Market Guide for Task Mining Tools

Published 4 December 2023 - ID G00771902 - 33 min read

By Analyst(s): Marc Kerremans, Issa Kerremans, David Sugden

Initiatives: Artificial Intelligence; Talent and Performance Management

Task mining is a technique to infer information from low-level event data available in UI logs from a desktop or a device. This information helps IT leaders identify automation opportunities, improve employee experience, increase workers' productivity and justify AI use cases.

Overview

Key Findings

- Inefficiencies impair the process of capturing desktop-level tasks outside of transactional systems. Traditional techniques of process analysis focus on high-level activities and therefore do not capture these tasks — a shortcoming that results in inaccurate process discovery and automation scoping.
- Enterprises with many workers undertaking repetitive processes struggle to acquire the insights required to plan daily work better, reduce costs incrementally and optimize processes continuously.
- Growing adoption of (generative) AI tools necessitates the identification of optimal implementation areas and ongoing performance tracking.

Recommendations

Application innovation leaders responsible for implementing artificial intelligence techniques and digital business transformations should:

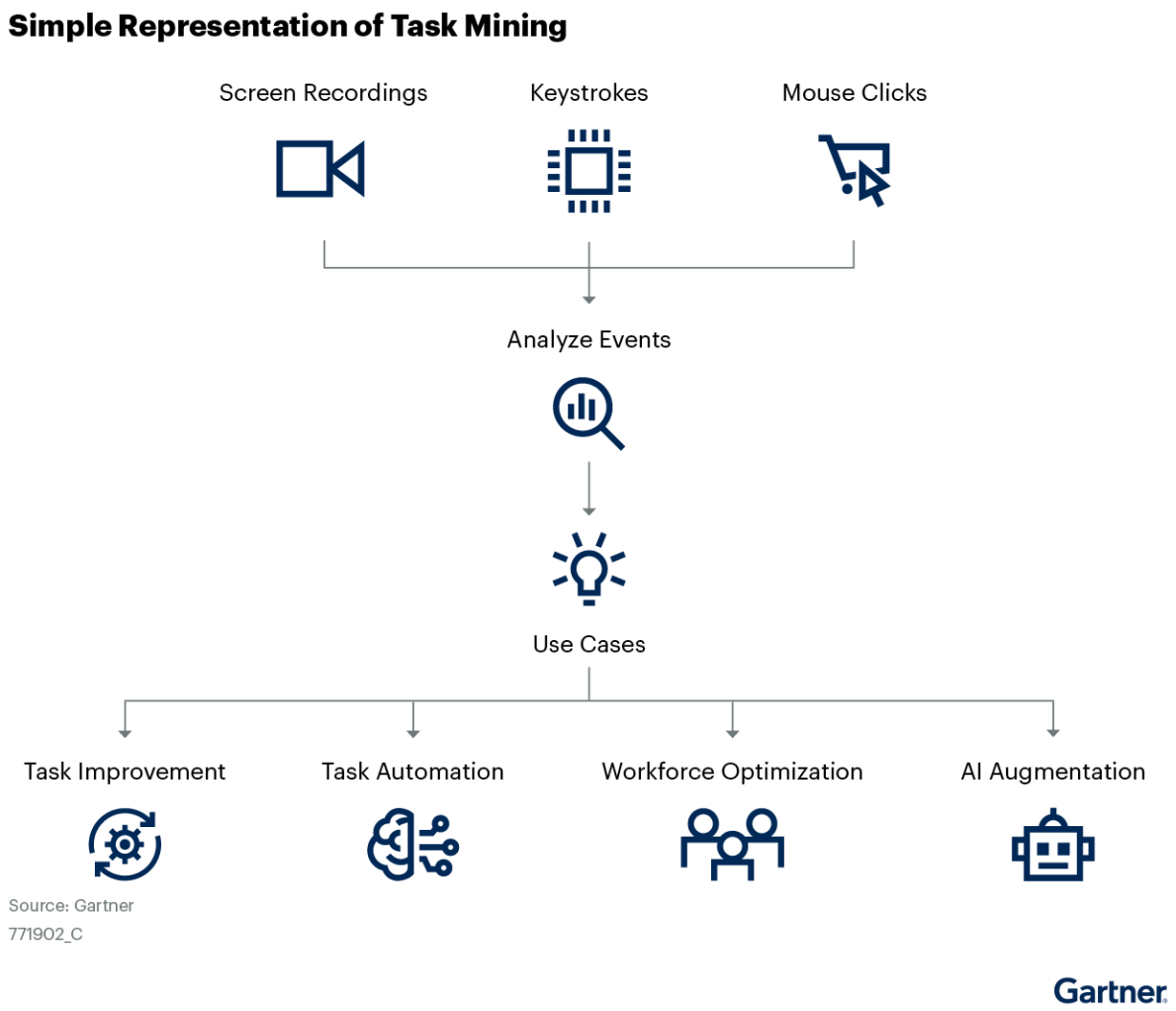
- Use task mining tools — either a stand-alone initiative or in conjunction with process analysis to discover end-to-end process automation opportunities — to identify desktop-level inefficiencies and task automation opportunities.

- Improve the employee experience by using task-mining tools to capture employees' interactions with their organization — everything from occasional onboarding exercises to daily activities — and analyzing them. The captured data can identify employees' pain points and potential training opportunities.
- Invest in task mining capabilities to maximize the impact of AI technologies within organizations, aligning them with business objectives and ensuring continuous improvements in AI-driven processes.

