



**IX PLATFORM**

# **SOLUTION SELECTION MATRIX**

**Evangelize and Drive  
Industrial Transformation**

**2021-2022**

## OVERVIEW

**Industrial Transformation (IX)** is an increasingly common initiative within industrial organizations globally. LNS Research survey data shows that two-thirds of companies surveyed have implemented, are currently implementing, or plan to implement an Industrial Transformation program with a notable, though still small, percentage of companies reporting “dramatic results” from their [IX Program](#). Survey data show that 78% of companies are maintaining or accelerating their programs through the COVID 19 pandemic. As such, the race is on and the winners will be those companies that can deploy digital technologies to drive step- change improvement in operations.

### SURVEY FACT

**49% of IX Leaders** are deploying IX Platforms and are almost **three times more likely** than followers to be doing so.

Industrial Transformation (IX) Platforms are one of the critical technologies powering IX. Forty-nine percent of IX Leaders are deploying IX Platforms and are three times more likely than Followers to be doing so. This Solution Selection Matrix (SSM) is intended to help manufacturers develop a shortlist of IX Platform vendors to evaluate and, in some cases, select a specific IX Platform vendor to deploy.

## IX PLATFORMS WITHIN THE LNS IX REFERENCE ARCHITECTURE

LNS Research recently announced a new vision for effectively leveraging the value of digital technologies: [The Industrial Transformation \(IX\) Reference Architecture](#). Further, we asserted that manufacturers must choose one of [three architectural paths in the pursuit of IX](#) and the development of an IX Architecture: “Custom,” “Best-of-Breed,” or “Vendor Suite.” This Solution Selection Matrix is for those industrial organizations that are actively considering or have opted for a “Vendor Ecosystem Suite” strategy and are therefore looking at IX Platforms.

LNS Research defines an IX Platform as follows:

A Platform as a Service (PaaS) that includes a broad set of reference architecture capabilities that can run on private or public cloud instances, support hybrid cloud architectures, include advanced analytical capabilities like AI/ML, and provide a no-code/low-code app development environment and/or app store, for other third-party developers to offer applications across a broad set of the IX Use Cases, including but not limited to: operations, assets, products, supply chain, customer experience, and Connected Frontline Worker.



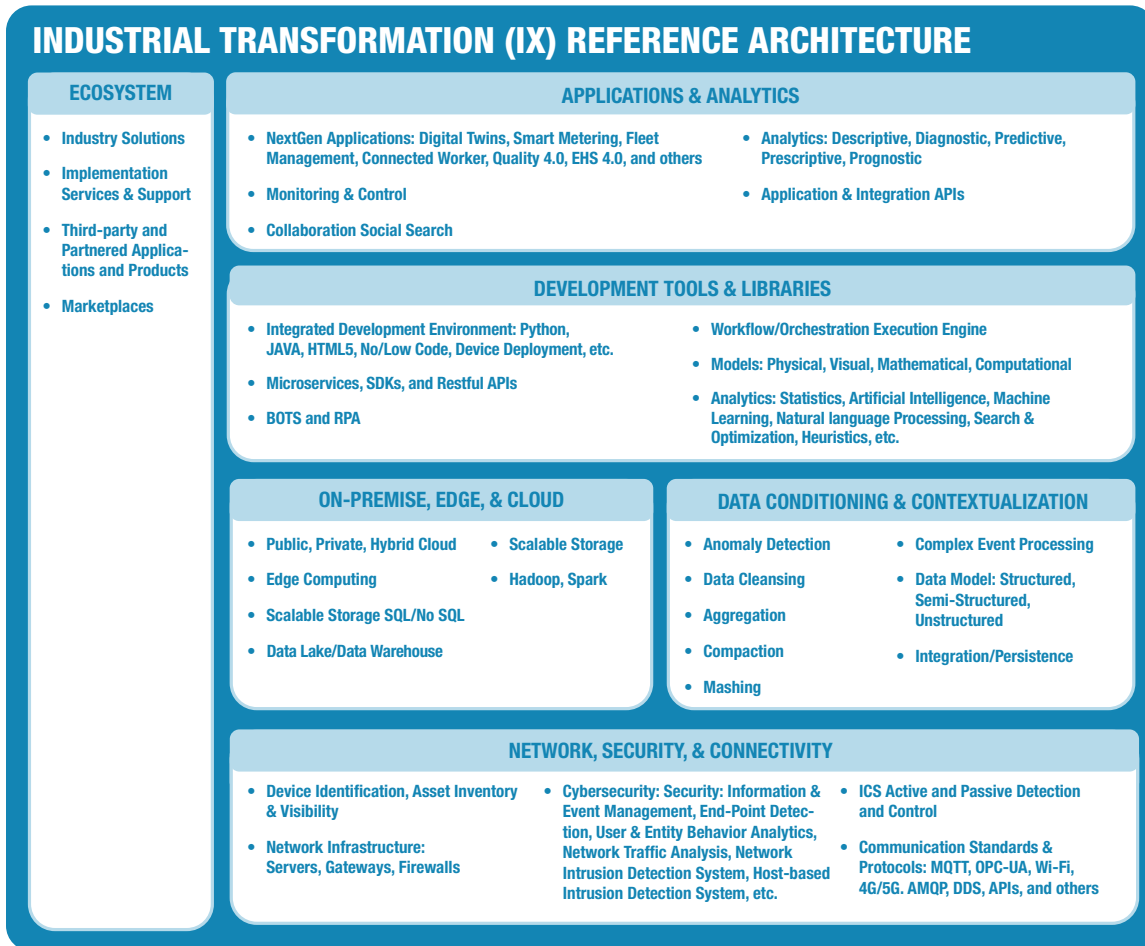


FIGURE 1 - LNS Research IX Platform Reference Architecture

## VENDOR SELECTION CRITERIA AND INCLUSION

LNS Research’s definition of IX Platforms incorporates five key technical inclusion criteria for this SSM:

