

Factory Analytics Platforms

MANUFACTURING

ESP Vendor Assessment Matrix

 CBINSIGHTS

What you need to know

Factory analytics platforms enhance operational visibility for manufacturers

From 2015 to 2020, manufacturers worldwide increased spend on Internet-of-Things (IoT) products by 4x. Factory analytics platforms put data collected by devices like industrial sensors to work by using it to provide broad visibility into manufacturing operations.

Increased data availability creates opportunities for analytics growth

The uptick in sensor data being generated and collected in modern factories creates axes for optimization through analytics tools, which means that the market for analytics will continue to grow.

Broad-based, mid-stage platforms lead

Analytics platforms working across many processes and industries lead in our analysis, with well-funded mid-stage startups accounting for a disproportionate percentage of leaders.



REPORT DETAIL

Factory analytics platforms provide insight related to production operations, inventory, supply chain, and safety in factory settings.

For this report, we reviewed hundreds of private technology companies to define the category and select 7 vendors for inclusion in the **ESP** matrix on page 3. Methodology details are on pages 37-40.

ESP scores the **Execution** and **Market Strength** of selected private companies, in order to determine their relative **Positioning** in the category.

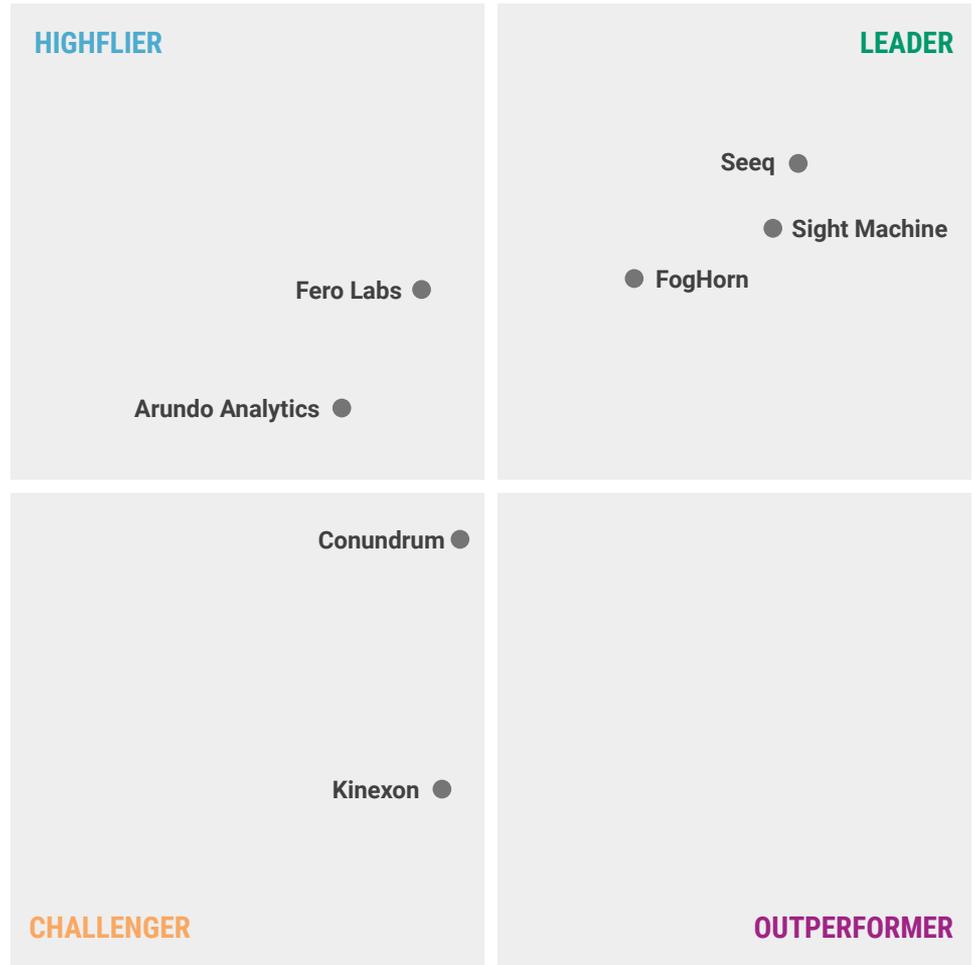
This analysis was completed in August 2021.

