

ANALYSIS OF SPATIO-TEMPORAL ARCHITECTURAL AND THE URBAN ENVIRONMENT CHANGES OF THE WROCLAW CATHEDRAL

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This poster presents a method for preparing digital spatial data to study the spatio-temporal evolution of the urban and architectural environment. Methods for comparing spatial data from different periods (using GIS tools) will allow a comprehensive spatial and temporal analysis of architectural changes and the urban environment surroundings of the Wrocław Cathedral. The data were processed in programmes for spatial data processing, digital images and working with point clouds, i.e. QGIS, Autodesk ReCap 360, Agisoft Metashape, CloudCompare.

The data were obtained through digital surveying using various methods, digitization of architectural plans, old maps and iconographic sources, and downloading of current databases. Significant improvements in the collection of geodetic and cartographic data were introduced by the General Office of Geodesy and Cartography (GUGiK), which made it possible to download some of them free of charge from the State Geodetic and Cartographic Resource (PZGiK). Such activities are part of the global trend to develop publicly accessible databases and INSPIRE (Infrastructure for Spatial Information in Europe).

The study of architectural change in historic buildings and changes in their surroundings is an important aspect of cultural heritage research. The use of digital spatial data makes it possible to analyse spatio-temporal data from different time periods and to trace their historical context. This makes it possible to identify changes in the form of objects (here, for example, the evolution of the cathedral), but also their urban environment, including changes in the layout of streets, the distribution of buildings and their functions, or public spaces. Capturing this data in digital form and storing it in a multi-resolution database allows comprehensive comparisons to be made and provides a broader general view of history.