



DATABASE FOR LASER METAL DEPOSITION

Task

The database for Laser Metal Deposition (LMD) has two objectives. On the one hand, process knowledge on LMD that many individuals have will be documented systematically, centrally and uniformly (as knowledge management). On the other hand, by digitally filing engineering, materials, process and result data, Fraunhofer ILT has created a database that staff can access directly or via software tools (technology processor and CAx systems).

Method

First, the data structure has been developed through intensive discussions with end users of LMD and iteratively refined in several stages.

The resulting large data structure has revealed that a database can be implemented successfully only if an interactive and user-friendly interface is also available.

Fraunhofer ILT evaluated several alternatives for the database system in terms of time and money, ease of use, the availability of commercial systems, the feasibility of the project partners, the future care and maintenance of the system as well as the complexity of implementation of LMD data structure. Ultimately it selected the commercially available database system »Granta MI« by the company Granta Design. The data structure developed has been added to the database system.

Result

The database system is available to employees of Fraunhofer ILT; they continuously enter data in the system from completed and ongoing projects.

Applications

The results can be used for LMD in all sectors (energy, aerospace, tool and mold making, etc.) and on all kinds of tasks (coating, repair and additive structuring).

The Fraunhofer Innovation Cluster »AdaM« was funded by the European Regional Development Fund (ERDF), »Investment in the Future«.

Contacts

Dipl.-Ing. Frank Mentzel
Telephone +49 241 8906-603
frank.mentzel@ilt.fraunhofer.de

Dr. Andres Gasser
Telephone +49 241 8906-209
andres.gasser@ilt.fraunhofer.de

1 Screenshot of the database interface.