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ESP Vendor Assessment Matrix

EXECUTION STRENGTH



MARKET STRENGTH

The bottom line

Vendor	Quadrant	Key takeaways
Seeq	Leader	<ul style="list-style-type: none">• Seeq has grown its headcount by 50% over the past year. It also maintains strong partnerships, has developed a significant number of technology integrations, and recently raised a \$50M Series C.
Sight Machine	Leader	<ul style="list-style-type: none">• Sight Machine serves clients across a broad variety of industries and processes, from machine OEMs to glass manufacturers, leveraging 4 products to boost productivity and quality.
FogHorn	Leader	<ul style="list-style-type: none">• FogHorn's edge AI platform facilitates advanced analytics in manufacturing settings. The company has grown rapidly due to receiving significant industry CVC backing.
Fero Labs	Highflier	<ul style="list-style-type: none">• Fero Labs has grown rapidly over the past year, experiencing 115% employee growth. The startup provides machine learning-enabled software designed to improve KPIs across quality, overall equipment effectiveness (OEE), and energy usage.
Arundo Analytics	Highflier	<ul style="list-style-type: none">• Arundo is an early-stage analytics company that has developed a robust suite of AI-driven data extraction and categorization tools.

The bottom line

Vendor	Quadrant	Key takeaways
Conundrum	Challenger	<ul style="list-style-type: none">• Conundrum is an early-stage analytics platform targeting process manufacturing industries. The company has seen 150% customer growth over the past year.
Kinexon	Challenger	<ul style="list-style-type: none">• Kinexon's industrial sensor analytics product has seen notable success in gaining European industrial customers.

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Market Need & Traction

Why now?

Factory analytics platforms are riding a wave of new manufacturing data — arising from increased adoption of sensors and connected machinery — that is increasing in size, scope, and depth.

Typical product features/functions

- Equipment monitoring
- Predictive maintenance
- Process optimization
- Equipment/process digital twins
- Inventory management
- Quality control optimization
- OEE optimization
- Supply chain management

Who's buying it?

Function/business unit	Title
Manufacturing	Plant manager, VP of manufacturing, process engineer
Quality	VP of quality center of excellence, quality engineer
IT	Chief information officer, director of analytics
R&D	VP of R&D, head of data science

What outcomes can you expect?

- **Productivity:** Improved overall equipment effectiveness (OEE), increased throughput
- **Quality:** Yield improvement
- **Sustainability:** Energy savings, emissions reduction
- **Safety:** Reduction in safety incidents, improved procedural adherence

What your peers are doing



Ford established a dedicated analytics department, Global Data Insights & Analytics, in 2015 to implement AI/ML technology for manufacturing.



Boeing Sheffield has partnered with the UK's Advanced Manufacturing Research Centre and agreed to be a model and testing ground for industry 4.0 technology, including ultra wideband radio-frequency identification (RFID) and internal networks.



Covestro is trialing AI technologies at plants to help minimize energy consumption, and it is also launching its Covestro Analytics Platform for data scientists. Additionally, it is working with Emerson to design IoT tools meant to improve factory uptime.

Market Data

Funding

Factory analytics platform funding and deal count have fallen since 2017 and are on track for new lows. Mega-rounds are also rare in the space — markedly, the largest round raised by leader Seeq drew in \$50M from investors like Insight Partners.

Recent exit activity

Plex Systems, which delivers ERP and manufacturing automation solutions, was acquired by Rockwell Automation for \$220M in June 2021. **Predixion Software**, a cloud-based analytics platform, was purchased by Greenwave Systems in 2016.

