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3D Data for Urban Issues

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ABSTRACT

Different urban issues urgently request up-to-date, valid, accurate, suitable, error virtual copy of cities, landscape, and buildings enables to continuously monitor wh scenarios through simulation. These simulations help address issues like flooding, islands. Methods are developed to reconstruct, validate, and disseminate virtual 3 in open-source software, such as PolyFit, MVStudio, 3dfier, and Val3dity. The resu is structured and tailored for specific uses.

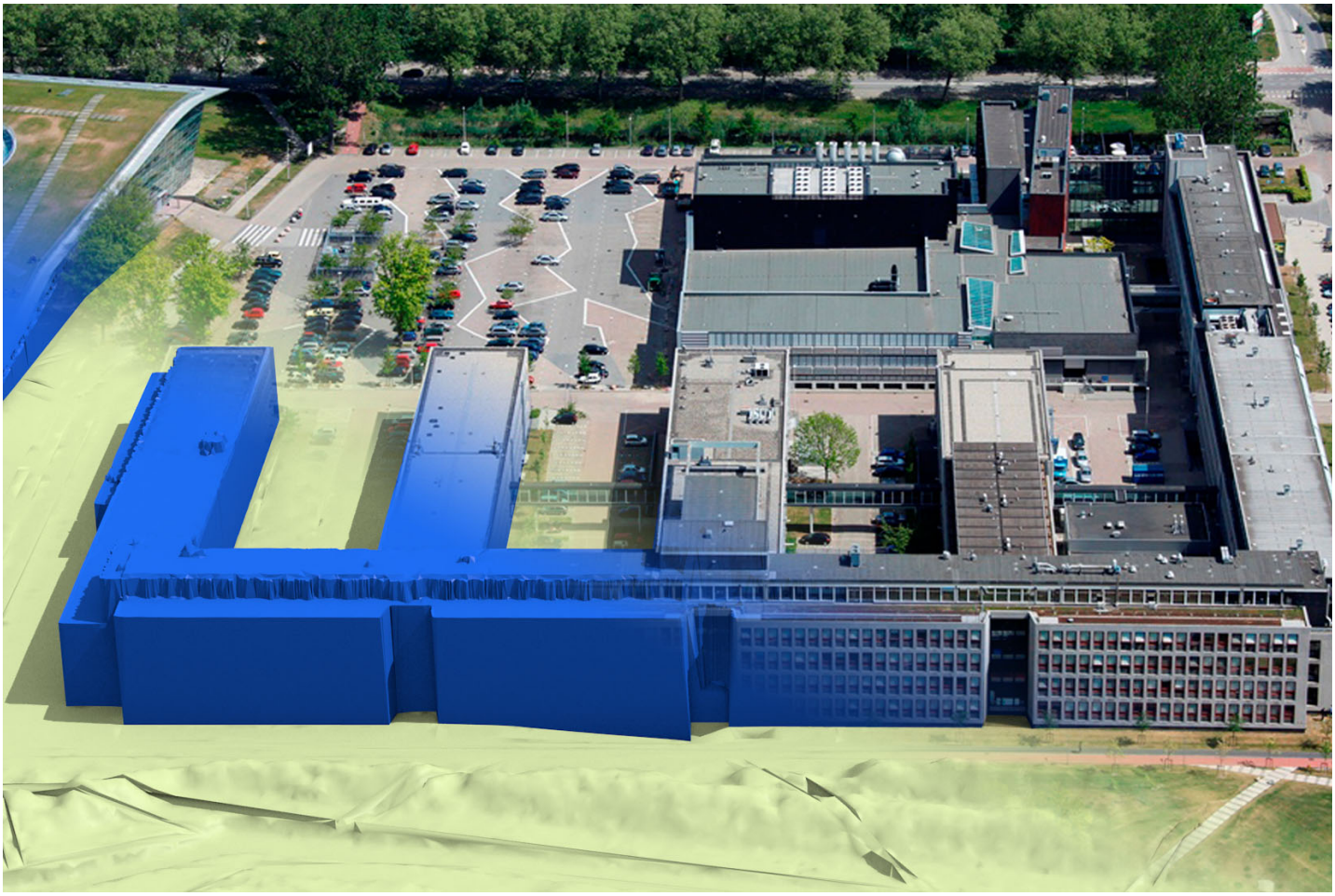

Figure 1: Representing our living environment as 3D virtual models.

With the growth of cities and technological advancements, our living environment is becomi complex. Often our intuition and experience prove to be insufficient when trying to understa phenomena in this realm. Systems that help to model our surroundings augment the human provide the much-needed details about a complex environment. At the 3D geoinformation re we see ourselves as enablers, working on information-rich models of our living environment by domain experts for making informed decisions. Therefore, our work is subtle, in fact it is b noticeable, providing the basis for the decisions that shape our future.

In the research of our 3D geoinformation research group, we focus on creating 3D, digital rep and models of our surroundings. There is a surprising amount of knowledge and work involve process and we aim to cover the whole flow from data generation, through data managemer dissemination and use in urban applications. These applications urgently request up-to-date, error-free 3D data. A dynamic, virtual copy of cities, landscape, and buildings enables to cont monitor what is happening in reality and evaluate different scenarios through simulation. Su help address issues like flooding, noise pollution, air pollution, and urban heat islands. There develop methods to reconstruct, validate, and disseminate virtual 3D models.

The resulting methods are implemented in open-source software with permissive licensing. V

users from industry and government and try to release software that will be useful to them. mainly focused on features that are not available in commercial software. Some of the exam PolyFit, MVStudio, 3dfier, and Val3dity. With these tools the users can create semantic rich 3 structured and tailored for their application.

In an ideal world 3D environmental data would be high quality, easily accessible and usable b professionals without specific data management skills. In the meantime we continue our wor intersection of industry, government and academia, and keep developing methods that hope towards this future.

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