SOLUTION SELECTION MATRIX

2025 | Industrial AI: Advanced Analytics Guidebook

LNS Research

Executive Summary

Few other technologies have disrupted the manufacturing sector with the speed and sheer scale that Industrial AI has had in the recent past. For an industry still running critical systems on Windows XP and decade-old PLC code, this paradigm shift has been a reckoning of sorts. Over the past few years, LNS Research has closely observed how manufacturing companies across the globe have responded to this reckoning with a strong sense of urgency, enterprise-level AI initiatives, and millions of dollars committed to AI-driven transformation.

At the same time, we also have observed parallel shifts in the technology vendor (and venture capital) landscape as the first industry-grade Chatbots and Copilots started coming out within six months of ChatGPT 3.5. These initial breakthroughs quickly took the industrial world by storm, and before we knew it, almost every single industrial technology company became an Industrial AI company. We saw Copilots eventually get better at technical challenges like hallucination and traceability, and the momentum shift to AI agents that can take actions and are more powerful with reasoning and self-learning abilities. While we can debate the efficacy and relevance of such Chatbots, Copilots, and Agents in manufacturing, the fact remains that Industrial AI is here, and has already disrupted several technologies, particularly Advanced Industrial Analytics.

LNS Research has been a proponent of the notion that Industrial AI is neither synonymous with nor does it replace Advanced Industrial Analytics. That said, we also believe the rapid disruption of Generative and Agentic AI capabilities has significantly altered the competitive landscape and warrants a repositioning of how we assess technology vendors in this category as part of the LNS Research Solution Selection Matrix (SSM) reports.

Solution Selection Matrix Guides: Helping You Create a Shortlist of Vendors

An investment in Industrial AI is not to be taken lightly, as most of these solutions, once installed, are not easily or quickly replaced, even if they are delivered via Software-as-a-Service (SaaS) or over cloud deployments. LNS Research's SSMs are intended to guide manufacturers about technology categories and help create a potential shortlist of vendors.

In addition to technical features, we also recommend you understand the vendor's overall business strategy, their ability to continue to serve their target markets, and other external forces such as partnerships, mergers and acquisitions, etc. Ultimately, we hope you find this research useful to your Advanced Analytics and Industrial AI needs and use it to make well-informed and educated decisions on selecting the right technology partner.

Industrial AI Definition

LNS Research defines Industrial AI as the combined application of machine learning and other Artificial Intelligence (AI) models in conjunction with first principles, rules-based methods, statistical, data-driven approaches to solve industrial problems. The problems that Industrial AI applies to span both within the four walls of the factory—from asset monitoring, process optimization, material flow management, energy efficiency, workforce safety—to outside the factory across the entire supply network—from procurement to customer delivery and field service.

As with Advanced Analytics, Industrial AI spans the spectrum from descriptive and diagnostic analytics to forward-looking predictive, prescriptive, and prognostic models that deliver data-driven insights across these use cases. However, what distinguishes Industrial AI from Advanced Analytics is its ability to provide Decision Intelligence capabilities that enable AI-first ways to monitor, synthesize, recommend, execute tasks, and adapt over time.