Factory analytics dollars and deal flow fall from 2017

Disclosed deals & equity funding (\$M), 2017 – 2021 YTD (9/14/21)



Source: cbinsights.com

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Company Profiles

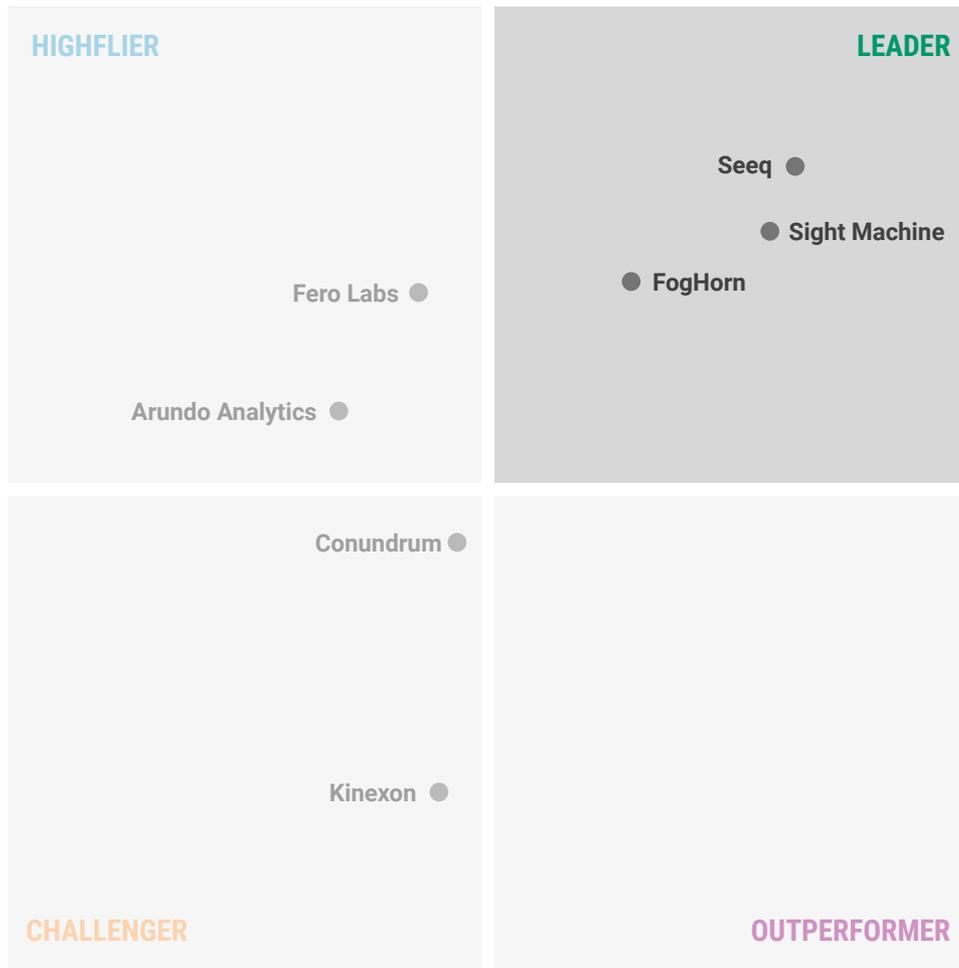
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LEADER

ESP Vendor Assessment Matrix

EXECUTION STRENGTH





Company/ product factsheet

View profile on  CBINSIGHTS



Product description

Seeq provides analytics for process manufacturing and IIOT data sets. The company provides multiple products that analyze data from several sources, including from Honeywell, GE, and OSIsoft. Seeq products help operators analyze machine performance, material inputs, process throughput, and supply chain networks.

Competitive positioning

Seeq positions itself as a process manufacturing specialist, serving clients in the raw materials, chemicals, mining, and oil & gas industries. The company specializes in the analysis of time series data generated by processing equipment in the manufacturing space.

