

## Keys to the city of Freiberg



Alongside numerous other projects, we also support associations around the region in the care and development of historical cultural artefacts, and are proud to contribute to the cultures of our local cities. Knowing this, project coordinator Rudolf Friedemann from Fremdenverkehrsverein Freiberg e.V. recently asked us to create a copy of the keys to the city of Freiberg for an exhibition.

The original keys are many centuries old and of great historical value. We started by scanning them with an optical 3D scanner. Based on the data it recorded, we were able to create digital models of the keys on the computer. These models were then produced in plastic using a laser sintering process, dipped layer by layer into liquid ceramic, coated with sand and dried. At the end of the mould creation process, each of the models was burnt out, leaving a ceramic shell that we could then cast in iron.

One particular challenge was then how to finish the surface of the keys. In order to give them an authentically aged appearance, our own Alexander Seidel, a trained engraver, used a variety of different surfacing techniques to patinate them. According to Friedemann, they are very hard to tell apart from the original keys. The copies will be on display in a permanent exhibition at the Donatsturm in Freiberg.