

# Magic Quadrant for Process Mining Tools

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Process mining tools deliver visibility and insights to technology innovation leaders that enable smart decision making and strong performance on an organization's critical priorities. Here, we examine market forces and the leading enterprise vendors for such software.

## Strategic Planning Assumption

By 2025, 80% of organizations driven by the expectations of cost reduction and automation-derived enhanced process efficiency will embed process mining capabilities in at least 10% of their business operations.

## Market Definition/Description

*This document was republished on 5 April 2023. The document you are viewing is the corrected version. For more information, see the [Corrections](#) page on gartner.com.*

This Magic Quadrant for Process Mining Tools is the first version of this Magic Quadrant. It replaces the [Market Guide for Process Mining](#).

Process mining tools are designed to discover, monitor and improve processes by extracting knowledge from events captured in information systems to continuously deliver visibility and insights.

Process mining includes automated process discovery (i.e., extracting process models from an event log), conformance checking (i.e., monitoring deviations by comparing model and log), social network/organizational mining, automated construction of simulation models, model extension, model repair, case prediction, and history-based recommendations. <sup>1,2</sup>

Process mining tools must include the following features (see [Critical Capabilities for Process Mining Tools](#) for detailed descriptions):

- **Process models and analysis** – Models of processes, exceptions and process instances (mostly referred to as “cases”), and employee interactions – automated discovery of process models,

exceptions and process instances, together with basic frequencies and statistics.

- **Journey models and analysis** – Support for customer interactions, customer journey maps and related analysis – automated discovery and analysis of customer interactions, as well as alignment with internal processes.
- **Comparative process mining** – Conformance/compliance-checking and gap analysis capabilities – capabilities to check conformance and compliance, not only graphically through overlays, but also through data analysis and performing gap analysis.
- **Process model enhancement** – Intelligent support for process model enhancement – enhancing or extending existing or a priori process models by using additional data from the recorded logs and events.
- **Data access and preparation** – Data preparation and data quality, data integration, supporting big data – different ways to handle data.
- **Business activity monitoring and management** – Real-time dashboards with support for key performance indicators (KPIs) that are continuously monitored and enable decision support – real-time or near-real-time connections to continuously monitored and adapted KPIs in dashboards for specific roles in the organization.
- **Advanced process analysis** – Predictive analysis, prescriptive analysis, scenario testing and simulation – advanced process analytics capabilities that use contextual data.
- **Task mining** – Inferring useful information from low-level event data available in UI logs. These UI logs describe the single steps within a task done by a user, for example, in using a workstation, based on keystrokes, mouse clicks and data entries.

Tangential capabilities that organizations often also consider when evaluating process mining products are:

- **Process orchestration** – A platform that extends the process mining capabilities across different processes with advanced analytics capabilities and decision management capabilities and that also offer APIs to create process mining apps. This allows organizations and partners of the process mining vendors to create applications such as financial auditing tools.
- **Execution support** – Execution capabilities that turn insights into action. These capabilities could range from simple updating source applications (applications that delivered the events for process mining) to preparing or creating scripts that support the execution of tasks.

## **Magic Quadrant**

Figure 1: Magic Quadrant for Process Mining Tools



## Vendor Strengths and Cautions

### ABBYY

ABBYY is a Leader in this Magic Quadrant. The process mining offering we assessed is ABBYY Timeline version 5.3. ABBYY also offers ABBYY Intelligent Document Processing (IDP).

Timeline focuses mainly on handling unstructured, case-based, ad hoc processes in addition to structured business processes. Coupled with ABBYY's Intelligent Document Processing solutions, it uncovers insights from unstructured and semistructured document types found in case-based business processes. ABBYY's operations are geographically spread out, but most resources are in the U.S. ABBYY supports clients in many industries, but its major clients are in banking and financial services, healthcare and pharma, and high tech and telecom. In 2023, ABBYY plans an updated user experience, process simulation that automatically runs scenarios and makes recommendations for

process improvement actions, and new capabilities for Timeline and ABBYY IDP. It also plans to add Timeline to the ABBYY marketplace.

### **Strengths**

- **Process understanding:** ABBYY has promoted the process mining market in general, helping to build awareness of the value, functionality, partnering strategies, underlying technology and verticalization of process mining solutions. All ABBYY marketing and awareness campaigns lead with the vision that digital transformation begins with the process and process understanding.
- **Document and text data:** ABBYY was the first vendor to realize the potential value of extending process mining with unstructured or semistructured information captured in documents. ABBYY IDP reveals additional information that increases insights into how processes are behaving.
- **Task automation:** ABBYY has emphasized the use case of process mining for robotic process automation (RPA). ABBYY Timeline has a prebuilt integration with Blue Prism and the rest of its products. This is through Blue Prism Process Intelligence (BPPI), which is an OEM version of Timeline.

### **Cautions**

- **Support requirements:** ABBYY Timeline has added substantial clients and has had a compound annual growth rate (CAGR) of 138% since its acquisition by ABBYY in August 2019. In light of an ambitious roadmap, ABBYY's challenge will be to keep up with the required resource growth and the necessary skills. Customers should sign up for the necessary support.
- **Customer experience:** According to Gartner Peer Insights, ABBYY Timeline received cautionary remarks about the complexity of the user interface and the limitation on connectors. Although ABBYY intends to address the user interface issues in 2023 and extend its integration capabilities, clients should assess the user experience and verify the connector capabilities they require immediately and over the next year.
- **Customer journeys:** ABBYY has made progress in covering journeys (client and employee) – as opposed to processes – but is lagging in the representation of these specific models. Based on how well ABBYY handles unstructured case management, we expect it will add functionality in upcoming releases, but clients looking for this functionality should assess these capabilities upfront.

### **Appian (Lana-labs)**

Appian is a Niche Player in this Magic Quadrant. The process mining offering assessed is Appian Process Mining version 5.5. This is also a component of Appian Platform. Appian Process Mining integrates the acquired LANA Process Mining toolset into the Appian low-code automation platform. This enables discovered processes to be used to jump-start automation projects in Appian. It also enables Appian process analytics data to be fed into Appian Process Mining. Appian's operations are

geographically spread out. Appian supports clients across all industries, focusing on financial services, public sector, manufacturing and healthcare/life sciences. Its plans include creating a template-supported approach to speed time to value through a process analysis assistant that provides a customer-value-focused interface and delivers insights through automated process analysis. It also plans a templated scorecard for environmental, social and governance (ESG) reporting (e.g., emission reduction) and benchmarking.

### ***Strengths***

- **Market positioning:** Appian's aim is to build a new category of a holistic process management platform that integrates process mining into Appian. The platform can convert any discovered process model automatically into an Appian workflow (model to workflow), mine Appian records to obtain end-to-end process insights, and measure the cost savings delivered by an Appian app.
- **Sales strategy:** By working with its existing customer base, Appian introduces process mining as a way to validate the efficiency of Appian workflows and showcase the ROI of automation. For new prospects, process mining is a compelling story for discovering opportunities for process automation (app/workflow/automation) and optimization.
- **Process execution:** The Appian platform is well-constructed for the execution use case of process mining, whether acting on triggered thresholds during runtime or by exporting process models during design time. The Appian platform enables secure execution and monitoring of RPA capabilities for task-level automation, enterprise-grade workflow for applications, and process orchestration across bots, humans and scripts for business process management.

### ***Cautions***

- **Automation use case:** Appian mainly focuses on an end-to-end process automation use case (RPA, business process automation ([BPA] and low-code application platforms [LCAPs]), but still supports process mining as a stand-alone offering. Automation is the biggest driver of the adoption of process mining and accounts for approximately 40% of all use cases. Clients considering nonautomation use cases should verify alignment to the experience and support delivered by Appian and its implementation partners.
- **Customer experience:** According to Gartner Peer Insights, Appian provided a limited number of references, mainly because of its acquisition of Lana Labs in August 2021. (Over 70 organizations started using Appian Process Mining in 2022.) Based on these limited insights, predominantly on Lana Labs references, Appian received a lower client experience score in comparison with the other vendors assessed for this report.
- **Advanced analytics:** Although Appian is a long-term leader in business process automation, it is still developing its low-code capabilities in advanced process analytics, such as predictive analytics, advanced time-series analysis, simulation and decision modeling. Capabilities like

predictive analytics and advanced time-series analysis are available through customized dashboards.

