



# 1 Winner Special Prize of the Jury

**Quote of the Jury:** *"The 'Aviatica' project stands out for the nice curved structure and use of OpenBIM: using the IFC format to exchange the models between Allplan Engineering and SCIA Engineer in the design phase and finally using the full model for future facility management."*

Owner Penta Investments s.r.o.  
 Architect Cigler Marani Architects a.s.  
 General Contractor PSJ a.s.  
 Engineering Office Building s.r.o.  
 Construction Period 12/2013 - 06/2015

The office building Aviatica represents the first development of a new city district. It has two basements measuring 180 x 84 m and from 4 to 9 stories. The structural system consists of a main reinforced concrete skeleton, steel trusses and thin concrete slabs on cantilevered roof extensions, load bearing roof grid and concrete prestressed truss supporting the entrance arch part. The basement next to the Metro is vibro-insulated. Foundations have been drilled using large-diameter piles. The building has an interesting rounded shape, as almost only the elevator shafts are rectangular.

The Aviatica project is the first partial application of BIM in our company. The 3D model in SCIA Engineer was used for modelling and calculating, and formworks and reinforcements were drawn in Allplan. The general IFC format was used for data transfer. The prestressing was implemented with external loads. Vibro-insulation was applied as two slabs connected with a dense field of short columns.

Many structural engineering tasks are concentrated in this one project, from prestressing and vibro-insulation to column transfers. An engineer is only able to meet all the requirements by processing a lot of individual projects. The investor wanted to have not only an interesting building, but also a modern project design using BIM with the advantage of further use for client requirements and building maintenance.

### Building s.r.o.

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Building s.r.o. was set up in February 1992 as a design and engineering office. The firm focuses on designing office and residential buildings and public facilities at all stages, provides engineering services and a supervision of construction execution. Reinforced concrete constructions are our main specialization. We also collaborate with other architectural studios.

Building s.r.o. is a certified quality management system holder according to EN ISO 9001. Our vision is to provide modern buildings according to the latest knowledge in building design.

