Panel: AIAG Metrology Interoperability Project Team

John Horst
NIST
Gaithersburg, MD

ABSTRACT

Today's Metrology process lacks standard data communication protocols necessary to interface product and process data through a series of software and hardware devices. The extended enterprise consists of hundreds of companies creating or sharing product and process data. These measurement systems are unable to directly access a common inspection model. As a result, redundant measurement programs are re-created at each stage of the product development cycle containing ambiguous measurement definitions. There are multiple Standard Development Organizations (SDO) competing to develop protocols. The growth in competing standards asks the question, "what is the correct standards infrastructure to pursue". The standards process lacks an umbrella organization necessary to prevent overlap, identify gaps and harmonize various standards. A consortium of North American industry has organized through the Metrology Interoperability Consortium (MIC) to address interoperability issues in the metrology process. The consortium is comprised of a broad base of North American Industry under the Automotive Industry Action Group (AIAG) supporting neutral data exchange. The MIC project team consists of three work groups addressing the three hot interface issues including: 1. CAD Data Flow (Tolerance); 2. DMIS Conformance Classes; and 3. Dimensional Markup Language (DML) which will produce common results format. Our project team is charged with coordinating similar activities worldwide to insure no redundant efforts are jeopardizing the standards efforts. The National Institute of Standards is currently developing the National Metrology Tested. Their role is to: 1. Facilitate an international standards infrastructure; 2. Identify gaps and overlaps; 3. Harmonize existing standards; and 4. Provide testing methodologies. This new approach to overall standards integration based on a process centric view should provide a more robust development and implementation of the standards infrastructure. Our workshop will present the status of each work group and the benefits to all industries.