Partnerships

Siemens
Tableau
Servelec Controls

Integrations

AWS
Microsoft
OSIsoft
Nukon





CB Insights viewpoint

Founded	HQ	Total raised	Estimated valuation	Last raised date	Last raised amount	Stage
2013	United States	\$133M	Undisclosed	Aug 2021	\$13M	Series C

Analyst spotlight

Seeq stands out as a leader in time series data analytics. Its products connect underlying data sources across both OT and IT teams and democratize access to scripting and model building through tools like low-code interfaces. The startup has proven fast time-to-value for teams ranging from 5K to 10K users. Seeq also differentiates itself by offering both cloud and on-premise analytics and data storage. The company has received some of the strongest backing in the market – its investors include Insight Ventures and Saudi Aramco, and Covestro and Allnex are among those included in its portfolio.





Market and execution strength

Market strength

Commercial outcomes

NOTABLE CLIENTS

Shell

Covestro

Lonza

Value proposition

Seeq accelerates “time to insight” in manufacturing operations, in order to increase throughput, reduce resource consumption, increase asset uptime, and improve quality.



Execution strength

Financial status and health

NOTABLE INVESTORS & PARTNERS

Seeq’s investors include a mix of VCs and manufacturing and energy industry corporate investors. Corporate investors include next47 (Siemens), Chevron Technology Ventures, Saudi Aramco Energy Ventures, Cisco Investments, and Phillips 66.





Company/ product factsheet

View profile on  CBINSIGHTS



Product description

Sight Machine provides a suite of manufacturing analytics software. The software runs on factory or plant IIoT data, and provides insights related to productivity KPIs, multivariable analyses (like batch configurations), and process variability.

Competitive positioning

Sight Machine has a broad product offering, and it works with discrete and process manufacturers across various industries – such as automotive, food and beverage, and raw materials – to address a wide range of use cases.

Partnerships

Google
BCG
Fujitsu
E.ON
Mitsui

Integrations

AWS
Microsoft





CB Insights viewpoint

Founded	HQ	Total raised	Estimated valuation	Last raised date	Last raised amount	Stage
2013	United States	\$87M	Undisclosed	Sep 2019	Undisclosed	Series C

Analyst spotlight

Sight Machine is a leader in AI-driven solutions for the factory floor, particularly due to its ability to pull in many data streams and provide a live model of industrial operations. The solution stands out due to its breadth of applications, with solutions for operations leadership, IT teams, and engineers that manage discrete and continuous manufacturing processes. The firm also has a strong partner roster, including Microsoft and Accenture, that helps distribute and implement the platform.





Market strength

Commercial outcomes

NOTABLE CLIENTS

E.ON

Carbon Revolution

Nissan

Value proposition

Sight Machine focuses on using real-time OT data to provide insights into batch quality, asset health, process variability, and other operational aspects.

Execution strength

Financial status and health

NOTABLE INVESTORS & PARTNERS

Sight Machine's investors include a mix of VCs and manufacturing corporate investors. Corporate investors include the Sony Innovation Fund and E.ON. Venture capital investors include O'Reilly AlphaTech Ventures, IA Ventures, and Mercury Fund.





Company/ product factsheet

View profile on  CBINSIGHTS



Product description

FogHorn provides edge intelligence: data collected, stored, and analyzed at the point of production. The company's Lightning platform ingests data from a variety of sources, including machine vibration, audio, temperature, pressure, and imaging, for analysis that reduces cost and improves efficiency and quality in manufacturing operations.

Competitive positioning

FogHorn's edge solution provides lower latency analytics than non-edge products. In addition, FogHorn operates across a wide range of use cases and manufacturing processes.

Partnerships

GE
Bosch
Honeywell
Accenture
Cisco

Integrations

Intel
ARM





CB Insights viewpoint

Founded	HQ	Total raised	Estimated valuation	Last raised date	Last raised amount	Stage
2014	United States	\$83M	\$160M	Feb 2020	\$25M	Series C

Analyst spotlight

FogHorn is one of the most established mid-stage startups in the manufacturing analytics space, with proven results and established partnerships. The company has successfully deployed its edge AI solution in oil & gas facilities across various locations. In addition, FogHorn's robust partnership and integration network make it a low risk choice for implementing edge/AI solutions.