1. Suppliers must have a **significant presence** in **industrial** applications. We are not considering platform suppliers exclusively targeting applications in the consumer space (platforms aimed at autonomous driving of cars, for example).
2. The vendor must offer a **development** platform as a product, preferably a no-code/low-code environment, for applications, analytics, and/or digital twins. In our [definitional blog post about IX Platforms](#) we highlighted that we see two broad types of applications being developed on top of IX Platforms: **monitoring and analytics** applications which typically leverage AI/ML along with other traditional analytics to optimize performance; and **control and execution applications** to “wrap and extend” existing operational technology and fill in all the gaps across the plant and connected value chain.

3. That development environment must be **commercially available (licensable)**, and for use by third parties and end-users. Therefore, vendors focused on the IX Application space would only be included if their applications are built on an IX development platform that is specifically licensable.
4. IX Platforms must leverage **digital technologies** like AI/ML, IIoT, and AR/VR, can run on private or public cloud instances, and support hybrid/edge cloud architectures. Obviously, there are several development environments available; we are focused here on those aimed at the deployment of new, emerging digital technologies.
5. IX Platforms support a **broad range of IX use cases**, including but not limited to: operations, assets, products, supply chain, customer experience, and Connected Frontline Worker. There are many start-ups that are seeking to carve out niches in the overall market by focusing on specific use cases and applications. For example, vendors only offering Connected Frontline Worker platforms with Augmented Reality/Virtual Reality applications are not included.

The companies that met all five criteria and are included in this SSM in alphabetical order are:

COMPANIES MEETING ALL FIVE CRITERIA			
Amazon	Dassault Systèmes	PTC	Software AG
AVEVA	Hitachi Vantara	SAP	Tulip
C3 AI	IBM	Siemens	Uptake
Cognite	Microsoft	Sight Machine	

In this document, we do not provide our individual evaluations of each of these vendors. This is done through a series of separately published 2021 IX Platform Vendor Profiles. Those Vendor Profiles do not evaluate vendors holistically but rather only on their ability to specifically compete in the IX Platform market. Instead, this document addresses the overall IX Platform competitive landscape.

## HONORABLE MENTIONS TO IX PLATFORMS

LNS Research sees five sets of alternatives/substitutes to IX Platforms.

### 1. “Non-licenseable Platforms”

A number of companies do have a platform approach to enabling Industrial Transformation but do not fit the strict five-part definition set out by LNS Research on the previous page.

Often these companies lack an open development environment as part of the platform – where the “platform” instead delivers a suite of data and application integrations running on a common Infrastructure-as-a-Service (IaaS).

Some of the biggest names in industrial software are taking this approach. These suppliers may have a platform fundamental to their solution but do not separately license it nor are they trying to get third parties and/or customers to use it in the development of their IX solutions (i.e., they have a Non-licenseable platform). Instead, these suppliers are building IX Applications and Analytics with their platforms and promoting them as packaged solutions for their customers and prospects. Companies in this category include, but are not limited to:

- ABB
- AspenTech
- Emerson
- GE Digital
- Honeywell
- Oracle
- Plex
- Schneider Electric
- Yokogawa

### 2. Industrial Transformation (IX) Application and Analytics

Many significant vendors and start-ups are primarily delivering IX applications and/or analytics with only a secondary or ancillary focus on pursuing a platform strategy. The solutions may be customizable but are not intended as general programming or code development environments. Companies in this category include, but are not limited to:

- Arundo
- Falkonry
- Flutura
- Foghorn
- Maana
- Oracle
- Rockwell Automation  
*(their partnership with PTC is covered in the PTC vendor profile)*
- SAS
- Seeq
- Spark Cognition
- ThinkIQ



### 3. Industrial Transformation (IX) Infrastructure-Focused Vendors

Several significant vendors are not pursuing a full platform strategy, but instead are focusing on narrower IX Infrastructure capabilities that could be used by end-users to build their own platform or be incorporated into third-party-provided IX Platforms, some of which are included as IX Platform providers in this guide. Common capabilities could include: IIoT Connectivity, Network Management, Industrial Cyber-Security, Edge Analytics/Gateways, or Data Conditioning and Contextualization. Companies in this category include, but are not limited to:

- Cisco
- Claroty
- Dell
- Element Analytics
- HighByte
- HPE
- Litmus
- OSIsoft
- Nozomi Networks
- SICK
- Stratus

### 4. Single use case, or specific technology-focused companies, for example, Connected Worker or Augmented Reality/Virtual Reality