Market Definition

Task mining is a technique by which enterprises can infer meaningful information by scraping desktop-level event data. This data may be from individual users or a cohort of individuals (e.g., in a call center) and takes the form of screen recordings, keystrokes, mouse clicks and data entries. Additional mining capabilities interpret the data by applying natural language processing and optical character recognition to correlate data in different ways. Task mining helps an enterprise identify inefficiencies and automation or AI potential, improve task execution and enhance the employee experience (see Figure 1).

Figure 1: Simple Representation of Task Mining



Market Description

The starting point for any task mining initiative is a user interface log. Each event found in a log refers to a step related to a particular task. The events belonging to a task are ordered and can be seen as one sequence or routine of a task.

Consider a scenario where a user is responsible to pull in invoices from an external system and navigate through multiple applications and screens to accomplish the task.

Step 1: Download invoices from the directory of incoming invoices.

Step 2: Upload the details of the invoices into a Microsoft Excel sheet.

Step 3: Log into the SAP system.

Step 4: Navigate through three different screens on the SAP system.

Step 5: Introduce the invoice data into SAP.

All of these steps are completed by an employee at their desktop. Task mining will analyze the data collected during the execution of this task, collect variants and try to discover hidden aspects of the task and opportunities to enhance the task.

During the past years, we have had extensive interaction with end-user clients, have had many contacts with academic researchers (i.e., yearly academic business process management [BPM] conferences) and have conducted a survey with most of the task mining vendors. Given this background, we identified 10 capabilities for task mining:

- **Task Models:** Models that describe the single steps within a task, based on inferring information from low-level event data available in UI logs based on keystrokes, mouse clicks and data entries.
- **Screen Recording:** Computer Vision or Screen Scraping to feed or complement the UI logs.
- **Data Handling:** Data preparation and data cleaning support in supporting task mining analysis.
- **Data Security:** Encryption, Masking, Erasure, Resilience or Obfuscation mechanisms to provide data security and respect end-user privacy.
- **Task Analysis:** Intelligent support for task analysis (e.g., root cause), task comparison, task conformance and task enhancement.
- **Real-Time Measurement:** Real-time or near-real-time connections to continuously monitored and adapted KPIs in dashboards for specific roles in the organization.
- **Advanced Analytics:** Predictive analysis, prescriptive analysis, scenario testing and simulation.
- **Process Mining Connectivity:** Connection capabilities of task mining to process mining (i.e., own process mining capabilities or third party).
- **Task Automation:** Connection to Robotic Process Automation.
- **AI and Generative AI:** Support for more intelligence in different use cases, such as task improvement, task automation opportunity detection and preparation, or workforce optimization.

Application innovation leaders should realize that not all task mining vendors will support all features.

Because of the emerging nature of some of the use cases and the underlying discipline, many suppliers have gaps in their task mining offerings. Some task-related capabilities and features may be available as part of other types of products, such as enterprise business process analysis platforms, automated testing tools or RPA tools. However, here we consider only vendors and tools that provide task mining as a stand-alone offering capable of addressing all or most use cases (see Note 1).

Market Direction

Several major trends are impacting the task mining market:

- **Entrance of process mining vendors:** Well-established process mining vendors are venturing into the task mining market by offering task mining as a complementary capability. Task mining is essential for end users who wish to start process mining but are challenged by multiple blind spots in an end-to-end process. Task mining helps by scraping end-user activities, and thus increasing the overall visibility of tasks and processes.
- **Growing adoption of robotic process automation (RPA):** As RPA buyers scale their automation, they require granular-level task insights to improve accuracy and ROI, and to reduce dependencies on manual process-mapping techniques. This leads to increased adoption of process mining and task mining.
- **Increase in autonomous business:** Enterprises are increasingly relying on mining techniques to identify their broken business processes. They also rely on these techniques to improve the visibility — and understanding — of the performance of business processes. This will help them make their operations more resilient to external shocks, such as the current economic climate, protective legislation, new market entrants or a pandemic (see Predicts 2022: 4 Technology Bets for Building the Digital Future).
- **Vendors focusing on workforce productivity and management:** The market includes well-established vendors focusing on workforce productivity and management. These vendors may not identify their offerings as task mining offerings, but they offer similar capabilities to task mining vendors.

