

AACHEN UNIVERSITY - CUSTOMER SUCCESS STORY



Students at Germany's Aachen University of Applied Sciences use Altium Designer for an innovative satellite design project.

AN ECONOMICAL RACE TO SPACE

Students at the Astronautical Department at Aachen University (AcUAS) face a unique challenge to develop a space-ready satellite that can survive the harshness of space and a return into earth's atmosphere, at the lowest possible development cost. While working on this project, students have the opportunity to gain direct, hands-on experience in the spacecraft engineering discipline, learning valuable management and technical skills as they juggle the responsibilities of mechanical, electrical and systems engineering and the complexities of project management.



DIVERSE DESIGN CHALLENGES

The development of this innovative satellite system, called COMPASS-1, comes with a strict set of design restrictions. Students have to meet requirements as defined by the international CubeSat standards:

- A shape restriction of 10x10x10cm
- A weight restriction of one kilogram
- Utilizing only commercial off-the-shelf components (COTS)

With these requirements in place, students are tasked with developing a unique solution that balances the needs of complex engineering designs while meeting budget requirements. Juggling these two competing requirements demands a unique set of design solutions throughout all aspects of the design process.

PREPARING FOR LIFT-OFF

Aachen University selected Altium Designer as the perfect fit for their unique satellite design requirements. Using Altium Designer, students were able to take advantage of a number of features that allowed them to design precise, space-ready board layouts.

The unified design environment in Altium Designer provided students with a needed collaborative workflow process, all within a single application. Changes were easily made to the satellite's electronics in Altium Designer based on detailed test results from the prototyping phase. These changes were then easily synced across the entire project, from schematic to board layout.

Students were also able to meet their targeted development costs by utilizing the real-time supplier links in Altium Designer. With real-time pricing and availability information immediately available, students could choose the lowest priced components to meet budgets while ensuring they would be available for fabrication.

T-MINUS ZERO

Using Altium Designer, students at AcUAS were able to successfully move through the design, prototyping, and production process with ease. Students completed their satellite design both on-time and on-budget, all while taking advantage of the advanced electronic design features present in Altium Designer.

ABOUT ALTIUM

Altium Limited (ASX:ALU) creates electronics design software. The unified electronic design environment created by Altium links all aspects of electronics product design in a single application that is priced as affordable as possible. This enables electronics designers to innovate, harness the latest devices and technologies, manage their projects across broad design 'ecosystems', and create connected, intelligent designs.

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