



BIM, a foundation for analyses

Tom Borst

ARCADIS, Rotterdam (NL)

Contact: tom.borst@arcadis.nl

Abstract

Building Information Modelling (BIM) is increasingly becoming one of the focal points of digital information about buildings. This digital information provides the basis for all kinds of building-related processes. It is a new approach to the exchange of data and information in the construction industry. Digitisation in the construction industry is also creating other options for managing risks. Combining sensor technology to simulations creates possibilities for deciding on an evacuation depending on the data gathered by the sensors and simulations.

Keywords: BIM; BIM uses; BIM levels; simulations; analyses

1 Introduction

Building Information Modelling (BIM) is a hot topic, and rightly so. It is a new approach to exchanging data and information in the construction industry. BIM is much more than a nice 3D model: it is increasingly about teams working intelligently with shared information throughout the lifecycle.

Together with partners in the EU, Arcadis is using state-of-the-art BIM in the *Elastic* project. Elastic is a showcase project of the 7th Framework Programme of the European Commission.

In this article, we will be examining what BIM means for this project and what influence analyses and simulations have on the project. We will also be taking a quick look at what this can mean for design and risk management.

2 The EU Elastic project

2.1 Background

The ever-increasing size, height and complexity of large-scale urban construction infrastructures are

leading to greater levels of risk with respect to natural and man-made threats [1]. In the event of a genuine incident, this leads to more casualties and greater damage [2],[3]. It seems that there is a need for a comprehensive approach to improving the security and resilience of large-scale complex infrastructures in order to safeguard the infrastructure and its occupants throughout its entire lifecycle. This includes regular operational processes as well as exceptional crisis situations.



Figure 1. A natural threat: flooding of the Danube