Market strength

Commercial outcomes

NOTABLE CLIENTS

GE

DAIHAN

Shindler Elevator Corp.

Value proposition

FogHorn's edge technology allows manufacturers to run analytics in remote locations and reduce latency for multiple applications. The company offers solutions that can be deployed and show ROI quickly. FogHorn facilitates KPI improvements across efficiency, resource consumption, and safety.



Execution strength

Financial status and health

NOTABLE INVESTORS & PARTNERS

FogHorn's investors include a mix of VCs and manufacturing corporate investors. Corporate investors include Intel Capital, Saudi Aramco Energy Ventures, Robert Bosch, Honeywell Ventures, and GE Ventures. Venture capital investors include March Capital Partners, Darling Ventures, and Forte Ventures.



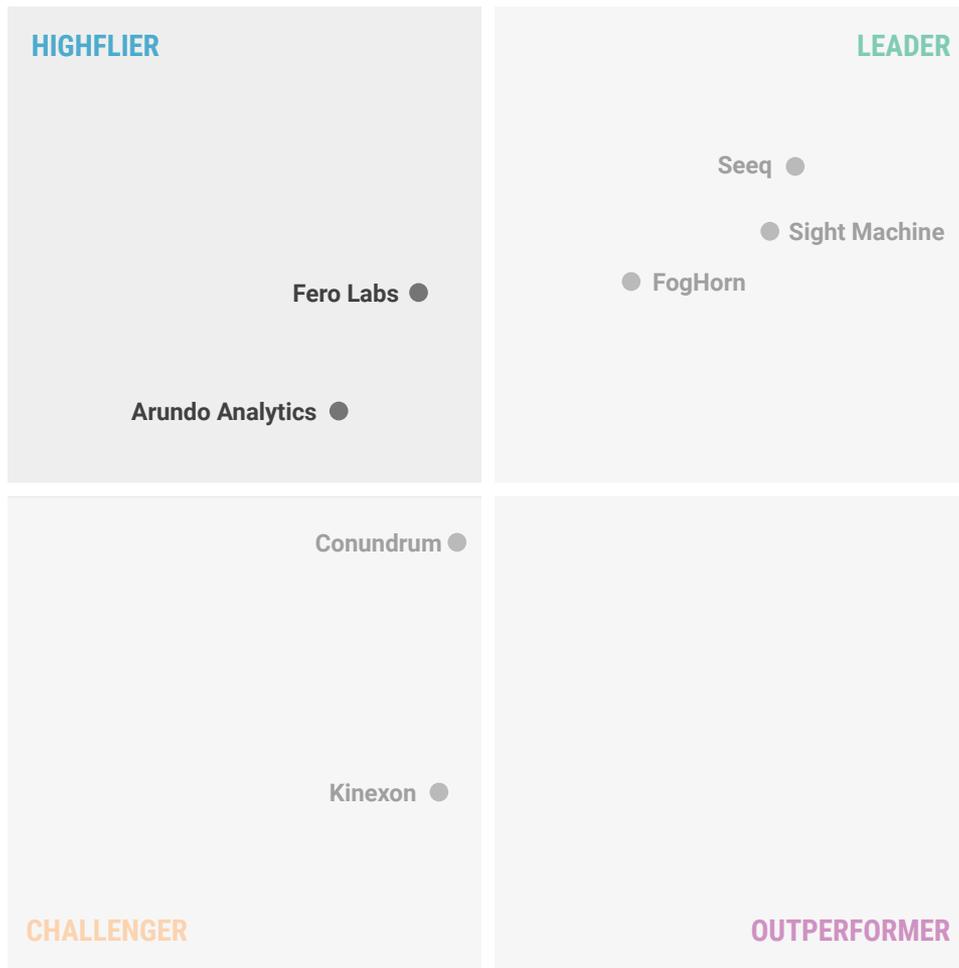
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HIGHFLIER

ESP Vendor Assessment Matrix

EXECUTION STRENGTH



MARKET STRENGTH



Company/ product factsheet

View profile on  CBINSIGHTS

Product description

Fero Labs provides AI/ML-driven analytics software for manufacturers. The company's software provides actionable insights that drive improvements related to production, quality, and emissions.

