

Everest Group PEAK Matrix® for Process Mining Technology Vendors 2021

Focus on Celonis

June 2021



Background of the research

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Everest Group defines Process Mining (PM) as a software product that involves a fact-based approach to help discover, monitor, and optimize as-is processes by analyzing process-related information from event logs generated by information systems (ERP, CRM, etc.) and/or recordings of activities performed by users on their desktops. Process mining has been one of the fastest growing markets in the intelligent automation space over the past few years. Process mining products find a wide variety of use cases from different business functions and verticals. Adoption of process mining solutions can not only help enterprises achieve cost savings and operational efficiency by identifying process optimization/automation opportunities, but also improve workforce productivity and enhance customer experience. These products are also rapidly evolving in the sophistication of their capabilities, features, and functionalities.

In this study, we assess process mining software products in the market that can analyze process-related information captured in event logs to discover process models, and which are available for independent licensing.

In this study, we analyze the process mining technology landscape across various dimensions:

- Everest Group’s PEAK Matrix® evaluation, a comparative assessment of 18 leading process mining technology vendors
- Overview of process mining software products
- Competitive landscape of the process mining technology vendor market
- Key process mining technology trends
- Remarks on key strengths and limitations for each process mining technology vendor
- Desktop process mining / task mining technology vendor landscape

Scope of this report:



Products
Process mining



Geography
Global



Technology vendors
18 leading process mining technology vendors

Process Mining Products PEAK Matrix® characteristics

Leaders:

Celonis, Minit, Software AG, and UiPath

- Leaders have invested in developing superior product capabilities, with greater focus on ease of use, robust data preparation functionality, integration with enterprise applications, and process monitoring and dashboarding. They are differentiated by their strong focus on developing innovative and enterprise-grade features for process enhancement
- Leaders continue to make investments in Artificial Intelligence (AI) and Machine Learning (ML) to enhance predictive and prescriptive analytics capabilities. They are ahead in offering greater breadth and depth of out-of-the-box connectors to enhance the platform's interoperability. They are also offering process-/system-specific packaged solutions to accelerate adoption
- Leaders have been pioneers in introducing innovative features such as action triggers that enable sending alerts, assigning tasks to users, and executing pre-built automations based on process insights. They have also invested in developing in-house capability or forging third-party partnerships for desktop process mining / task mining capability to expand the scope of process mining
- Leaders have strong vision and capability to drive enterprise-wide adoption of process mining and have invested in robust training programs, support forums, dedicated customer success programs, and service provider partnerships to educate the market. They are playing a pivotal role in evangelizing the technology through various events and thought leadership initiatives

Major Contenders:

Apromore, Everflow, Lana Labs, Logpickr, MEHRWERK GmbH, MonkeyMining, myInvenio, PAFnow, QPR Software, Signavio, and UpFlux

- Major Contenders are following Leaders in offering more enterprise-grade functionality for process discovery and monitoring to improve ease of use for business users. They are also investing in developing AI-/ML-based advanced capabilities to strengthen their value proposition for process-enhancement use cases
- The majority of Major Contenders are focusing on building strong technology partner ecosystem covering solutions such as Robotic Process Automation (RPA), Intelligent Document Processing (IDP), and process orchestration. To supplement their offering, some of them are offering desktop process mining / task mining capability either through in-house investments or third-party partnerships
- Major Contenders are expanding their presence across industries, geographies, business functions, and buyer-sizes. However, there is limited focus on expanding the scope of their collaborations with service providers to accelerate adoption and support large-scale implementations

Aspirants:

