

YSOFT BE3D™ IN EDUCATION CASE STUDY

**3D PRINTING
TRANSFORMS
STUDENT IDEAS INTO
REALITY**



UNIVERSITY STUDENT USES YSOFT BE3D PRINTER TO PERFECT THE DESIGN OF HIS FINAL PROJECT AND BUILD AN ELECTRIC MOTORBIKE PROTOTYPE

An industrial design student at the University of West Bohemia in the Czech Republic, Josef Ludvik Böhm, envisioned designing an electric motorbike that could be a practical transportation solution for people commuting between cities. This final project had to be validated by his professors before he could formally graduate. The YSoft be3D printer was the perfect solution – helping him build high-quality scale models that were sure to impress.

CHALLENGE

Designing an electric motorbike is a complex undertaking. Böhm started with a model that was similar to a scooter. Using CAD software, iteration after iteration, he developed an exciting new design with a unique chassis. Once he had perfected the design, it was time to see how all the components would go together. With the deadline for completing his final project looming, he considered fabricating the prototype by hand – but realized it would take too long. After investigating his alternatives, Böhm decided to print his prototype using a YSoft be3D printer.



SOLUTION

The YSoft be3D printer is a high-quality, user-friendly, entry-level 3D printer ideal for product designers, schools, architects, interior design studios, hobbyists, fashion designers and households. The sturdy, fully-enclosed industrial design has the ability to print even the most intricate designs. Böhm knew that YSoft be3D eDee could show his meticulous work to its best advantage.

YSoft be3D printers utilize a touchscreen panel and DeeControl software for preparing pre-print models. Printed objects of any shape – up to a maximum size of 150 x 150 x 150 mm – can be quickly and efficiently produced using an environmentally degradable polylactic acid (PLA) plastic made from cornstarch. The fully enclosed chassis eliminates any external factors that might influence print quality, and doors provide easy access to the finished product.

With a fantastic print resolution of up to 50 microns and automatic calibration of the print bed, Böhm says, "A YSoft be3D printer is great for fast iterations to try out different shapes. It's perfect for creating ¼ to ½ scale prototypes."

RESULT

The final electric motorbike prototype was a great success. Böhm was able to produce a highquality model and get his final project turned in on time. "Without this technology, I could not have met my deadline," says Böhm. Features he found particularly useful were the ability to print at a variety of different resolutions and the precision to produce even the most complex parts and design details with ease. "Different parts of my project were printed at different resolutions. It can deal with difficult overhangs and delicate pieces. It is an extremely robust system!"

As a student, Böhm was on a tight budget. The YSoft be3D printer allowed him to produce a prototype of his electric motorbike that he was proud of – and do it cost-effectively. "If I had done it by hand, it would have taken a long time. The price was affordable too, better than other 3D printers."



The YSoft be3D 3D printer would be great for students. It is more durable than other 3D printers I've seen. In my opinion, it is more efficient with less waste.

– **Josef Ludvik Böhm**
Industrial Design Graduate
University of West Bohemia