## **Apromore**

Apromore is a Leader in this Magic Quadrant. The process mining offering assessed is Apromore version 8.3. UltimateSuite is an additional product, not included in Apromore. Apromore started as a spin-off project of the University of Melbourne. It is a commercially supported open-source process mining tool that implements the full spectrum of process mining functionality and focuses on real-time predictive process monitoring and simulation capabilities. Apromore's operations are based mainly in Australia and Europe, but it has a growing presence in North America and Latin America. Apromore's clients are mainly in the banking, financial services, insurance, logistics and public sectors. In 2023, Apromore plans automated process improvement, prescriptive process monitoring, AI-augmented process improvement, and AI-based explanations of the differences between compliant/noncompliant cases or overperforming/underperforming cases.

## **Strengths**

- **Ease of use:** Apromore emphasizes its easy-to-use features, data integration, flexible deployment options that can support industries with sensitive data, and no-code capabilities. It provides quick time to value, with rapid deployment and only short training needed to start gaining actionable insights (typically two to three months).
- **Pricing model:** Apromore maintains a highly flexible model: per named user (for small teams); per project (for consultants); and enterprise packages with three tiers based on maximum volume of a dataset, total volume across datasets, and number of named users. It sells connectors and predictive process monitoring as add-ons. This model enables Apromore to serve process mining consultancies and midsize-to-large enterprises.
- **Task mining:** As one of the first vendors exploring task mining, Apromore collaborates with task mining vendors on an opportunistic basis. Apromore has a formal partnership with UltimateSuite. As part of this partnership, Apromore has developed an extract, transform and load (ETL) pipeline to ingest task mining logs from an UltimateSuite server, as well as dashboard templates that provide standard analytics on task-level logs.

## **Cautions**

- **Verticals:** Apromore, partly because of its small size, has focused on certain vertical expertise in certain regions (e.g., banking, financial services and insurance globally, government in Europe, and logistics in Asia/Pacific). Potential clients should verify availability of and access to experienced resources or partners for timely implementation and continued support.
- **Product (monitoring):** Apromore's business activity monitoring capabilities are less developed than those of other vendors in this research. Apromore supports delta uploads at cadences of down to one hour, while others support them in near real time. In 2023, Apromore plans to develop

a business activity management component that connects strategic business objectives to a metrics hierarchy. Potential clients should verify actual availability and stability.

- **Operations:** Apromore may find it challenging to grow its operations while maintaining product and support quality. While Salesforce's December 2022 investment in Apromore may have a positive effect, potential and existing customers should verify Apromore's ability to sustain customer support and product investment.

## **BusinessOptix**

BusinessOptix is a Visionary in this Magic Quadrant. The process mining offering assessed is BusinessOptix Process Mining version 7.0. BusinessOptix Process Mining is also a component of the BusinessOptix Process Transformation Suite. BusinessOptix is an integrated platform that includes process mining alongside capabilities such as process modeling, scenario modeling and simulation, operating models, work instructions, and transformation dashboards and maps. It is designed to support organizations improving their processes at departmental, functional and organizational levels. BusinessOptix's operations are mainly in the U.S. and Europe, but it has a growing presence in Asia/Pacific. BusinessOptix's clients are mainly in consulting, financial services and banking, business process outsourcing (BPO), pharma, research and education. Its plans include the generalization of its process recommendation engine to non-risk-related areas, an automated learning capability for organizational and operational transformation plans, further improvements of process mining and simulation to customer journey maps, and more vertical solutions.

## **Strengths**

- **Market understanding:** BusinessOptix markets the value of process mining within a bigger story that links process and operational insights to big strategic initiatives, such as digital optimization and digital transformation. Connecting process mining to business operation models lifts the process perspective to an organizational level, supporting strategy-to-execution capabilities and delivering an example of a digital twin of an organization (DTO).
- **Business solutions:** BusinessOptix has created specific solutions on its platform, such as process mining for operational resilience (financial sector), process mining for SOX compliance and task mining for the creation of standard operating procedures.
- **Innovation:** BusinessOptix gives an insight into how the extended process mining market could emerge. BusinessOptix's combination of process modeling, process mining, process capture by crowdsourcing, predictive and prescriptive analysis, simulation capabilities, and its strong scenario testing set the platform apart from others.

## **Cautions**

- **Execution:** BusinessOptix is a small but growing organization that markets process mining within the larger context of a DTO. This is a complex message. Because of its size, its dependency on large consulting and systems integrators, and its focus on an emerging but promising market,

BusinessOptix's execution in the pure process mining market is lower than that of the other vendors in this research.

- **Operations:** Because of its growth (over 100% in 2022), BusinessOptix may be challenged to grow its operations while maintaining product and support quality. While BusinessOptix bridges some of these operational "growth pains" through partnerships with large consulting and system integration partners, and received additional external investment in December 2022, potential and existing customers should verify BusinessOptix's ability to sustain customer support and product investment.
- **Advanced process mining functionality:** BusinessOptix is less focused than the "pure" process mining vendors on the newest features of process discovery, such as object-centric process mining, parallelism and advanced filtering capabilities.

## **Celonis**

Celonis is a Leader in this Magic Quadrant. The process mining offering assessed is Celonis Execution Management System (EMS), which is a process mining platform. Celonis EMS is a containerized, microservices-based cloud platform. Beyond process mining functionality, this cloud solution also provides real-time data ingestion, including streaming data (from the Lenses.io acquisition), task mining, and machine-learning-based process modeling and simulation. It also provides process-intelligence-driven action flows that steer user actions or directly automate actions in source systems. Celonis's operations are geographically spread out through 22 offices worldwide. Western Europe, the U.S. and Japan are its core geographic markets. Its clients span all industries. Celonis plans a new foundational technology that will represent a business in terms of real-world objects and events, rather than traditional event logs. This innovation is focused on bringing data at scale, speed and security; and fresher insights with real-time data, enhanced task mining and intelligent execution.

## **Strengths**

- **Execution:** Celonis has helped put the process mining market on the map and has dominated the market since its commercialization. Celonis has the largest customer base in this market (over 3,000 clients). We estimate its market share at more than 60%. It led two rounds of Series D funding, each of \$1 billion (June 2021 and August 2022).
- **Innovation:** In November 2022, Celonis launched major innovations on its EMS platform including Process Sphere and Business Miner. The Process Sphere innovation is based on object-centric process mining technology that enables additional perspectives and provides the ability to answer questions not possible with traditional event-log-based process mining. Business Miner transforms the user experience through a question-and-answer-based process mining framework.
- **Open platform strategy:** Besides launching more prebuilt content (apps, connectors, models, automations), Celonis has developed a framework for partners to extend Celonis EMS. This



framework, based on APIs and developer tools, enables developers to build powerful applications on top of Celonis EMS, taking advantage of its data and intelligence.

### ***Cautions***

- **Pricing:** Connecting high-end pricing and required licenses for business users to the end-to-end processes in scope is difficult for many organizations. It requires clients to have a deep understanding of the overall process and how it relates to bottom-line results. Most clients need consulting and implementation support from Celonis or a partner, which is an additional cost but helps deliver the business case and success.
- **Customer experience:** In Gartner Peer Insights, apart from pricing, clients referred to the steep learning curve and complexity (mainly due to the extensive functionality and the high level of flexibility). Customers also expressed issues with the availability of accurate support (probably due to Celonis's enormous growth rate) and scaling the initiative across other parts of the organization.
- **Task mining:** Celonis's task mining capabilities are basic and lag behind its other capabilities. But we expect Celonis will improve these capabilities, having recently (November 2022) launched a new Workforce Productivity solution that focuses on improving employee experience using task mining.