Integris, Livejourney, and Live Objects

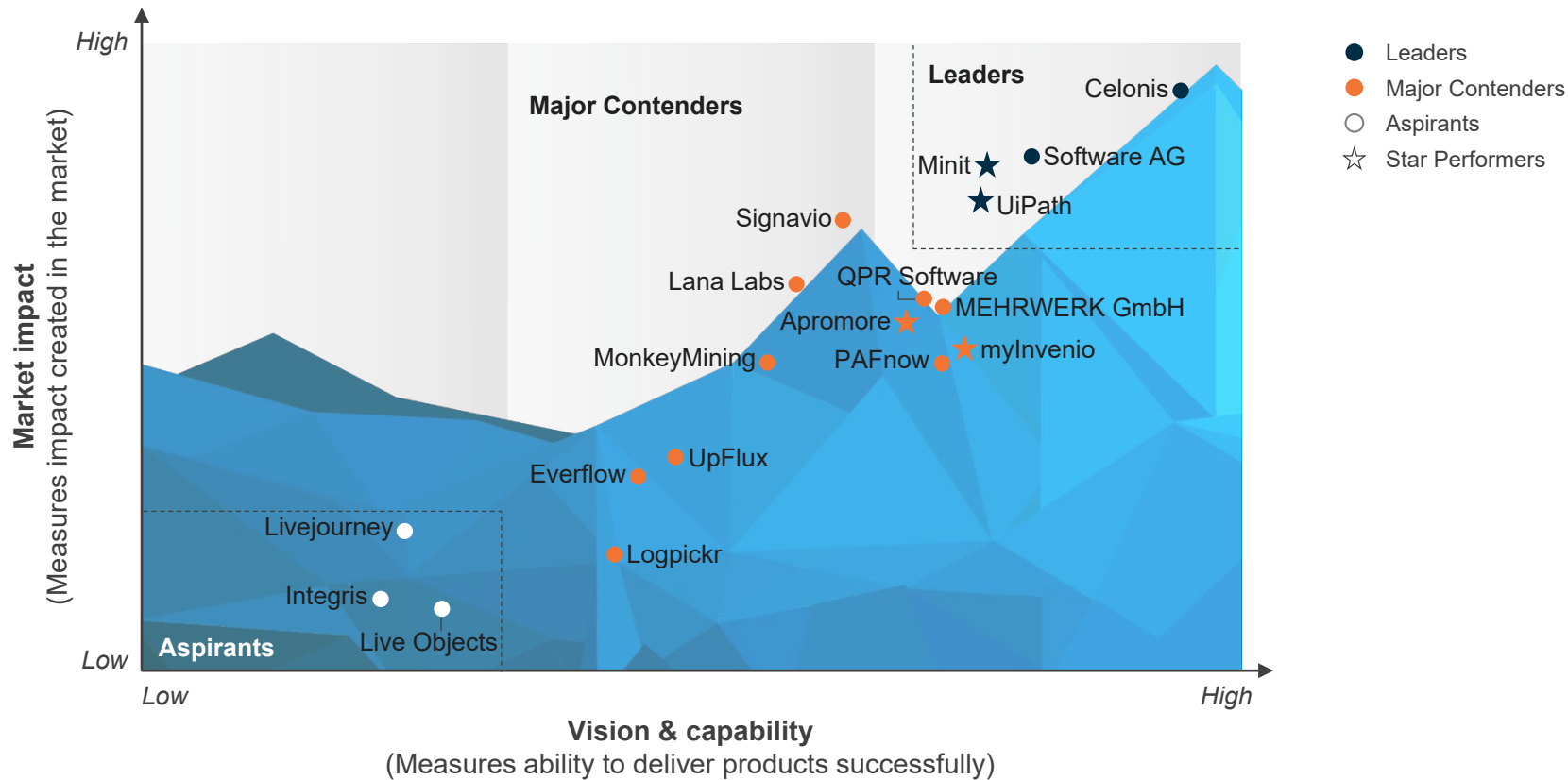
- Aspirants are relatively new entrants in the market and are currently making investments to improve the core capability for process discovery and conformance checking, as well as developing features for process monitoring and enhancement
- Aspirants have approached the market by targeting pockets of opportunities and client requirements in specific geography or industry. Expanding their global reach and awareness could help drive greater growth

Everest Group PEAK Matrix®

Process Mining Products PEAK Matrix® Assessment 2021 | Celonis positioned as Leader



