculating Building Block Heights but also for validation.

The building heights are important for measuring urban density, enabling the creation of simple 3D visualisations of structures for use in a wide range of analysis. These include: Planning; energy use, for example identifying areas at risk from the effects of urban heat islands; modelling the impact of hazards such pollution and air quality; and understanding the spread of infectious diseases.

National LiDAR data from the Head Office of Geodesy and Cartography was provided via the Copernicus Framework Licence agreement between the European Environment Agency (EEA) and not-for-profit organisation, EuroGeographics which represents Europe's National Mapping, Cadastral and Land Registry Authorities.

As a result of the Agreement, EuroGeographics is simplifying access to official pan-European geospatial data from its members and in doing so, is increasing the number of datasets available via the Copernicus Reference Data Access (CORDA) database. In addition, the partnership is exploring solutions for providing full, free, and open access to geospatial data for the Copernicus programme, including all the different geospatial data components such as the Priority Monitoring Areas, for example Urban Atlas and Natura2000, or pan-European land cover and land use mapping, such as high resolution layers or the CLC+ Backbone, and is improving Copernicus services' access to pan-European datasets and services available through the Open Maps for Europe interface.





MORE INFORMATION
http://www.gugik.gov.pl

CLMS URBAN ATLAS
https://land.copernicus.eu/en/products/urban-atlas/building-height-2012