

OpenCorrAM – Open Corrosion Data for Additively Manufactured Alloys



The OpenCorrAM project will investigate the corrosion behaviour of additively manufactured (AM) materials, such as austenitic stainless steels, nickel-based superalloys, and titanium alloys. By comparing AM materials with conventionally manufactured ones, it will provide new insights into corrosion science. The project team will develop a comprehensive, open-access database that interrelates processing, (micro)structure, and performance of AM alloys, with focus on corrosion aspects.



OTHER

Challenge

The growing adoption of metal additive manufacturing (MAM) faces significant hurdles limiting full-scale implementation of MAM across industries requiring reliable corrosion resistance (e.g., aerospace and energy). The need for a systematic approach to understanding the corrosion behaviour of AM materials is crucial for fostering confidence in their use.

Solution

An open and comprehensive database of intercorrelated results in the different fields of MAM performance analysis, that catalogues the corrosion characteristics of various additively manufactured materials. Machine learning techniques will analyse the data, thus enhancing predictive capabilities in materials performance.

Scientific Impact

OpenCorrAM helps standardise methods and approaches in corrosion studies related to AM materials, responding to the widely recognized strong need to open corrosion data to develop and feed predictive models in corrosion science.

Partners

Vrije Universiteit Brussel, Padova University



UNIVERSITÀ
DEGLI STUDI
DI PADOVA

<https://www.oscars-project.eu/projects/opencorram-open-corrosion-data-additively-manufactured-alloys>