### **Fluxicon**

Fluxicon is a Niche Player in this Magic Quadrant. The process mining offering assessed is Disco version 3.2. Disco is the most popular stand-alone, analysis-focused process mining tool. The Disco founders developed the first mining algorithm able to deal with complex processes, and they pioneered the "slider" approach to interactive process map simplification. The team at Fluxicon invested in the process mining community by spreading the word and developing the methodology for applying process mining in practice. Fluxicon's operations are based in the Netherlands. Its clients span all industries worldwide. Fluxicon's plans are specific to the stand-alone and analysis-focused nature of the product. It doesn't have a public roadmap. This provides the flexibility to reprioritize based on customer feedback and in line with its strategic planning for the product, which is to provide a fast and easy-to-use process mining tool that works out of the box and preserves the privacy of the data analyzed.

### ***Strengths***

- **Stand-alone process mining:** Fluxicon serves the need for a stand-alone, analysis-focused process mining tool that analyzes all data locally and can also be used completely offline. Fluxicon promotes process mining as a discipline that is centered around hands-on professionals. It aims to give them the tools and knowledge to apply process mining efficiently, interpret the results and act on the insights.

- **Customer experience:** Disco does not require an implementation project or consulting services on its customer site. Customers can start very quickly, and Fluxicon supports them to become successful process miners. This is reflected in Gartner Peer Insights, where customer references put Fluxicon in the top position, giving it the best overall Net Promoter Score (NPS).
- **Analysis of complex processes:** The models and analysis capabilities in Disco build on a process mining algorithm (Fuzzy Miner), developed by one of the founders of Fluxicon, and handle complex processes strongly. Disco also supports the detection of parallelism (activities performed in parallel or overlapping in time).

### ***Cautions***

- **Core capabilities:** Fluxicon focuses on the common process mining core, or what we refer to as the core capabilities (process models and analysis, journey models and analysis, comparative process mining, and process model enhancement). Disco does not compete with the all-encompassing solutions provided by big vendors that cover all adjacent functionalities (such as modeling, monitoring and execution).
- **Integration:** Disco focuses on analyzing processes and has limited monitoring-based capabilities. Disco works mainly via file import (Excel and CSV) and has limited integration capabilities, making use of its Airlift API. Clients requiring extended monitoring and integration capabilities should use a separate solution or check alternative or complementary offerings.
- **Enterprisewide support:** Large-scale process mining projects will find it difficult to obtain enterprisewide support. Fluxicon is a small organization that supports a stand-alone tool and is oriented toward personalized, sometimes individualized, support services.

### **IBM**

IBM is a Challenger in this Magic Quadrant. The process mining offering assessed is IBM Process Mining version 1.12.0.5. This is also part of the wider IBM ecosystem portfolio. Blueworks Live is an additional product of IBM. IBM entered the process mining market by acquiring myInvenio in April 2021. This fits into IBM's strategy of providing organizations with a one-stop shop of AI-powered automation capabilities for business automation, including process mining, RPA, document processing, workflow and decisions. IBM Process Mining is offered through multiple part numbers depending on deployment mode: OpenShift, SaaS and on-premises through IBM Cloud Paks. IBM's process mining operations are mainly based in Europe and are expanding in the U.S. IBM Process Mining customers are mainly in the banking; automotive; manufacturing; transportation; insurance and professional services; information, communications, technology (ICT); retail; and energy and utilities sectors. IBM's plans include AI-powered automation, SAP process analysis accelerators, custom accelerator frameworks and data streaming integration.

### ***Strengths***

- **Market positioning:** By adding process mining, IBM now provides a more complete solution for intelligent automation. It combines capabilities to automatically analyze processes, identify improvements and corrective actions, and automatically apply the required changes through AI-powered automation. IBM offers an integrated Enterprise Business Process Analysis (EBPA) solution, connecting to a dynamic model of the process that considers the wider organizational context.
- **Automation accelerator:** IBM's marketing strategy focuses on IBM Process Mining as an individual tool and how it fits within the scope of automation for use with additional automation software, such as RPA and workflow automation. Its strategy is to use IBM Process Mining as an automation accelerator to complement its offerings.
- **Verticalization:** IBM has subject matter experts (SMEs) with deep knowledge of individual markets (such as finance and manufacturing). It will use these SMEs and global systems integrators (SIs) to bring the cross (e.g., procure to pay) and vertical (e.g., Maximo and finance process) accelerators to market.

### ***Cautions***

- **Automation use case:** Although IBM still supports process mining as a stand-alone offering, it focuses mainly on the intelligent automation and hyperautomation use cases. This automation (RPA, BPA and LCAP) use case is the biggest driver of the adoption of process mining, but it is still approximately only 40% of all use cases. Therefore, clients considering use cases other than automation should verify them with the experience level and support that IBM and its implementation partners deliver.
- **Customer journey product:** Compared to the other vendors in the research, IBM performed below average for customer journey modeling and analysis. Neither the mining product nor the connected business process models (Blueworks Live) refers to the typical table representation of customer journeys or the typical CX measurements and metrics. Clients pursuing this particular use case should check their requirements with the offered functionality.
- **Customer experience:** IBM has been rated a relatively low score on support and support services during onboarding and implementation. Clients – although most of these clients implemented the myInvenio product – have pointed out that the documentation on onboarding is insufficient and therefore some degree of technical expertise, usually not available in organizations, is needed. Prospects or clients should sign up for all possible support from IBM or its partners to ascertain the level of support during onboarding.

### **MEHRWERK**

MEHRWERK is a Leader in this Magic Quadrant. The process mining offering assessed is the mpmX platform. We did not assess additional platform partner solutions (such as Symbio, NICE and Camunda). MEHRWERK is a software and services company in the data and process analytics

market. MEHRWERK combines business intelligence (BI) software and services with process mining technology. MEHRWERK's operations are mainly based in Europe but are expanding in the U.S. The clients of mpmX are mainly in banking and financial services, insurance, automotive and manufacturing, IT and telecom, retail, and energy and utilities. MEHRWERK's plans include automation and execution capabilities, AutoML-powered self-service, combining object-centric process mining and automation, and solution marketplaces.

### ***Strengths***

- **Market vision:** MEHRWERK believes the market will move toward self-service process mining and autonomous process execution. This requires well-functioning data governance, with users working independent of the IT department. This trend will lead to much faster adoption of the technology and faster implementation within organizations. It will result in active business operations intelligence as the basis for autonomous process execution.
- **Data access and management within a platform:** mpmX runs natively on Qlik's BI platform (Qlik Sense, SaaS and on-premises), without a need to have a licensed Qlik platform in place. This provides mpmX with all the platform capabilities of Qlik, such as augmented intelligence, natural language processing, self-service, real-time and big data integration, and data governance and its associative engine.
- **Innovation:** MEHRWERK is the first commercial process mining vendor to offer object-centric process mining (OCPM), which will gradually be implemented in other vendor offerings. MEHRWERK has introduced machine-learning-based predictive and prescriptive analysis, and added integration platform as a service (iPaas) and workflow orchestration.

### ***Cautions***

- **BI platform:** Although the combination of several best-of-breed components within a single platform delivers flexibility and no lock-in effects (independence), it needs more attention because partner solutions evolve and change. Using Qlik's platform as a base could raise questions with clients that have implemented other BI platforms. Clients should check the degree of overlap (e.g., in reporting) and knowledge required of the Qlik environment.
- **Geographies:** MEHRWERK has more than 40 offices in Germany but has a limited presence elsewhere, relying on partners outside Germany. Judging by the company's expansion in recent years of its customer base in North America and Asia/Pacific, and its strong partnership with Qlik, we expect MEHRWERK will invest heavily in its global presence. New customers should confirm the vendor's support in the regions where they operate.
- **Offering:** MEHRWERK does not support business operations models from an organizational perspective. These organizational models go beyond business process model and notation (BPMN) models. Clients searching for this organizational approach should check these advanced requirements with MEHRWERK's capabilities.

## Microsoft (Minit)

Microsoft is a Challenger in this Magic Quadrant. The process mining offerings assessed are Minit version 5.6 and Microsoft Power Automate Process Advisor. Both products are components of the Power Platform. In March 2022, Microsoft acquired Minit, so most of the assessment in this research is based on Microsoft's vision and Minit's execution. Microsoft analyzes complex processes based on different hierarchical levels. Its process mining operations are mainly based in the U.S., and clients span all industries. Microsoft's plans include closer integration of Minit and Process Advisor into a single, cloud-based, scalable SaaS product as part of the Microsoft Power Platform. Its plans also include wider and deeper integration of process mining into the Microsoft product ecosystem, and AI-based techniques to simplify and streamline data integration.