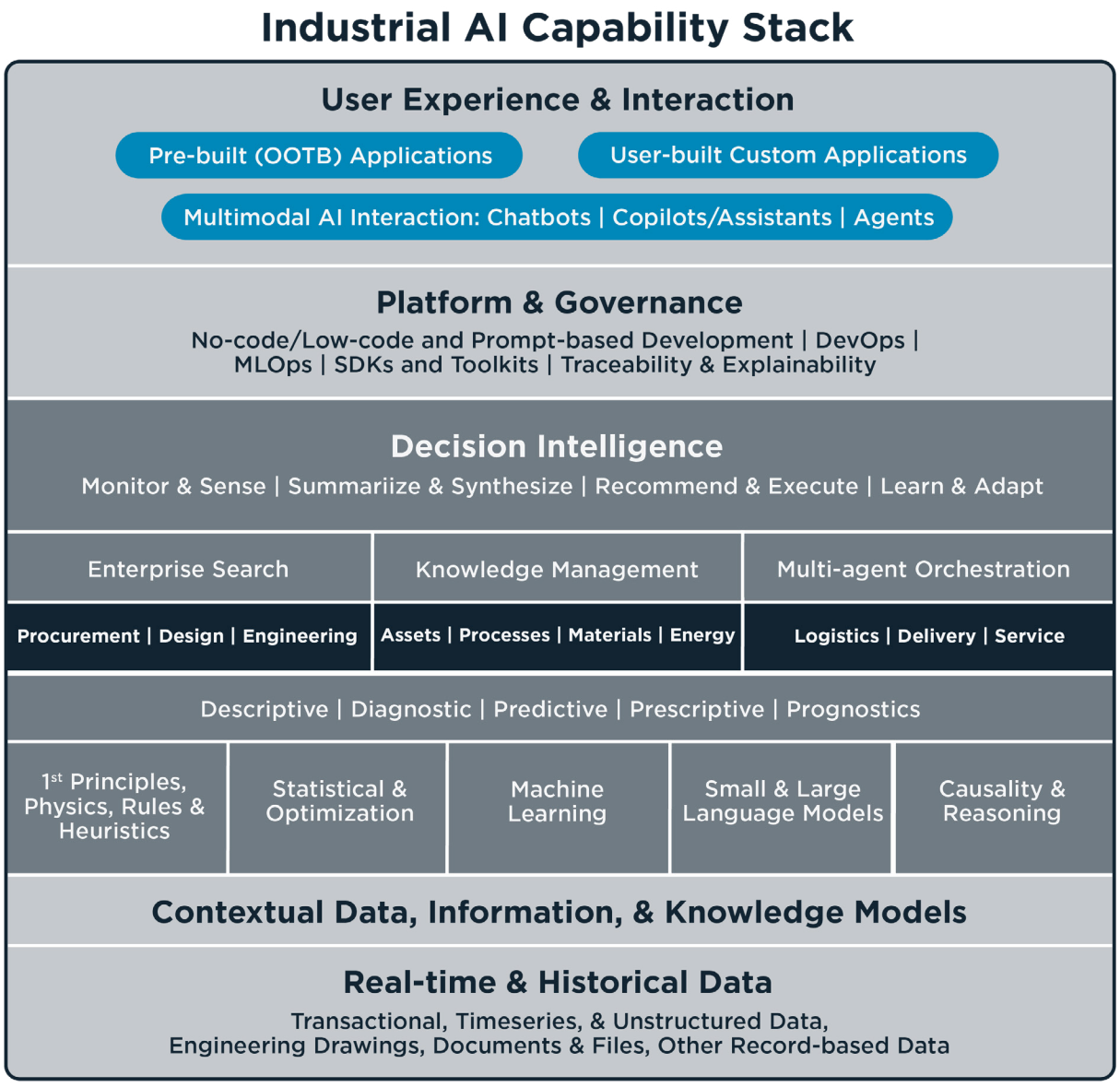


Figure 1: Industrial AI Capability Stack

Industrial AI Definition (Cont.)

The framework in Figure 1 provides a representation of the Industrial AI capabilities. It's evident Industrial AI begins with foundational data capabilities that cover both real-time data and historical data, and build contextual models of not just data, but also information and knowledge that have been further processed and understood. Built on this foundation of the contextual model is the Decision Intelligence layer, which includes the core capabilities of Industrial AI.

Decision Intelligence is an emerging umbrella term to describe Agentic AI capabilities, though it currently lacks a clear definition. In the Industrial AI capability stack (Figure 1), we define Decision Intelligence as the set of core analytical and computational capabilities of Industrial AI. It includes two complementary layers: the analytical layer that produces insights and the agentic layer that operationalizes the insights.

- The analytical layer encompasses a range of analytics algorithms, models, and techniques, from first principles, statistical, data-driven ML/DL/RL models, and emerging causal and reasoning models applied across the spectrum of descriptive–prognostic analytics.
- The agentic layer focuses on how these insights are consumed and acted upon through a continuum of chatbots, copilots, and agents that take on several roles from monitoring, sensing, summarizing, synthesizing, recommending, and acting; all done in a self-learning loop that makes sure it improves accuracy and reliability over time.

The next level of Industrial AI capabilities is the platform and governance layer, such as a no-code/low-code development environment, DevOps/MLOps capabilities, and other development and integration capabilities, in addition to Generative-AI capabilities, such as prompt-based development, Retrieval Augmented Generation, etc. Finally, the user experience layer must include a combination of pre-built apps, custom apps, and a continuum of chatbots, copilots, and agents that can be interacted with not just text, but also across images, audio, and video.

Industrial AI Definition (Cont.)

Due to this wide range of capabilities across data plumbing and infrastructure, storage and modeling, Advanced Analytics, and of course the generative and agentic capabilities, there have been several paths for Industrial AI vendors to take, resulting in a highly diverse and fragmented competitive landscape. It is also important to note that these companies don't always compete head-to-head or at the same level in the organization. As each of them has approached Industrial AI from a different perspective, we have had to further break down the segment into six distinct subcategories:

- Enterprise Solutions
- Data Platforms
- Advanced Analytics
- Asset Optimization
- Closed-Loop Process Control
- Machine Vision

In an ideal world, each of these subcategories would have its own Solution Selection Matrix to enable end users to make apples-to-apples comparisons. However, we are far from that. We live in a world– the industrial world – where there is always an overlap and a nuance and a technicality that makes such precise comparisons very difficult. As a result, we will be assessing Industrial AI vendors separately and group them where there is significant overlap in product features, scope across the value chain, and approach to architecture.

