

IDC MarketScape

IDC MarketScape: Worldwide Manufacturing PLM Systems Integrator and BPO Services 2022 Vendor Assessment

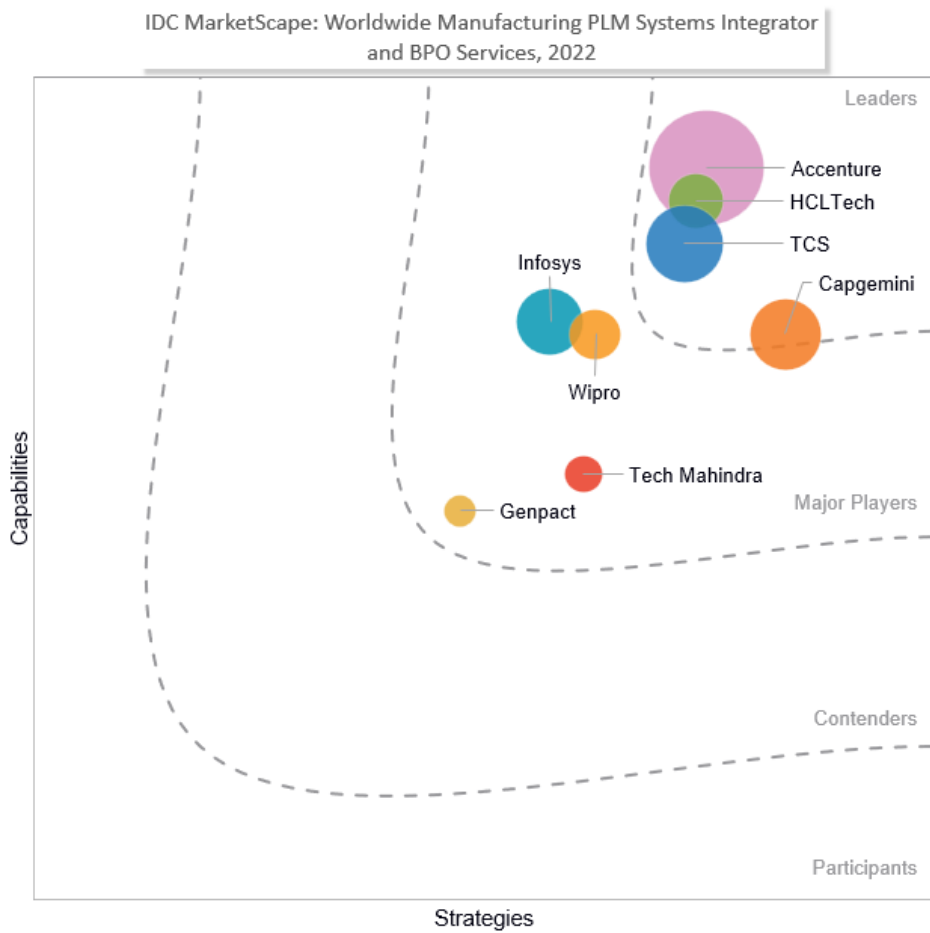
John Snow

THIS IDC MARKETSCAPE EXCERPT FEATURES: HCLTECH

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide Manufacturing PLM Systems Integrator and BPO Services Vendor Assessment



Source: IDC, 2022

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide Manufacturing PLM Systems Integrator and BPO Services 2022 Vendor Assessment (Doc #US49838022e). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

IDC OPINION

PLM continues to extend product innovation and development collaboration to a wider audience, engaging the manufacturing, sourcing, and services organizations as well as the broader ecosystem of partners, suppliers, and customers. Data from (traditionally) disconnected processes needs to be continuously rationalized and cleansed for analysis and decision support across the entire product life cycle, including ideation, development, production, distribution, support, and retirement. Legacy applications are not going away, and so to meet the growing demand for fast, reliable digital processes, new approaches are needed to extract, contextualize, and display relevant data from historically siloed repositories.

The effort and experience required to successfully connect, unify, maintain, and optimize data from multiple enterprise applications are enormous and arguably too complex for any single manufacturer to effectively manage. That is why systems integrators (SIs) and strategic consultants make up a key part of the manufacturing IT ecosystem. These technology and business strategy experts are indispensable to the success of digital transformation, and they are expected to function as members of the manufacturer's team across IT, engineering, manufacturing, and service and not just as a project contractor with limited scope.

