

CASE STUDY



SYMBIOTIC TOWER - LATVIA | MIXED USE



fds consult

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A £91.2 million waterfront scheme, Symbiotic Tower, brings western-style high-rise contemporary architecture to Latvia's capital in an extremely high profile project. The 43,300m² scheme is a ground-breaking development in Latvia and incorporates the first underground car park of this size ever to be constructed in the country. The local fire authorities were unsure how to approach approvals on such a complex structure and had no experience of underground car parks so part of the challenge for FDS Consult was to assist the design team and substantiate the efficacy of the solutions put forward.

While the four underground levels were assigned to car parking and the ground level was dedicated to retail and leisure facilities, the remaining 25 levels had to be flexible as the developer was not certain how much would be fitted out as commercial space and how much would be used as residential accommodation. Added to the challenges of this flexible brief, the FDS Consult team also had to interpret outdated local fire standards and improve on these to meet the safety needs of the building. FDS Consult responded by:

- Fire engineering the complete building to British Standards rather than following local standards
- Meeting with Latvian fire approval authorities to explain the design philosophy and outline how all fire issues in the development would be dealt with
- Utilising the company's experience to propose innovative solutions that improved safety and reduced costs

The solutions driven approach adopted by FDS Consult throughout the scheme successfully overcame potentially costly and unnecessary elements of the building's design. For example, by using a combination of smoke venting and emergency lighting instead of installing windows in the corridor areas, FDS Consult was able to remove a 26-storey staircase from the scheme.

The underground car parking was one of the key problem areas for the scheme as the Latvian fire authorities were so unfamiliar with underground car parks. FDS Consult therefore played a critical role in ensuring safety levels for this element of the scheme by:

- Guiding local officials through UK best practice for fire safety
- Devising the whole design philosophy for the underground parking

- Providing system design information to enable the design team to incorporate the concept of system design into the scheme
- Advising against the original ventilation specification of a fully ducted system and full Impulse system which would have required additional excavation to a depth of three metres, adding additional costs and time to the project
- Using Computational Fluid Dynamics (CFD) to demonstrate how a spatially efficient Car Park Ventilation System could provide suitable ventilation whilst enabling significant space savings

By working with the local authorities and design teams, FDS Consult not only delivered significant cost savings on the scheme but also improved standards to increase the fire safety of the finished building.

Type of project:
New-build Mixed Use

Client:
Dam Property Investments Ltd

Architect:
Schaller Architekten

