COPERNICUS HELPS PRAGUE PLAN THE CITY OF THE FUTURE

Urban and strategic planning in Prague relies on Copernicus Land Monitoring Services for land use benchmarking and monitoring change over time.

The challenge

Prague, like many European cities, suffers from a gap in data and information between the city's administrative areas and the surrounding region. Whilst Prague produces detailed, up-to-date geodata for planning and decision-making, the coverage of the wider metropolitan region with comparable data is weak. In the Prague metropolitan region, the Copernicus Urban Atlas is used in the monitoring and evaluation of various kinds of development, including: residential buildings, logistics hubs and industrial parks, and retail areas. The Urban Atlas also facilitates the comparison of the pace of new residential development between Prague and the wider metropolitan region, the locations of regional development hotspots, and other development indicators. Finally, the Urban Atlas is a convenient data source for inter-city or inter-regional comparisons and benchmarking, especially when it comes to obtaining comparable figures for the built-up area index, green spaces index, and others.

The space based solution

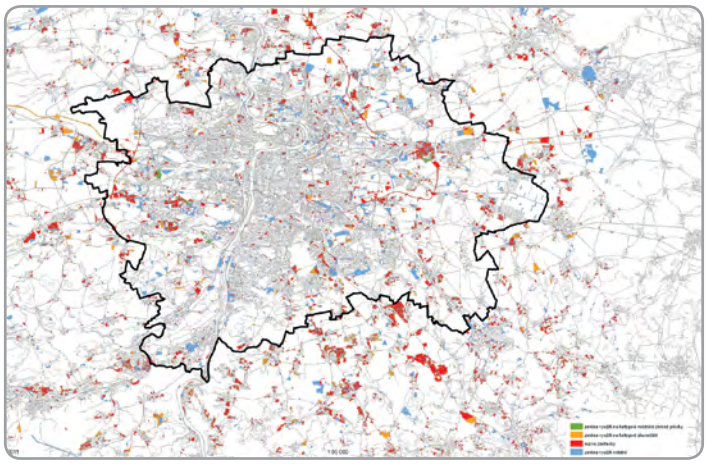
An integral part of urban planning is the monitoring of land use development in the city and in the wider metropolitan region over time. Temporal analysis enables planners to better understand issues such as traffic, demands on public services, housing development, property price fluctuations, and others. These issues, however, function across administrative boundaries and influence not only cities themselves, but also their relationships to other cities and areas. Taking the Urban Atlas 2006 and 2012 as the base, Prague provided additional classification for aerial imagery from 1989 and 1999 to gain a more realistic picture of land use development in the last 28 years. The comparison shows the trends in development and provides a guideline for future planning policies.

Regardless of the classification complexity and spatial resolution achieved, the Urban Atlas data still has limited use for planning at the local level due to the inconsistent classification of land uses over time, a lack of precision with regards to parcel outlines when compared with cadastral data, and other issues. Tackling these issues will be the challenge for the new, high-resolution Copernicus data products.

Benefits to Citizens

Copernicus data has also been used in the comprehensive, bi-annual Prague Analytical Planning Report, a binding and regularly updated information source for he city which is anchored within the Czech legal framework.

In addition, the Urban Atlas was used in the preparation of Prague's new Metropolitan Plan, as well as for its Strategic Plan. The main contribution of the Urban Atlas to these documents was the identification of new development sites and more information about their character, along with the subsequent setting of expectations for future development trends.

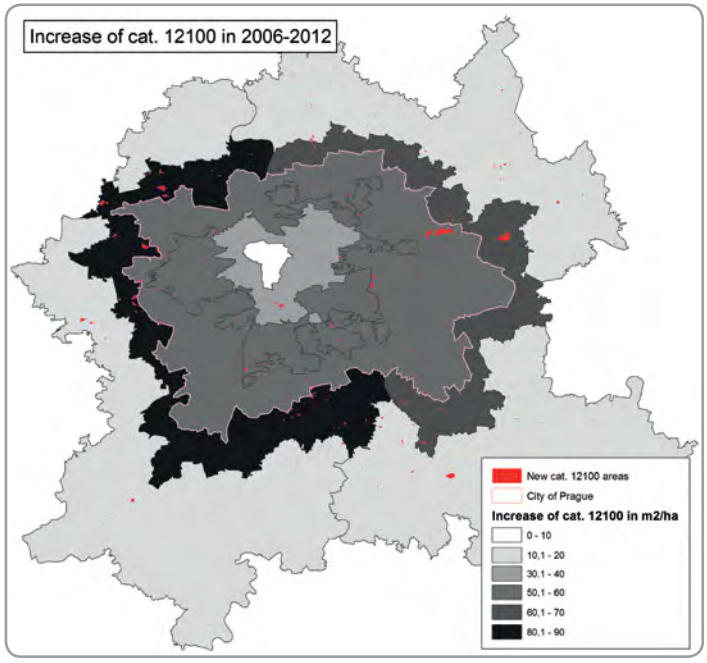


Land use changes 1989-2006, created with Urban Atlas-based retrospective data for Prague, property of IPR Praha.

Thematic Area	Region of Application	Sentinel mission used	Copernicus Service used	Usage Maturity Level
TERRITORIAL MANAGEMENT AND URBAN PLANNING	PRAGUE	–	CLMS	3

For example, as presented in the map below, an evaluation of the increase in commercial and industrial units from 2006 to 2012 showed that most of this development took place in the outer ring of Prague and in neighbouring municipalities.

Finally, Copernicus data is also very beneficial for wider regional analyses. As there is no comparable data source which would employ the same classification system across different cities, regions, and even countries, the Urban Atlas provides a level of insight into land use which would not otherwise be possible.



New industrial and logistics developments from 2006-2012, Prague and the suburban region

"Copernicus data opens the door to smart metropolitan planning."

Ondřej Boháč, Prague Institute of Planning and Development

Outlook to the future

The testing and development of new products with high spatial resolution and frequent updates is necessary for the management of the city and for good urban planning. The promotion of data sources with an MMU of less than 0.1 ha, along with annual updates, is crucial for replacing traditional, local data sources with new EO data products.

Acknowledgements

The bi-annual Prague Analytical Planning Report is available at http://uap.iprpraha.cz.

Urban Atlas-based Prague retrospective data is made up of datasets derived from historical orthophotos on the basis of Urban Atlas classification provided for the years 1989 and 1999 and is the property of the Prague Institute of Planning and Development.

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ABOUT COPERNICUS4REGIONS

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The model cases focus on local and regional authorities who successfully applied Copernicus data in 8 major public policy domains.
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