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The Netherlands

**JA**  
Joubert Architecture

JA Joubert Architecture  
[www.joubertarchitecture.com](http://www.joubertarchitecture.com)  
The Netherlands

## Contact

Technical coordination and Project  
management

**TNO** innovation  
for life

**TNO**  
Lange Kleiweg 137  
2288 GJ Rijswijk  
The Netherlands

Contact person:

J.C.A.M. (Ans) van Doormaal  
Telephone: +31 88 866 1249  
E-mail: [ans.vandoormaal@tno.nl](mailto:ans.vandoormaal@tno.nl)

Administration and support of  
Project management

**UNIRESEARCH**

**Uniresearch**  
Elektronicaweg 16-C  
2628 XG Delft  
The Netherlands

Contact person:

Cor van der Zweep  
Telephone: +31 15 275 4000  
E-mail: [c.vanderzweep@uniresearch.nl](mailto:c.vanderzweep@uniresearch.nl)

  
**ELASTIC**

Enhanced Large scale Architecture  
with Safety and Security  
Technologies and special  
Information Capabilities

[www.elastic.eu](http://www.elastic.eu)



**ELASSTIC** is the acronym for Enhanced Large scale Architecture with Safety and Security Technologies and special Information Capabilities.

The project is co-funded by the 7th Framework Programme of the European Commission. Read more about the project on the website: [www.elasstic.eu](http://www.elasstic.eu)

### Background

The ever increasing size, height and complexity of large scale urban built infrastructures lead to higher risks with respect to natural and man-made threats. In case of a real incident, this leads to more casualties and damage. Evidently, there is a need for a comprehensive approach for improvement of the security and resilience of large scale complex infrastructures in order to safeguard the infrastructure and its occupants during its entire life-cycle. This includes regular operational processes as well as exceptional crisis situations.



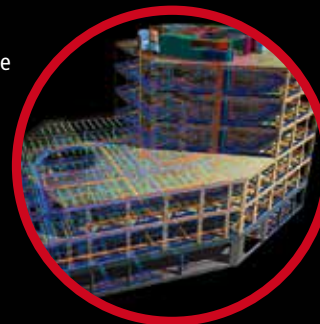
### Results and outputs

- A comprehensive approach for designing safe, secure and resilient large scale built infrastructures
- Coupling and integration of BIM and BMS
- Extended BIM technology
- Smart and reinforced building elements
- Real time information on the safety, security and resilience
- Recommendations for a regulatory framework
- Validation of the approach by making a showcase design of a large scale multi-functional urban complex called the ELASSTIC-complex



### ELASSTIC Complex

- Showcase location used to evaluate all types of scenarios
- City centres of large cities across Europe
- Connected to large traffic hubs and other high rise buildings
- Total size more than 50.000 m<sup>2</sup> above grade



- High-rise with multiple functions
- Large part of the building is a public programme
- Underground parking
- Part of the structure reinforced concrete to implement sensors
- Other parts made of steel to allow for spans & cantilevers

### Objective

The overall objective of the ELASSTIC project is to improve the security and resilience of large scale multifunctional building complexes to natural and man-made disasters by providing a methodology and tools which enable to include security and resilience from the early design and planning phase of such projects.

### Validation

Proof of Concept of the approach and developed tools will be done by evaluating the design of a multifunctional (housing, shopping centre, transport node, business centre and museum), resilient, large scale urban complex (anno 2020) called the ELASSTIC complex. The complex will not only be secure and resilient to disasters, it will also be designed to ensure fast and efficient evacuation in case of a disaster.