Everest Group Process Mining Products PEAK Matrix® Assessment 2021¹



¹ Analyses for Signavio and myInvenio are based on their capabilities before they were acquired by SAP and IBM, respectively
Note: Star Performers are selected based on a relative comparison of vendors' performance on the market impact and vision & capability dimensions in the previous and latest PEAK Matrix® assessments. Vendors with the highest year-over-year improvement are designated as Star Performers. The Star Performer title does not reflect the overall market leadership position, which is designated through Leaders, Major Contenders, or Aspirants

Celonis | process mining product profile (page 1 of 7)

Overview

Company mission/vision statement

Founded in 2011, Celonis aims to help organizations remove barriers to execution capacity and maximize business performance through its Execution Management System (EMS) offering. Celonis' process mining capability forms the core of EMS and powers its underlying analytics functionality. It also combines task mining capability into the platform to discover processes based on users' desktop interactions. Through EMS, it focuses on helping enterprises discover inefficiencies in processes, continuously monitor improvements, and take action to ensure optimal process performance.

Key leaders

- Alexander Rinke, Co-founder and Co-CEO
- Bastian Nominacher, Co-founder and Co-CEO
- Martin Klenk, Co-founder and CTO
- Carlos Kirjner, CFO

Headquarters: München, Germany and New York City, the US

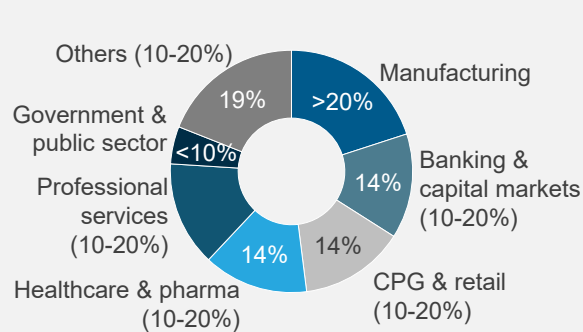
Key clients include: Citibank, Dell, Kellogg's, Siemens, Uber, and Vodafone

Website: www.celonis.com

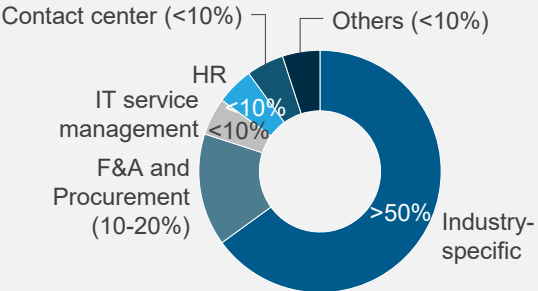
Recent deals and announcements (not exhaustive)

- **June 2021:** Announced a series D funding of US\$1 billion at a valuation more than US\$11 billion
- **June 2021:** Appointed Carlos Kirjner as the Chief Financial Officer
- **April 2021:** Celonis held its annual celosphere virtual user conference
- **April 2021:** Announced global strategic partnership with IBM and Red Hat
- **March 2021:** Announced business execution CEO council, featuring business leaders and senior executives
- **January 2021:** Appointed Dave Peterson as Chief Marketing Officer and Christian Flaccus as Chief Design Officer, joining other recent c-suite appointments
- **November 2020:** Entered into a strategic partnership with Siemens global business services to enable customers to optimize processes across the enterprise
- **November 2020:** Announced the opening of new offices in Paris, Copenhagen, and Stockholm
- **October 2020:** Announced the acquisition of Integromat, an industry leading online automation platform, to deepen the automation capabilities of the Celonis EMS
- **October 2020:** Unveiled Celonis Execution Management System (EMS) that is designed to eliminate complexities in the system and maximize execution capacity across enterprises

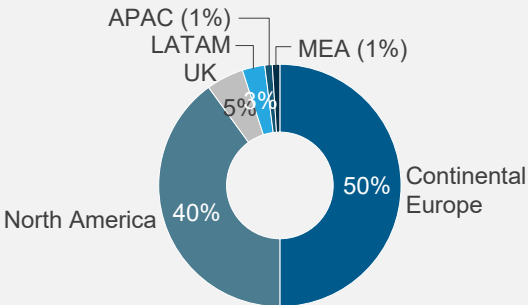
Split of process mining revenue by buyer industry