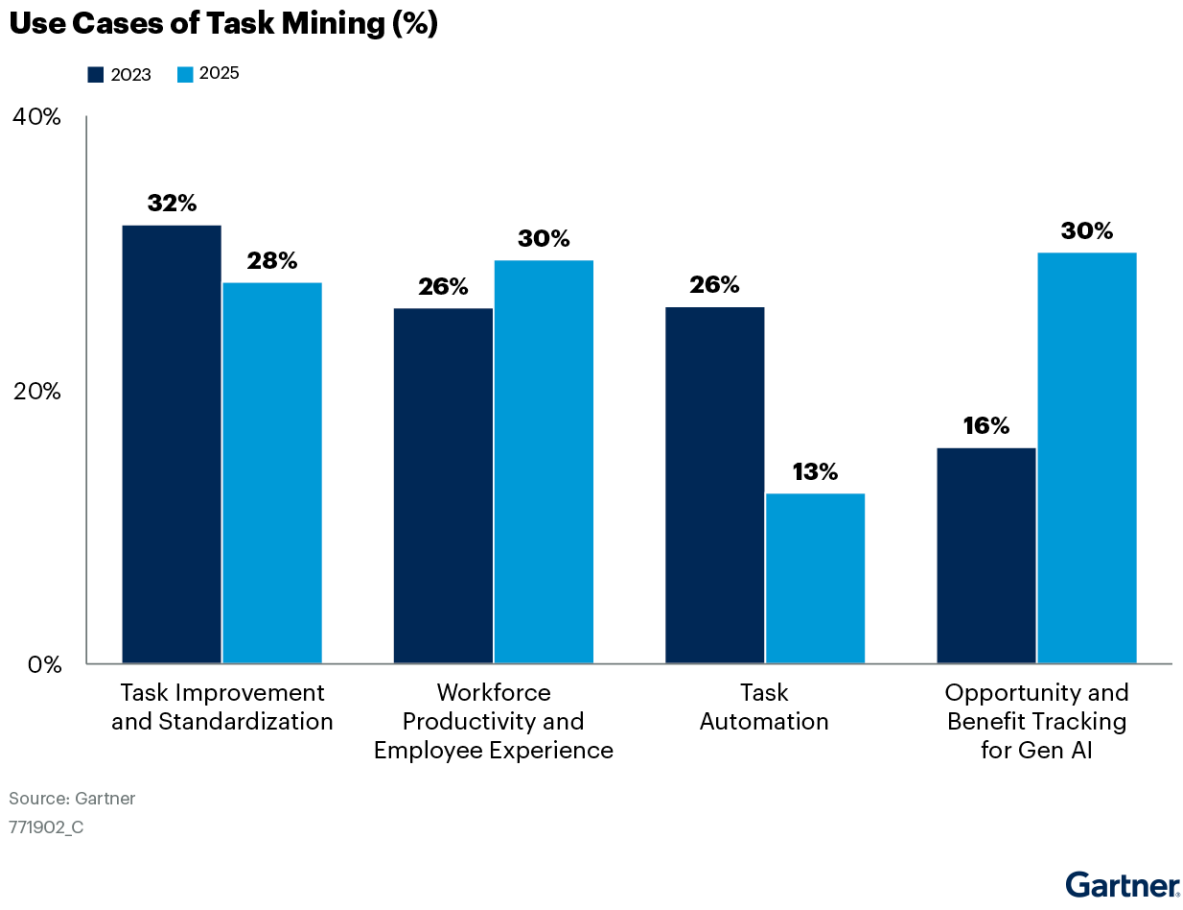
- **Automation vendors acquiring process mining or task mining tools:** Many automation vendors are acquiring process mining or task mining tools. Examples are IBM (myInvenio), SAP (Signavio), Appian (Lana Labs), Microsoft (Minit), Automation Anywhere (FortressIQ) and UiPath (ProcessGold).
- **Adoption of (generative) AI tools:** Growing adoption of (generative) AI tools necessitates the identification of optimal implementation areas and ongoing performance tracking. Task mining can maximize the impact of AI technologies within organizations, aligning them with business objectives and ensuring continuous improvements in AI-driven processes.

Market Analysis

Use Cases for Task Mining

Task mining has multiple use cases, and a multitude of stakeholders may depend on the use case and the scope of the task mining initiative (see Figure 2).

Figure 2: Use Cases of Task Mining (%)



Source: Gartner
771902_C

Gartner

Improving Tasks by Task Discovery and Analysis

Task mining provides visibility and understanding on the actual steps of a task, switching between these steps, as well as switching between tasks and activities of personal interest. Besides identifying task inefficiencies, this technique delivers insight into how to improve tasks (e.g., in a digitalization initiative) and how to attain targeted outcomes. By supporting task efficiency and effectiveness, task mining tools are key enablers of task improvement initiatives and their related disciplines. In this use case, data scientists typically support improvement teams that take care of digital workplace initiatives. Mature organizations have defined standard procedures, policies and task instructions. In practice, many of these predefined operations are often complemented by shadow tasks.

Identify Opportunities for Task-Level Automation

Identifying opportunities for task automation, also referred to as “process discovery” by some RPA vendors to match the Process word in Robotic Process Automation, builds upon a class of techniques and tools to analyze data collected during the execution of user-driven tasks to support the identification and assessment of candidate routines for automation, as well as the discovery of routine specifications that can be executed by RPA bots.

Given a UI log, task mining tools aim to identify automatable routines and their boundaries, collect variants of each identified routine, standardize and streamline the identified variants, and discover an executable specification corresponding to a streamlined and standardized variant of the routine. The routines produced as the output should be defined in a platform-independent language that can be compiled into a script and executed in an RPA tool. Some RPA vendors use task mining to create an automation script or the majority of one. This significantly reduces the efforts required to create an automation script.

Workforce Optimization

Recently, workforce performance optimization tools got renewed attention because of the incorporation of AI and machine learning techniques (see Workforce Planning — How to Use Technology to Support Planning Processes).

As such, many organizations are searching and exploring the use of these tools as a part of the puzzle to discover opportunities for task improvement by implementing task mining across different workplaces. However, it should be noted that task automation is limited to the task, and that task automation optimizes within this task context.

An example is that time-bound monitoring worker A on a certain task can reveal that this worker is underperforming on loan assessment because of two activities upstream, which worker B always performs very fast but forgets to introduce some relevant information. Thus, tasks should always be seen in the context of the larger process of where the task belongs. Organizations use task mining in a variety of scenarios to help improve overall business processes.

At the same time, task mining can improve the overall employee experience by implementing a user-centric approach to pinpoint pain points and bottlenecks while employees use enterprise application tools. This is important, particularly for “anywhere operations” and hybrid working. It will also help enterprises make better decisions about employee enablement tools.

