

Bionic surface technologies (AUSTRIA)



Bionic Surface Technologies GmbH (BST) is a company that specializes in high-tech computational analysis. BST uses computational fluid dynamics (CFD) tools and has developed micro-structured surfaces called riblets to reduce friction flow on aerodynamics surfaces such as the wings of airplanes.

Technologies and competences

BST provides two types of products/services. One product is a nano/microstructured foil (riblet foil) which reduces the drag in a fluid (air, gases or water) up to 8%. Tests were done with aircrafts (Single-seater), industrial and water applications (pipes, surfboards). As an expert in Computational Fluid Dynamics Simulation, BST provides also high quality CFD-analyses for several industries.

Products and services in aviation

- Riblet Foil
- CFD Engineering
- CFD Consulting
- Aircraft Design Improvement

CFD Engineering at bionic surface technologies

Computational fluid dynamics (CFD) is a method to analyze fluid flows. With the help of CFD complex flows of all kind can be simulated through numerical calculations on the computer. Even complicated flows can be simulated, so that they can be displayed, understood and optimized.

A lot of machines and processes function on the basis of fluid flows like gase, air, water or other fluids. As a consequence of this, flow simulations can be utilized wherever fluid or gas streams have an important impact on the functionality.

Even interactions with other significant parameters like pressure, temperature, heat transport or mass transport can be evaluated with CFD calculations. CFD simulations are a cost-saving alternative to expensive tests in the wind tunnel or water tunnel and offer fast and economic solutions. Our company uses the worldwide leading work package ANSYS Fluent and achieves with ANSYS fast and professional results.

Bionic surface technologies is an ideal partner for challenging flow analyzes. For our customers we provide quick and efficient flow optimizations for several applications. We demonstrate this every day by

- reliably solving all types of flow analyzing tasks
- increasing the efficiency of flow applications
- self-developing products for flow applications (Riblets)
- developing products with partners (aero helmet, car prototypes, bicycle rims, etc.)
- having a holistic understanding of fluid dynamics and doing further research in this field

On our website you can get a general overview of our public CFD projects. We would also like to provide you with CFD consultancy to show you the possibilities of a CFD analysis and which benefits and performance improvements you can gain.