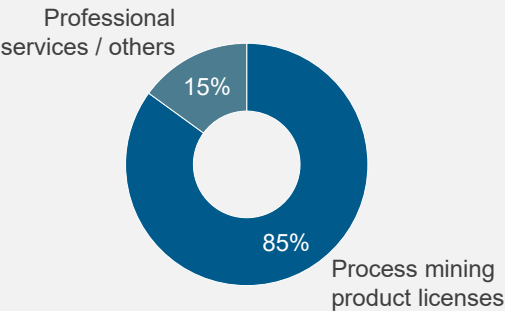
Split of process mining revenue by process areas



Split of process mining revenue by buyer geography



Split of process mining revenue by offerings



Note: Operational and product/offering-related information as of December 2020, collected as part of the study / based on Everest Group estimates
Source: Everest Group (2021)

Celonis | process mining product profile (page 2 of 7)

Overview

Product overview:

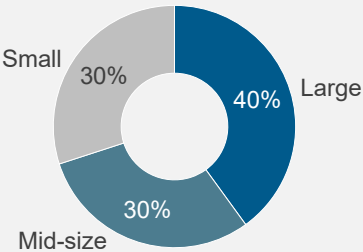
Celonis’ EMS offering, powered by process mining, helps enterprises visualize and transform business processes. Celonis offers built-in capability for extracting, transforming, and loading data into the platform and leverages proprietary in-memory database and process query language to analyze process data. It also offers pre-built packaged solutions to connect to various source systems and data sources. Its process mining includes an integrated ML workbench allowing users to integrate ML models to highlight and predict execution gaps and provide next-best-action recommendation to remove these bottlenecks. Its process simulation capability allows users to simulate scenarios to understand the impact of process modifications enabling users to evaluate different optimization scenarios. Celonis Studio offers a low-code IDE to build packaged execution applications, which can be made available through EMS store. With the Integromat acquisition, it has invested to strengthen its offering with workflow automation capabilities.

Version number: Celonis Execution Management System

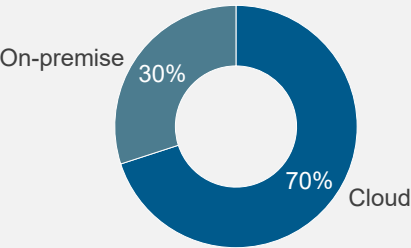
Release date: October 14, 2020

Market adoption and capability overview		
Description	2020	YoY growth
Process mining clients (individual logos)	1,650	65%
Process mining FTEs	1,100	47%
Number of service provider partners / resellers	330	175%
Number of technology/software partners	30	N/A
Key service provider partners / resellers	Protiviti, Infomotion GmbH, and Process& GmbH	
Key technology/software partners	Automation Anywhere, Blue Prism, Oracle, Microsoft, Salesforce, and ServiceNow	

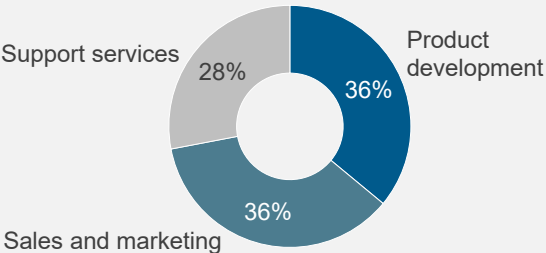
Process mining client mix by buyer size¹



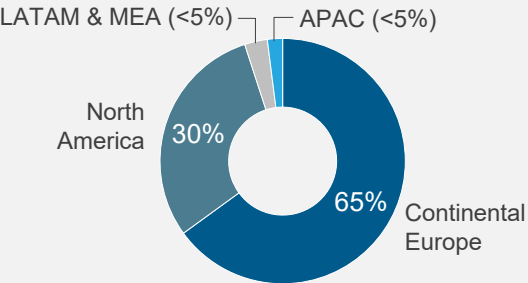
Process mining client mix by hosting model