A number of start-ups have executed market entry strategies focusing on a specific niche. In particular, many companies have targeted the “Connected Worker” use cases emphasizing AR/VR enabled applications. Most of these companies offer their own development environment but don’t yet focus on a broad enough set of industrial use cases to fully function as an IX Platform. Companies in this category include, but are not limited to:

- Augmentir
- Corvex
- Guardhat
- LibreStream
- Parsable
- Poka
- Scope AR
- Upskill
- Webalo

## 5. Emerging Industrial Transformation (IX) Platform Vendors

LNS Research is also tracking new vendors in the IX Platform domain. These companies are pursuing visions that align to LNS Research's definition of an IX Platform but are still in or have just come out of stealth mode. Or, they are vendors that today offer a solution more limited in scope but have communicated a strategy to broaden into an IX Platform supplier over time. We will be watching these companies closely for possible inclusion in future IX Platform SSM's. Companies in this category include, but are not limited to:

- Plex
- TwinThread

We will be covering these interesting alternatives in more detail in future IX Selection Guides.

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## 3P EVALUATION OF PLATFORM SUPPLIERS

LNS Research scores the 3P evaluation as outlined in our Evaluation Criteria blog post, [How LNS evaluates vendors in technology domains](#) and then maps that score into the LNS Research IX Platform Solution Selection Matrix. (Scores are specific to IX Platforms; vendors may score differently in other technology domains.)

LNS Research sees significant differences across Discrete/Batch and Process/Infrastructure industries for IX Platforms specifically. The vendors vary across these industries and those vendors targeting both sets of industries often have different competitive positions in each. LNS sorts industries in the following way (recognizing there can be significant differences in manufacturing models even within one industry):

**Process and Infrastructure Industries:** chemicals, metals, mining, oil & gas, pulp & paper, rail, telecommunications, transportation, utilities, and the government/public sector.

**Discrete and Batch Industries:** aerospace and defense, automotive, consumer durable goods, electronics, industrial equipment, packaging, and shipbuilding are considered discrete industries. Consumer packaged goods, food & beverage, life sciences and semiconductor are considered batch industries.

Therefore, we have created two different Solution Selection Matrices divided by industry accomplishments.

In addition, there are a few partnerships that materially change the 3P score for particular vendors in one or both sets of industries. In those cases, we have used both company names in the Solution Selection Matrix.



LNS Research considers IX Platforms as a still emerging technology space with capabilities of vendors likely to grow notably over time. Therefore, we have not scored any vendor as delivering the comprehensive solution yet.

## Product

LNS Research evaluates IX Platform Products against our IX Reference Architecture generally and our IX Platform definition precisely. Also, we analyze each vendor from four additional perspectives:

- **Services capabilities**, when and if noteworthy
- **Application Footprint**
- **Analytics Capabilities**, Digital Twins in particular
- **Any unique capabilities** in their IX Platform and/or solution offering

## LNS IX PLATFORM REFERENCE ARCHITECTURE

The second way LNS evaluates IX Platforms is by their functionality coverage across the six main areas of the IX Reference Architecture. In each IX Platform Vendor Profile, we use Harvey Balls to score the degree of functionality or feature coverage and then calculate an overall product score, 1 through 6.

### PRODUCT Definitions and Scale

- 6** Market leading capabilities across the spectrum of key functionality as defined by LNS Research\*; proven success meeting all requirements in markets specifically targeted by vendor.\*\*
- 5** Robust spectrum of capabilities for applicable target markets. Few shortcomings that are recognized.
- 4** Broad though not complete spectrum of capabilities applicable to target markets.
- 3** Limited but sufficient capabilities applicable to a subset of target markets; lagging in product development and functionality.
- 2** Some gaps in functionality required to fully meet target markets
- 1** Newly launched minimal viable product and/or significant gaps in functionality required to fully meet target markets.

*\*Assessments are made against a specific LNS-defined "Reference Architecture". For example, IIoT vendors would be judged against LNS Research IX Reference Architecture.*

*\*\*Target markets are the geographies and application areas specifically pursued by vendors. For example, vendors targeting only English-speaking markets will NOT be penalized for lack of two-byte character support.*



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In the following table, we comment on which vendors, if any, stand out from the crowd in each specific functional area.