### *Strengths*

- **Hyperautomation:** Microsoft has strengthened its hyperautomation offering by bringing together process mining (Minit) and task mining capabilities (Process Advisor). The combined offering is built on top of Azure and is deeply integrated with the Power Platform, which spans data preparation in data flows, dashboards in Power BI and value generation by various parts of Power Automate.
- **Sales network:** Microsoft has one of the largest partner technology networks and will sell its process mining tools through solution partners for business applications. Partners within the Power Platform network will also deliver process mining and related solutions.
- **Power Platform clients:** Power Platform has 25 million multiplatform application users (MAUs) (not including portals) and 7.4 million developers. Activating this user base for process mining is a key strategy for the future. We expect its growth will match that of the Power Platform and Power Apps.

### *Cautions*

- **Automation use case:** Microsoft mainly focuses on end-to-end process automation and task automation use cases (RPA, BPA and LCAP), but still supports process mining as a stand-alone offering. The automation use case is the biggest driver of the adoption of process mining and accounts for approximately 40% of all use cases. Clients considering nonautomation use cases should verify alignment to the experience and support delivered by Microsoft and its implementation partners.
- **New product:** Minit has been using Qlik components (Qlik Associative Engine and Qlik Cognitive Engine) as a key differentiator for interactive dashboarding, augmented analytics and visualizations. Microsoft has overhauled and replaced these capabilities with Power BI in its new product, which was released after our cut-off date of 1 May 2022. Clients requiring these capabilities should check on availability in the new product.

- **Customer experience:** In Gartner Peer Insights, many customer references rated the product lower than products of most other vendors in this research. Most of these customers were using Minit's products before Microsoft acquired it and mentioned that the Minit products were not cloud native, had generic connectivity and had subpar execution capabilities. Microsoft may have addressed these capabilities in their new product, therefore we suggest customers confirm its support of these capabilities in the new product.

### **Pegasystems (Everflow)**

Pegasystems is a Niche Player in this Magic Quadrant. The process mining offering assessed is Pega's process mining (Everflow) and Workforce Intelligence. Both are components of the Pega Platform. In May 2022, Pegasystems acquired Everflow, so the assessment in this research is based on Pegasystems' vision and Everflow's execution. Everflow aimed to democratize the use of process mining by mixing advanced process mining and machine learning techniques with big data. Pegasystems offers process mining stand-alone or within its Pega Platform under the umbrella of Pega Process AI. Pegasystems' operations are geographically spread out, with most resources in the U.S. It supports clients across all industries, focusing on financial services and insurance, telecommunications, manufacturing, utilities, healthcare and the public sector. Pegasystems' plans include the convergence of task and process mining, learning tasks based on AI functionalities, and seamless deployment with Process AI and Process Fabric.

### **Strengths**

- **Continuous process improvement:** Pegasystems is well-positioned to support the full process life cycle. Pega identifies process problems with process mining and task mining; automates issues with Pega RPA, low-code apps and back-end workflow; and orchestrates processes and events through Pega Process Fabric. It continually monitors and analyzes processes to recommend and to automatically act on AI intelligence with Pega Process AI.
- **Automation:** Everflow had great capabilities in process mining (user friendly for nontechnical users, high scalability for large datasets, continuous monitoring and advanced process mining algorithms). Connecting these capabilities with Pegasystems' experience in process automation and its marketing power will impact the automation landscape.
- **Market vision:** Pegasystems has identified process mining as a significant driver in process intelligence, orchestration and autonomous actions. It sees a clear path through a business operations intelligence approach to the autonomous enterprise/business.

### **Cautions**

- **Automation use case:** Pegasystems mainly focuses on an end-to-end process automation and orchestration use case (RPA, BPA, case management and LCAP), but still supports process mining as a stand-alone offering. The automation use case is the biggest driver of the adoption of process mining and accounts for approximately 40% of all use cases. Clients considering nonautomation

use cases should verify alignment to the experience and support delivered by Pegasystems and its implementation partners.

- **Execution in general:** The timing of the acquisition means that this assessment of execution capabilities is based on Everflow's execution in the process mining market. Everflow was small and geographically limited, so new customers should check on Pegasystems' progress in integrating Everflow in support of process mining capabilities in all the regions in which they operate.
- **Customer experience:** Few client references are available because the new offering has not been available long. However, Pegasystems has been successful for 20 years, so more client references could become available rapidly.

## **QPR Software**

QPR Software is a Visionary in this Magic Quadrant. The process mining offering assessed is QPR ProcessAnalyzer version 2022.3. QPR ProcessAnalyzer extends the process mining concept with automated one-click root cause analysis, advanced influence and clustering analyses, and machine learning and predictions. While QPR ProcessAnalyzer can operate on top of any data lake using its in-memory engine, it is the only process mining software running natively in the Snowflake Data Cloud benefiting from its scalability and single data policy. QPR's operations are mainly based in Finland. The company's clients are mainly in Europe, the U.K. and the United Arab Emirates, and are in the manufacturing, CPG, life sciences, retail, telco and financial services sectors. QPR's plans include taking AI/ML to the next level based on scalable computing power and application frameworks from Snowflake. They also include employing decision intelligence to raise the use of AI for prediction from individual case level to process level.

## **Strengths**

- **Offerings:** QPR, one of the process mining pioneers, has been involved in its application in almost all imaginable use cases. QPR has productized ready-made applications that provide ready-made charts, dashboards and data source connections using the available QPR Connectors for all of these use cases.
- **Innovation:** QPR introduced the only process mining product to run natively in the Snowflake Data Cloud. This approach brings the use cases and related workloads to where the data is, instead of copying data to a stand-alone island for process mining purposes. The solution guarantees off-the-shelf scalability beyond one-billion-row event logs, data security and effortless data governance for process mining.
- **Market responsiveness:** As governance, risk and compliance (GRC) is a big and growing market, QPR has a special focus on process mining's potential in this context. This is because of the increasingly strict regulatory environment, the complex and dynamic global business environment, rising security threats, and privacy leaks resulting from digitalization and the sharing of large amounts of data.

## ***Cautions***

- **Geography:** QPR has a limited geographic presence. It has sales offices in Finland, France, the U.K. and the United Arab Emirates. All of its support staff are based in Finland. Its partners are limited mainly to regional partners and some selected large international systems integrators such as TietoEvry and NTT DATA. New QPR customers should confirm its support in all the regions in which they operate.
- **Customer experience:** The product needs more implementation and integration efforts than most of the offerings in this research. This is reflected in the high services component of its process mining revenue, Gartner Peer Insights' references and inquiries with large clients. As QPR provides all direct implementation capacity from Finland, new clients elsewhere should check on partner availability.
- **Operations and business model:** In November 2022, QPR Software completed a reorganization to adapt the company's operations, structure and related personnel costs to meet the requirements of a scalable business model. This may have an impact on its current operations and business model.

## **SAP Signavio**

SAP Signavio is a Leader in this Magic Quadrant. The process mining offerings assessed are SAP Signavio Process Intelligence and SAP Signavio Process Insights, version 16.6.0. Both are components of the SAP Signavio Process Transformation Suite. In March 2021, SAP acquired Signavio, a cloud vendor that specialized in innovative, easy-to-use products in the BPM/BPA and decision management markets. Combining SAP Signavio with SAP's Business Process Intelligence unit has strengthened SAP's ability to help companies quickly understand, improve, transform and manage their business processes at scale. SAP Signavio's operations are geographically spread out. EMEA, North America and Asia/Pacific/Japan are its core markets, and its clients span all industries. The plans of SAP Signavio include variant-aware process mining, embedding SAP Business Technology Platform data management, object-level modeling, AI-enabled insights and explainability, and an enhanced API.

## ***Strengths***

- **Market positioning and vision:** SAP Signavio process mining solutions are part of an end-to-end transformation suite for process excellence initiatives and business transformations. In SAP Signavio's vision, new perspectives such as experience, resources, people, skills and ESG will extend traditional process mining. Customer journeys and process observability will be major themes.
- **SAP client ecosystem:** SAP has aligned SAP Signavio with the overall SAP go-to-market approach to interlock new sales plays more strongly with SAP industries and other SAP solutions and programs. A Starter Pack helps to position SAP Signavio with RISE with SAP customers.