The first Industrial AI Solution Selection Matrix Guidebook focuses exclusively on two categories of Industrial AI: Data Platforms and Advanced Analytics, where the companies are too similar to separate, yet too different to combine. Let's take a closer look at these subcategories and how we plan to cover them in this guide.

A) Industrial AI: Advanced Analytics

The first category includes software applications that offer Decision Intelligence capabilities, listed in Figure 1, primarily through pre-built out-of-the-box applications. These vendors provide data collection, analysis, machine learning modeling, and visualization functionalities as part of their application(s). However, they do not provide a licensable platform for end users to build custom applications. These companies also differentiate in their scope, which focuses on not just one or two but several industrial use case categories across assets, processes, material flow, energy efficiency, workforce safety & training, etc.

List of vendors assessed:

- Augury
- Canvass AI
- Falkonry
- Proficy (Predictive Analytics)
- Oden Technologies
- Seeq
- TrendMiner

B) Industrial AI: Data Platforms

This category includes solutions that have Decision Intelligence capabilities as previously mentioned, plus a data platform that brings together multiple data sources across IT and OT through pre-built connectors, APIs, webhooks, etc. These vendors also provide robust data connectivity, quality, conditioning and contextualization, and data models to store this processed and contextualized data in a cloud infrastructure. Ideally, these Industrial Data Platforms need to collect, store, and model structured, time-series, and unstructured data (so historians and time-series databases won't count).

End users will then be able to perform Advanced Analytics through a set of out-of-the-box (OOB) applications that are pre-built on the platform. Some vendors in this category provide a no-code/low-code environment to build custom applications, but their primary focus is on adding value through their data platform and the pre-built applications.

While companies in this category all offer both a data platform and applications built on top of it, they differ significantly in how they prioritize these two pieces. Some emphasize the data platform as their core offering, with applications playing a supporting role. Others lead with their applications and treat the data platform as secondary.

To reflect this variation in our assessment and enable fair comparison with the other two categories, the data platform will be assessed on the Advanced Analytics capabilities, plus industrial data platform capabilities. However, the overall product score will reflect their performance across both of these capabilities combined.

List of qualified vendors:

- Braincube
- Cognite
- Machine Metrics
- Quartic.ai
- SightMachine
- TwinThread

Coverage of Industrial AI: Advanced Analytics and Data Platform Vendors:

This first guidebook will cover the Advanced Analytics companies, evaluated primarily on their Decision Intelligence capabilities, along with a subset of their data connectivity, conditioning, and contextualization features. The second guide, to be published shortly after, will cover the data platform companies, assessed on both Decision Intelligence and a broader set of DataOps capabilities. Finally, because companies in these categories compete with one another, we will publish a combined SSM that evaluates them side-by-side.

Adjacent Categories and Honorary Mentions

As mentioned earlier, Industrial AI is one of the most diverse technology categories, with a broad array of providers offering competing solutions. While this assessment focuses on two types of vendors, many companies from adjacent categories also offer overlapping capabilities.

Emerging startups in such categories leverage data-driven and AI-based approaches, such as supervised/unsupervised machine learning, neural networks, and reinforcement learning, to solve problems traditionally addressed using first principles, physics-based models, and rules-based logic. Some of these companies are included in this guide, while others are not, based on their primary focus areas, as explained below:

Industrial AI: Enterprise Solutions

This category includes the companies that provide Industrial AI solutions at the highest level. This group can further be split across three types of companies: AI-native enterprise platform companies, large-scale established enterprise software companies, and automation and control providers. These companies extend their scope to not just IT and OT, but also the rest of the value chain's data together. It is important to note that these vendors also provide a set of out-of-the-box applications on their platforms to perform Advanced Analytics, along with a no-code/low-code environment for the end user to build custom applications and other agentic capabilities.

List of qualified vendors:

- ABB Genix
- AVEVA CONNECT
- C3.ai
- Dassault 3DXperience
- Databricks
- Emerson/AspenTech
- Honeywell (Forge for Industrial)
- IFS
- Oracle (Fusion)
- Palantir
- Rockwell Automation
- QAD
- SAP (Digital Manufacturing Cloud)
- Siemens (Xcelerator)
- Snowflake
- SymphonyAI

Industrial AI: Asset Optimization

This subcategory of Industrial AI includes emerging AI-native startups that use proprietary industrial-grade sensors, cloud-native platforms, and services to provide predictive and prescriptive analytics for asset monitoring. While most of these vendors will be assessed in a separate guide, Augury, with its strong presence across both asset and process analytics, will be included in the Advanced Analytics guide as well.

List of qualified vendors:

- AssetWatch
- Augury
- Dynamox
- Fluke Reliability
- Infinite Uptime
- KCF Technologies
- Nanoprecise
- Petasense
- Samotics
- Tractian
- Viking Analytics

Industrial AI: Closed-Loop Process Control

This category includes companies that deploy a combination of first principles, physics, data-driven, and AI approaches to solve closed-loop process control, a critical step in the ultimate goal of Autonomous Operations. These companies include both emerging startups that are AI-first and legacy APC providers that have upgraded legacy platforms.