Competitive positioning

Fero positions itself as an explainable ML tool, providing visibility into how its solutions make recommendations to operators.

Partnerships

Microsoft

Siemens

Integrations

No notable integrations have been disclosed.





CB Insights viewpoint

Founded	HQ	Total raised	Estimated valuation	Last raised date	Last raised amount	Stage
2016	United States	\$13M	Undisclosed	Jul 2021	\$9M	Series A

Analyst spotlight

Fero Labs is an established early-stage startup that has seen notable success with explainable machine learning solutions. Fero's solution optimizes for interconnected problems that manufacturers face today – including emissions, profitability, and market demand. The solution differentiates itself by incorporating explainability, which allows engineers to understand how and why Fero's solutions make recommendations.





Market strength

Commercial outcomes

NOTABLE CLIENTS

Covestro

Volvo

Ford

Value proposition

Fero's solutions incorporate ML explainability, predictive maintenance, and energy usage forecasting to help facilitate reductions in operating costs, emissions, and lead times.

Execution strength

Financial status and health

NOTABLE INVESTORS & PARTNERS

Fero investors include Innovation Endeavors, Deutsche Invest Capital Partners, Henkel Ventures, and Sinovation Ventures. Partners include Microsoft and Siemens.



ARUNDO

Company/ product factsheet

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Product description

Arundo Analytics is an advanced data analytics company focused on asset-intensive industries.

Competitive positioning

Arundo positions its platform around easily interpretable custom analytics, ease of scaling across large asset networks, and a narrower focus on complicated industrial operations.

Partnerships

WorleyParsons
Dell Technologies
DNV GL

Integrations

No notable integrations have been disclosed.



Founded	HQ	Total raised	Estimated valuation	Last raised date	Last raised amount	Stage
2015	United States	\$25M	\$151M	Jan 2018	\$25M	Series A

Analyst spotlight

Arundo Analytics focuses on large industrial clients in areas associated with high monitoring demands and connectivity complexity, including oil rigs and energy applications. The company's product suites are largely focused on helping ease integration difficulties and simplify data visualization and querying. The company's solutions are also geared toward the integration and updating of new sensor feeds.



Market strength

Commercial outcomes

NOTABLE CLIENTS

Dietsmann

MacGregor

Value proposition

Arundo helps manufacturing clients categorize, search, and extract insights from operational data. The company's DataSeer product allows users to avoid time consuming categorization & search and transform raw data to insights within minutes.

Execution strength

Financial status and health

NOTABLE INVESTORS & PARTNERS

Arundo investors include Northgate Capital, Canica, and Arctic Fund Management. Partners include ABB, Acteon Group, Veracity, and WorleyParsons.



