Industry Consortium

Companies from across a broad range of industries need to develop extensive material datasets in order to confidently implement Additive Manufacturing into the design and production of future products. These individual datasets can cost upwards of $1M for full design datasets. Using a shared funding approach for developing material datasets with full pedigree, the ASTM AM CoE Industry Consortium greatly reduces the cost to each member organization.

Industry Member Value
- Creating extensive materials and process datasets with a minimum target of 5:1 ROI for members
- Stay on the forefront of requirements and best practices for AM data generation through interactions with ASTM and regulatory authorities
- Increasing number of materials/modalities projects each year as consortium grows
- Member-only access to full material database beyond standards for determining design allowables based on application requirements

AM Community Value
- Improve current industry standards using high-pedigree data
- Identify Key Process Variables and quantify sources of variations
- Transfer lessons learned to accelerate new standards development
- Support rapid qualification across entire AM value stream

The AM CoE Industry Consortium works with the standards community to address the need for new and improved data-driven standards.

Best Available Standards

New/Improved Consortia Data-Driven Standards

ASTM F42 committees develop standards for AM testing, powders, materials, NDT and qualification.

Consensus Datasets
Building and Maintaining Industry Consortium Database for Member Use

Consortium Endorsed Database
High-pedigree AM materials database with consortium member-only access. Data will be created through either annual consortium member selected projects, or existing data can be submitted and evaluated against the requirements set through consensus to assign the pedigree before including.

Dataset Consensus
At the core of the ASTM CoE Consortium is the drive to create quality datasets and establish requirements for defining allowables for inclusion in the consortium database and ASTM standards. ASTM CoE will use existing links to relevant bodies such as MMPDS and CMH-17.

Fundamentals
The ASTM CoE Consortium will leverage existing standards, develop best-practices and create guidelines for AM data creation, analysis and management. The Consortium will allow the sharing of lessons learned, and link closely with Academia, Industry, and Authorities.

Consortium Member Activities
Each year, consortia members select and execute materials and process data generation projects. Process-Structure-Property relationships, material allowables, and application specific design properties (e.g. static, cyclic, thermal) are determined. While research output informs new AM standards development through F42 committees, members retain exclusive use of the full datasets to support their business.

Activities
In addition to ongoing projects, the consortium hosts member meetings twice a year. (Meetings may be set in conjunction with AMC and/or ASTM meetings) Members are also encouraged to participate in work groups to provide guidance and direction during the execution of projects.

The ASTM AM CoE Industry Consortium is an extension of the ASTM Additive Manufacturing Center of Excellence (AM CoE), which brings together industry, government, and academia to coordinate R&D that supports AM standards development, related education training, and more.

Five Reasons to Join the AM CoE Industry Consortium

1. Leverage R&D and material dataset creation expertise from ASTM and its AM CoE partners.
2. Unique, first of its kind direct relationship between standard development, industry, academia, government and research organizations.
3. Close collaboration with MMPDS (MoU with ASTM), CMH-17, NIST and other international influencing agencies which provide guidance on material data generation requirements and data reduction methods to the consortium.
4. Direct access to and influence on the know-how for generation of the material database and other research output that will influence future industry standards and requirements from various regulatory agencies.
5. Ability to positively impact your supply chain through data-driven AM standards while preserving a unique role for your organization.

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