In this use case, it is of utmost importance to comply with data and privacy regulations. Monitoring how a person is performing a task and therefore is working on his workstation or device (mouse click, button stroke, data entry, switching of application, actual screen) should take care of these concerns. Therefore, we see most task mining tools providing the mechanisms to avoid plain user monitoring and possible breaching of employees’ privacy rights. Moreover, it is considered best practice to always inform employees of the goals and objectives of task mining.

Artificial Intelligence

In the context of (generative) AI, task mining can be applied to various stages of AI development, deployment, and ongoing management to help identify opportunities for improvement and track the benefits of AI solutions.

Task mining helps identify the areas where AI solutions can be applied effectively. It can reveal repetitive tasks, rule-based processes or data-intensive activities that can be augmented by AI. This identification of opportunities is crucial for prioritizing AI projects and investments.

After AI solutions are deployed, task mining can continuously monitor their performance. It tracks how users interact with AI-driven systems, measures the efficiency and effectiveness of AI technologies, and identifies any deviations from expected behavior. This monitoring ensures that AI systems continue to deliver benefits and allows for quick corrective actions when issues arise.

By comparing pre-AI and post-AI deployment metrics, organizations can measure improvements in efficiency, accuracy, cost reduction and other relevant KPIs. This data is valuable for demonstrating the ROI of AI initiatives.

Market Size

The amount of seed and accelerator/incubator funding in this sector indicates an early immature market — seed investment indicates interest and future potential, but is no guarantee of success.

In 2021, revenue from process-mining and task-mining technologies grew by 37% globally. This growth has enabled process mining and task mining companies to expand quickly (see Emerging Technologies: Venture Capital Growth Insights for Process Mining and Task Mining). Gartner forecasts that revenue from these technologies will grow at a compound annual rate of 19% from 2020 through 2025 (see Forecast Analysis: Hyperautomation Enablement Software, Worldwide).

In 2022, Gartner estimates the task mining market for new product license and maintenance revenue to approach $100 million, which was over 75% market size growth from the previous year. Because of its emerging nature, the task mining market is forecast to keep growing between 60% and 70%.

A large follow-on market also exists for consulting and services in implementing these tools and the methods for using them. When calculating task mining market revenue, we didn't include consulting or service revenue. For some vendors, this add-on consulting and service revenue significantly exceeds their software revenue.

Representative Vendors

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.

The vendors listed in this Market Guide do not imply an exhaustive list. This section is intended to provide more understanding of the market and its offerings.

Market Introduction

This is a relatively new market with multiple new entrants and some established players. Table 1 lists representative task-mining vendors; it is not a comprehensive list of vendors in this market. In respective columns, we provided the vendor name, the product name and an indication on which use cases the vendor focuses significantly more (**) and somewhat more (*) than the other participating vendors in our survey.

Table 1: Representative Vendors of Task-Mining Tools

(Enlarged table in Appendix)

Vendor	Product Name	Task Improvement	Task Automation	Workforce Optimization	AI
ABBYY	Timeline	*	**		
ActiveOps	ControliQ, WorkiQ and CaseworkiQ			**	
Automation Anywhere	Automation Anywhere Process Discovery	**			*
Celonis	Workforce Productivity (Powered by Task Mining)	*		**	
EdgeVerve Systems	AssistEdge Discover	*	**		
IBM (myInvenio)	IBM Process Mining	*	**		
KYP.ai	KYP.ai Server, KYP.ai Agent			*	**
Microsoft	Power Automate Process Mining	**	*		
Mimica	Mimica	*	**		
Pegasystems	Pega Workforce Intelligence, Pega Process Mining	*	**		
Skan	Skan AI			*	**
Soroco	Scout for Business Operations, Scout Platform	**		*	
StereoLOGIC	StereoLOGIC Integrated Task and Process Mining Platform, StereoLOGIC Unattended Task Mining	*			**
UiPath	UiPath Task Mining	*	**		
UltimateSuite	UltimateSuite	*	**	*	
Worksoft	Worksoft Business Capture, Worksoft Process Intelligence	**	*		

Source: Gartner (December 2023)

Vendor Profiles

ABBYY

Based in Milpitas, California, ABBYY delivers Timeline version 6.0.3.

- The acquisition of Timeline and the addition of Task Mining, positions ABBYY to address both well-defined and case-based digital transformation initiatives. ABBYY provides a single unified platform that encompasses a holistic approach to creating and overseeing a center of excellence (COE) for process intelligence, and provides end-to-end visibility into variable content-centric processes.
- Task Mining is sold as an integrated capability of the Timeline Process Intelligence platform that supports discovery, analysis, monitoring, prediction and simulation. Coupled with ABBYY's Content Intelligence solutions, this is extended to include insights from unstructured and semistructured document types found in case-based business processes.
- Timeline is no-code and offers a rich set of prebuilt process analysis tools. Timeline integrates process and task elements, forming a unified process continuum and enabling seamless analysis across different granularity levels. Timeline offers automatic form matching and identification and allows users to define rules for automatic task identification and extraction.
- According to our survey, ABBYY focuses more on the task automation use case, followed by the task improvement and standardization use case. Our survey revealed that ABBYY focuses significantly more than its competitors on connecting task mining capabilities to process mining, as well as modeling capabilities that describe the single steps within a task.

ActiveOps

Based in Reading, U.K., ActiveOps delivers ControliQ, WorkiQ, and CaseworkiQ.

- ActiveOps is one of the pioneers in the market that addresses the automation of operations management by enabling enterprises to adopt a data-driven, scientific approach to organizing work, and managing capacity. ActiveOps' software solution embeds a method that provides a consistent and proven employee performance management framework.