List of qualified vendors:

- ABB (APC Software and Systems)
- AspenTech (DMC3TM)
- AVEVA (APC)
- Honeywell (APC)
- Imubit
- Intelecy
- Kelvin
- Rockwell Automation (FT Pavilion8 MPC)
- Sorba.ai

Other Industrial Operations and Execution Platforms

Finally, there's another adjacent category of Industrial AI that we haven't addressed yet. This group consists of a diverse set of industrial software providers that offer some data-driven insights but don't neatly fit any of the above definitions and subcategories of Industrial AI; these companies typically combine features from multiple software categories.

For instance, they may incorporate elements of Advanced Analytics and Industrial AI capabilities in combination with Manufacturing Execution Systems (MES), Quality Management Systems, and/or Connected Frontline Workforce (CFW) platforms, including work instructions and recipe management, without fully aligning with any one of those categories. It is important to note that while these vendors definitely feature a few Industrial AI capabilities and have proven value at multiple customer sites at scale, they don't compete within any of the above categories; their competition depends largely on the type of customer and their existing architecture.

These vendors have typically taken one of two approaches to product roadmap and go-to-market strategy: they have either generally focused on addressing operational problems rather than conforming to traditional software categories or have expanded from their primary category to include some Industrial AI, Advanced Analytics, or data platform capabilities.

As a result, they are not explicitly included in this guide but may be considered in the future as their offerings evolve. Companies that could be considered in this eclectic group include (but are not limited to) Arch Systems, Augmentir, BEET, Bentley Systems, ComplianceQuest, Covalent, Fabriq, Factbird, Fuuz, Inductive Automation, Innovapptive, Intellect, Librestream, MasterControl, Poka, QAD Redzone, Solvace, Squint, Tulip, and Zaptic.

Industrial AI: Advanced Analytics

The Advanced Analytics subcategory of Industrial AI includes applications that are industrial-grade Software-as-a-Service (SaaS) products that provide value by collecting, modeling, and analyzing industrial data and enabling end users to identify patterns, trends, correlations, and causations through a set of proprietary and/or open-source analytic techniques and algorithms.

