

The American Society of Mechanical Engineers

Setting the Standards for Safety and Global
Relevance

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ASME New Robotics Activities

- Five core technologies have been identified by ASME as key to the overall strategy. Robotics was one of those technologies.
- An ASME Robotics Technology Advisory Panel (TAP) of experts in this field was formed to discuss any needs for the robotics industry (e.g., could be standard/guides, a conference, training or other).
- First TAP meeting held 03/31/2017 with following meetings held 12/13/2017 and 10/23/2018.
- The TAP identified some needed Standards, with a focus on robotic arms:
 - robotic arms terminology
 - a performance standard so purchasers could better compare robotic arms capabilities
- 34 volunteers have expressed interest in this activity

ASME New Robotics Activities

- First Teleconference with interested party of volunteers held July 31, 2018 with following Teleconferences held November 09, 2018 and April 26, 2019
- During the April 26, 2019 Teleconference it was formally announced that ASME will be moving forward with its plan to form a Subcommittee on Robotic Arms (Manipulators) under the MAM Standards Committee on Manufacturing and Advanced Manufacturing that falls under the Board on Standardization and Testing (BST).
- ASME sent a Call for Volunteers email on May 06, 2019 to the 34 volunteers that have already expressed interest in this activity.
- The Draft Charter for the Subcommittee is: *Develop and maintain Standards for terminology, performance requirements, and related topics for robotic arms (manipulators).*
- While asking for volunteers to join the Subcommittee, ASME is asking for feedback on the name of the subcommittee as well as its charter.

ASME New Robotics Activities

- The common theme from the Interested Party volunteers that have been meeting thus far has been the need for a Nomenclature Standard. A Task Group on Nomenclature for Performance with the following Scope was formed: identify any gaps in existing Standards as it relates to Robotic Arms Performance Nomenclature. TG is still working on a report.
- A Task Group on Performance Standards with the following Scope was formed: *identify any gaps in existing Standards as it relates to Robotic Arms Performance Standards.*
- Volunteers repeated their concerns that ASME should not be duplicating existing Standards/Documents that have already been published by other SDOs.
- ASME is committed to not duplicating any existing Standards/Documents. ASME is encouraging as many people as possible to get involved in the new Subcommittee on Robotic Arms (Manipulators).

Other ASME Robotics Activities

New ASME Mobile Unmanned Systems Standards Committee (MUS) for inspection, monitoring, and maintenance of industrial facilities and power plants as well as equipment, transmission lines, and pipelines

- Special Working Group on the Use of Unmanned Aerial Vehicles/Systems for Inspection. Charter: Guidelines and standards for requirements and methods for industrial plant inspection using safe and reliably operating unmanned aerial systems/unmanned aerial vehicles (UAS/UAVs).
- Special Working Group on the Use of Crawlers/Ground Robotics for Inspection.

Other ASME Robotics Activities

B30 Safety Standards Committee for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Slings

- B30.31, Self-Propelled, Towed, or Remote Controlled Hydraulic Platform Transporters with the following objectives: Standard to be developed will contain provisions that apply to the construction, operation, inspection, testing, maintenance, and safe use of hydraulic platform transporters for handling loads and will not apply to commercial truck transportation of loads over public roadways.
- B30.32 Unmanned Aircraft Systems (UAS) Used in Inspection, Testing, Maintenance, and Lifting Operations. Charter: Inspection, testing, maintenance, and safe use of unmanned aircraft systems used in inspection, testing, maintenance and material lifting.

Other ASME Robotics Activities

Robotics for Inspection & Maintenance Event

- ASME will be hosting the Robotics for Inspection & Maintenance Event September 24-25, 2019 at Texas A&M Engineering Extension “Disaster City,” College Station, Texas.
- Maintaining aging assets and infrastructure in energy, oil and gas, pipeline and process industries transportation is dangerous, challenging, slow and costly. Optimizing inspection, maintenance and repair is key to efficient, safe and profitable operations. Hazardous environments affect health and safety, accessibility, cost, time, and accuracy. Manual data collection and analysis can take weeks.
- ASME’s Robotics for Inspection and Maintenance Forum leverages hands-on demonstrations, case studies and industry expertise, so you can:
 - Hear how industry leaders are implementing robotics technologies for increased speed, improved accuracy, safer operations and cost savings
 - Learn about the latest technologies from leading suppliers and see cutting-edge technologies in action on live vessels, platforms and demonstration areas.
 - Gain expertise in best practices for applications, leveraging data and analytics and gaining trust in predictive maintenance.

To learn more, visit: roboticsforinspection.asme.org

Other ASME Robotics Activities

Assessing Suitability for Robotics in Manufacturing: A Self-Study Case Study

Robots are selling in record numbers. Knowledge and ability to work effectively with these new automation tools is essential to realizing their potential for increasing safety and improving processes. This Case Study will show you how to review, select, and plan the integration of a robot in an industrial process.

- You will learn to:
 - Assess the suitability of specific tasks for automation with robotics
 - Assess potential robotics integrations in manufacturing
 - Employ good practices to address the effect of the introduction of robotics on a company's culture
 - Identify the risks and rewards of applying robotics to an industrial process
 - Identify ways in which robotics can be used to make a process safer
- For information, contact LearningExperience@asme.org

Participate/Get Involved

- ASME encourages everyone to participate in Standards Development Process
- Influence the quality and direction of standards
- Networking with leading technical experts
- Insights into technical issues and industry best practices
- Broader understanding of other industry segments
- Professional development

Related Topics

V&V Verification and Validation in Computational Modeling and Simulation

- V&V 10-2006 V&V in Computational Solid Mechanics
- V&V 20-2009 V&V in Computational Fluid Dynamics and Heat Transfer
- V&V 30 V&V in Computational Simulation of Nuclear System Thermal Fluids Behavior
- V&V 40 V&V in Computational Modeling of Medical Devices
- V&V 50 V&V in Computational Modeling for Advanced Manufacturing
- V&V 60 V&V in Computational Modeling in Energy Systems

SUMMARY

- ASME is not looking to duplicate any work that has already been published.
- ASME`s objectives are to fill any voids that the industry may have as it relates to Robotic Arms (Manipulators).
- Those voids may be topics not currently covered by the Standards currently available or where a Standard does not cover the particular needs that the North American industry may need.
- ASME is not looking to compete with other SDO`s but rather to collaborate where possible.
- Those of you that would like to be involve in the ASME efforts should contact me (GuzmanA@asme.org).