

## BOLTZPLATZ - NUMERICAL PLASMA DYNAMICS AS A SERVICE



boltzplatz offers services around the simulation software PICLas, developed by the University of Stuttgart at the Institute of Aerodynamics and Gas Dynamics and the Institute of Space Systems. It allows the prediction of rarefied gas and plasma dynamics under the influence of electromagnetic forces. It is available under the GNU General Public License v3.0.

### About us

We are aerospace engineers from the University of Stuttgart and worked together during our PhDs on the development of PICLas. As a result, our combined expertise is in the rarefied gas dynamics, electromagnetic phenomena and numerical simulation techniques.

- 2018: Part of the university incubation center (TTI GmbH)
- 2019-2020: EXIST Business Start-up Grant
- 2020: Part of the CODE\_n innovation hub
- 2020-2021: Young Innovators-Programme
- 2021: Foundation GmbH

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Predictive numerical simulations can replace costly experiments and reduce equipment downtime, resulting in cost and time savings. However, currently available computational fluid dynamics software fails to perform under complex physical conditions as encountered in semiconductor manufacturing and vacuum coating.

For companies that tackle problems, which exceed the capabilities of commercial software, we can supply a simulation tool that was originally developed for the aerospace industry and goes beyond state-of-the-art computational modelling.

### Simulation as a Service

Our goal is the transfer of the scientific aerospace simulation code PICLas to other high-tech industries. We are a service provider for numerical process simulations by offering:

- Simulation projects: Benefit directly from simulation results!
- Customer-oriented development: Extend PICLas with us!
- Support & training: Utilize PICLas on your premises!

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Your first point of contact for the simulation of vacuum and plasma!

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### Fields of Application

- Vacuum technology: Design of vacuum pumps (e.g. Holweck and Siegbahn stage), chambers and filter systems
- Vacuum coating: Plasma chemistry and impact distributions under the influence of electromagnetic fields
- Space technology: Design of electric propulsion systems, aerothermodynamics of heat shields and space debris

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Are you dealing with **complex, physical problems** that we can solve together by using numerical simulations? Do you want to establish **know-how in your company**?



Idea/Problem



Goals



Simulation



Report

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