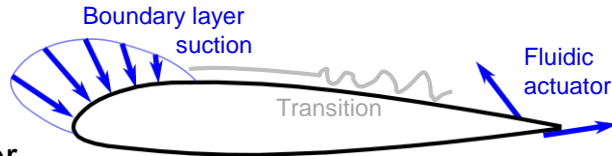


# Multiple topics on flow control and aircraft aerodynamics

## Student thesis projects (Master Thesis / Studienarbeit)

### Interaction of BL suction and blowing

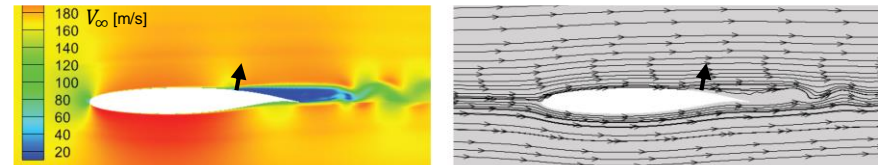
- Modification of TAU code for combined blowing and boundary layer (BL) transition



- **Steps:** Introduction to TAU solver and transition prediction, implementation of changes on transition prediction routines, test and evaluation

### Load alleviation with multiphase actuation

- Wind tunnel test and/or multiphase flow simulation of novel flow control concept



- **Steps:** Design and execution of wind tunnel experiment for water jet actuation, and/or multiphase flow simulations, comparison of results

### Design and characterization of high-lift system



- Design of high-lift system with trailing edge flap and droop-nose for aircraft with laminar wing

- **Steps:** Introduction to TAU solver and transition prediction, design and simulation of 2D sections with high-lift devices, performance evaluation

### Characterization of a surface jet

- Test of surface jet performance for gust load alleviation
- **Steps:** Adaptation of internal flow geometry of existing model based on simulations and/or
- Modification and test of existing wind tunnel model with surface jet

