Task

Companies interested in additive manufacturing (AM) face a great number of challenges when they use AM processes. For example, already when the first ideas are formulated, confidentiality needs to be safeguarded and when various partners have to discuss the options in order to evaluate the feasibility. Dissolving these potential conflicts requires interdisciplinary expertise and a secure data space.

Method

Fraunhofer ILT has initiated a network of competence centers at the European level, offering interested SMEs and mid-caps a variety of services. Companies can work together with experts to develop a first design for their idea and digitally document it. In the same way, a company can have a simulation performed to clarify the loading capacity of a mechanical solution, for example. The offers in the so-called »Services Arena« range from support for elaborating the idea to examining the finished product, all tailored to a company's needs.

At the data owner's premises, data management is combined in a novel way through implementing an »industrial dataspace« relevant to AM. All quality and safety relevant content is linked into data block shadows with cryptographic certificates of authenticity by the first AM blockchain – this forms the basis for the consistent documentation of design data and manufacturing information. The resulting system of service and data management matches the needs of the AM users in terms of flexibility, variability and individuality.

Results

The team of technology providers and business consultants will make »AMable« a Digital Innovation Hub (DIH), a one stop location for companies that are looking for premium technical expertise and first class business support in additive production and in a secure data and solution space.

Applications

Designed for the diverse challenges of additive manufacturing, the principle of local data storage and linked authenticity certification is suited to a variety of processes in industrial manufacturing.

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