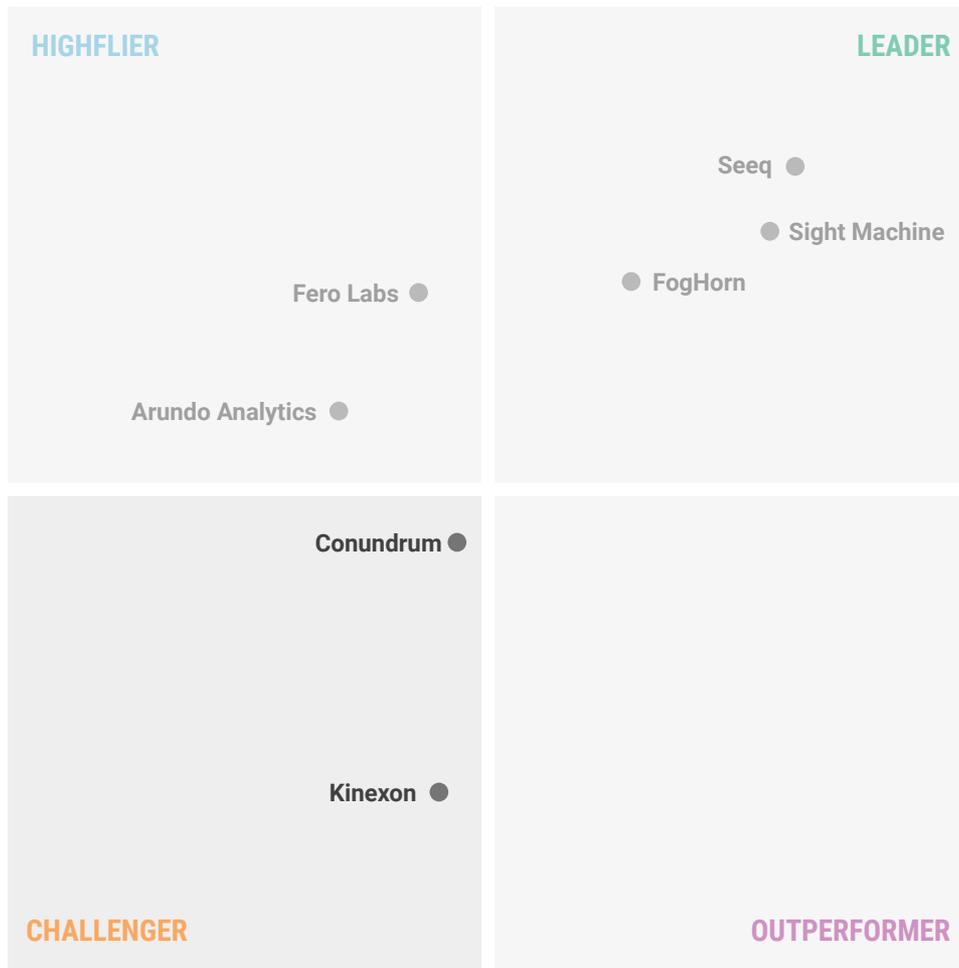
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CHALLENGER

ESP Vendor Assessment Matrix

EXECUTION STRENGTH



MARKET STRENGTH



Company/ product factsheet

View profile on  CBINSIGHTS



Product description

Conundrum provides a suite of analytics solutions for predictive maintenance, quality control, and production optimization. The platform uses time series data from metals, mining, and steel production processes.

Competitive positioning

Conundrum specializes in process manufacturing and uses AI and deep learning frameworks to generate insights for operators. The company's platform can be run either on premises or in the cloud.

Partnerships

Nvidia
McKinsey

Integrations

No notable integrations have been disclosed.



Founded	HQ	Total raised	Estimated valuation	Last raised date	Last raised amount	Stage
2017	United States	\$1.5M	Undisclosed	Sep 2019	Undisclosed	Incubator

Analyst spotlight

Conundrum is an seed-stage analytics startup, founded in 2017, that has seen notable, early success in selling to the metals, mining, and steel industries. The company's AI-driven approach has won recognition — notably, Conundrum participated in NVIDIA's Inception program for leading AI-forward companies.



KINEXON

Company/ product factsheet

View profile on  CBINSIGHTS

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Product description

Kinexon is focused on the development of precision tracking and monitoring solutions. This includes smart analytic engines, cloud-based web services, and hardware like small wearable devices.

Competitive positioning

Kinexon focuses exclusively on a platform for location tracking that includes flow and tool management. It also places an emphasis on the utilization of wearables location data.

Partnerships

AWS
Employment Background Investigations Inc.
PlaySight

Integrations

No notable integrations have been disclosed.



