

KNOWLEDGE BRIEF

**PTC ThingWorx Emerged as 2019
Technology Leader in the SPARK Matrix
Evaluation of IIoT Platforms**

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BY



PTC ThingWorx Emerged as 2019 Technology Leader in the SPARK Matrix Evaluation of IIoT Platforms by Quadrant Knowledge Solutions

Driven by industry 4.0 or smart manufacturing trend, industrial companies are either amid digital transformation initiatives or planning their roadmap towards the digital future. As part of their initiative, industry leaders are increasingly adopting industrial IT, IIoT, cloud, and advanced analytics solutions as a means to improve productivity and sustained business growth with improved customer experience. Industrial IoT platforms are central to their digital strategy and play an essential role in designing connected products, connected operations & business processes, and connected insights to survive and grow in the volatile market.

Industrial Internet of Things (IIoT) platform includes an integrated software suite that helps industrial organizations to monitor, manage, and control the connected devices via applications built on the platform. IIoT platforms may provide capabilities to support various industrial use cases, including asset tracking & monitoring, predictive maintenance, operational visibility & control, and others to support the complex industrial requirements of the large asset-intensive organizations. The key functionalities of an IIoT platform include connectivity, application enablement & management, device management, data management & processing, analytics & visualization, integration, security, and user interface for users as well as developers.

Quadrant Knowledge Solutions recent study “[*Market Outlook: Industrial IoT \(IIoT\) Platforms, 2019-2024, Worldwide*](#)” analyses market dynamics, growth opportunities, emerging technology trends, and the vendor ecosystem of the global market. This research provides strategic information for technology vendors to better understand the market supporting their growth strategies and for users to evaluate different vendor capability, competitive differentiation, and its market position.

SPARK Matrix Analysis of the Global IIoT Platforms Market

PTC's ThingWorx is Recognized as 2019 Technology Leader in the Global IIoT Platforms Market

Quadrant Knowledge Solutions conducted an in-depth analysis of the major IIoT Platform vendors by evaluating their product portfolio, market presence, and value proposition. The IIoT Platforms market outlook provides competitive analysis and a ranking of the leading vendors in the form of proprietary SPARK Matrix. SPARK Matrix analysis provides a snapshot of key market participants and a visual representation of market participants and provides strategic insights on how each

vendor ranks related to their competitors, concerning various performance parameters based on the category of technology excellence and customer impact. The evaluation is based on the primary research with expert interviews, analysis of use cases, and Quadrant's internal analysis of the overall IIoT Platforms market.