- **Journey models:** SAP Signavio combines process mining data and insights with customer journeys. Each journey can be linked to processes modeled in SAP Signavio Process Manager, IT systems, organizational units, risks and controls, as well as experience data from experience platforms (such as Qualtrics).

### ***Cautions***

- **Pricing:** SAP Signavio has a complex pricing model and two products for process mining. The SAP Signavio Process Transformation Suite also includes SAP Signavio Process Collaboration Hub (and users), SAP Signavio Process Governance (and users) and SAP Signavio Journey Modeler (and users). New clients should study each capability and align with the internal capabilities they require.
- **Task mining:** SAP Signavio doesn't offer native task mining capabilities but follows an open-ecosystem strategy with selected strategic and commercial partnerships. One of its preferred solution partners has limited capabilities. We expect that SAP Signavio will move into partnerships that deliver best-in-class task mining capabilities.
- **SAP.** Although SAP Signavio still supports process mining as a stand-alone offering, and its strategy is system-agnostic, its solutions are showing a larger focus on SAP-related use cases since the acquisition. These use cases are a big driver of the adoption of SAP Signavio process mining, but they represent only a part of all possible use cases in this market. Clients considering use cases other than SAP-related ones should verify them with the experience level and support that SAP Signavio and its implementation partners deliver.

### **Software AG**

Software AG is a Leader in this Magic Quadrant. The process mining offering assessed is ARIS Process Mining version 10. ARIS Process Mining is part of the ARIS Suite. WebMethods, CONNX, Cumulocity and StreamSets are additional products. The ARIS Suite also includes business process modeling and analysis, customer journey modeling and analysis, task discovery and automation (RPA), and business process automation (BPA). ARIS Process Mining does not depend on predefined process models in ARIS, but can use the mined processes for process conformance checking within the ARIS repository. Software AG's operations are geographically spread out, and its clients span all industries. Its plans include an integrated solution gallery, DNA-analysis-inspired techniques to cluster similar process variants, data-driven discovery of decision models, and autonomous process drift-and-shift analysis.

### ***Strengths***

- **Market vision:** Software AG promotes and supports the digital backbone/connected enterprise concept that enables the application of other solutions such as Internet of Things (IoT) or process automation, covering all capabilities needed to support the full process life cycle and a DTO.

- **Process life cycle:** Software AG supports customers from the generation of process-mining-driven insights, through the simulation of process changes and their managed release, to the implementation of appropriate transformation action, and the assurance and verification of transformation success. Software AG couples this with compliance analysis that incorporates the latest research technologies for conformance checking with process fitness analyses and business rules evaluations.
- **Integration:** To further improve integration, Software AG provides native integration with webMethods, CONNX, Cumulocity and StreamSets. This provides data connectivity that goes far beyond typical business applications to include more than 450 out-of-the-box connectors, broad data lake connectivity, and connectivity to legacy and mainframe applications.

### ***Cautions***

- **Complex licensing models:** Software AG's process mining is a core product that comes in multiple versions. It is part of Software AG's ARIS Suite, which consists of different modules (BPA, robotic process discovery, RPA and WebMethods) available at an additional cost. Customers also pay per-user licensing, with multiple classes of users with distinct scopes of access and cost.
- **Flexibility comes at a price:** ARIS Process Mining offers great flexibility for configuring processes, but it can take a long time to learn to use the application and how to gain the most from its rich and advanced functionalities. Clients requiring these numerous capabilities should prepare for an additional cost in engaging with Software AG and its partners for the necessary support.
- **Non-ARIS clients:** Many of the extended capabilities (process repository, simulation and process analysis) are packaged as different offerings from Software AG. Non-Software AG clients considering specific process mining capabilities should verify the use cases and capabilities they need with the capabilities in ARIS Process Mining as a stand-alone offering.

### **StereoLOGIC**

StereoLOGIC is a Niche Player in this Magic Quadrant. The process mining offerings assessed are StereoLOGIC Integrated Task & Process Mining Platform, and StereoLOGIC Unattended Task Mining, version 2022. StereoLOGIC captures system-based events, as well as user-interface-based information, without the need to install anything on the employee's workstation. It recognizes that most employees perform tasks that are part of several processes, and that these tasks interact many times. StereoLOGIC offers a task-driven complete picture of the reality and can handle employee productivity comparisons or workload optimization over different processes and related tasks. StereoLOGIC's operations are based in Canada and the U.S. Its clients are mainly in North America in banking, financial services and insurance. StereoLOGIC's plans include extending its semantic recognition technology to identify the application used without installing or using templates, or having to engage with end users; obfuscation by using pattern recognition; and real-time monitoring.

### ***Strengths***

- **Task mining:** StereoLOGIC is unique because it starts from a pure task mining perspective. It captures events on an end-user desktop, terminal or mobile device, and applies several patent-based engines (data extraction, data recognition, instance recognition and image recognition) to derive the actual processes. StereoLOGIC also captures transactional data.
- **Data access and preparation:** Because of its task mining approach, StereoLOGIC does not need application connectors or data to be prepared for performing the task and process analysis. It immediately includes activities and data that are handled in local front-office applications, such as Microsoft Excel and collaboration tools. This leads to fast implementations and results being available in days or weeks.
- **Innovation:** StereoLOGIC includes an instance recognition engine to overcome the main difficulty in connecting task mining to process mining – a missing identifier to determine which steps belong to the same task or process instance.

### ***Cautions***

- **Task mining orientation:** The possible bias when deducting processes from a task level will be minimal if the tasks observed contain the start and end of a process, are well understood, and don't have too many interrelated activities that are based on exceptions. Clients considering process mining should be aware or inform themselves that StereoLOGIC is different from most task-based process mining tools and that it overcomes these issues by capturing non-desktop-based system events.
- **Geography:** StereoLOGIC's sales and marketing operations are focused mainly in North America, with some presence in EMEA, and all its support staff are based in Canada and the U.S. It has a limited number of partners. New StereoLOGIC customers should confirm the vendor's support in all the regions in which they operate.
- **Operations:** StereoLOGIC is still a small company. It is closely involved with its clients in delivering installation, implementation, close support and troubleshooting, consulting, training, customizations and integrations, and execution. This is at no additional cost, but it has an impact on scalability, so new clients should verify availability.

### **UiPath**

UiPath is a Challenger in this Magic Quadrant. The process mining offerings assessed are UiPath Process Mining and Task Mining, version 2022.4. Both are components of the UiPath Business Automation Platform. UiPath Communications Mining and UiPath Automation Hub are additional components of this platform. In 2019, UiPath acquired ProcessGold to complement its market-leading RPA platform with capabilities to discover opportunities for RPA implementations and to contextualize and monitor the implemented bots. UiPath Process Mining and Task Mining look at all attributes on two or more related processes and tasks in a single model. The analysis of these multiple interactions creates new insights and enriches the UiPath hyperautomation platform.

UiPath's operations are worldwide (it has 43 offices on five continents). UiPath's clients span all industries, although there is a concentration in banking, financial services, insurance, manufacturing, healthcare and government. UiPath plans new extract, load transform (ELT) editing capabilities for enhanced data transformation, connectors, templates and solution accelerators, OCPM, and enhanced integration with UiPath Task Mining, UiPath Communications Mining, and Automation Hub.

### **Strengths**

- **Market positioning:** UiPath's vision for the market is to help clients go beyond insights. It wants them to achieve a state UiPath calls Continuous Discovery, in which organizations continuously monitor and optimize their processes, automations, systems and resources. This vision encompasses all the use cases covered in this evaluation.
- **Automation opportunities:** UiPath says that process mining and automation execution go hand-in-hand for process transformation, business model innovation, and continuous monitoring of financial impact and operational KPIs. UiPath usually bundles process mining with the other elements of its platform (RPA, AI, iPaaS, LCAP, IDP, analytics and software testing) to drive hyperautomation strategies.
- **Integration with RPA:** Process Mining users can directly submit automation ideas surfaced from Process Mining into Automation Hub. The integration enables different stakeholders to exert greater control and governance over their automation pipeline.