- The ActiveOps platform comprises two technologies. WorkiQ is the employee productivity product providing a view of how individuals across a team spend their day to increase team productivity and create a healthier work environment. ControliQ is the workforce management product that optimizes the use of employee capacity and skills, and balances well-being.
- Besides ActiveOps' extensive use of AI in order to power features, such as demand forecasting and skills identification, research is ongoing into the use of Generative AI to auto-interpret metrics and provide users with "next best action" advice. Furthermore, ActiveOps has introduced CaseworkiQ to support back-office operations processing case-based work.
- According to our survey, ActiveOps focuses almost exclusively on the workforce productivity and employee experience use case. Our survey revealed that it focuses significantly more than its competitors on predictive and prescriptive analysis capabilities, and the real-time dashboard and KPI monitoring capabilities.

Automation Anywhere

Based in San Jose, California, Automation Anywhere delivers Automation Anywhere Process Discovery.

- Automation Anywhere acquired FortressIQ in 2021 to further extend their capabilities into process discovery to complement their RPA portfolio. Automation Anywhere's Process Discovery is architected as a cloud-native, multitenant SaaS offering and provides prepackaged and outcome-focused process discovery services to accelerate value realization for customers.
- Utilizing computer vision with advanced AI for data completeness, Automation Anywhere extracts information from various apps like VDI and mainframe windows. The Privacy Enhanced Gateway ensures sensitive text redaction for customer data protection. The Automation Success Platform utilizes generative AI to streamline automation discovery and creation.
- Process Discovery Sensor allows greater insights, as this records activity on a user's machine to determine what business processes are candidates for automation. The inclusion of visual screenshots enhances transparency by revealing task-level activities, going beyond the scope of traditional logs.

- According to our survey, Automation Anywhere focuses more on task improvement and standardization, as well as utilizing AI to further insights. The survey also showed a higher focus toward connecting process insights for task automation.

Celonis

Based in Munich, Germany, and New York, U.S., Celonis offers Workforce Productivity (Powered by Task Mining).

- Celonis is the largest global provider of Process Mining and Execution Management System (EMS). Celonis offers a containerized, microservices-based cloud platform and a robust portfolio of services and large global partner network. Its EMS platform shifts process and task mining from a purely analytical discipline to an operational engine.
- Celonis Workforce Productivity is a single add-on SKU on top of Celonis EMS and benefits from broad range of capabilities that can be used with task mining, such as simulation, conformance checker, ML workbench, Microsoft Power BI Connector and Celonis Intelligence API. Celonis provides flexible data capture and redaction options to meet demanding customer requirements and protect privacy.
- Celonis specializes in enhancing productivity by strategically addressing discovery opportunities and selecting optimal solutions for each. Celonis Workforce Productivity provides customizable prebuilt dashboards tailored to enterprise requirements. The platform facilitates large-scale implementation, complemented by robust security measures, encryption and data privacy controls.
- According to our survey, Celonis focuses more on workforce productivity and employee experience use case, followed by the task improvement and standardization use case. Our survey revealed that it focuses significantly more than its competitors on data security capabilities and modeling capabilities that describe the single steps within a task.

EdgeVerve Systems

Based in Bangalore, India, EdgeVerve Systems delivers AssistEdge Discover, version 3.0.

- EdgeVerve Systems is predominantly active in the RPA market and is a wholly owned subsidiary of Infosys. One of the multiple components of its task automation platform, AssistEdge Discover, has been one of the first available task mining products delivered by an RPA vendor, which went beyond the discovery and automation of the different steps that people take to complete a task.
- AssistEdge Discover doesn't stop at task discovery and analysis, but goes one step ahead and automatically converts a discovered task into an automated task. This is done using the unique integration with AssistEdge RPA, by which a selected task can be exported directly to AssistEdge Automation Studio, helping in a significant reduction in efforts to automate a selected task.
- AssistEdge Discover leverages AI for recognizing patterns executed in recorded user data, and for mining the tasks and its variations with actionable insights. It also uses a neural network-based ML Engine, which analyzes task execution data and highlights different task variations that are getting executed, ensuring higher accuracy in significantly less analysis time.
- According to our survey, EdgeVerve Systems focuses more on the task automation use case, followed by the task improvement use case. Our survey revealed that it focuses significantly more than its competitors on predictive and prescriptive analysis capabilities, and the connection to robotic process automation capabilities.

IBM (myInvenio)

Based in Armonk, New York, IBM provides IBM Process Mining release 1.14.1.

- IBM's acquisition of myInvenio in 2021 provides task mining as a product capability and feeds into IBM's wider one-stop shop of AI-powered automation capabilities for business automation. Task mining is sold as a part of IBM Process Mining.
- IBM's Task Mining Agent records user actions flawlessly, feeding insights to IBM Process Mining. This empowers informed decisions for automation and process improvements. Process Mining maintains data security through encryption, obfuscation and anonymization, protecting sensitive information.
- By utilizing task mining data with IBM Process Mining, users can simulate and evaluate process changes or new models at a task level for ROI analysis. Additionally, the "Decision Rules Mining" feature identifies efficient working patterns and AI-powered algorithms reveal underlying business rules, facilitating standardized decision making in initiatives such as digital transformation.

- According to our survey, IBM Process Mining focuses more on connecting process insights for robotic process automation and on task improvement and standardization. The survey also showed a higher focus toward data security and end-user privacy.