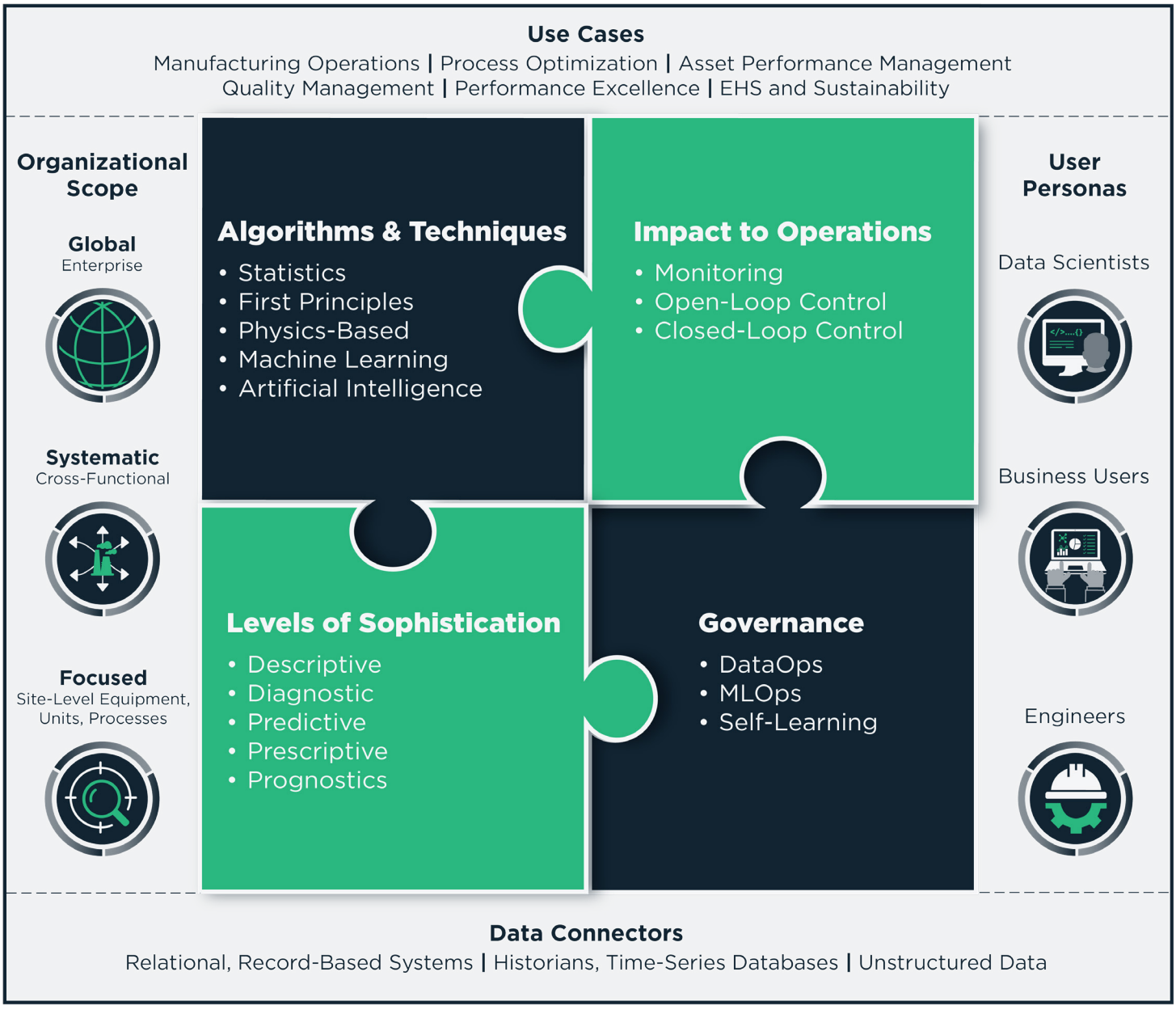


Figure 2: Industrial AI: Advanced Analytics Definition

Industrial AI: Advanced Analytics (Cont.)

The applications usually integrate with internal or external platforms, data connectors, edge-to-cloud connectors, and AI agents, facilitating connectivity, modeling, and contextualization techniques required for effective analysis. Built on this foundation of data, the applications then use several statistics, first-principle, physics-based, and machine-learning algorithms to provide insights of varying levels of sophistication.

In terms of functionality, the applications provide descriptive-prognostic analytic capabilities through a combination of statistics, first-principle, physics-based modeling, machine learning (supervised, unsupervised, deep learning), and Artificial Intelligence (AI) models. Ideally, these algorithms and models should be a part of a closed-loop learning system that learns and improves its quality and accuracy over time.

These applications usually target one or two layers in a typical industrial organization; they could either be focused on individual equipment or process units or be systematically running in the background, covering multiple units, work cells, or even plants, or span the breadth of the enterprise at a global level. Whatever layer these applications focus on, they should ideally provide value across multiple use cases – such as asset performance, quality, manufacturing, productivity, process optimization, EHS, sustainability, etc., and provide value to multiple user personas, namely engineers, business users, and data scientists.

LNS Research's definition of Industrial AI: Advanced Analytics incorporates several key technical inclusion criteria for this SSM:

- Significant presence in industrial operations. Therefore, LNS Research does not consider analytics platforms that target consumer, government, and non-industrial applications.
- Must either provide prebuilt applications and/or a licensable (no-code/low-code) platform for users to build custom applications.
- Be built on a modular, flexible, and scalable architecture that is deployable on public and private Cloud instances, at the Edge, on-premise, or a combination thereof.
- Include an integrated workflow/orchestration engine.
- May have special capabilities, such as Generative AI, Bots, RPA, vision, geospatial, etc.

Industrial AI: Advanced Analytics (Cont.)

Furthermore, to narrow the list of vendors to a reasonable field of suppliers for evaluation, LNS Research is specifically excluding the following categories of analytics-related tools and applications:

- Spreadsheets and Business Intelligence tools
- Relational/time-series/unstructured databases and database infrastructure management tools (including individual hyper-scaler components)
- IT and OT systems that contain minimal analytics functionalities but do not include the aforementioned criteria.
- Generic analytics toolkits and statistical packages
- Industrial IoT platforms that do not feature Advanced Analytics
- Standalone no-code/low-code, workflow, and application development tools
- Analytics solutions focused only on a specific use case (process automation, predictive maintenance, supply network design, plant and product engineering, predictive quality, etc.)

The 3P Evaluation Model

LNS Research uses the "3P Evaluation Model" covering vendors' Product, Potential, and Presence to evaluate their ability to serve the Industrial AI: Advanced Analytics market.

Product

LNS Research **evaluates the products** against our Industrial AI Capabilities Stack and Advanced Analytics definition. In each **Vendor Profile**, we use Harvey Balls to score the degree of functionality or feature coverage and then calculate an overall product score from 1 to 6. Finally, these individual scores are weighted and averaged to produce an overall Product score, as seen in the scoring matrices in section VIII.

Product Definitions and Scale

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

---

[1]Assessments are made against a specific LNS Research-defined "Reference Architecture." For example, IIoT vendors would be judged against the LNS Research IX Reference Architecture.

