

OAGi/NIST Workshop on Open Cloud Architectures for Smart Manufacturing:

Workshop Submission Instructions

There are two questions we ask participants to help answer with their workshop contributions:

Q1: What is the vision for manufacturing to be supported by the IoT, cloud, and service providers?

- We ask participants to share a presentation of 10-15 slides from their organization's perspective where
 - Manufacturers may showcase how cloud services are planned to be used to support their needs;
 - Cloud platform and IoT vendors may showcase how their offerings will support manufacturing needs;
 - Cloud services vendors may showcase how they plan to take advantage of cloud platforms to provide needed functionality to the manufacturing enterprises.

Q2: What are high-priority issues preventing the vision?

- We ask participants to take a position on one or few high-priority issues and argue for the position by providing, preferably, a smaller collection of slides, summarizing that position
 - Examples of summary slides for two position statements are provided; participants are encouraged to use and/or change the format to support their positions

Organizers plan for participants to deliver 10'-15' presentation (depending on the number of submissions); participants are encouraged in their presentations to identify and discuss one or more high-priority issues and address as many of the following questions as possible (see the provided summary slides for examples of answers):

- Manufacturing Use Case: What are manufacturing business needs you are addressing?
- Business Challenge: What is the miss-match between the business needs and current business capabilities?
- Business Benefit: What are cost savings and other quantifiable benefits following from addressing the challenge and meeting the need?
- Open Cloud Opportunity: Where can open cloud help address the challenge and help meet the manufacturers' need?
- Technical Issues and Initiatives: What technical issues prevent the open cloud opportunity to contribute to addressing the business challenge?
- Standards Role: What is the potential role for standards to address the technical issues?

We will use the identified issues to ask participants to vote for top 3 issues among those, allowing us to prioritize the issues. We will discuss the findings of this prioritization.

Submission Dates:

- Participants will submit abstracts of their presentations by March 30
- Workshop organizers will confirm planned presentation with participants by April 7
- Participants will send their presentations (10-15 slides), showcasing their organization's perspective, and their position statement summary slide(s) identifying key issue(s) by April 30
- Organizers will make available presentations and position statement summary slides to all participants ahead of the workshop

Position Statements Summary Slides - Examples

Manufacturing Use Case (A Need Description)	Supplier Selection: OEMs need lots of information about suppliers , such as supplier capabilities, capacities, tolerances, etc.; they would like to use off-the-shelf (OTS), service-based data access
Business Challenge	<ul style="list-style-type: none"> • Cannot do OTS, service-based queries for this information, with desired efficiency • Instead, have to get in a dialog with human to collect unstructured data in a manual process and process, interpret, structure the data for the decision making • Users -- provide business & technical spec for needed information; Vendors -- implement services for the given spec
Business Benefit of addressing challenge; estimated quantification of benefit	<ul style="list-style-type: none"> • If we could enable OTS service-based queries to readily access the required information in a business-to-business mode, we could have drastic reduction in time and cost of data collection • More markets and more profits for software and cloud vendors • Possible cost saving estimate: By eliminating manual information gathering process (supplier information gathering and identification, manual exchange with supplier POC, supplier information review and interpretation), required time may be cut from 200 man-hours to 10 man-hours per 10 customers
Open Cloud Opportunity	<ul style="list-style-type: none"> • Use cloud-based platforms to capture knowledge, manage rules, and orchestrate partner strategy across the value chains of each manufacturing segment
Technical issues & Initiatives	<ul style="list-style-type: none"> • Poor methods and tools to develop and maintain terminologies describing manufacturing capability and capacity • No known initiatives; only proprietary manufacturing portal terminologies exist
Standards Role	<ul style="list-style-type: none"> • Shared terminology development and maintenance across manufacturing industry and segments

Manufacturing Use Case (A Need Description)	Supplier Onboarding: Needs efficient means of establishing connections between heavily customized MES systems and many other enterprise information systems. More and more, these systems will live in the cloud.
Business Challenge	<ul style="list-style-type: none"> • Current processes to enable connectivity between MES and enterprise systems are inefficient • Instead of stream-lined, semi-automated methods, processes rely on manual reconciliation of semantic & syntactic differences between systems
Business Benefit of addressing challenge; estimated quantification of benefit	<ul style="list-style-type: none"> • Semi-automated methods to establish connectivity between the MES and enterprise systems may drastically reduce time and cost of application integration • Possible cost saving estimate: By eliminating manual reconciliation method (including analysis of proprietary terminology, models, and interfaces, specification and development of service interface converters) required time may be cut from 200 man-hours to 20 man-hours per 1 integration case
Open Cloud Opportunity	<ul style="list-style-type: none"> • Use cloud-based platforms, workflows and libraries of shared, best-practices processes to enable semi-automated methods of integration
Technical Issues & Initiatives	<ul style="list-style-type: none"> • No methods and tools to provide for stream-lined semi-automated specification and development of workflows, interface converters, and process libraries • No known on-going initiatives; some proprietary efforts announced
Standards Role	<ul style="list-style-type: none"> • Shared manufacturing model development and maintenance for manufacturing services specification, enabling semi-automated methods of systems integration • Methods and tools for evaluating cloud technologies • Methods, standards for specifying required semantics & syntax