

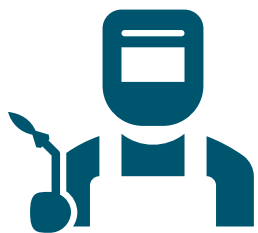
# WelDX – data and quality standards for welding research

Cagtay Fabry, Andreas Pittner, Michael Rethmeier



## Abstract

The WelDX research project aims to foster the exchange of scientific data inside the welding community by developing and establishing a new open source file format suitable for documentation of experimental welding data and upholding associated quality standards. In addition to fostering scientific collaboration inside the national and international welding community an associated advisory committee will be established to oversee the future development of the file format. The proposed file format will be developed with regards to current needs of the community regarding interoperability, data quality and performance and will be published under an appropriate open source license. By using the file format objectivity, comparability and reproducibility across different institutes and experimental setups can be improved.



## Store and combine experimental welding research data

- static metadata
- high resolution welding process and temperature measurements
- spatiotemporal movements & orientation
- geometric information & shapes
- image and video data



## Open Source API

- open source Python API for file handling and IO
- leverage powerful tools and existing Python ecosystem
- test and validate file format and contents
- process and analyse welding data
- advanced visualization and plots



## Share and collaborate

- easily interpret data from other researchers
- Compare, validate and expand existing work
- define quality standards for the welding community
- share custom welding workflows and analysis together with data
- detailed documentation and examples from different welding related fields

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## Contact

M.Sc. Cagtay Fabry  
cagtay.fabry@bam.de  
+49 30 8104-4675

Web: [www.bam.de/weldx](http://www.bam.de/weldx)

Dr.-Ing. Andreas Pittner  
andreas.pittner@bam.de  
+49 30 8104-3696

Twitter: @BAMweldx

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