KYP.ai

Based in Cologne, Germany, delivers KYP.ai Server version 2023.05.01, and KYP.ai Agent, version 2023.01.01.

- KYP.ai is one of the most recent entrants in this market that use task mining capabilities to focus on complete end-to-end live visibility of people, process and technology. It empowers organizations to identify and replicate best practices, improving organizational performance, productivity levels, and employee well-being and employee satisfaction.
- KYP.ai provides two main components KYP.ai Agent for data collection related to user actions and behavior and KYP.ai Server for data processing and analytics. KYP.ai collects primarily structured data, which leaves a light footprint on data traffic and disk space and can enable screenshot collection for process discovery or automation/transformation candidate documentation.
- KYP.ai showcases a growing expertise in identifying and capitalizing on (Gen)AI opportunities while measuring the associated benefits, including the impact on productivity. These insights support clients' efforts in harnessing the full potential of these technologies — especially in cases where certain employees have already embraced (Gen)AI tools, while others are just starting.
- According to our survey, KYP.ai focuses more on the opportunity and benefits tracking for (Gen)AI use cases, followed by the workforce productivity and employee experience use case. Our survey revealed that it focuses significantly more than its competitors on AI capabilities, and the real-time dashboards with support for KPI's capabilities.

Microsoft

Based in Redmond, WA, Power Automate Task Mining

- Microsoft has one of the largest partner technology networks and has strengthened its hyperautomation offering by bringing together process mining and task mining capabilities. The combined offering is built on top of Azure, and integrated with the Power Platform, spanning data preparation, dashboards in Power BI and value generation by various parts of Power Automate.
- Microsoft's task mining solution integrates seamlessly into Power Platform, Windows, Office and Dataverse. Power Automate for desktop is used to record tasks on Windows desktops. AI models are utilized to analyze recorded tasks and recommend cloud flow connectors to create automations. Its AI-powered auto labeling accelerates customer adoption and time to actionable insights.
- Power Automate Process Mining's task mining functionality has a low barrier of entry and empowers business users to use task mining without the need for experts and consultants. Microsoft allows users to begin using task mining and jump-start their automation design. Microsoft's product innovation is being driven by mining data from Microsoft applications to refine tasks in ways that exceed desktop recorders.
- According to our survey, Microsoft focuses significantly more on the task improvement and standardization use case followed by the task automation use case. Our survey revealed that it focuses significantly more than its competitors on the connection of task mining to Robotic Process Automation and modeling capabilities that describe the single steps within a task.

Mimica

Based in London, U.K., Mimica provides Mimica — version 3.5.

- Mimica entered the market in 2018 and provides a stand-alone task mining tool with the vision to reduce manual work via automation, offering both on-premises and cloud deployments. Mimica leverages machine learning, LLM, computer vision, unsupervised clustering, Named Entity Tagging (NET) and other statistical methods to generate its outputs.
- Mimica provides quick configuration and generates detailed process maps, expediting automation deployment. Mimica facilitates comprehensive transaction views and easy sorting of map nodes based on filters like automatability and application. It enables efficient step and screenshot searches, as well as identification of automation prospects and tagging of nonautomatable steps.

- Mimica generates process maps with variations, conditional logic and loops. Mimica aggregates multiple processes into one map, identifies variations and decision points, removes variations that are not meaningful and automatically identifies start/stop of process. Dashboard shows structured vs. semi-structured inputs, as well as a predicted number of branches and decisions.
- According to our survey, Mimica focuses significantly more on RPA, as well as task improvement and optimization use cases. Our survey also revealed that Mimica focused more than its competitors on utilizing computer vision or screen scraping to complement the UI logs, alongside greater focus on data preparation and data cleaning support.

Pegasystems

Based in Cambridge, MA, Pegasystems provides Workforce Intelligence 8.7 and Process Mining 1.0

- Pegasystems, a low-code application platform and business process automation vendor, is well-positioned to support the full process life cycle. Pegasystems added task mining and process mining as components of the Pega Platform. Pega helps organizations identify process problems, automate issues and orchestrate processes and events.
- Pega provides task capture without screen scraping. Pega uses advanced data capture capabilities that represent the flow of work across employees' timeline or the overall workflow without compromising data security of the organization. This feature is highly scalable, enabling users to collect data from numerous employees and discover opportunities organizationwide.
- Through continuous data collection, Pega eliminates the need for selective employee data studies. This helps pinpoint issues and focus on improvement efforts. Workforce Intelligence provides AI-driven insights that reveal underlying problems and actionable recommendations. Pega supports the autonomous enterprise journey by offering a well-established solutions ecosystem.
- According to our survey, Pegasystems focuses more on the task automation use case, followed by the task improvement and standardization use case. Our survey revealed that it focuses significantly more than its competitors on intelligent support for task analysis, conformance and enhancement, and predictive and prescriptive analysis capabilities.

Skan

Based in Menlo Park, CA, delivers Skan AI, version 3.3.

- Skan converted from an exclusively computer vision-led “process discovery platform” in 2019 to what Skan today introduces and markets as a “process intelligence platform,” combining task mining capabilities with AI capabilities. According to Skan’s response to our survey, they capture any additional data of interest in real time and are “not heavily reliant on computer vision.”
- Skan AI uses a range of analytic and AI techniques to observe and generate event data and transform it into structured event logs without the need for custom integrations into back-end event logs. Skan combines event data with business context, and stores it in a multidimensional analytic data store, linking operational metrics with strategic KPIs across functions.
- Besides out-of-the-box workforce analytics including productivity, utilization, proficiency monitoring and capacity planning, Skan offers analytic frameworks for value engineering, such as Statistical Process Control, Process Health Index, Digital Operations Control Tower, and Intelligent Automation Discovery and Analysis.
- According to our survey, Skan focuses more on the opportunity and benefits tracking for (Gen)AI use case followed by the workforce productivity and employee experience use case. Our survey revealed that it focuses significantly more than its competitors on AI capabilities, and the real-time dashboards with support for KPI’s capabilities.