## IX Platform Architectural Review

ARCHITECTURE LAYER	INSIGHTS
<p><b>Connectivity, transport, and security</b></p>	<p>PTC may offer the most robust connectivity in the discrete world via its acquisition of Kepware (though these capabilities are available for use with other IX Platforms).</p> <p>Most IX vendors partner with third-party cybersecurity vendors at both the IT and Industrial Control Systems (ICS) levels.</p>
<p><b>On-premise, Edge, and Cloud</b></p>	<p>Most vendors partner with the hyperscalers (Alibaba, Amazon, Google, and Microsoft) for IaaS capabilities.</p> <p>Siemens may be the most “hyperscaler neutral” with a bias towards Amazon but a commitment to work with all “natively.” (This may or may not be important to any one manufacturer.) Siemens is one of only a few vendors supporting Alibaba.</p>
<p><b>Data conditioning and contextualization</b></p>	<p>Hitachi has a differentiated message in that they view Video (and LiDAR) as a “tier 1 data asset” and are able to blend these with more traditional data sets.</p> <p>Uptake has a notable capability in the Data Model around assets via its acquisition of APT, which provides fault models for several hundred types of manufacturing assets.</p> <p>Sight Machine for Discrete and Batch industries (emerging in process) have specific strengths for enabling a robust data model with contextualization that enables more advanced analytics.</p> <p>Cognite offers the broadest and deepest set of conceptualization capabilities.</p> <p>Many vendors do not explain in detail how they condition and contextualize data, despite having open platforms.</p> <p>SAP contextualizes with applicable business context and makes data available and consumable across a broad range of SAP applications.</p>
<p><b>Development tools and libraries</b></p>	<p>C3 AI appears to have the most robust toolset for Data Scientists to build custom applications.</p> <p>Tulip has the easiest to use development environment for operations personnel to build small manufacturing applications.</p> <p>Siemens has multiple products to integrate but the Mendix acquisition gives them leadership in “low code/no-code” development environments for operations.</p>
<p><b>Applications and analytics</b></p>	<p>C3 AI has the most diverse set of use cases.</p> <p>Siemens and Dassault Systèmes have strong visions for Digital Twins particularly in the discrete/batch world.</p> <p>AVEVA has the strongest vision in the Process industries</p> <p>SAP has one of the largest footprints of enterprise applications that are enabled by IoT or where IoT is embedded</p>
<p><b>Ecosystem, industry, and third-party solutions</b></p>	<p>Ecosystems are still emerging. Notably, Amazon, IBM, Microsoft, PTC, and Siemens offer third-party marketplaces. LNS will be watching their development closely.</p>

## Services Capabilities (if applicable)

All vendors supply basic training, implementation, and support services. Many companies offer directly and partner with IT and consulting firms like Deloitte, TCS, Wipro, Cognizant, and Accenture for the data integration and science capabilities that are needed to leverage many of these technologies.

LNS views overall Digital (Industrial) Transformation services as the most significant vector of differentiation around Services capabilities. IBM offers a full spectrum of Transformation consulting. C3 AI is notable for its partnerships with Baker Hughes and IBM.

## Application Footprint (if applicable)

LNS Research has identified 35 different use cases in IX across six categories that are being actively pursued by manufacturers. The LNS Research IX Use Case Navigator (Figure 2) highlights these categories.

Vendors differ significantly in the design intent for their IX Platforms. Vendors also differ in their ability to support different types of use cases. If you are pursuing specific use cases, LNS Research has the following recommendations for you to consider for your shortlists:

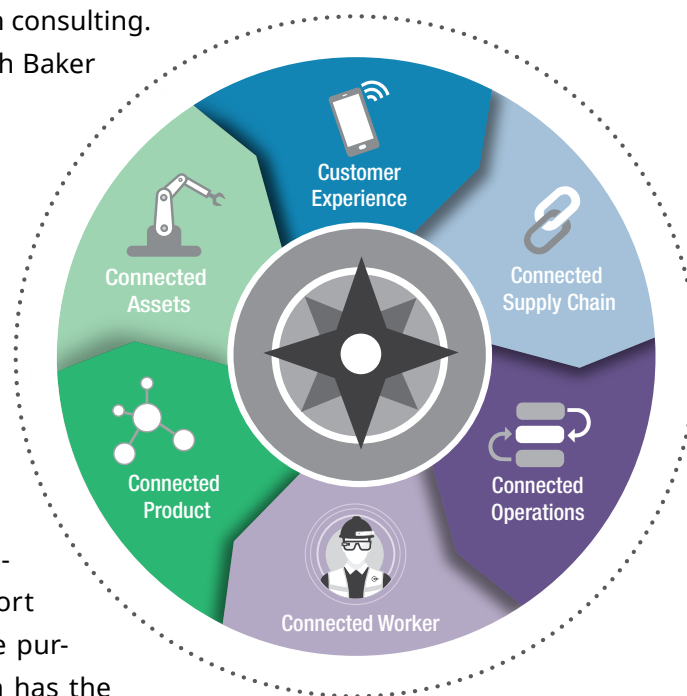


FIGURE 2 - Use Case Navigator

Significant IX Platform Use Cases	Potential Short-list Vendors
<b>Connected Products</b>	Hitachi, SAP, Siemens, Software AG
<b>Connected Worker</b>	Hitachi, PTC, SAP, Tulip (and Connected Worker specific vendors noted above)
<b>Connected Operations</b>	AVEVA, Cognite, Dassault Systèmes, Hitachi, PTC, SAP, Siemens, Sight Machine
<b>Connected Assets</b>	Connected Asset use cases are the most common across the vendor landscape; AVEVA, C3 AI, and Uptake stand out
<b>Customer Experience</b>	C3 AI, Hitachi, Software AG
<b>Connected Supply Chain</b>	C3 AI, Dassault Systèmes, SAP, Software AG

**Connected Product:** PTC and Siemens deliver the capability for manufacturers to build their own Connected Product applications and has several references in these use cases. Software AG is particularly strong with European machine builders.

**Connected Worker:** PTC has a strong offering with ThingWorx and Vuforia. Tulip is increasingly positioning its offering toward "front line" workers.

**Connected Operations:** Most vendors focus on Connected Operations use cases. Siemens, Tulip, and PTC focus on the discrete and batch/hybrid industries.