Split of process mining FTEs by function²



Split of process mining FTEs by geography



¹ Buyer size is defined as large (>US\$5 billion in revenue), mid-size (US\$1-5 billion in revenue), small (US\$50 million-US\$1 billion in revenue), and SMBs (<US\$50 million in revenue)
² Includes FTEs in product development, support services (product support, implementation, etc.), and sales & marketing; excludes FTEs in corporate functions such as HR and IT
Note: Operational and product-offering-related information as of December 2020, collected as part of the study / based on Everest Group estimates
Source: Everest Group (2021)

Celonis | process mining product profile (page 3 of 7)

Capabilities

Capability & offerings

Available In the roadmap Available via formal partnership Not available

Process setup and data preparation	Built-in ability to pre-process (prepare, clean, and transform) event logs data	Ability to detect outliers in the event logs	Ability to merge event logs from different information systems for a process model	Ability to configure/modify case IDs, resources, and any specific attributes in event log data
	Ability to supplement event logs with data from IoT devices for discovering processes			
Interoperability	Pre-built connectors for SAP applications	Pre-built connectors for Oracle applications	Pre-built connectors for ServiceNow applications	Pre-built connectors for Salesforce applications
	Pre-built connectors for Microsoft applications	Support for Windows OS	Support for Linux OS	Support for Mac OS
	Online public repository of pre-built packaged solutions for specific systems/processes	Ability to integrate with third-party tools / products through REST or SOAP web services	Ability to access all platform functionalities through open APIs	
Integration with complementary capabilities	Conversational AI / chatbots	Intelligent document processing (IDP)	Business Intelligence (BI) / data visualization	Business Process Management (BPM) / process orchestration
	Robotic Process Automation (RPA)	Extract Transform Load (ETL)		
Process discovery	Ability to create BPMN 2.0 compliant process models	Ability to display cost for each process step	Ability to display resources consumed for each process step	Ability to detect exceptions (failed transactions) in process
	Ability to detect anomalies / fraudulent transactions in a process	Out-of-the-box dashboards to assess rework percentage for identified process loops	Ability to merge two or more process models	Ability to automatically discover/derive business rules
	Multi-level process mining capability	Ability to discover organization-level relationships / social networks	Ability to discover customer journey maps by mining customer interactions through websites, ticketing systems, etc.	

Celonis | process mining product profile (page 4 of 7)

Capabilities

Capability & offerings

Available In the roadmap Available via formal partnership Not available

Conformance checking	Ability to import BPMN models to define standard model	Ability to define target process workflow through a built-in process modeler	Out-of-the-box process templates based on industry best practices (e.g., for O2C, P2P)	Ability to perform gap analysis to identify (un-) desirable deviances/violations
	Ability to perform root-cause analysis to identify causes of process path deviations	Ability to check compliance rules such as segregation of duties		
Process monitoring and reporting	Ability to support text search capability in the process map	Ability to monitor processes in near real-time against defined KPIs	Ability to estimate lead time and predict delays based on near real-time process information	Ability of the software to identify optimal process variant
	Ability to create custom metrics to identify optimal process variant, by using functions	Ability to create PDD for the discovered process and add notes for process steps	Ability to share and export project analysis with other users	
Process enhancement	Ability to use AI/ML to predict and highlight any potential KPI breach	Ability to automatically send notifications to users in case of expected KPI breach	Ability to define scenarios and run multiple simulations (what-if analysis / scenario testing)	Ability to leverage AI/ML to recommend possible simulation scenarios
	Ability to save virtual logs of simulated process models to aid comparative analysis	Ability to automatically identify processes/tasks for automation	Ability to directly export workflows to automation platform's design studio	
Desktop process mining / task mining	Built-in process recorder – DOM/COM-based	Built-in process recorder – image-based	Ability to blacklist/whitelist applications for recording	Ability to leverage ML algorithms to classify tasks that belong to a particular process
	Ability to provide workforce intelligence insights/recommendation	Ability to automatically mask PII data in captured screenshots or recorded data		
Security and compliance	Availability of pre-built algorithms in system connectors to encrypt/decrypt event log data	Ability to create different environments with restricted user access authorization	Availability of role-based access to the system	Ability to selectively grant permissions to view attributes of a process model
	Availability of an anonymization option for any specific attributes in log data	Active directory integration		

Celonis | process mining product profile (page 5 of 7)

