

Roadmapping Workshop – Measurement Science for Prognostics and Health Management for Smart Manufacturing Systems

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The National Institute of Standards and Technology (NIST) hosted a *Roadmapping Workshop – Measurement Science for Prognostics and Health Management for Smart Manufacturing Systems* (PHM4SMS) held at NIST on November 19-20, 2014. This event brought together more than 70 key stakeholders from the prognostics and health management (PHM) community to discuss current and expected measurement science challenges that should be addressed to advance PHM technologies for smart manufacturing systems. The workshop objectives were to identify key measurement science needs, challenges, and gaps hindering the development and deployment of health monitoring, diagnostic, and prognostic technologies at multiple levels within manufacturing facilities; and to identify the priorities and next steps to address these measurement science needs, challenges, and gaps. Information captured in this event will be organized into a comprehensive measurement science roadmap and be made publicly available to the PHM community as a tool to guide research and development efforts.

The event featured keynote presentations, three panel discussions, and parallel breakout sessions on *PHM Manufacturing Process Techniques and Metrics*, *PHM Performance Assessment*, and *PHM Infrastructure – Hardware, Software, and Integration*. Participants represented key stakeholders from manufacturers, technology vendors, technology integrators, academia, standards development organizations, and government agencies. Featured speakers were from the Boeing Company, the Center for Intelligent Maintenance Systems, Ford Motor, Mechanical Solutions, NASA, System Insights, and Toyota. Each breakout group conducted four sessions to gather needed information on *Desired Capabilities*, *Challenges and Barriers for Achieving these Capabilities*, *Prioritization of Challenges*, and *Pathways for a Measurement Science Roadmap*.

The measurement science roadmap is expected to be completed in Spring 2015 and be made publicly available. Additional information, including the presentations given at the workshop, can be found at <http://www.nist.gov/el/isd/phm4sms-workshop.cfm>.