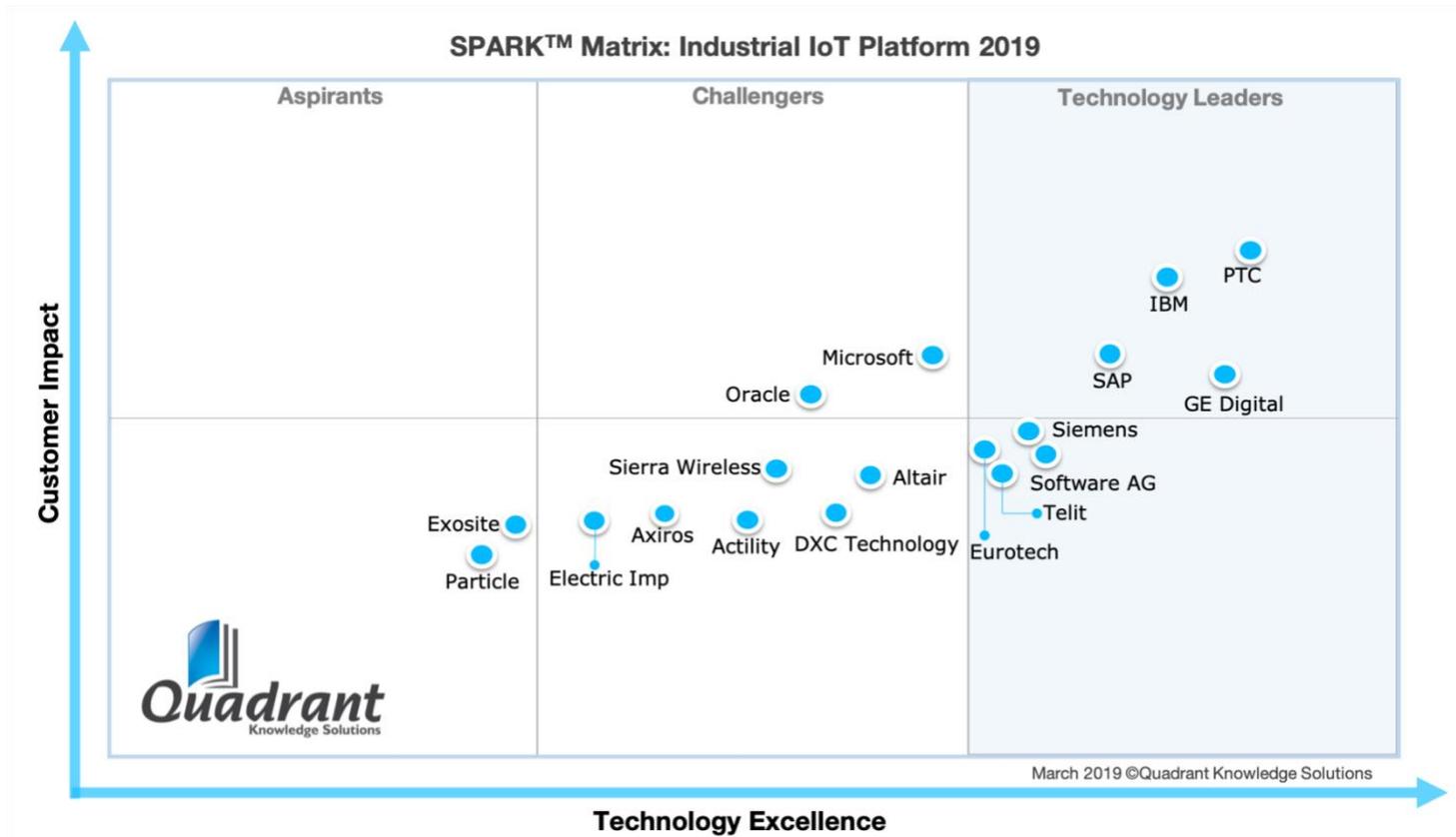
Technology Excellence	Weightage	Customer Impact	Weightage
Sophistication of Technology	20%	Product Strategy & Performance	20%
Competitive Differentiation Strategy	20%	Market Presence	20%
Application Diversity	15%	Proven Record	15%
Scalability	15%	Ease of Deployment & Use	15%
Integration & Interoperability	15%	Customer Service Excellence	15%
Vision & Roadmap	15%	Unique Value Proposition	15%

According to research findings, PTC ThingWorx, with the comprehensive IIoT platform capability, is positioned as a 2019 technology leader in the global IIoT platforms market. PTC's leadership recognition is driven by its superior technology platform, comprehensive functional capabilities, and highest overall customer impact.

ThingWorx is a purpose-built IIoT platform to support industrial-grade performance in terms of connectivity, scalability, and security required for industrial use-cases. ThingWorx provides comprehensive features, including a variety of industrial connectivity support, application development tools, analytics, security, augmented reality (AR), and integration with leading enterprise applications and cloud technologies to enable industrial organizations to develop, deploy, and manage IIoT solutions. These functionalities allow industrial businesses to securely connect assets and create innovative applications and services supporting digital transformation initiatives in a variety of industries.

Figure: 2019 SPARK Matrix

(Strategic Performance Assessment and Ranking)



PTC's ThingWorx Capabilities in the Global IIoT Platforms Market

ThingWorx is a comprehensive end-to-end industrial IoT platform. ThingWorx is available as an on-premise, cloud, and hybrid deployment. PTC has a strategic alliance with Microsoft, and ThingWorx platform is also optimized for Microsoft Azure deployments. PTC's ThingWorx platform is well-recognized amongst industrial organizations for its comprehensive technology capabilities, industry experience, domain knowledge, and ability to support diverse use cases and industry-specific applications.

- ◆ **Connectivity:** ThingWorx Industrial Connectivity powered by Kepware enables users to connect, manage, monitor, and control a wide range of automation devices, software applications, and data sources across the organization with its intuitive user interface. Leveraging OPC and IT-centric

communication protocols, the platform provides secure data access to industrial assets.

