



Engineering, Operations & Technology
Boeing Research & Technology

Industry Perspective for Standards and Qualification

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Dr. Kevin T. Slattery

Chief Scientist – Metals, Ceramics, and Mechanical Parts

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- Most Pressing Standards in **Red**

PRODUCT	PROCESS	TESTING
Feedstock	Machine Characteristics	Feedstock Characterization
Substrate	Part Geometry Definition	Feedstock Quality
Heat and Lot Definitions	Machine Code Generation	Chamber Atmosphere
Component Orientation	Process Control & Monitoring Data	Component Chemistry
As-Built Part	Thermal Processing	NDT
Thermally Processed Part	Surface Finishing	
	Post-Processing	Mechanical Properties

Comments on Most Pressing Standards

- **Feedstock**
 - Chemistry, Size Distribution (Mean, Med, Curve), Quality
- **Feedstock Characterization**
 - Flow Characteristics for Powder Bed and Powder Feed
- **Feedstock Quality**
 - Chemistry Uniformity, Powder Porosity, Satellites
- **Heat and Lot Definitions**
 - Multiple Geometries in Run
 - Sequential Geometries in Run
 - Mixed Components in Powder Bed – Dynamic Facility Optimization
- **Component Orientation**
 - Equivalents to L, T, ST
 - X, Y, Z, Cross-Hatch

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Chief Scientist - Boeing Research and Technology – Metals, Ceramics, and Mechanical Parts

- Responsibilities include developing and launching major technology growth initiatives, representing the team as a leadership interface to internal and external technology stakeholders, and shaping R&D portfolio strategy.
- 2012 – 2014 - Chief Engineer, Integrated Logistics Division. Kevin developed and implemented the Engineering Strategy, coordinated the division's research, and integrated it with BR&T and the rest of GS&S. Kevin also worked emerging manufacturing needs and potential sources of fabrication.
- 1997 – 2012 - Boeing Research and Technology Metals Team Kevin primarily developed advanced low-cost titanium processing technologies supporting all Boeing products. Was technical and programmatic lead in implementing metal additive manufacturing for structural aircraft components in 2003. Was metallic processes lead from 2006 to 2012.
- 1994-1997 - Worked materials development in the area of nuclear fusion.
- 1899 – 1994 - Materials and Processes NDT group and successfully determined the effects of defects in composite structures, NDT method development, and validation of NDT acceptance criteria.
- Kevin holds 30 patents in the areas of materials processing, with 9 additional applications pending. His doctoral dissertation was modeling of Hot Isostatic Pressing of W-Cu Composites. He is a graduate of Boeing's Engineering Leadership Program, and the Aerospace Industry Manufacturing Seminar. He is a graduate of Boeing's Engineering Leadership Program, and the Aerospace Industry Manufacturing Seminar.