

Master's thesis

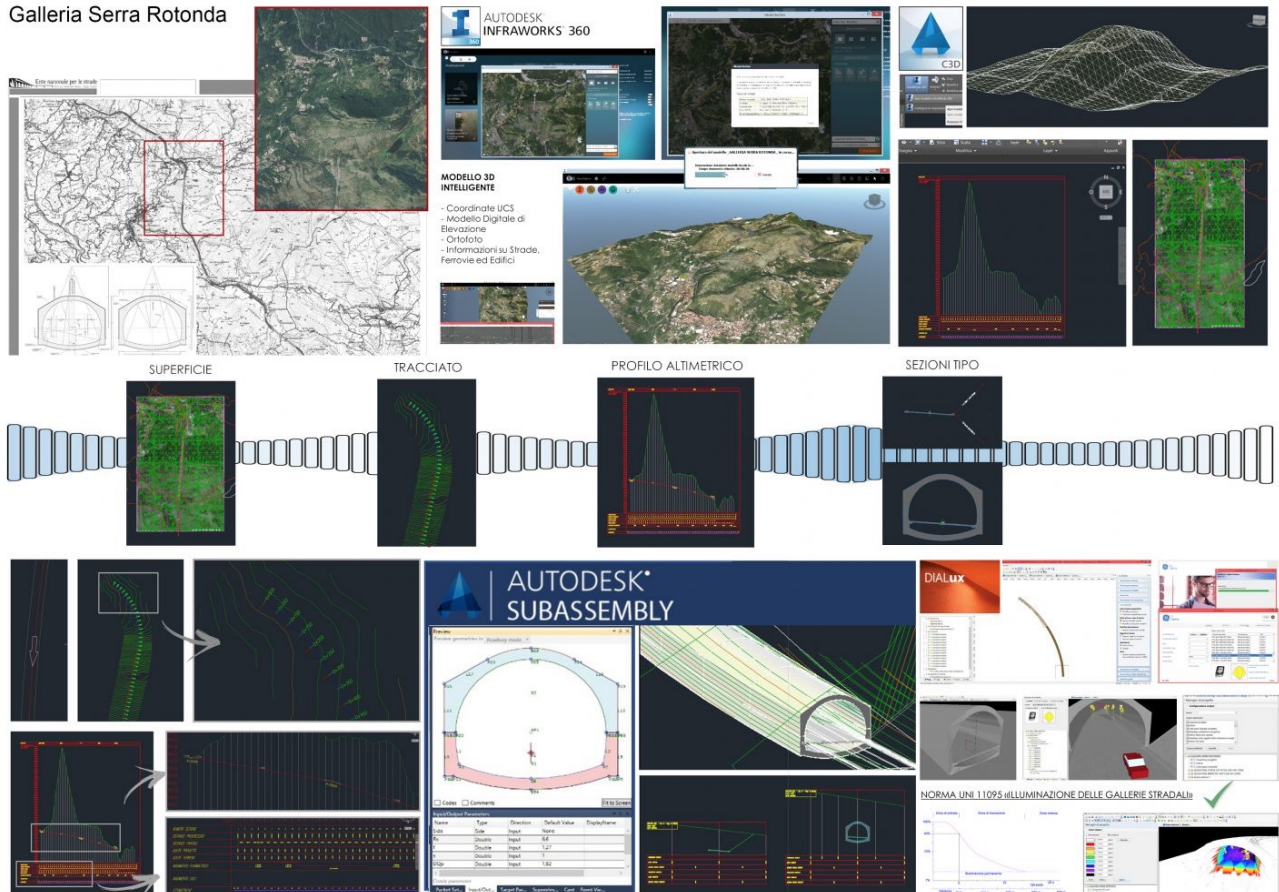
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Title of tesi: "The BIM methodological approach applied to road infrastructure: case study Serra Rotonda Tunnel"

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Galleria Serra Rotonda



Abstract

The aim of this thesis work is to test an innovative approach based on Building Information Modelling (BIM) methodology for Infrastructure design. Starting from the documentation provided by A.N.A.S, the company that manages the Italian road and motorway network, it was possible to test the process by referring it to a particular case study: Gallery Serra Rotonda of the new A3 motorway in Basilicata. My interest on the subject is due to the fact that BIM methodology should provide an important opportunity for process optimization, as well as to facilitate the project, introducing higher quality and at the same time a cost saving. Thanks to a management of the entire life cycle, all the projects that use a BIM based approach allow to evaluate different scenarios, identify and anticipate risks and opportunities acting in real time.

After careful analysis of documentation provided by ANAS, thesis work is divided into three main phases:

- Testing the Interoperability approach between different software as Civil3D, Infracore, Revit, Dialux, in order to improve the collaborative activities and data sharing.
- Definition of LEVEL of Development and DETAIL (LOD) concepts, in order to organize the geometrical and alphanumeric information and their recognition relating to infrastructure matters.
- Definition of the Standards for the creation of a common language that defines precisely the exchange of data on the basis of the cooperation of the BIM group work.

After the initial activation that took time, planning and training, it tried to give an overview of how it's possible to start to use a BIM process, reason why the modeling of the case study does not go into detail regarding structure, plants and system.