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

Industrial AI: Advanced Analytics Features & Functionality Review*

Capability | Functionality	Comments | Insights
Advanced Analytics	
Analytics levels supported (Descriptive – Prognostic)	Almost all vendors strong in descriptive–predictive capabilities; Augury, Falkonry, and Oden stand out with strong prescriptive/prognostics
Use cases supported	Most have asset + process use cases. Notably, Seeq's self-service approach enables 100+ process-related use cases
1st Principles, Rules, and Physics-based models	Rules-based events that trigger workflows are common. Augury sensors capture physics data, and Proficy leads in usage of 1st principles
Data-driven, ML/AI, and other applied mathematics	Supervised ML models used in most; Falkonry leads with a robust set of automated ML models and MLOps capabilities.
Analytics layer (Focused, systematic, Global)	Balance of focused and systematic, and can be scaled across multiple sites. Seeq's Vantage does enterprise-level asset monitoring
Self-learning models (closing loop after events)	Most ML models provide feedback to improve over time; few are truly self-learning
Monitoring and/or control (open & closed loop)	Asset and Process monitoring predominantly; Canvass AI and Oden can be used for control. Typically start with open-loop and take and reach closed-loop with increasing trust
Any other special capabilities (Bots, RPA, video, LiDAR, geospatial, etc.)	Most have Copilots and AI Assistants to assist users with variety of use cases
Customizable, extensible with code (Python, R, JAVA, C/C++, C#, etc.)	Python, R, C/C++, JAVA, LUA can be used to bring custom models
Supporting Industrial DataOps	
Data Connectivity	Most have built-in connectors across OT data
Connectivity & Communications Protocols supported	Most communicate using OPC-UA, MQTT, and other protocols; Augury leverages WiFi/Bluetooth
Data Quality, Cleansing, Conditioning	Data quality capabilities like anomaly detection, filtering, outlier removal, interpolation available across most providers
Contextualization	Contextualization is a key focus for most; Oden's automated data labeling feature is unique

**The above table only includes features and functionalities of vendors scored in the first category, namely Augury, Canvass AI, Falkonry, Oden, Proficy, Seeq, and TrendMiner. Upcoming SSM guidebooks will feature insights for corresponding vendors.*

Potential

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

In the Advanced Industrial Analytics solution market, hundreds of vendors seek to carve out a niche. Therefore, we have only included those companies we believe have an opportunity for growth and long-term viability in this report. In fact, we have specifically included certain smaller startups/pure plays because we believe their focus and technology make them competitive, and they have a good chance of surviving, even thriving, in the market.

Potential Definitions and Scale

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

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 target markets.
- **Proven success:** Market success (satisfied installed base) in the markets served.
- LNS Research asks all Industrial AI solution vendors to provide insight into the competitive landscape. References to clients' "proven success" are used as inputs to the evaluation.

Presence Definitions and Scale

6. Market leading sales, service[3] and successful customers globally, in all relevant industries, and with companies of all sizes.

7. Robust sales and service capabilities and successful customers across all major geographies (North America, Western Europe, Middle East[4] and industrialized Asia-Pacific), a range of industries and company sizes.

8. 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).

9. Regional sales, service, and customer success in select major western geographies; select industries and sizes.

10. Sales, service, and customer success in limited market(s), industry, and company sizes.

11. Still in early stages of launching new product and/or company with a very limited group of customers.

---

[3]Presence is measured by a vendor's capabilities to serve AND proven implementations. Vendors' capabilities to serve are measured by resources able to support a specific technology, not overall company capability.

[4]Middle East is a "major" geography for many process industries but not for discrete.