- ◆ **Application Enablement:** PTC offers ThingWorx, a ready-built IoT development platform that enables developers to rapidly create, test, and deploy enterprise-ready industrial IoT solutions. Additionally, users can leverage PTC Marketplace, which provides a wide range of tools, extensions, apps, and solutions from ThingWorx and PTC partners for effective IoT solutions for specific use-cases. It includes Application Enablement Platform (AEP) that leverages ThingModel, a digital representation of physical objects, for rapid development and deployment of IoT applications. ThingWorx also offers connection services, software agents, and toolkits to enable flexible connectivity options to maximize market opportunity and minimize integration efforts.
- ◆ **Data and Device Management:** ThingWorx provides out-of-the-box functionality and applications to manage, monitor, and control connected devices, processes, and applications using its centralized intuitive user interface. The platform allows bulk updates and upgrades securely to connected devices to ensure their optimal performance. With the recent enhancement, the platform offers the enhanced capability for data storage via InfluxDB and improved remote access for connected devices.
- ◆ **Analytics:** ThingWorx Analytics leverages automation, artificial intelligence, and machine learning to drive actionable intelligence from industrial IoT data. ThingWorx Analytics offers advanced capabilities including automated predictive analytics, real-time pattern and anomaly detection, real-time operational insights, and contextualized recommendations to ThingWorx-powered IoT solutions.
- ◆ **Visualization:** With a simple, user-friendly interface and powerful visualization capabilities, users can easily create mathematics or machine learning data models in ThingWorx without requiring technical expertise, allowing for increased insight into product performance and predictive failure. This enables seamless connectivity to Vuforia for AR/MR experiences.
- ◆ **Security:** ThingWorx offers end-to-end security including network, applications, users, and data security. ThingWorx leverages PKI infrastructure for certificate validation, and granular security model with role-based access configuration for business users, administrators, and developers in developing secure IoT solutions. The platform also provides TLS-encrypted

communications, distribution of security patches, and integrates a range of security features to secure the development process.

Key Competitive Differentiation and Strengths

PTC's ThingWorx has acquired a leadership position as a result of significant investments through technology acquisitions, innovations, and organic developments. The platform is designed to support complex industrial use cases in providing robust industrial connectivity, scalability, and security. Some of the key strengths include:

- ◆ PTC ThingWorx with strong IIoT capabilities, including support for a wide range of protocols, multiple prepackaged applications for industrial use-cases, robust digital twin functionality, industry-leading AR, and advanced analytics & visualization capability is well recognized to help users in realizing their vision towards becoming a smart, connected enterprise.
- ◆ PTC offers deep domain knowledge and industry experience in the industrial manufacturing sector with its industry-leading PLM, CAD, digital manufacturing and augmented reality solution portfolio. ThingWorx is integrated with PTC's PLM portfolio to enable users from designing connected products to monitoring operational performance throughout its lifecycle.
- ◆ ThingWorx provides a broad and robust set of IoT-specific development tools for building innovative IoT solutions, for a variety of industry applications. These capabilities provide substantial value in the form of increased uptime, reduced costs, role-based visibility and control, and improved compliance. In addition, PTC offers pre-built applications for specific, high-value use cases. ThingWorx is a proven industrial IoT platform for a variety of industry-specific use cases, including asset monitoring and management, predictive maintenance, operational intelligence, and such others.
- ◆ ThingWorx has one of the largest ecosystems of partners to accelerate IIoT initiatives and leverage a wide range of pre-integrated products and extensions by solution providers. PTC has a strategic partnership with Rockwell Automation and has recently introduced *FactoryTalk InnovationSuite, powered by PTC* that combines Rockwell's smart factory technologies with the ThingWorx platform. PTC ThingWorx continues to focus on building a robust ecosystem of partnership for technology, solutions, and services.

The Last Word

PTC ThingWorx, with its complete end-to-end IIoT capabilities, is well recognized for its functional capabilities, competitive differentiation, growth strategy, and higher customer impact. The company has successfully demonstrated proven results for industrial organizations realizing their vision towards building a smart connected enterprise. Driven by strong ratings for technology excellence and the highest ratings for customer impact, PTC's ThingWorx has been positioned as the 2019 technology leader in the global IIoT platforms market.