**Connected Assets:** Most of the vendors offer some APM capabilities. Use cases range from process equipment like pumps, compressors, and gas turbines, to wind turbines, components of vehicular fleets (mining equipment, trucking, rail), and electrical grids (power generation, distribution through substations, and smart meters). Cognite is unusual in that it is primarily a data management platform with analytics and applications enabling capabilities, making its platform applicable across several industries. Uptake's core go-to-market is around Connected Asset use cases for the wide-range of assets already modeled in both discrete/batch and process. LNS Research can provide specific advice on which vendor has the best support for particular types of assets upon request.

**Customer Experience:** As an emerging IX use case, LNS Research has not seen a leader emerge in these use cases yet. Hitachi does have a large number of video-related customer experience implementations leveraging video, lidar and other data types.

**Connected Supply Chain:** As an emerging IX use case, LNS Research has not seen a leader emerge in these use cases yet.



## **Analytics & Digital Twins**

Most vendors offer analytics tools sets, some from open source, and others claiming proprietary approaches. As general-purpose analytics platforms, Siemens, Software AG, and C3 AI have robust toolsets applicable to a wide variety of use cases. SAP leverages SAP Analytics Cloud for both business intelligence and augmented analytics with machine learning and predictive capabilities. Microsoft and Amazon offer increasing abilities to act as the general-purpose alternative. However, when it comes to products, assets, and operations, those vendors with specific domain knowledge, often embedded as templates in their solutions, such as Uptake and AVEVA, tend to be more fit-for-purpose and are faster to implement.

Unsurprisingly, the vendors with the greatest presence in the design world have the best “pre-natal” and “post-natal” Digital Twins: AVEVA, Dassault Systèmes, PTC, and Siemens. All these vendors offer design, simulation, operations, and life cycle (IIoT and/or EAM and/or Services) technologies to offer both data-driven, and 3D model based Digital Twins. Microsoft may have the most expansive view of Digital Twins in that their mission is to enable the creation of a Digital Twin of anything. LNS Research will be watching Microsoft’s encroachment in this area closely.

## **Unique/Differentiating Capabilities**

- C3 AI offers an “enterprise AI platform” that is inclusive of and broader than our IX definition.
- Hitachi elevates the focus on video and LiDAR beyond other providers, treating video as a “tier 1 data asset.”
- IBM offers integration to their Blockchain technology.
- SAP offers robust integration to its ERP offering adding financial meaning to its analytics and Connected Supply Chain capabilities.
- Siemens has the deepest capabilities on top of the Alibaba cloud for serving customers in China.

## Presence

LNS Research develops a composite score assessing a vendor’s market penetration vis-à-vis geographies, industries, and customer sizes served. Score factors both “capability to serve” and “proven success.”

- **Capability to Serve:** Focused (experienced in the specific domain) sales and service resources along with product enhancement to serve specific markets.
- **Proven Success:** Market success (installed base) in the markets served

LNS asks all IX Platform vendors to provide insight into the competitive landscape. We also work with a large number of discrete manufacturers on their IX Platform Solution Selection. The one vendor that comes up most regularly is PTC and their ThingWorx platform. This may not hold globally but, today, PTC seems to have the most “presence” of all vendors in North America.






There are significant differences among the market leaders in the penetration of specific industries as highlighted in the IX Technologies Landscape Diagram on page 8. Please consult with LNS Research for more specific information.

Most vendors are primarily targeting companies \$500 million and above in revenues. This makes sense as IX Platforms require more technical resources to effectively leverage. Siemens and Tulip are targeting small and medium manufacturers.

Most vendors are seeking out companies that are further along in IX Maturity. Tulip appears to also support less mature organizations.

Dassault Systèmes has repeatedly demonstrated the ability to partner with manufacturers on large-scale transformation projects (going back before the term "transformation" became trendy.). These projects tend to be aimed at the largest manufacturers.

### PRESENCE Definitions and Scale

- 6  Market leading sales, service\* and successful customers globally, in all relevant industries, and with companies of all sizes.
- 5  Robust sales and service capabilities and successful customers across all major geographies (North America, Western Europe, Middle East and industrialized Asia-Pacific), a range of industries and company sizes.
- 4  Broad-based sales, service, and successful customers across most major geographies (North America, Western Europe, and selected Middle East and Asia-Pacific countries), specific industries and/or companies of a specific size (SMB, for example).
- 3  Regional sales, service, and customer success in select major western geographies; select industries and sizes.
- 2  Sales, service, and customer success in limited market(s), industry and company sizes.
- 1  Still in early stages of launching new product and/or company with a very limited group of customers.



## Potential

LNS Research assesses the vendor’s potential for growth in both the product and presence dimensions. Potential may be impacted by scale, focus, financial resources, market positioning strategies, management team (especially for smaller companies), merger and acquisition plans, partnering strategy, or any number of other factors.

In the IX Platform market, there are literally hundreds of vendors seeking to carve out a niche in the market. We have only included in this report those companies that we believe have an opportunity for growth and long-term viability.

Many large vendors offer a robust set of OT and IT technologies, and general consulting services around Transformation. This report assesses only their capabilities to market, deploy and support their IX Platforms. These greater offerings will be evaluated in follow-on SSMS.

