Workforce Education and Training for production of Additive Metals

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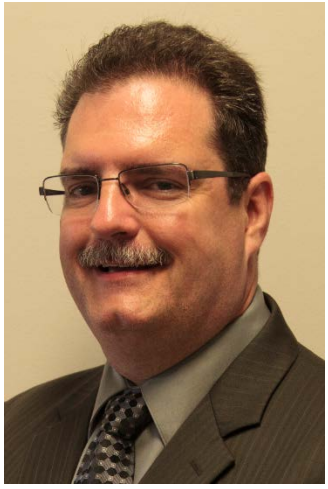
Abstract

What does it take to have a fully trained workforce in Additive Metals Production? This presentation and discussion will address some of the efforts in workforce education and training. As additive manufacturing transforms the engineering and manufacturing industries, the broader manufacturing workforce is struggling to adapt to the rapid pace of change and the expanding knowledge and skill sets needed to be successful. Because AM represents a paradigm shift in design and production, well-trained talent (engineers and technicians) are critical to maximizing this technology. AM innovations in materials and technologies demand new skills and capabilities, both technical and managerial. Yet many of these innovations have outpaced the ability of the broader manufacturing workforce to adapt 9 out of 10 manufacturers are struggling to find the skilled workers needed. This shortage is impacting production, quality, innovation, and growth. Understanding the needs and developing a workforce education and training strategy can help to bridge the AM talent gap.

Biography



Ed Tackett is the previous Director of the National Center for Rapid Technologies, RapidTech (NSF DUE ATE 1104305). He began his technical career in 1983 with the U.S. Navy, working on several special projects for the Chief of Naval Operations in Anti-submarine warfare and Combat Air Intercept. Mr. Tackett was active in the military intelligence and counter-terrorism intelligence community as well as shipboard air warfare (AW) operations for Commander Task Group 76.4. He has designed and developed the additive manufacturing infrastructure for the San Diego Technology Incubator, Center for Applied Competitive Technologies (CACT) in San Diego, CA, the RapidTech National Science Foundation Center at the University of California Irvine, King Fahd University of Petroleum and Minerals in Dhahran, Saudi Arabia, and the Additive Manufacturing Competency Center at the University of Louisville. His projects have included funding through the Department of Defense's Technology Reinvestment Program (TRP), the Department of Commerce's National Institute of Standards and Technologies (NIST) lab builder program, National Coalition of Advanced Technology Centers (NCATC), the Center City Development Corporation (CCDC), National Science Foundation ATE program (NSF-ATE), California State Chancellors Office Industry Driven Regional Collaborative (IDRC). He has over 25 years' experience in technology management in the additive manufacturing, economic development and education. He has been involved in several patent research and product design efforts through his tenure with the San Diego Technology Incubator, the Centers for Applied Competitive Technologies at San Diego City College and the National Science Foundation Center RapidTech. He has authored customized training guides, curriculum, instructional support materials and process guides for several of the major AM equipment manufactures and has close relationships with equipment vendors and industry insiders. He is currently the Director of Educational Programs AM at the University of Louisville Additive Manufacturing Competency Center. The Additive Manufacturing Competency Center offers advanced training for AM professionals. The AMCC is a fully equipped learning laboratory that includes the latest AM technologies, machining, metrology and powder handling systems.