### **Cautions**

- **Automation use case:** Automation is at the heart of UiPath's platform. The automation use case is the biggest driver of the adoption of process mining, but still accounts for only approximately 40% of all use cases. Clients considering use cases other than automation should verify their use cases with the experience level and support that UiPath and its implementation partners deliver.
- **Product:** UiPath started to enhance the product's functionality beyond the automation use case (such as scalability, enhanced dashboarding, enhanced comparison capabilities, additional filtering, application templates and SAP connectors) only in early 2022. Clients considering use cases other than automation should verify their use cases with the progress and support UiPath and its implementation partners are delivering on these new capabilities.
- **Advanced analytics:** Many advanced analytics capabilities (such as predictive process analytics beyond automation, prescriptive analytics, advanced scenario testing and simulation, and decision modeling) are still on UiPath's roadmap.

## **Inclusion and Exclusion Criteria**

To qualify for inclusion in this Magic Quadrant, vendors must meet all the criteria set forth across the following three dimensions.

**Performance:** The vendor had to have realized in 2021 one of the following:

- 2021 audited/reported annual tool licensing revenue of over \$5 million per year, or
- 2021 audited/reported annual tool licensing revenue of over \$2 million per year and at least 40% year-over-year growth, or
- mentioned as a considered vendor for evaluation in 10% of vendor-related Gartner inquiries in this market for the past two years.

**Geographic availability:** The vendor had to have:

- Active customers buying process mining tools in the last 12 months in at least two major global regions (major global regions are defined as EMEA, APAC, North America and South America).

**Process mining market focus:** Vendors needed to satisfy the following criteria:

- Independent software vendors had to have tools positioned to address the market for process mining tools (using Gartner's definition of process mining). Such tools must address all four common use cases, possess all the core capabilities, and most of the critical capabilities, as described in the Market Definition/Description section of this research.
- Have an active presence in the process mining market as demonstrated on its website, Gartner Peer Insights forum, social media and direct/indirect marketing materials that explicitly mention process mining.
- The product version on which both the questionnaire response and use-case demos are based must have been generally available to all customers for purchase since 1 May 2022.

## Honorable Mentions

The following vendors are not included in this research because they do not meet one or more of the inclusion criteria. All are active in the process mining market and, sometimes, compete against the vendors covered in this Magic Quadrant:

- **iGrafx (U.S.)** – Established vendor that has recently acquired process mining company LogPickr and is optimizing its new offering.
- **Puzzle Data (South Korea)** – Vendor that is currently expanding its process mining offering outside the Asia/Pacific region.
- **Datricks (Israel)** – Vendor that focuses on auditing and compliance, risk management, and process governance.

- **inverbis (Spain)** – Vendor that has been incubated from the University of Santiago de Compostela and is offering a process mining platform.
- **process.science (Germany)** – Vendor that delivers process mining on top of BI platforms, such as Power BI, Qlik Sense and Tableau.
- **workfellow (Finland)** – Vendor combining process and task mining to cover multiple use cases for both products.
- **DCR Solutions (Denmark)** – Vendor targeting companies in heavily regulated industries to digitize their processes, ensuring compliance and transparency.
- **Skand (U.S.)** – Task mining vendor that has recently expanded its offering into process mining, covering multiple use cases for both offerings.
- **mindzie (U.S.)** – Vendor that focuses on midsize to enterprise businesses with a low-code process mining platform.
- **Livejourney (France)** – Vendor with a focus on predictive analytics, recently acquired by QAD.

## Evaluation Criteria

In Magic Quadrants, Gartner positions vendors on two axes: Ability to Execute and Completeness of Vision. These axes reflect numerous criteria that measure each vendor's performance and its future vision. Vendors receive scores based on Gartner's methodology for Magic Quadrants. Vendors are invited to provide data for the evaluation criteria via questionnaires and briefings, but evaluations also reflect the results of Gartner customer insights and information gathered from client inquiries.

### Ability to Execute

We evaluated the vendors' Ability to Execute in the process mining tool market by using the following dimensions and criteria.

**Product or Service:** We assessed how and what the vendor's process mining offering delivers to process mining practitioners. These offerings could be packaged as a single product, multiple products, a platform, or in many cases stand-alone products that are also bundled as a component in a broader platform. In the case of broader platforms, we have assessed only the process mining component and mentioned the opportunities to connect to other components of the platform. The assessment includes current capabilities, quality, feature sets, as defined in the Market Definition/Description section. These capabilities can be offered natively or through OEM agreements/partnerships. Product assessments explore how well they meet the core and tangential capabilities and support the use cases.

**Overall Viability:** This included an assessment of the organization's overall financial health and the financial and practical success of the business unit. We also assessed the likelihood that the organization will continue to offer and invest in the product, as well as advance the product's position

within the organizational product portfolio. We looked at all forms of growth, including organic growth as well as acquisitions and the securing of additional funding. We valued organic growth more highly than other types of growth.

**Sales Execution/Pricing:** We assessed the vendor’s sales execution and clarity in pricing, including presales activities and the structure that supports them. This includes responsiveness in sales engagement, deal size and management, pricing and negotiation, presales support, scalability and the overall effectiveness of the sales channel.

**Market Responsiveness and Track Record:** We considered the vendor’s history of responsiveness to customer requests and changing market needs, including overall track record in the field. We gave high marks to vendors that were able to respond quickly and change development and/or company direction to meet the needs of an evolving marketplace.

**Marketing Execution:** We assessed the clarity, quality, creativity and efficacy of the vendor’s programs, campaigns and events designed to deliver its message to influence the market, promote the brand and business, increase product awareness, and establish a positive identification with the product/brand and organization in the minds of customers.

**Customer Experience:** We sought evidence of how products and services enabled customers to achieve anticipated results. We gave high marks for an excellent track record of successful implementations. We looked for clearly articulated mechanisms for ensuring customer success, how customers receive support and at what cost. We examined organizational responsiveness, availability of user groups and service-level agreements. We also factored in how customers experienced doing business with the vendor and their perceptions of the organization.

**Operations:** We evaluated the vendor’s ability to meet its goals and commitments. Factors considered included the quality of the organizational structure (such as skills, experiences, programs, systems, applicable standards, the underlying infrastructure and other vehicles that enable effective and efficient operations).

**Table 1: Ability to Execute Evaluation Criteria**

<b><i>Evaluation Criteria</i></b> ↓	<b><i>Weighting</i></b> ↓
Product or Service	High
Overall Viability	High

<b>Evaluation Criteria</b> ↓	<b>Weighting</b> ↓
Sales Execution/Pricing	Medium
Market Responsiveness/Record	Low
Marketing Execution	Medium
Customer Experience	High
Operations	Low

Source: Gartner (March 2023)

## Completeness of Vision

We evaluated the vendors' Completeness of Vision in the process mining tool market by using the following dimensions and criteria.

**Market Understanding:** We evaluated the vendor's understanding of customer needs and how it translates that into products and services. We looked for vendors to demonstrate a clear vision of their market, as well as how they listened for and understood their customers' underlying needs, and used that understanding to shape or enhance the market.

**Marketing Strategy:** We sought clear, differentiated messaging that was consistently communicated internally and externalized through the vendor's website, social media, advertising, customer programs and positioning statements. This included differentiating strategy based on regions, specific countries and buyer personas, and ways to measure and adapt the strategy.

**Sales Strategy:** We wanted to understand the vendor's sales strategy and how it leveraged direct and indirect sales, marketing, service, and communication. We also examined the use and reliance on partners to extend the scope and reach of the vendor, focusing on the levels of expertise and technology required, as well as the partners' services and customer base. This criterion also included target customer personas and sales strategies differentiated for their context, size, level of maturity and geographic locations.



**Offering (Product) Strategy:** We explored the vendor’s approach to developing a compelling product and service vision with an emphasis on market differentiation, functionality, methodology and features as they map to current and future requirements.

**Business Model:** Our assessment explored the design, logic and execution of the vendor’s business proposition to achieve continued success. This included support for customers in different deployment modes, alongside a vendor’s business capabilities, its overall value propositions, related profit models and the resources at its disposal.

