

craft by creatives is a young company founded in 2021 with the focus on technical model making in all its facets and part of a joint workshop of interdisciplinary working craftsmen, architects and designers in Berlin - Lichtenberg. With over 20 years of professional experience as a model maker, the company develops and builds unique pieces (and small series) in the field of architectural model making, design model and prototype construction, as well as art realization and is active in the field of visualization.

Models make architecture and design perceptible to all senses. The plasticity and effect of an object can never be transported in a drawing or an animation as realistically as is possible by means of a physical model.

In the production of a wide variety of models at *craft by creatives*, synergies from different disciplines are used and digital (CAD, CAM, CNC, laser cutting, 3D printing) and classic craftsmanship are profitably combined.

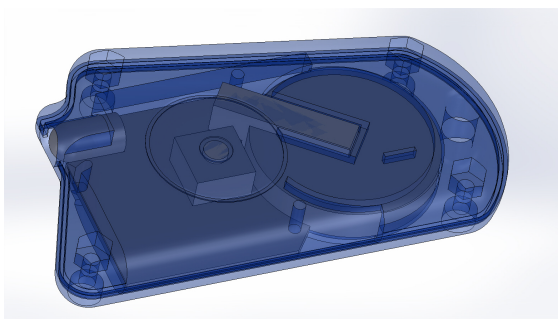


Fig. 1 Virtual construction of the housing in Rhinoceros.

CAD and CAM software applications are essential for the service offered, from the data basis through virtual design and CNC-controlled production to the finished product.

The use of Rhinoceros for CAD design and the simple implementation of BobCAM in the CAD software for controlling the CNC milling machine represent an integral pillar for professional work at the highest level in this complex craft.

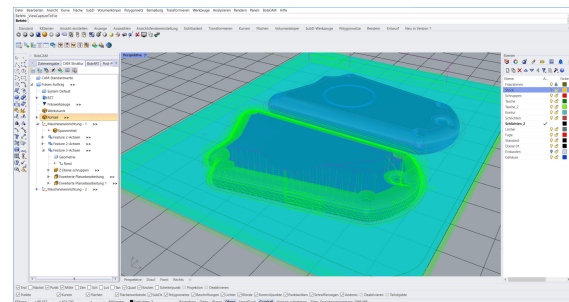


Fig. 2 Calculated toolpaths in BobCAM for machine production of the components.

The housing for a remote control shown here was designed in Rhinoceros, which defined the basic geometries (Fig. 1). It consists of two halves of more complex shape which can be screwed together. BobCAM was used to generate the milling paths (Fig. 2), based on various predefined milling jobs existing in the program. The CAM program also allows very realistic virtual simulations of the milling job so that errors in the actual manufacturing process on the machine can be minimized.

The components were then manufactured from plastic (POM) on a CNC milling machine and were finally joined (Fig. 3). The combination of software and machine used allows the finest work so that, in addition to the electronics to be installed, the push-button function of the remote control could also be implemented true to the original (Figs. 4 and 5).

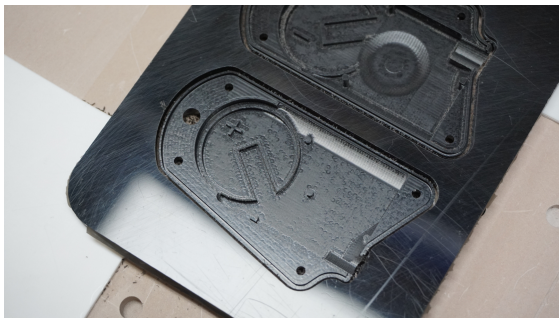


Fig. 3 Production of the components on the CNC milling machine.



Fig. 4 Test joining of the electronics in the not yet finished component on the CNC milling machine.

For this type of highly individualized products manufactured at *craft by creatives* adjustments are often necessary at short notice. The direct connection of CAD and CAM by means of a plug-in allows a fast, flexible and reliable reaction even during production,

at the same time ensuring a high quality of the end product.



Fig. 5 Finished remote control housing with push function.

Rhinoceros has proven itself over the years in the production of technical models and is also used almost exclusively as the CAD program in the new workshop: It is versatile, customizable and permanently being further developed. BobCAM, on the other hand, is new to the company, but was immediately convincing: It is easily accessible, offers a wide range of convenient functions and is a clear step forward compared to the CAM program used up to now.

Both software packages were purchased from *MecSoft Europe GmbH*. Post-processors for the CNC machines can be written with little effort thanks to the templates available in the software and the support of *MecSoft Europe GmbH*.