

600 years of architectural history of the Bern Minster preserved for eternity

Bern Minster is the landmark of the city of Bern and is regarded as the most prominent building in Bern's old town, which is considered a UNESCO World Heritage Site. Construction and restoration work on this valuable building has been going on uninterruptedly for 600 years.

Over the years, a large number of planning and execution documents have been produced, which are of great importance for understanding the construction measures and the historical development of this unique cultural asset. In addition to the various plans, photographic documentation of actual conditions and before/after comparisons found its place on the film as well. Finally, basic texts and various literature have been saved in PDF/A form. Together with the Bern Minster Foundation and the architects responsible, archivsuisse AG has drawn up an archiving concept, the aim of which is to compile this valuable data available in digital form and to secure and keep it available for posterity in the long term. For this purpose, we use the storage medium piqlFilm, on which data can be stored with lasting integrity, unchanged, independently and without recurring media migrations. For the project, both digital-born data and retro-digitised documents with plans, photographs and texts were processed, analyzed and converted into a format suitable for archiving. In total, around 4,000 digital objects have been saved to film. In addition, plan documents were also stored on film in visual form as human-readable images.

CHALLENGE

This historically important digital data will continuously be used in the future in order to ensure the ongoing structural conservation at the Bern Minster and to complete ongoing documentation. For this reason, it was a core objective to store the CAD files, which are necessary for the use of the plan documents in daily practice, on film in such a way that they will be used in their form. Further, it was necessary to retain the existing filing structure so that the context of the data is not lost.

SOLUTION

The plan documents were stored on film both as archivable PDF/A files and as data in dxf format that is being used by CAD tools. To preserve the structure of the content, archival identifiers have been assigned and the existing structure was recorded as a retention plan and integrated by means of machine- and human-readable metadata of the piql films. This metadata is accessible via a platform, which guarantees the searchability and findability of the data.

In total three copies of all data have been made to ensure retention. Two of them have been stored geo-redundantly in Switzerland. One copy is being kept in the Arctic World Archive in Spitsbergen together with other irreplaceable data from all around the world.

FUTURE

By storing the data on film, it is ensured that even several decades from now, the significant and culturally and historically valuable planning documents relating to Bern Minster will be stored digitally on the long term without dependence on proprietary service providers or without a constant power supply. The risk of data loss is thus virtually eliminated and there is no loss of information due to the secure storage of the bitstream. Nevertheless, the data remains usable and available for the architects' daily use.

Quote from Anette Loeffel, Dipl. Architect ETH-SIA and Minster Master Builder:

"The construction documents on Bern Minster, which are irreplaceable for us, are secured for the future by the innovative storage method and also remain practically usable."