**Vertical/Industry Strategy:** We assessed the vendor’s strategy to direct resources (sales, product and development), skills and offerings to meet the specific needs of individual industry segments, including any focus on specific industry verticals and associated standards, and an illustration of revenue performance from its top sectors.

**Innovation:** We explored the vendor’s innovation vision, considering its resources, expertise and capital for investment. We were looking for a strong product vision that pushes the market forward while considering the disruptive and opportunistic forces of digital on businesses. We also considered the vendor’s ideas for innovation and future development of the market.

**Geographic Strategy:** We looked at the vendor’s strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the “home” or native geography, either directly or through partners, channels and subsidiaries, as appropriate for that geography and market.

**Table 2: Completeness of Vision Evaluation Criteria**

<b>Evaluation Criteria</b> ↓	<b>Weighting</b> ↓
Market Understanding	High
Marketing Strategy	Medium
Sales Strategy	Medium
Offering (Product) Strategy	High
Business Model	Medium

<b>Evaluation Criteria</b> ↓	<b>Weighting</b> ↓
Vertical/Industry Strategy	Low
Innovation	High
Geographic Strategy	Low

Source: Gartner (March 2023)

## Quadrant Descriptions

### Leaders

Leaders have a deep understanding of the realities of the market, a track record of success and an ability to influence the market’s direction, along with an ability to attract and keep a growing customer base.

In the process mining tools market, leadership implies understanding, facilitating and supporting the diversity of use cases (operational excellence, audit and compliance, automation, digital transformation, strategy to execution, customer excellence) as well as the insights and opportunities of adding additional functionality, products and services to the core process mining offerings.

Leaders must not only demonstrate a market-leading vision, but also the Ability to Execute on that vision. At this point in development of the process mining tools market, six vendors have sustained excellence in both execution and vision long enough to demonstrate effective leadership.

Customers should note that a Leader is not always the best choice. A focused, smaller vendor can provide excellent support and commitment to suit individual needs. Other vendors may provide a certain capability – such as a focus on your industry, a better cost performance ratio, a specific use case, or a commitment to specific features or functions – that is important to your organization. This more focused type of vendor would not appear as a Leader in the overall process mining tools market; but, within a specific market segment or for a specific use case, it may well be treated as one.

### Challengers

Challengers excel in their ability to attract a large user following, but this ability is limited to a subset or segment of the market. For that target audience, Challengers are effectively Leaders, but that specificity presents a barrier to adoption for those outside that subsegment. For instance, in the process mining tools market, a Challenger may have a strong, proven presence or following in the automation segment, but due to this focus may lack sophistication in the evolving use cases or advanced functionality for other use cases in this market.

In this year's Magic Quadrant, three vendors acquired strong process mining capabilities but are predominantly focusing on the use case for automation. Alternatively, a Challenger might understand those use cases well and achieve a strong following in its home market, but still struggle to deliver the same levels of success on a global scale.

Although Challengers are typically of significant size with significant financial resources, they may lack elements of the vision we expect, innovative ideas and plans, or an overall understanding of market needs. In some cases, Challengers may offer products that dominate a large, but shrinking, segment of the market. Challengers can become Leaders if their vision develops. Large companies may move between the Challengers and Leaders quadrants as their product cycles and market needs shift.

### **Visionaries**

Visionaries in a market are the innovators driving the market forward by responding to emerging, leading-edge customer demands and by offering new opportunities to excel. Typically, these vendors appeal to leading-edge customers and may even have minimal mainstream presence or name recognition. Their ability to deliver sustained and dependable execution in the mainstream enterprise market is not sufficiently tested or has not yet reached the required level of awareness.

In this year's Magic Quadrant, there are two Visionaries. Visionaries can eventually grow to become Leaders. Alternatively, they may decide to limit their target markets to focus on their core competencies, core technologies or existing customers, or excel in a new market that still must mature and become Niche Players in this market. They could also develop their specialties to advance in execution and become Challengers.

### **Niche Players**

Niche Players choose to operate in a subsegment of a market, or they have a limited ability to innovate or outperform other vendors in the wider market. This limitation may result from a focus on a particular area of functionality, vertical industry or region, or because they are new entrants. Alternatively, Niche Players may struggle to remain relevant in a market that is moving away from them. Niche Players may have reasonably broad functionality, but limited implementation and support capabilities and relatively limited customer bases. Niche Players can often represent the best choice for a specific category of buyer or for a particular use case. They typically offer specialized expertise, focused support practices, flexible terms and conditions, lower costs, and greater dedication to a particular market segment and its customers.

The process mining tool market has four Niche Players. Some of these vendors have acquired process mining capabilities very recently, offer these as stand-alone offerings, and are mainly focused on a specific case (e.g., the automation use case), but they lack the execution on the offering in this market because of the short period of time since the acquisition. Other Niche Players only target a certain type of processes, such as ad hoc case-based work, and need additional functionality to focus on all process types, or choose deliberately to provide stand-alone capabilities. Some Niche Players are poised to improve their Ability to Execute and enterprise features allowing them to evolve into Challengers. Others will discover innovative solutions that attract interest beyond their niche segments, emerging as Visionaries. Some will look to strengthen and broaden their businesses to challenge the Leaders. In this fast-evolving and consolidating market, opportunities exist for all comers.

## **Context**

This Magic Quadrant focuses on process mining tools vendors' placement in the market, not specifically on the capabilities of their offerings. (For a more detailed evaluation of the product offerings, see [Critical Capabilities for Process Mining Tools](#).) Only two of the 15 evaluation criteria in this Magic Quadrant relate to product or service functions. The other 13 evaluation criteria focus on the vendors' ability to meet the requirements of this market (for details, see the Inclusion and Exclusion Criteria and Evaluation Criteria sections).

As part of our evaluation process, we used four key use cases that we believe are important to a process mining audience that vendors need to support to maintain relevance in the process mining tool market.

### **Use Case 1 – Improving Processes by Algorithmic Process Discovery and Analysis**

Process mining provides visibility and understanding of actual business operations and processes by applying a set of algorithms to events, resulting in highly adaptable, highly maintainable and highly validated process models. Besides identifying process inefficiencies, this technique delivers insight into where to improve operations (for example, in a digitalization initiative) and how to attain targeted business outcomes. By supporting process efficiency and effectiveness, process mining tools are key enablers of process improvement initiatives and their related disciplines. In this use case, data scientists typically support process improvement teams to discover, analyze, improve and optimize processes using methodologies such as Kaizen (lean); Plan-Do-Check-Act (total quality management); or define, measure, analyze, improve and control (DMAIC [Six Sigma]). Process mining is highly complementary to the traditional business process analysis area, enabling business process analysts to document, analyze and streamline, and redesign complex processes at a conceptual and logical level, regardless of any planned automation.

### **Use Case 2 – Improving Auditing and Compliance by Algorithmic Process Comparison, Analysis and Validation**

Most organizations have internally defined standard operating procedures, policies, work instructions and best practices baked into enterprise applications, such as ERP and CRM. Process mining helps validate or audit whether actual operations are in conformance with these defined operations. More accurate assessments of process deviations and compliance issues, such as segregation of duties, help manage these risks and communicate findings in an audit report. This also helps ensure the reliability of external financial reporting and compliance with external laws and regulations. In these cases, the stakeholders of process mining can be found in financial management and in risk and compliance teams. Another variation of this use case is the comparison and analysis of the same processes across different business units, subsidiaries or even countries (comparative process mining).

### **Use Case 3 – Improving Process Automation by Discovering and Validating Automation Opportunities**

Process automation initiatives have been delivering highly improved efficiencies, but they have resulted in limited sustainable business value because of the assumption that the actual data is available only after automation has been completed. This leads to less accurate process designs as input for the process automation. Process mining delivers the actual operational data before running into automation and supports making a more accurate business case on the improvement of business outcomes. Process mining will help business analysts discover and assess the opportunities for process automation. Quantifying the value of automating a process (or task) is huge. It effectively creates the business case for automation, which can be difficult for some clients to create on their own.

