

# PhD in Urban and Regional Development

*(jointly activated by Università degli Studi di Torino and Politecnico di Torino)*

## Research Title: InfraBIM

<b>Funded by</b>	Lombardi Ingegneria Srl
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<b>Context of the research activity</b>	<p>The benefits of a BIM-oriented approach are attractive not only at building level, but as far as infrastructural projects are concerned too. The transition of BIM methodology to the infrastructural domain has emphasized its prospects, providing new challenges and pushing the process beyond any previous limit. Currently, the BIM maturity level within the infrastructure field still needs implementation, because interoperability needs further improvements. Within the Italian context, the process of BIM implementation started because of market demands; the process of adopting BIM does not have its origin in a benchmark case study project, but in the experience of each company, who implemented BIM processes in order to stay abreast of the times. The Italian “guidelines” on this topic are the UNI 11337 and the new Decree implementing the Law 50/2016; while the UNI 11337 discusses technical details, such as documents, models definition and management, and information process, the new law (“Decreto BIM”) signed in December 2017 determines a progressive duty of introducing BIM as a procedure for construction processes.</p>
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<b>Objectives</b>	<p>The main objectives of this research topic focused on BIM methodology implementation process within the Company management and namely:</p> <ul style="list-style-type: none"><li>- Set up the graphical and alphanumerical data for an InfraBIM model;</li></ul>
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	<ul style="list-style-type: none"> <li>- Analyze and develop documents necessary to a BIM-oriented procedure and management of the entrusted works;</li> <li>- Start and develop a process of re-organizing the actual design approach in order to satisfy the needs of a highly competitive market;</li> <li>- Test several interoperability flows to identify the best way to achieve the required results;</li> <li>- Develop case studies to test the different aspects of the construction process;</li> <li>- Define new standard.</li> </ul> <p>To sum up, the project aims at training a high-qualified professional for the Italian and the international market, who would combine both knowledge on the specific field of infrastructures and tools-related skills. This figure's role refers to strategic planning at company level; however, communication with project coordinators and other professionals is essential because the implementation process needs to face and find solutions to practical critical issues.</p>
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<b>Skills and competencies for the development of the activity</b>	<p>The applicants developed a research within the context previously described, achieving a high level of knowledge on workflows, data processing and interoperability in the field of BIM methodology. A previous practical experience within the topic BIM for infrastructures is required.</p>
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