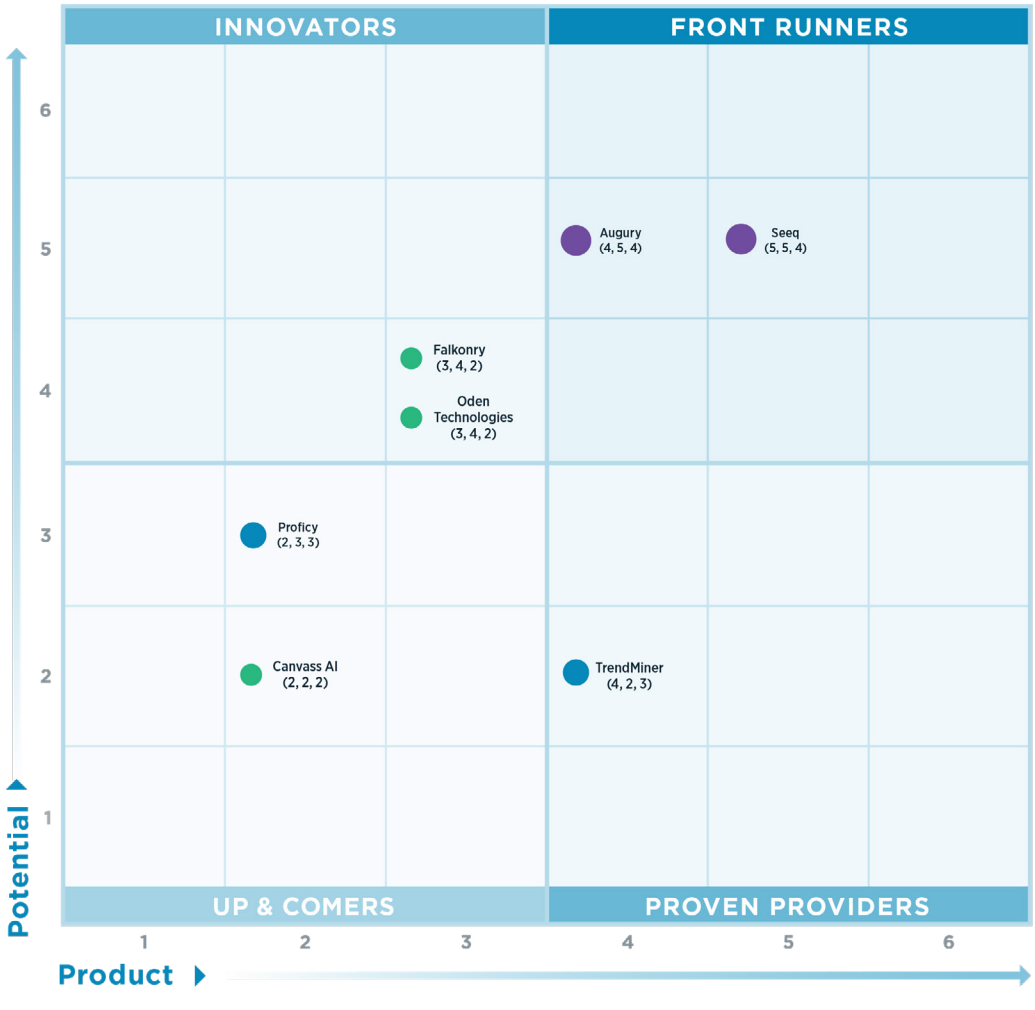
Frameworks for Vendor Assessments

LNS Research scores the technology vendors across two particular frameworks- the Solution Selection Matrix and a new drill-down tabular framework- the Market Fit Grid- for each vendor. Let's take a close look at each in the following section.

Solution Selection Matrix: Industrial AI – Advanced Analytics

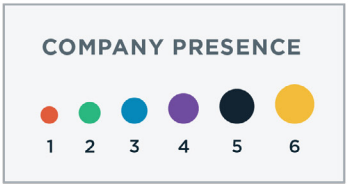
The Solution Selection Matrix follows the 3P evaluation outlined in our Evaluation Criteria blog post, How LNS Research evaluates vendors in technology domains, and then plots the vendors in a 2X2 matrix assessing their Product, Potential, and Presence.

Industrial AI: Advanced Analytics



3P COMPANY SCORE *(Product, Potential, Presence)*

Augury (4, 5, 4)
Canvass AI (2, 2, 2)
Falkonry (3, 4, 2)
Oden Technologies (3, 4, 2)
Proficy (2, 3, 3)
Seeq (5, 5, 4)
TrendMiner (4, 2, 3)



Solution Selection Matrix: Industrial AI – Advanced Analytics (Cont.)

As you will also see, many vendors will be placed in the Up & Comers category. It is important to interpret this placement properly. It does not mean that the vendor's Product is inferior, but it may mean that it lacks some key features or functions for targeted markets, addresses only certain use cases, and/or lacks referenceable customers or has limited deployments.

Many companies, especially startups, have a small Presence, operating only in a few markets with a select number of customers and the majority with revenues typically less than $10 million annually. Additionally, their future is relatively uncertain early on in their journey, so their potential may be rated lower.

These scores, of course, are expected to change as all companies mature. We will explore this in more depth in the individual vendor profiles. In addition, we will discuss each vendor's relative strengths and weaknesses specific to the markets and industry verticals they intend to serve.

Market Fit Grid

While the Solution Selection Matrix offers a three-dimensional framework to evaluate vendors across Product, Potential, and Presence, it still needs additional context. Factors such as which industry presence, key capabilities, service-intensiveness, and other attributes are required to make a well-rounded decision.

LNS Research's new Market Fit Grid framework is introduced to address this. This framework provides additional perspective on how well the solution fits its target markets across several aspects. This tabular framework provides binary (yes or no) insights across five dimensions—industry focus, core strengths, product types, solutions offered, and target user personas. Cells are highlighted where a vendor demonstrates significant focus or capability, offering a clearer picture of their market alignment.

In the below example, a sample Advanced Analytics vendor is illustrated as primarily targeting the Discrete industry, with core strengths in process monitoring and control. The vendor delivers its offering through a software-based model but does not include an open platform layer. It is important to clarify that even if this vendor has one or two customers outside the discrete space or can be configured to support asset monitoring use cases, these aspects will not be highlighted in the grid because they do not represent the vendor's primary focus or strengths.