This 2022 IDC MarketScape for manufacturing PLM SI and business process outsourcing (BPO) services analyzes eight service providers that support PLM integration and enablement based on information from vendor RFIs, interactive briefings and materials, and customer reference calls. Analysis of this information revealed three common challenges that manufacturers face and that service providers have an opportunity to address:

- Manufacturers still struggle with digital transformation of data and processes, especially the establishment of next-generation PLM (focusing on product innovation, portfolio management, and sustainability) and the realization of digital thread (across PLM, MES, SCM, and SLM).
- Manufacturers are focused on improving product quality, which is a primary driver for their PLM systems, and they plan to leverage cloud, analytics, social, and IoT/IIoT technologies to improve quality across design, production, service, and support.
- Manufacturers need their global, cross-functional teams to work seamlessly and virtually to deliver innovation and development across design, engineering/R&D, marketing, sales, manufacturing, supply chain, and service.

Related to these challenges, there are three common expectations that the end users we spoke with have for their service providers:

- Work as an integral part of the manufacturer's team while also contributing "what's possible" based on prior experience (i.e., work like an insider, but think like an outsider).
- Arrive with relevant industry and functional expertise as demonstrated by the breadth of knowledge and ability to implement/support agile strategies.
- Act as an advocate with technology vendors to maximize off-the-shelf solutions and minimize custom code.

It is worth noting that within this document, sustainability is not a critical topic for PLM systems integrators. Within the SI presentations, only one vendor repeatedly emphasized sustainability as a design and manufacturing challenge it was addressing with PLM. However, within the vendor evaluations, most SIs indicated they are utilizing PLM to address ESG, which reflects IDC's research regarding sustainability-driven design.

The pace of product change is accelerating across all manufacturing industries, and service providers/partners are critical extensions of internal teams, helping plan and implement digital transformation that improves cost, time, and quality for discrete and process manufacturer's products.

IDC MARKETSCOPE VENDOR INCLUSION CRITERIA

There are multiple IT service providers, large and small, that offer systems integration, engineering services, and/or BPO for any number of PLM processes: product design, portfolio management, data management, and collaboration among coworkers/partners/customers. This IDC MarketScope focuses on:

- The SI/BPO vendors must have annual revenue of at least \$1 billion.
- The vendors must provide systems integration, application development, maintenance, and/or outsourcing for a range of PLM processes and/or that support other product development processes and engineering services on an ongoing basis.

This IDC MarketScope includes the following service providers:

- Accenture
- Capgemini
- Genpact
- HCLTech
- Infosys
- Tata Consultancy Services (TCS)
- Tech Mahindra
- Wipro

ADVICE FOR TECHNOLOGY BUYERS

In this time of digital transformation, digital threads, and digital twins, manufacturers need partners that understand how to turn legacy systems into fast, accurate decision-support platforms for product development, manufacturing, sourcing, and service. For manufacturers to get this right requires more than APIs, data conversions, and cloud-based analytics, it also requires strategic vision and concrete

objectives along with implementation and consulting guidance related to navigating and accelerating an organization.

For the technology buyer, we offer the following guidance regarding service providers that support PLM as systems integrators and business process outsourcers:

- Guard against scope creep, both time and cost. Continuously validate current PLM projects against original plans and business outcomes.
- Retain the right to approve/reject every consultant being recommended by the SI. (Manufacturers reported delays due to inexperience and/or attrition, as experienced consultants were moved onto other accounts.)
- Empower consultants to speak up about problems or opportunities that they see. (Consultants should work like an insider but think like an outsider.)
- Ensure the partner has a strong relationship with relevant software vendors. (Consultants should be able to advocate to vendors for off-the-shelf functionality and limit customizations.)
- Make sure any vendor customer references are from your industry and are trying to address the same problems and metrics.

VENDOR SUMMARY PROFILES

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of each vendor's strengths and challenges.

HCLTech

After a thorough evaluation of HCLTech's strategies and capabilities, IDC has positioned the company in the Leaders category within this 2022 IDC MarketScape for manufacturing PLM systems integrator and BPO services, as it was in 2018.