### POTENTIAL Definitions and Scale

- 6** Likely overall market leader (across many industries, geographies, and application areas); currently outpacing all competitors.
- 5** Among small set of likely overall market leaders evidenced by current leadership in target markets and proven record of innovation.
- 4** A likely leader in some targeted markets with growth potential to move up; could rise to leading position in specific markets.
- 3** Likely a significant player in target markets with defensible barriers to competition and growth prospect.
- 2** Likely a niche player in target markets with some known risks to future growth in product and presence.
- 1** Early-stage company with wide dispersion of potential long-term performance and/or a niche player with significant risks to future growth.

## LNS RESEARCH IX PLATFORM SOLUTION SELECTION MATRIX

Vendor Profiles are a snapshot of the company’s capabilities at a specific time. Vendors are regularly announcing new product releases, roadmaps, acquisitions, partnerships, and updated strategies. LNS Research seeks to capture those announcements up to the time of publishing within the vendor’s “Potential” score as the actual impact on the market has not yet been realized.



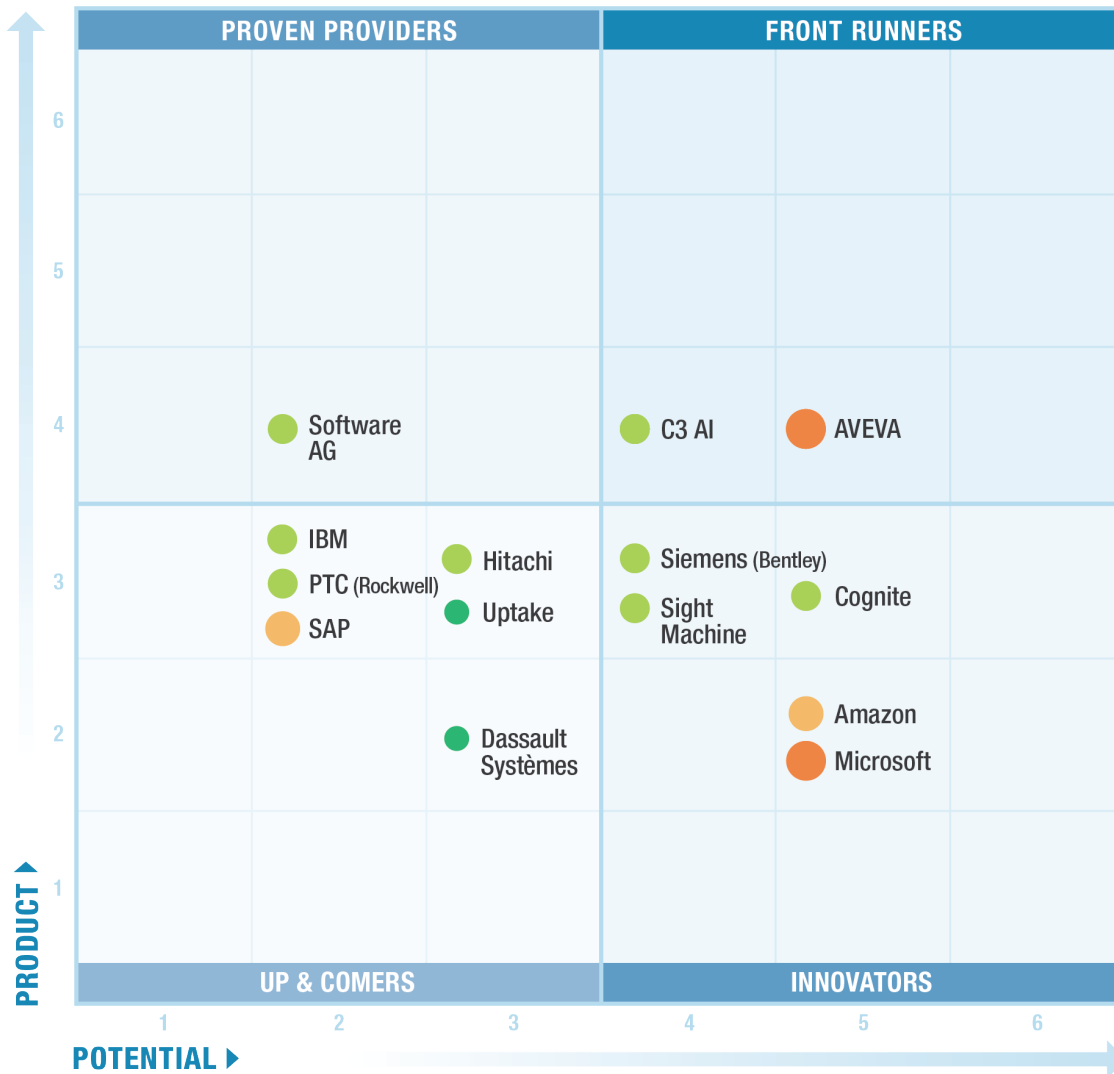
IX Platform  
SOLUTION SELECTION  
MATRIX

PROCESS & INFRASTRUCTURE INDUSTRIES

COMPANY SCORE (Potential, Product, Presence)

- Amazon (5, 2, 4)
- AVEVA (5, 4, 5)
- C3 AI (4, 4, 3)
- Cognite (5, 3, 3)
- Dassault Systèmes (3, 2, 2)
- Hitachi (3, 3, 3)
- IBM (2, 3, 3)
- Microsoft (5, 2, 5)
- PTC (Rockwell) (2, 3, 3)
- SAP (2, 3, 4)
- Siemens (Bentley) (4, 3, 3)
- Sight Machine (4, 3, 3)
- Software AG (2, 3, 4)
- Tulip (no rating)
- Uptake (3, 3, 2)

COMPANY PRESENCE



Note: Companies in the same Matrix box are listed alphabetically and have the same potential and product scores.



