

WHAT IS A DIGITAL CITY MODEL?

Digital city model is a virtual model of urban areas that can represent terrain surfaces, sites, buildings, vegetation, and infrastructure in a three-dimensional scale. Digital city model is a useful tool that provides capacities for exploration, analysis, design visualization, planning and making information accessible online. It provides a platform for making planned decisions and building back better practices without the necessity of being on the site.

DIGITAL CITY MODEL IS A USEFUL TOOL THAT PROVIDES A PLATFORM FOR:

- **PLANNING AND DESIGN:**
 - Constant updates on the current situation
 - Testing design proposals
 - BIM modeling
 - Assessment of protected areas and buildings
 - Traffic simulations
- **ENERGY EFFICIENCY BUILDING:**
 - Sunlight radiation calculations
 - Shade analysis
 - Simulation of noise and air pollution dispersion
- **RISK MANAGEMENT:**
 - Flood risk assessment
 - Preparedness plan simulations



EXAMPLE 1

[maps.Vilnius.lt](https://maps.vilnius.lt) is a great example of an online geospatial database integrating several categories of information including the digital city model.



EXAMPLE 2

[Kaunas digital twin](#) is considered one of the great global examples of interactive urban BIM modeling.



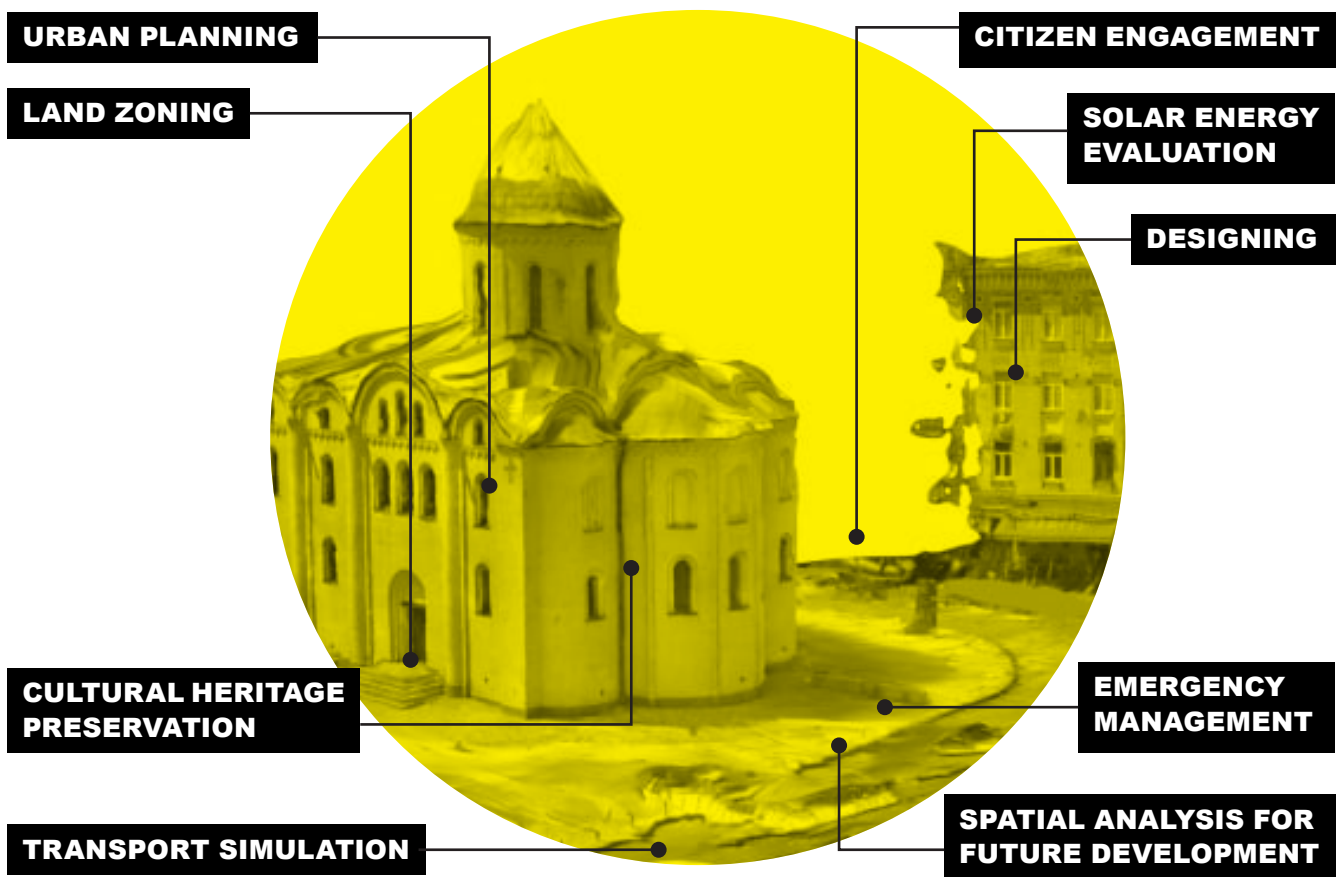
HOW CAN A DIGITAL CITY MODEL BE USEFUL IN REBUILDING UKRAINE?

There are several initiatives of developing 3D scans of demolished and heritage objects. However, a digital model of a whole urban area is still to be created. Digital models of whole Ukrainian cities and towns would make on-ground information accessible and allow planners and architects to



DESIGN PROPOSALS, INVOLVE RESIDENTS, AND PROVIDE A BASIS FOR FASTER DECISION MAKING WITHOUT BEING ON THE GROUND.

DIGITAL CITY MODELS CAN INCLUDE SEVERAL TOPICS SUCH AS:



EXAMPLE 3 3D scan of the Church of the Assumption of the Virgin Pirogoshcha in Kyiv. (Source:CNN)

A digital urban model would help motivated professionals join forces with Ukrainians and start planning processes remotely. This would allow to make rational decisions based on evidence, create a ground for collaborative analysis, and start the processes before the loss of russia and the end of the war. Digital city model could build capacity for contemporary planning practices and make ground for planning better cities in Ukraine.