Founded	HQ	Total raised	Estimated valuation	Last raised date	Last raised amount	Stage
2012	Germany	\$18M	Undisclosed	Nov 2020	\$18M	Loan

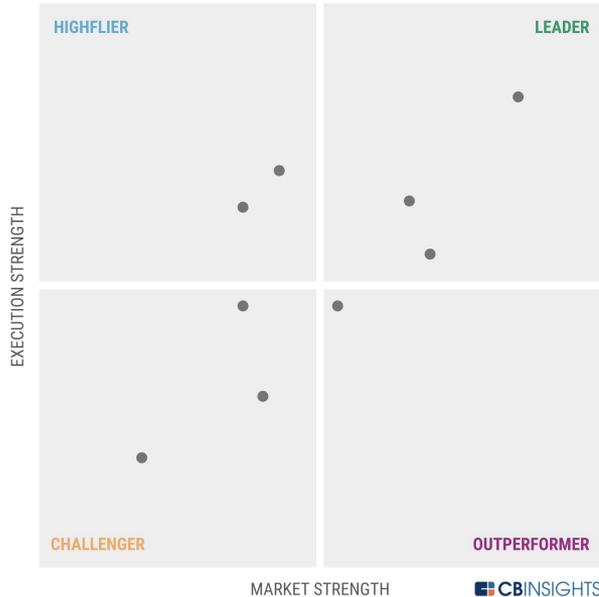
Analyst spotlight

Kinexon has seen a heavy uptick in interest related to its wearable product. This interest is particularly evident within sports leagues focused on athlete performance management and Covid-19 social distancing, like the NBA and Bundesliga. While its wearables have seen the most public attention, the company also offers an array of industrial products, including bolt-on robotics control systems and sensors, equipped with RFID and continuous monitoring capabilities. The latter products are likely well-positioned as industrial firms seek to onboard more automation technologies, although these products may end up simply acting as data sources for better-funded and broader-reaching visibility products.



Methodology

At a glance: ESP Vendor Assessment Matrix



How do I use the ESP Matrix?

- Technology buyers can identify vendors, gain a view into top vendors, and identify the relative traction of companies within a specific tech market.
- Decision makers looking at partnerships, investments, and M&A – or scouting a tech market ahead of a build, buy, partner decision.

How does the ESP Matrix work?

- The spatial positioning through our proprietary methodology allows for an easily absorbed view into fragmented technology markets
- Each quadrant may be of interest depending on tech buyers' aims:
 - Leaders are established in the category with rounded offerings
 - Outperformers are high in momentum with promising capacity
 - Highfliers are robust in resources and rich in opportunity
 - Challengers may surprise on the upside and credibly threaten established market conventions

At a glance: ESP Vendor Assessment Matrix

How are vendors selected for the matrix?

- Analysts choose the tech providers which should be considered for decision makers' short lists. These selections are based on data and on analysts' industry knowledge.
- Preference is given to vendors for which we have complete data. Although it is not a requirement, vendors which respond to a survey may have an advantage over those that do not.

What data is used to position vendors on the ESP Matrix?

Y Axis – Execution Strength	X Axis – Market Strength
Products and services	Total addressable market
Financial status and health	Value proposition
Sales model and go-to-market strategy	Packaging and pricing
Company details	Brand and marketing
Management team and leadership	Commercial outcomes

The methodology

The ESP matrix is the distillation of data and analyst insight into a clear picture of key private-company players in a technology market. The proprietary methodology integrates difficult-to-find inputs such as patent applications, business relationships, and private-company filings. It also incorporates Mosaic, our National Science Foundation-backed quantitative indicator of company health. The full array of signals — also including web, funding, and people data — determine a company's positioning relative to its peers. As the report is prepared, each company is evaluated against the same criteria in order to arrive at an easy-to-digest and consistent view into a market.

The ESP does not propose to be a complete picture of a tech market or a comprehensive view into its participants. The ESP focuses on private companies in each market under examination. It begins with a bottom-up view of the category by reviewing hundreds of company descriptions and

competitors through the CB Insights technology insights platform. Vendors are invited to respond to an online survey which collects additional data. The data on each of the companies is reviewed by our team of analysts who verify and augment the information collected and organized by our technology. Through distinct stages of analysis considered in the methodology, companies are selected for final inclusion in the matrix based on the overall quality as well as strength of signals pertaining to Market and Execution.

Some of the companies or vendors included in this report may be CB Insights clients. However, we never give preference to clients in the selection process. Companies cannot pay to be represented in the reports.

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