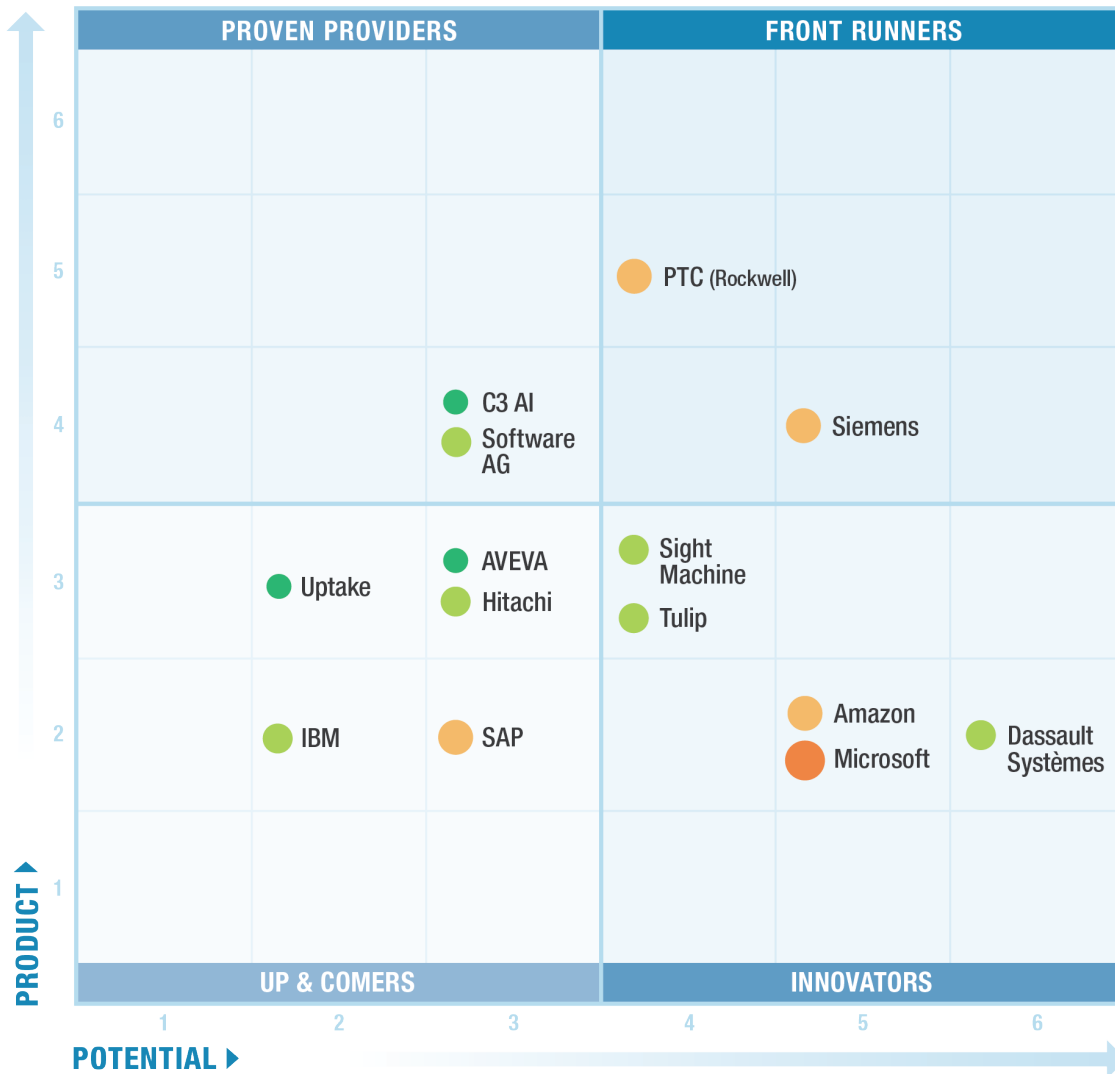
## IX Platform SOLUTION SELECTION MATRIX

### DISCRETE & BATCH INDUSTRIES

#### COMPANY SCORE (Potential, Product, Presence)

Amazon (5, 2, 4)	Hitachi (3, 3, 3)	Sight Machine (4, 3, 3)
AVEVA (3, 3, 2)	IBM (2, 2, 3)	Software AG (3, 4, 3)
C3 AI (3, 4, 2)	Microsoft (5, 2, 5)	Tulip (4, 3, 3)
Cognite (no rating)	PTC (Rockwell) (4, 5, 4)	Uptake (2, 3, 2)
Dassault Systèmes (6, 2, 3)	SAP (3, 2, 4)	
	Siemens (5, 4, 4)	

#### COMPANY PRESENCE



Note: Companies in the same Matrix box are listed alphabetically and have the same potential and product scores.