Soroco

Based in Boston, MA, Soroco provides Scout for Business Operations (4.16), Scout Platform 2.0.

- Soroco, one of the first entrants in this market, offers task mining through Scout for Business Operations to support automation and workforce optimization and utilizes OS-level techniques to capture task level data. Soroco accelerates ROI by connecting to a wider ecosystem beyond automation, like making recommendations to realize value for intelligent document processing (IDP) and RPA, with the ability to export discovered data into third-party tools.

- Scout for Business Operations overlays KPIs on process metrics for tailored insights, backed by reinforcement learning, AI for continuous feedback, step-by-step process views and data-driven bottleneck identification with recommendations. It ensures privacy with built-in Personally Identifiable Information (PII) scrubbers, which automatically removes PII at source.

- The Scout platform provides multiple prebuilt use cases, such as organizational effectiveness, digital transformation, employee satisfaction and technology-business interfaces. The product also democratizes access to the work graph, the connected sequence of steps that teams execute to get work done to enable data analysts from any team to discover insights.

- According to our survey, Soroco focuses more on task improvement and standardization, as well as workforce productivity use cases. Our survey also revealed that Soroco focused more than its competitors on task modeling, dashboarding and monitoring, as well as data security.

StereoLOGIC

Based in Toronto, Canada, StereoLOGIC provides StereoLOGIC Integrated Task and Process Mining Platform — version 2023.1 and StereoLOGIC Unattended Task Mining version 2023.1

- StereoLOGIC is a company that has, from the ground up, developed its own mechanisms and algorithms for process discovery, analysis and conformance checking. 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 architecture is designed for efficiency, stability, security, interoperability and scalability. StereoLOGIC captures both system-based events and user-interface-based information without the need for desktop installation. It captures events on an end-user desktop, terminal or mobile device, and applies several patent-based engines to derive the actual processes.

- StereoLOGIC provides intelligent automatic recognition of continuous process paths across multiple apps. It can be used in large-scale projects, performing automated discovery of globally-distributed processes performed by thousands of employees using various languages. StereoLOGIC is non-intrusive and supports rapid results without preparation or customization.

- According to our survey, StereoLOGIC focuses more on the opportunity and benefit tracking for (Gen)AI use cases and the task improvement and standardization use case. Our survey revealed that it focuses significantly more than its competitors on the computer vision capabilities, and AI and generative AI capabilities.

UiPath

Based in New York, U.S. provides UiPath Task Mining version 2023.4.

- UiPath has been a longstanding leader in the Robotic Process Automation market. As part of this offering, it created a task capturing recorder to prepare the task automation and create the actual automation. This recording application has been enriched by three components (data preprocessor, analyzer, admin portal) to offer a more comprehensive task mining product.
- UiPath offers two flavors of Task Mining. Unassisted Task Mining allows you to mine unknown tasks by recording your employees' desktop activities and discovering repetitive tasks suited for automation and process improvement. Whereas Assisted Task Mining is focused on capturing the known process or tasks that could be further optimized.
- The integration with Automation Hub enables users to export automation ideas surfaced from Task Mining to Automation Hub to speed up implementation time and avoid manual information transfer. Through this integration the task mining component is joined with process mining and communications mining capabilities, delivering a more complete insight in the way of working.
- According to our survey, UiPath focuses more on the task automation use case and the task improvement and standardization use case. Our survey revealed that it focuses significantly more than its competitors on the computer vision capabilities, and the connectivity capabilities with robotic process automation.

UltimateSuite

Based in Prague, Czech Republic, UltimateSuite provides UltimateSuite 2023.1.

- UltimateSuite was introduced to the market in 2017 and provides task mining for efficient automation and process enhancement. Its deployment options include cloud and on-premises. By capturing workstation data and automating manual analysis, UltimateSuite simplifies task mining. Rapid deployment in under an hour without intricate integrations is a standout feature.

- UltimateSuite employs object-based data capture for real-time process analysis, ensuring rapid project execution. Privacy is preserved by excluding sensitive data without screenshot use. The UltimateSuite agent/recorder operates seamlessly without integrations, preserving workstation performance. Also, users can upload task execution logs from business process automation (BPA) tools, which are work queues.

- UltimateSuite captures a business identifier for each processed case, which can help integrate task mining data with process mining. UltimateSuite can also ingest data from other tools, such as BPM and workflow management systems allowing it to identify intriguing correlations and reveal valuable business insights.

- According to our survey, UltimateSuite focuses more on RPA, alongside task improvement and standardization, as well as workforce productivity. Our survey also revealed that UltimateSuite focused more on intelligent support for task analysis (e.g., root cause), task comparison, task conformance and task enhancement, as well as data preparation and cleaning support.

Worksoft

Based in Addison, TX, it provides Worksoft Business Capture version 12.1.2306 and Worksoft Process Intelligence version 12.0.2304.

- Worksoft, founded 25 years ago, has evolved from a continuous test automation platform for enterprise-packaged applications to a provider of a platform that seamlessly connects process intelligence to testing to automation, such as RPA. Worksoft has enhanced this platform with task mining capabilities, which it refers to as automated business process discovery.