IDC research shows HCLTech is differentiated within the PLM market by high customer reference scores and deep functional/industry knowledge that help client organizations deliver tangible metrics for the C-suite.

HCLTech continues to be one of the largest PLM systems integrators in the market, as measured by revenue, employees, industry experience, and breadth of geographic coverage. HCLTech has PLM offerings for cloud, collaboration, simulation, digital thread, and smart products that reflect the current concerns of PLM end users. IDC notes that HCLTech has a strong presence in traditional "design side" PLM, including CAD/CAM/CAE/ECAD, collaborative design, and MES integration, which represents "classic" PLM requirements.

HCLTech's manufacturing services focus primarily on automotive and construction, life sciences, aerospace, and defense, followed by industrial equipment and production line/consumer packaging. Since 2019, the company has acquired firms that specialize in data engineering services, automotive technology/services, and Industry 4.0/IoT. These investments reflect IDC's guidance to align engineering and production, including shared manufacturing performance data (IIoT). To deliver this innovation, HCLTech has over 20 innovation labs that focus on PLM and product innovation, augmented by four geographic regions that each have more than 15 delivery centers (235 total). It is worth noting that a significant number of HCLTech's manufacturing clients are expanding their PLM

implementations to support life-cycle visualization, embedded software development, and portfolio management; advanced simulations and design for manufacturability/assembly/service; and dashboards, IoT, and analytics.

HCLTech supports multiple pricing models, with a majority of clients choosing a shared risk contract, which makes them the major systems integrator for value-based pricing within this IDC MarketScape. (It should be noted that HCLTech was one of the first SIs to introduce value-based pricing for PLM.) Customers describe HCLTech as their trusted partner for complex projects, often placing project delivery ahead of cost overruns, which helps ensure customer success. Overall, HCLTech demonstrates the combination of PLM capabilities and strategy expected of a vendor in the Leaders category.

Strengths

- Clients are impressed by the industry knowledge and functional expertise of HCLTech's senior consultants and solution architects.
- HCLTech has an extensive ecosystem of labs, studios, and experience centers to help clients with advanced technologies such as AI/ML, AR/VR, additive manufacturing, big data, and mobility.
- The company has experience implementing collaborative model-based engineering and simulation for smart products.

Challenges

- Clients said that lower-level consultants have good skill levels but that newer consultants sometimes lack necessary training and experience to be full contributors.
- HCLTech's clients indicated they must sometimes "pull" relevant knowledge out of consultants to achieve best results. (Consultants are reluctant to assume a leadership role within the client organization.)

Consider HCLTech When

- You have a wide range of PLM components and a broad spectrum of services that need to be rationalized to complete a comprehensive digital transformation.
- You are looking for a systems integrator willing to share the risk reward of transformation and to ensure delivery of key results and performance indicators.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level

decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

Product Life-Cycle Management Definition

IDC Manufacturing Insights defines the product life-cycle management (PLM) market as an enterprise software application solution that combines and manages data from multiple processes necessary to define, model, track, manage, and control product development and to manufacture, sell, maintain, and retire those products. PLM applications are:

- Actively involved in enabling at least some of the PLM functions described in this section
- Sold into product-centric environments (e.g., discrete and process manufacturing)
- Integrated to other enterprise applications for data exchange and collaboration among employees, with various responsibilities, as well as with outside partners (suppliers, partners, customers, marketing and sales, and so on)

For a vendor to be defined by IDC as a provider of PLM solutions, the vendor's enterprise software should offer any of the following core functions:

- Engineering software or some access to it, including mechanical computer-aided design (MCAD), mechanical computer-aided engineering (MCAE), and mechanical computer-aided manufacturing (MCAM)
- Collaborative product data management (cPDM) that according to IDC's taxonomy, has a number of subsegments including vaulting, document management, change management, view/mark up capabilities for visualization across the web (lightweight 3D geometric representations), parts libraries, and newly emerging idea management and product-focused sustainability and environmental compliance management
- Project and portfolio management (PPM) software, and configuration management, for new product development and introduction (NPDI)

Beyond these features that form the core of PLM applications, a comprehensive solution should also include:

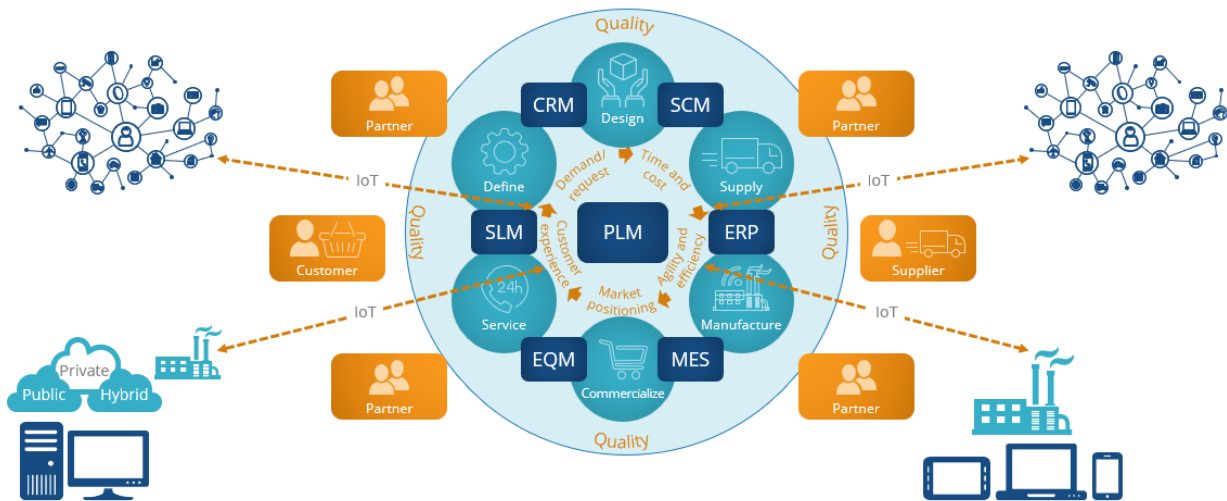
- Collaboration applications, especially for team collaboration within the enterprise as well as with external business partners

- Quality management applications related to optimizing product designs for manufacturing, assembly, and service/support
- IoT/IIoT support for analyzing and identifying root cause problems related to product design occurring during production or in the field
- Business performance measurement software to analyze cost efficiencies and search for process improvements (see Figure 2)

We also think that manufacturers will begin to connect their PLM systems into a broader ecosystem of enterprise systems, data, and processes to form a product innovation platform, as shown in Figure 2. PLM systems integrators will be critical to support this approach.

FIGURE 2

Product Innovation Platform Framework



Source: IDC Manufacturing Insights, 2022

LEARN MORE

Related Research

- *2022 Product Quality and Digital Transformation Survey – Product Development Insights* (IDC #US49122022, August 2022)
- *Market Analysis Perspective: Worldwide Product Life-Cycle Management, 2022* (IDC #US48627822, August 2022)
- *IDC's Worldwide Digital Transformation Use Case Taxonomy, 2022: Engineering-Oriented Value Chains in the Manufacturing Industry* (IDC #US49294222, July 2022)
- *Global PLM Priorities by Company Size* (IDC #US49122322, July 2022)
- *Sustainability-Driven Product Design* (IDC #US48630022, April 2022)
- *IDC TechBrief: IoT in Engineering* (IDC #US48629422, March 2022)

Synopsis

This IDC study analyzes the major systems integrators and business process outsourcing services providers in the PLM market. We will have a companion IDC MarketScape document that analyzes the top strategic consultants in the PLM space as well to follow.

"Product development and innovation continue to be transformed by the capabilities of PLM systems to improve quality, collaboration, cost, and time. However, successful product and process transformation requires integration across multiple organizations and the enterprise systems on which they rely. The data that drives this collaboration is the digital thread of the product life cycle and is necessary for manufacturers to improve development, production, sourcing, and service, both inside and outside the industry ecosystem. It can be difficult for manufacturers to keep up with the pace of technological change, and so service providers/partners can become extended team members to provide technology and industry guidance for successful digital transformation," said John Snow, research director, Product Innovation Strategies, IDC.

About IDC

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