Task-level process automation, such as RPA, has often missed the process context and has not provided awareness of the changes that occur to the processes in which these tasks are embedded. Process mining will help in two ways: first, discovering the opportunities for task automation in a more holistic process context and, second, connecting automated tasks to its process context so that business process changes can be anticipated and reflected in these tasks.

In both process automation and task automation, the role of task mining can not be underestimated.

### **Use Case 4 – Supporting Digital Transformation by Linking Strategy to Operations and Creating a Resilient Organization**

If we shift the scope of process mining to the operational and organizational level, it is a small step to link these operational insights to big strategic initiatives like digital transformation or digital business. This is a growing use case that provides visibility, analysis and understanding around business operating models that provide (near) real-time information to all end users on how they are performing and what could be improved. In some cases, it has been reported that it also helps end users think about digitalization opportunities. Ultimately, if we consider the basics of process mining as being the sequencing of events, depending on where the events are coming from, we can recontextualize the techniques as creating client journey maps (events coming from client

interactions), supplier journey maps (events coming from supplier interactions), product life cycle maps (events coming from milestones in a product life cycle), system or application interaction maps, or even journeys how business capabilities are operationalized to provide value. In combining these extensions of process mining, this could be a kind of “business mining,” growing into an essential part of any business transformation initiative and could help in guiding digital business initiatives by providing the data connection parts of a digital twin of an organization.

## Market Overview

### Market Size

According to a 2021 Gartner study, [Forecast Analysis: Process Mining, Worldwide](#), global process mining software revenue grew 46% in 2021 and is projected to grow to \$2.3 billion by 2025 at a compound annual growth rate (CAGR) of 33% from 2020 through 2025. The key drivers continue to be accelerated digital transformation efforts, growing process visibility requirements and increasing demands for business operations resilience (see [Competitive Landscape: Process Mining Software](#)).

### Market Direction

Due to the industry-agnostic and object-agnostic nature, process mining has many application areas and can be used in a vast number of use cases. Indeed, process mining can be applied to any horizontal or vertical operation. If we abstract the technique as “sequencing events based on patterns,” it opens up an entire new audience. For example, if process mining tracks clients and their interactions, as well as their touchpoints with the organization as the main object rather than an order, invoice or request, then this can be seen as “customer journey mining.”

Therefore, Gartner sees three directions in which the process mining tool market will evolve.

#### 1. Business Operations Intelligence

An extended version of the pure-play process mining market with the critical and tangential capabilities that we have mentioned will gradually move into a platform for business operations intelligence. This platform will provide a dynamic model of any organization that relies on operational and/or other data to understand how an organization operationalizes its business model, connects with its current state, responds to changes, deploys resources and delivers expected customer value. This platform will combine all modeling, mapping, mining and monitoring, and support the execution of these models in real-life business operations. It will be the implementation of the design pattern that for years Gartner has defined as a DTO.

Most of the Leaders and Visionaries in this Magic Quadrant acknowledge this evolution.

#### 2. Market Consolidation and Acquisitions

Due to the strategic importance and growth in the use of models in modern business, and the fit for the capabilities with many other application vendors (task automation, business process automation,

service management, ERP and CRM), the process mining tools market remains an attractive expansion opportunity for vendors in these adjacent markets. We expect to see some vendors in adjacent market territories continue making strategic moves either by buying or launching their own process mining tools, as we have experienced recently.

The Challengers and some Niche Players have set the example.

### 3. Specialized/Focused Solutions

There will be a vast market for specialized or focused vendors. This specialization could be on vertical solutions (such as a certain quality process or an external auditing application), on horizontal solutions (such as financial processes, supply chain or logistics subprocesses), or on specific market segments (such as the small and midsize business market or stand-alone process mining tools).

There are some examples in the quadrant of Niche Players.

## Market Adoption

Gartner sees five main drivers for the adoption of process mining.

### 1. Digital Transformation

Digital transformation drives growth in business users' awareness of the benefits of analyzing and understanding their own processes and business operations in a broader enterprise context (see [Digital Business Ambition: Transform or Optimize?](#)). This is occurring as digital business and digital transformation have become major themes, and because processes are important constituents in the operationalization of these digital business initiatives. Furthermore, in this era of digital business, technology innovation leaders need a way to reflect on how these new technological capabilities can provide value to the business, and ultimately to the customer. Again, it's here that analyzing business operations, processes and customer interactions can show how and where to activate these capabilities to create business value.

### 2. Artificial Intelligence

Algorithms and several waves of artificial intelligence (AI) have been at the core of computing for decades. However, the ability to develop algorithms that act on vast amounts of data to identify patterns creates new opportunities (see [2023 Planning Guide for Analytics and Artificial Intelligence](#)). In the digitalized economy, business algorithms deliver new sources of value in business ecosystems. With the use of artificial intelligence and advanced machine learning algorithms, data acquires meaning, and new and powerful insights can be derived from it.

Process mining is a powerful example of this data science in action. It shows how algorithms can be used as a mechanism to capture knowledge and insight in a packaged form that can be simply reused in a consistent fashion.

### 3. Task Automation (RPA)

In most cases, tasks are part of processes and operations for which change is the most common characteristic. By accurately assessing the processes to which these tasks belong, we can identify areas in the organization where a lot of effort is wasted in repetitive tasks. Then, we can see whether these tasks can be partly or fully automated via RPA. This is where process mining can complement RPA to offer a wider context and help implement this task automation. This results in long-term sustainable business value and averts the shortcomings of a short-term perspective focused on large, one-off cost savings.

### 4. Hyperautomation

The current business reality is that organizations have a tremendous amount of “collective” debt (technical, process, data, architecture, talent, security and social) that significantly impacts their value proposition. The root cause is an extensive and expensive set of business processes underpinned by a patchwork of technologies that are often not optimized, lean, connected, consistent nor explicit. Organizations must deliver end-to-end automation by combining complementary technologies to augment business processes. Gartner calls this “hyperautomation” (see [Beyond RPA: Build Your Hyperautomation Technology Portfolio](#)).

Not only is process mining a fundamental part in creating visibility and understanding before you automate, it also visualizes how different islands of automation are connected, and how continuously implemented and connected automation can be improved through its monitoring capabilities. Lately the concept of process observability is also getting a lot of attraction (see [Top Strategic Technology Trends for 2023: Applied Observability](#)).

### 5. Business Operational Resilience

Operational resilience is a set of techniques that allow people, processes and information systems to adapt to changing patterns. It is the ability to alter operations in the face of changing business conditions. Operationally resilient enterprises have the organizational competencies to ramp up or slow down operations to provide a competitive edge and enable quick and local process modification.

Operational resilience uses information from “seek” and “model” to enable the third of these disciplines: “adapt.” To enable enterprises to adapt, operational resilience uses output from the “seek” and “model” disciplines, and returns information that serves as feedback that improves these activities as well (see [Process Mining Can Support Business Operations in Driving Resilient Growth](#)). The techniques underlying process mining provide a new and enhanced way to encompass the sense and model capabilities. Based on available day-to-day operational data, process mining continuously seeks and finds the relevant objective operational data. The advanced process mining algorithms then provide an accurate model of the ways of work in a format that anyone in the organization can understand. This ensures that everybody can be engaged in the change initiative.



Furthermore, it allows for continuous adaptation and improvement, because after the adaptation and the new operational data will give insights in the new adapted way of working.

## Evidence

<sup>1</sup> Process Mining Manifesto, IEEE Task Force on Process Mining.

<sup>2</sup> W. van der Aalst, "Process Mining: Data Science in Action," Springer Verlag, 2016.

## Evaluation Criteria Definitions

### Ability to Execute

**Product/Service:** Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

**Overall Viability:** Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

**Sales Execution/Pricing:** The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

**Market Responsiveness/Record:** Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

**Marketing Execution:** The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

**Customer Experience:** Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

**Operations:** The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

## Completeness of Vision

**Market Understanding:** Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

**Marketing Strategy:** A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

**Sales Strategy:** The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

**Offering (Product) Strategy:** The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

**Business Model:** The soundness and logic of the vendor's underlying business proposition.

**Vertical/Industry Strategy:** The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

**Innovation:** Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

**Geographic Strategy:** The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.

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