



AWS Manufacturing and Industrial IoT Web Week: A Path for Industry 4.0 to Scale

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IDC's Quick Take

Industry 4.0 initiatives have been largely experimental for most industrial enterprises for the past several years. The challenges of integrating IT and OT systems and processes have proven more challenging than participants anticipated. At this week's virtual event, AWS demonstrated expertise in the core tenets required for these initiatives to scale successfully. Among those tenets, AWS showcased their breadth of partnerships in hardware, software, and services, a strong understanding of operational data requirements and challenges, and a focused tool chest of their own capabilities that enable industrial digital transformation.

Event Highlights

AWS recently [hosted its 5-day Manufacturing and Industrial IoT Web Week](#) in extensive collaboration and coordination with their partners and customers. Observing from the vantage of an industry analyst, the event showed promise for the future of Industry 4.0 transformation and served as a vignette on the state of the industry, providing a trail of breadcrumbs to follow to success for enterprises lost in transformation. In case you missed the event, here are three takeaways of significance:

- **Operational Data is Headed to the Cloud:** In early sessions, Doug Bellin and Steve Blackwell, experts in AWS's industrial and manufacturing segments, both emphasized the core value driver in Industry 4.0 transformation – the liberation of operational data for analysis and decision-support. While it was not a central messaging point, the conclusion of the what and how lies in the concept of the digital twin. At its core, a digital twin is a data model centered around a physical asset or process. This data model combines real time data sources, enterprise systems, and simulated outcomes to deliver decision support frameworks. The toolbox that AWS has built, combining AWS Lambda, AWS IoT Greengrass, AWS Snowball Edge and AWS Outposts, AWS IoT Core, AWS Sagemaker, and a host of cloud data lake and business application integrations supplies a complete set of capabilities necessary to extract, contextualize, and deliver operational data within the framework of a digital twin. This vision is simply not possible without connecting operational data to the cloud, and the focus on enabling the edge has given industrial verticals the confidence necessary to make that connection.
- **The Industrial Data Pipeline is More Like a Rock Tumbler:** 'Data is the new oil' is a turn of phrase that has been cleverly worked and reworked by many. I would deign to suggest that the operational data pipeline is more like a rock tumbler than an oil refinery. It is a churning mass of stone and grit that produces something like sand – a heap of heterogeneous fragments, millions of years old, and unrecognizable to their original form. Acceptance of this undeniable truth places AWS in a strong position to help industrial companies succeed at Industry 4.0 transformation. While some competitors continue to try to build and offer closed, vertically integrated solutions, AWS has set clear boundaries for their role in the ecosystem. This

openness and clear delineation of their ambition, combined with the tools and massive compute power to pulverize and smelt data, enables their broad ecosystem to commit to focusing on adding the vertical specialization that Industry 4.0 solutions require. To beat the analogy to death, AWS's recognition that Industry 4.0 solutions are igneous stone yields an advantage over competitors offering brittle sedimentary solutions.

- **They Have the Village it Takes:** If one were to join the Manufacturing and Industrial IoT Web Week mid-stream, it would be challenging to even understand who was hosting the event. The omnipresence of partners and customers reinforces AWS's understanding of Industry 4.0 – it truly takes a village to deliver a complete solution. Between companies like OSIsoft presenting on deploying PI in the AWS cloud, to Seeq offering a shared workbench for subject matter experts and data scientists to collaborate on analytics, to Siemens bringing their own set of digital twin capabilities to market on the AWS cloud, the entire lifecycle of operational data services and solutions truly took center stage at the event. In addition, the next generation of OT appears to be developing in the AWS ecosystem. For example, industrial vision systems are being reimagined through the combined use of deep learning and traditional machine vision capabilities. Numerous presentations highlighted the way the next generation of industrial vision systems are coming together, combining fragments of capabilities from companies like Intel, ADLINK, and others, fused together and reinforced by AWS.

IDC's Point of View

The event offered a clear and succinct representation of AWS's point of view regarding industrial technology and solutions. Namely, that operational data is at the center of value creation and that AWS's role in unlocking that value is to provide a complete set of infrastructure and data capabilities to enable it. In many industries it is true that 'if you build it, they will come,' but this is not the case in manufacturing and other industrial verticals. In the industrial space, 'they will come if they can build it' and this strategic approach is paying off for AWS as droves of OT providers, device and compute manufacturers, software solution providers, niche platforms, and service providers and integrators flock to the AWS ecosystem. The challenge for AWS will be to maintain this momentum and focus and, like all companies, to navigate these unique and rapidly changing times we are in.

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