

# ADP: CREATING A FEATURE-RICH ZONING SYSTEM FOR ADDITIVE MANUFACTURING VIA PYSLM

## Contact:

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## Hinweis:

Das ADP kann sowohl auf Englisch als auch auf Deutsch bearbeitet werden

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## Aushangdatum:

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*Additive manufacturing processes, such as Powder Bed Fusion - Laser Beam (PBF-LB), demand highly customizable process parameters to ensure optimal conditions across different zones of a part. This project will leverage PySLM, a Python-based library designed for manipulating and generating slicing data in additive manufacturing. PySLM offers an open and flexible foundation for customization, enabling the creation of complex build strategies. While modern hardware supports such flexibility, proprietary software solutions often impose significant restrictions, limiting the full potential of parameter zoning. **This project aims** to develop an open-source build processor based on PySLM, enabling advanced zoning capabilities and contributing to greater adaptability and independence for research and industrial applications.*

Work packages will be defined in consultation with us. Here is a suggestion:

### Task profile:

1. Research on existing features in PySLM for zoning and comparative analysis of commercially implemented solutions
2. Systematic selection and possible further enhancement of the most promising unimplemented features, along with concept development for their implementation
3. Extension of the existing PySLM code to improve zoning capabilities
4. Script-based (already available) validation of the implementation, with additional validation on a PBF-LB system possible

