

**Customer Name:** Swiss Federal Institute of Technology (ETH)

**Region:** Switzerland

**Reseller:** BIBUS AG

**Use Occasion/Application:** Education – Architecture and Molecular Biology

*Comments provided by Olaf Noetzel and Carlos Alvarez of BIBUS*

**Reason for Purchase:**

The Swiss Federal Institute of Technology, also known as ETH is a highly regarded university located in Zurich. ETH was named one of the top 10 Universities in the World by a recent Time survey and the Institute is celebrating its 150 year anniversary this year.

The Architecture Dept. had been talking to BIBUS about purchasing a ZPrinter 310. “The department owns two old 3D Systems Actuas and was getting frustrated with the very slow output and limited geometries that could be printed with the technology.” The speed issue was especially acute at the end of a semester, when all the graduate students were trying to complete their projects at the same time. The cost factor also played an important role since the students are required to pay for their own consumables. Because of these two issues, technologies such as FDM were ruled out very early in the process.

While these discussions were taking place, the Molecular Biology Dept. approached BIBUS about a Z406 after learning about the technology. According to the researchers, it is very hard to discuss molecules and complex DNA strands with colleagues while sitting in front of a computer and wearing goggles to visualize 3D graphics. With physical color models, scientists can gather around a table and pass them around while discussing their findings and observations. Color is an absolute necessity for discerning various DNA strands, proteins, etc.

“They were very interested in the promise of the technology but did not have sufficient funds in their budget to purchase the Z406. So we decided to put them in touch with the Architecture Dept. to see if the two could combine their resources to acquire a Z406, and that’s exactly what happened.”

The Z406 now resides in the Architecture Dept. and is used daily in monochrome mode. Once a month, the printer is switched over to color and prints a queue of Molecular Models for a few days. Both groups also decided to invest in a ZW4 automated waxer, to bring out the color in the molecular models and provide a simple, efficient way for the architecture students to infiltrate their models.

**ROI:**

The speed of the printer and low cost of consumables has had a significant impact on the Architecture department. Where students were formerly reluctant to print models due to speed, cost and structural limitations, they are now actively integrating the technology into their projects. Students are now each printing multiple models throughout the semester. The result has been better projects and better communication. Students are also using their impressive designs during the interview process, to help them secure jobs. In fact, the printer has been so popular that it has been featured on Swiss Television and has generated good press for the school.

The school has also derived an unexpected benefit from their 3D Printer. Graduating students become so addicted to the technology that they continue to request models from the University after their start their careers. This has created an additional revenue stream for the architecture dept. which has helped subsidize the cost of the consumables for the students. “This has also created a good situation for us at BIBUS, since the former students are now introducing the technology to their new employers.”

Meanwhile, the Molecular Biology Dept. is delighted with their new capabilities and the professor in charge of the department is excited by the new level of discussions and debates that the technology has introduced in his group. The interest is very strong and BIBUS is now working with the Architecture Dept. to try to get them to purchase a Z810 to handle their high volume and size requirements so that the Z406 can be transferred permanently over to the Molecular Biology Dept.

ETH is now one of BIBUS’ best references in Switzerland and their played a key role in recommending the technology to the Academia di Architettura in Ticino, Switzerland, which recently purchased a large format Z810 3D Printer. BIBUS’ next plans include hosting a lunch seminar at the University for representatives of other departments, to increase in-house awareness of the technology .



Molecular and Architectural models produced on the Z Corp. 3D Printer