LNS Research views PTC and Siemens as Front Runners in IX Platforms in the discrete and batch/hybrid markets. Both companies have identifiable technology advantages over the market generally and the financial and organizational mass to compete for the long term. LNS Research would recommend that discrete and batch industrial organizations pay close attention to the development of the hyperscalers and Dassault Systèmes. We see these companies as offering incomplete solutions today but innovating quickly and boldly. Their position may improve rapidly.

LNS Research sees C3 AI and AVEVA as the Front Runners in IX Platforms in the process industry markets. Both companies have identifiable technology advantages over the market generally and the financial and organizational mass to compete for the long term.

LNS Research would recommend that industrial organizations pay close attention to the development of the hyperscalers in process as well. Again, we see Microsoft and Amazon as offering incomplete solutions today but innovating quickly and boldly. Their position may improve rapidly.

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## BOTTOM LINE AND RECOMMENDATIONS

Software solution selection is a complex undertaking that demands multi-level, multi-regional, cross-functional, and inter-departmental collaboration. There are many pitfalls and challenges throughout the selection process. To eliminate worries around alignment, time, cost, and risk in solution selection, manufacturers should apply a proven methodology to make the right choice, quickly, and confidently.

- 1. Take a programmatic approach to Industrial Transformation** to connect and orchestrate the many simultaneous and interrelated efforts. Industrial organizations need a pragmatic approach to harmonize the journey in context with overarching corporate objectives and the industry in which they operate. The framework should position the company to capture the full value of Digital Transformation and the Industrial Internet of Things (IIoT). The LNS Research Industrial Transformation (IX) Framework can be [found here](#).
- 2. Avoid starting with technology.** LNS Research is frequently asked to support Solution Selection processes where the business objectives, strategy, and the “to be” operational architecture are not well-defined. Solution Selection without those foundations is fraught with peril. Pay particular attention to choosing your organizations architectural path – build-your-own, vendor ecosystem, or best-of-breed – based on strategic alignment and organizational strengths.



- 3. Don't let uncertainty slow your IX progress.** In the early days of IIoT Platforms, there were many different viewpoints and competing technologies in the market. A broad and comprehensive definition is emerging, and although there are certainly still firms in the market that will fail to live up to their potential, the leaders are well-positioned to deliver and scale step-change customer value, even if new disruptors enter the market in the future.
- 4. Gather the right advisors and thought leaders.** Technology vendors, consultants, and systems integrators have deep subject-matter knowledge in their chosen field, but they also have business models that often cloud their perceptions and advice. Counterparts at other companies, together with independent third-party analysts, can give you an undistorted view of their experiences, pitfalls, success factors, and hindsight observations.
- 5. Strive for collaborative decision-making across traditional functional silos.** Business leaders that maintain a departmental posture do not usually make headway with building a business case, but that doesn't mean waiting for complete consensus either. Those that build a coalition of the willing and look outside their group to other disciplinary leaders for insights almost always learn more about the organization and thus position themselves to serve the enterprise more holistically.

Most importantly, do not let the challenges around Solution Selection prevent you from embarking on or accelerating your Industrial Transformation (IX) journey. Step-change improvement is possible, and LNS Research is here to help you along that path.

## METHODOLOGY

This vendor profile is based on the following research:

1. Definition of IX Platforms as outlined in: [IX Architectural Paths: Part Two of Three Evaluating IX Platforms and IX Analytics & Applications](#)
2. This definition was based on the IX Reference Architecture outlined here: [Research Spotlight: From the Industrial Internet of Things \(IIoT\) Platform to Industrial Transformation Reference Architecture](#)
3. Update on IIoT Market Dynamics: [Changing Dynamics of the IIoT Market](#)
4. LNS Research Vendor Evaluation Process highlighted here: [How LNS Research Evaluates Vendors in Technology Domains](#)

This vendor's profile is based on the vendor's ability to deliver for this specific market, not its overall capabilities.

Vendor Profiles are a snapshot of the company's capabilities at a specific time. Vendors are regularly announcing new product releases, roadmaps, acquisitions, partnerships, and updated strategies. LNS Research seeks to capture those announcements up to the time of publishing within the vendor's "Potential" score as the actual impact on the market has not yet been realized.

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## RELATED RESEARCH ON IX AND IIoT

**BLOG** | [What is an Industrial Transformation \(IX\) Platform? →](#)

**BLOG** | [Introducing the Industrial Transformation \(IX\) Reference Architecture →](#)

**BLOG** | [Understanding Industrial Transformation: Definition and Framework for Success →](#)

**RESEARCH** | [Industrial Transformation: Architecture and Analytics Just the Beginning →](#)

**RESEARCH** | [IX Architectural Paths 1 of 3: Three Paths & Understanding IX Infrastructure →](#)

**RESEARCH** | [IX Architectural Paths 2 of 3: Evaluating IX Platforms and IX Applications & Analytics →](#)

**RESEARCH** | [IX Architectural Paths 3 of 3: Looking at IX Strategic Partners →](#)

**RESEARCH** | [Avoiding Pilot Purgatory: How to Choose the Right Use Cases to Accelerate Industrial Transformation \(IX\) →](#)

**RESEARCH** | [Industrial Transformation Success: How to Secure Operations' Buy in to Create Effective Leadership →](#)

**RESEARCH** | [IX Digital Readiness →](#)

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