IDC TechScape Assesses Emerging Technologies Needed for Successful Digital Twin Implementation & Operation

Manufacturers can leverage digital twins as a key decision support enabler

FRAMINGHAM, Mass., August 6, 2019 – International Data Corporation (IDC) today published a new report, *IDC TechScape: Worldwide Digital Twins, 2019* (IDC #US45334119), which focuses on the transformational, incremental, and opportunistic technologies necessary for successful digital twin implementation and operation. While there are multiple existing enterprise technologies available within organizations today that are necessary to support digital twins, this study focuses on the new, digital technologies and platforms that make digital twins essential entities for enterprise-wide processes, including design, development, supply chain, manufacturing, service, and customer experience.

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According to IDC's 2018 report, *IDC PlanScape: Digital Twins for Products, Assets, and Ecosystems* (IDC #US43134418), digital twins are the extended application of simulation and visualization throughout a digitally transformed organization for better communication and collaboration. The starting points and use cases for digital twins of product and assets will differ by company size, industry, and need, but the value derived by all manufacturers will be similar — clarity of communication; rapid collaboration; holistic visibility; accurate, efficient response to demand; monetization of IoT data; predictive, proactive service; and closer collaboration with customers. Digital twins can be applied throughout the modern, digitally transformed business, within R&D and engineering workgroups, extended to business and technical domains from business line management to product management, sales and marketing, manufacturing, supply chain, and service.

"The value of digital twins lies in flexible data visualization. That is, the complex data model that is a digital twin should be synchronous and secure, enabling different domains across the organization to view the level of information and knowledge they want to see, whether that is a lightweight model or a detailed, complex view. Digital twins have been in use within manufacturing engineering and R&D workgroups for years — the difference today is, due to 3rd Platform technology, these flexible models can be deployed across the value chain of the digitally

transformed organization as a decision support enabler," said Jeff Hojlo, program director, Product Innovation Strategies.

There is a set of fundamental 2nd Platform technologies (enterprise applications) that provide foundational data and business process support to digital twins, which are already in place in most organizations today. As companies digitally transform and deploy 3rd Platform technologies, digital twins can be deployed throughout the organization, inside and outside, as an accelerator of planning, design, development, collaboration, communication, and operation. This new IDC TechScape defines the technology that manufactures can use to build digital twins of varying complexity, including product, asset, supply chain process, and production process twins, and outlines three technology adoption curves: transformational, incremental, and opportunistic, which shows rate and time to adoption of each digital twin technology.

About IDC TechScapes

IDC TechScapes mitigate technology risk by helping organizations align their tolerance for risk with the anticipated maturation of a technology.The IDC TechScape is an evaluation model based on a comprehensive framework and a set of parameters that assess a technology's adoption progress relative to one another and to those factors expected to be most conducive to success in a given market over both the short term and long term. In breaking technologies into three major adoption categories — transformational, incremental, and opportunistic — the IDC TechScape aspires to provide IT buyers with an industry snapshot as to where specific technologies lie today relative to current industry best practices. In addition, the IDC TechScape identifies technologies likely to become best practices in the future and their current state of adoption maturity relative to each other. Within the discussion of individual technologies, IDC also identifies an analysts' best opinions regarding key momentum factors — highlighted as IDC TechScape Markers of Momentum, where technologies are rated based on adoption speed, risk, and market interest.

For media interested in speaking with Jeffrey Hojlo please contact Sarah Murray at 781-378-2674 or sarah@attunecommunications.com. Reports are available to qualified members of the media. For information on purchasing reports, contact insights@idc.com ; reporters should email sarah@attunecommunications.com.

About IDC Manufacturing Insights

IDC Manufacturing Insights assists manufacturing businesses and IT leaders, as well as the suppliers who serve them in making more effective technology decisions by providing accurate, timely, and insightful fact-based research and consulting services. Staffed by senior analysts with decades of industry experience, our global research analyzes and advises on business and technology issues facing asset intensive, brand oriented, technology oriented, and engineering oriented manufacturing industries. International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology market. IDC is a wholly-owned subsidiary of IDG, the world's leading technology, media,

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For more information contact:

Sarah Murray
sarah@attunecommunications.com
781-378-2674
Mary Conroy
mconroy@idc.com
508-935-6964