- Worksoft Business Capture enables users to capture their actual business activity, creating automation assets that can be used to build intelligent automation and generate automated documentation. This product also feeds Worksoft Process Intelligence to offer insights into process variations and support ML that drives opportunities for continuous optimization.

- Building upon its experience as a test automation platform, Worksoft brings a differentiating perspective to the task mining market. Based upon its business process validation methodology and automation, Worksoft delivers a time and cost-effective approach to reduce the operational risk of implementing new or modified software applications, RPA or automation in general.

- According to our survey, Worksoft focuses more on the intelligent task analysis, conformance and enhancement use case and the task automation use case. Our survey revealed that it focuses significantly more than its competitors on the modeling capabilities that describe the single steps within a task and the data security capabilities.

Market Recommendations

Data and analytics leaders responsible for implementing artificial intelligence techniques and digital business transformations should:

- Identify desktop-level inefficiencies and task automation opportunities by using task-mining tools. They should do so as either a stand-alone initiative or in conjunction with process analysis to discover end-to-end process automation opportunities. Task-mining tools complement RPA deployments at scale by identifying key bottlenecks. In addition, these tools aid in the creation of PDDs (see Note 2), which can increase time to value and reduce inaccuracy.
- Improve the employee experience by using task-mining tools to capture employees' interactions with their organization — everything from occasional onboarding exercises to daily activities — and analyzing them. The captured data can identify employees' pain points and potential training opportunities.
- Maximize the potential of task mining by using its findings to plan daily activities and identify cost reduction, and process improvement opportunities in workplaces with many human workers. Use task mining to solve governance and compliance issues by identifying risky employee behavior.

Acronym Key and Glossary Terms

Root cause analysis	Identification of the root cause of inefficiencies in a series of tasks
Optical character recognition	Optical character recognition (OCR) technology automates data extraction from printed or written text from a scanned document or image file. It converts text into a machine-readable form for use in data-processing activities, such as editing or searching. It is also useful for interpreting objects that are interacted with at the UI level.
Automated insights	The ability to offer teams guidance about the automation potential of tasks and subprocesses.This includes key recommendations on the complexity of task execution, certain visualizations and simulations that describe key insights for decision makers.
Computer vision	Computer vision is an interdisciplinary scientific field that gains high-level understanding from digital images or videos. From the engineering perspective, it seeks to understand and automate tasks that the human visual system can perform.
Data preparation	Data preparation is an iterative, agile process for exploring, combining, cleaning and transforming raw data into a curated dataset at scale.
Data visualization	Data visualization is a way to represent information graphically. It highlights patterns and trends in data to help the reader achieve quick insights.
Data security	Data security comprises the processes and tools that protect sensitive information assets, in transit or at rest. Data security methods include:Encryption (applying a keyed cryptographic algorithm so data is not easily read or altered by unauthorized parties).Masking (substituting all or part of a high-value data item with a low-value representative token).Erasure (ensuring that data that is no longer active or used is reliably deleted from a repository).Resilience (creating backup copies of data so organizations can recover data, should it be erased or corrupted accidentally or stolen during a data breach).End-user privacy (ensuring compliance with data privacy laws to protect the confidentiality, integrity and availability of employee data).

Note 1: Gartner's Initial Market Coverage

This Market Guide provides Gartner's initial coverage of the market and focuses on the market definition, rationale for the market and market dynamics.

For the representative vendors listed in Table 1, Gartner used client interactions, vendor briefings and analyst research to verify that their offerings had been on the market for at least a year, and that they are representative of offerings in this market.

Note 2: Process Description Documents (PDD)

A process description document (PDD) captures the sequence of tasks in a business process. It typically contains the process flow and sequence of steps for the current manual ("as-is") process, as well as the automated ("to-be") process, and the various exceptions, conditions and rules of the business process to be automated.

Document Revision History

Market Guide for Task-Mining Tools - 28 April 2022

Recommended by the Authors

Some documents may not be available as part of your current Gartner subscription.

Magic Quadrant for Process Mining Tools

Market Guide for Business Process Automation Tools

Innovation Insight: Process Mining and Task Mining

Predicts 2022: 4 Technology Bets for Building the Digital Future

---

Table 1: Representative Vendors of Task-Mining Tools

Vendor	Product Name	Task Improvement	Task Automation	Workforce Optimization	AI
ABBYY	Timeline	*	**		
ActiveOps	ControliQ, WorkiQ and CaseworkiQ			**	
Automation Anywhere	Automation Anywhere Process Discovery	**			*
Celonis	Workforce Productivity (Powered by Task Mining)	*		**	
EdgeVerve Systems	AssistEdge Discover	*	**		
IBM (myInvenio)	IBM Process Mining	*	**		
KYP.ai	KYP.ai Server, KYP.ai Agent			*	**
Microsoft	Power Automate Process Mining	**	*		
Mimica	Mimica	*	**		
Pegasystems	Pega Workforce Intelligence, Pega Process Mining	*	**		

Skan	Skan AI			*	**
Soroco	Scout for Business Operations, Scout Platform	**		*	
StereoLOGIC	StereoLOGIC Integrated Task and Process Mining Platform, StereoLOGIC Unattended Task Mining	*			**
UiPath	UiPath Task Mining	*	**		
UltimateSuite	UltimateSuite	*	**	*	
Worksoft	Worksoft Business Capture, Worksoft Process Intelligence	**	*		

Source: Gartner (December 2023)