Industrial AI: Advanced Analytics Provider				
Industries	**Discrete**	Batch/Hybrid	Process	Infrastructure
Core Strengths	Asset Monitoring	**Process Monitoring**	**Process Control**	Data Model
Products	Hardware	**Software**	Services	
Solutions	**Applications**	Data Platform	DataOps	Application Platform
User Personas	Maintenance/ Reliability Engineers	**Process Engineers**	**Frontline Operators/ Supervisors**	**Data Scientists/ Analysts**

Summary 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. Manufacturers should apply a proven methodology to make the right choice quickly and confidently to eliminate worries around alignment, time, cost, and risk in solution selection.

Here are some final recommendations for manufacturers looking into Industrial AI and Advanced Analytics solutions and initiatives:

1. **Don't do AI for AI's sake:** An Industrial AI and Advanced Analytics initiative, like any other strategic initiative, should be aligned with the company's overall business objectives. Understand your C-suite's objectives and build your Analytics strategy to deliver on those objectives.

2. **Balance data and analytics needs:** At this point, it is well-known that good data is a fundamental prerequisite to good (and accurate) analytics. This includes establishing connectivity, conditioning & contextualization, hiring the right personnel (data engineers, solution architects, data stewards, etc.), and building governance processes. However, putting your analytics initiative on hold for months and years to fix data issues is not a practical solution; data issues must be continuously solved along with your analytics initiatives.

3. **Take a user persona-based approach:** The most common way to apply Industrial AI is by beginning with the use cases- identifying business problems needing analytics. However, LNS' research has shown that focusing on use cases is not the best approach to pivot from vision to value. Instead, take a user-persona-based approach, where you identify analytics needs for each type of user, such as engineers, business users, data scientists, executives, etc.

4. **Predictive analytics is not the beginning or the end.** Most companies in the early stages of Industrial Transformation (IX) maturity have much to gain from having data available and deploying predictive analytics. For companies a little ahead in their IX journey, there's a lot more to gain beyond predictive to prescriptive and prognostic capabilities and build a closed-loop self-learning model.

Summary and Recommendations (Cont.)

5. **A typical medium-to-large size company will need two to three types of software/platforms.** Let your business priorities, operational architecture, IT and OT organization structure, and manufacturing network's technical debt decide what combination of industrial applications, data platforms, and application platforms you will need for your Industrial AI needs.

6. **Beware of the Shiny Object Syndrome:** Time to value, ability to provide insights at scale to the targeted user personas, and technical capabilities often trump the precision of the model or the elegance of the solution.

7. **Understand your vendors' core focus and financial strength:** Many, but certainly not all, vendors are growing in today's manufacturing environment. When challenges arise, vendors retreat to their strengths and core product offerings. Make sure that your most pressing needs align with your vendors' core strengths and understand their current financial position and strategy to avoid unpleasant surprises down the line.

8. **Resist the temptation to DIY.** Ask yourself, "What is our core competency? Are we in the software product development and support business?" Beware of sets of analytics components that are pitched as easy to integrate but, in reality, have initial costs that are the tip of the TCO iceberg, degree of difficulty, and time to value. Apply the Industrial Transformation Reference Architecture (section II) to decide if you need.

9. Most importantly, do not let the challenges around this solution selection process 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 References

This Industrial AI: Advanced Analytics Solution Selection Matrix research was conducted based on the following published materials:

1. Industrial AI definition in What is Industrial AI: The Hype, The Facts, and The Path Forward
2. Definition of Advanced Industrial Analytics as outlined in What is Advanced Industrial Analytics (AIA)?
3. Industrial AI use case categories: Five Ways Industrial AI is Shaking Up Manufacturing (and Who's Doing It)
4. The approach to grouping Advanced Industrial Analytics into three categories – pure play apps, data platforms, and application paltforms- can be found in this blogpost: Recipes for Success: A Culinary Guide for Advanced Industrial Analytics
5. This definition for Advanced Industrial Analytics is based on the broader IX Reference Architecture outlined here: Research Spotlight: From the Industrial Internet of Things (IIoT) Platform to Industrial Transformation Reference Architecture
6. Update on IIoT Market Dynamics: Changing Dynamics of the IIoT Market
7. LNS Research Vendor Evaluation Process highlighted here: How LNS Research Evaluates Vendors in Technology Domains

Vendor scores are summaries from their respective Vendor Profiles that will be available in the LNS Research membership library. Visit www.lnsresearch.com to learn more.

SOLUTION SELECTION
MATRIX

Industrial AI: Advanced Analytics | 2025 Guidebook

Authors:

Matthew Littlefield
President & Research Leader
matthew.littlefield@lns-global.com

Vivek Murugesan
Research Analyst
vivek.murugesan@lns-global.com