Capabilities

Capability & offerings

Available In the roadmap Available via formal partnership Not available

Product architecture and hosting options	Product architecture based on loosely coupled microservices	Product architecture based on lightweight docker containers	Supports multi-tenant deployments	On-premise (central server or virtual machine)
	Private cloud	Public cloud	Delivered as a Software-as-a-Service (SaaS) offering	
Product training and support	Training and certification by vendor	Training and certification by partners	Classroom training	Online portal for product training/certification
	Online self-paced training modules	Role-based product training courses	Online certification courses	Free training modules
	Interactive online training	Community edition of the product	Embedded help tool	Online user community / support forum
Commercial model	Perpetual licensing	Subscription licensing	User-based licensing	Process-based licensing ¹
	Event logs volume-based / case-based / server capacity-based licensing	Hybrid of user-based and event logs volume-based	Hybrid of user-based and process-based	Hybrid of event logs volume-based and process-based

Key areas of enhancements in the latest product releases (as of December 2020)



- Interoperability
 - Out-of-the-box connectors for Oracle EBS, Oracle databases, and Salesforce to enable near real-time connectivity
 - Out-of-the-box connectors for processes such as accounts payable, accounts receivable, and HR processes running on Workday systems
- Conformance checking
 - Launched a process repository that allows users to manage their BPMN models and build a store of reference models for conformance checking and documentation purposes
- Process monitoring and reporting
 - Launched Celonis execution applications to identify execution gaps; these are tailor-made for specific processes with pre-built role-based views, best practice KPIs, and sensors
- Process enhancement
 - Provides an integrated machine learning platform and pre-built machine learning models to recommend next-best actions and generate alerts about expected KPI breaches
 - Offers process simulation capability enabling users to analyze the impact of a planned change in their process on the business outcomes

1 Celonis previously offered a process-based licensing model, which has now been discontinued. As of December 2020, some of its clients leveraging this model were in the process of being migrated to the new pricing model

Celonis | process mining products profile (page 6 of 7)

Everest Group assessment – Leader

Measure of capability:  High  Low

Market impact				Vision & capability					
Market Adoption	Portfolio mix	Value delivered	Overall	Vision and strategy	Process setup and integration	Process intelligence	Implementation and support	Commercial and sales model	Overall
									


Strengths

- Celonis, through its process mining-powered Execution Management System (EMS), envisions to help enterprises unlock execution capacity by enabling users to visualize business processes, identify execution gaps, and recommend/execute requisite actions to optimize operations
 - Celonis holds over 60% share of the process mining software market and has the largest process mining enterprise client base. It continues to make investments in creating awareness and establishing thought leadership in the process mining space through Customer Exchange Workshops (CEW), enterprise case studies, and whitepapers
 - The platform includes front-end applications to cater to different user roles such as data engineers, data scientists, analysts, operational users, and process managers. Clients have also indicated the presence of a robust application ecosystem as one of its key strengths
 - It provides integrated ETL capability and pre-built connectors to integrate with enterprise applications such as SAP, Oracle, Microsoft Dynamics, ServiceNow, and Salesforce. The platform leverages proprietary in-memory database and process query language to analyze process data
 - Celonis’ conformance checker capability enables users to import BPMN 2.0 models and provides a built-in process modeler to define a reference model. It automatically identifies the most common deviations and offers ML-based root-cause analyzer to identify underlying issues
- It offers built-in BI engine and visual editor to create dashboards and custom KPIs. Its process simulation capability allows users to evaluate the impact of process redesign and automation
 - The ML workbench offers prescriptive capabilities such as recommending next-best-actions (e.g., reallocating resources or removing process steps) to improve process KPIs. Its smart sensor capability enables triggering actions such as alerting/notifying users, assigning tasks to them, and executing pre-built automation workflows
 - Its desktop process mining capability allows to record actions across multiple desktops and generate process maps. It offers the ability to assess automation potential and identify tasks through the Automation Scout module. In addition to partnerships with leading RPA vendors, it also offers in-house automation capabilities on the back of Integromat acquisition
 - Celonis Studio offers a low-code IDE that allows its partners and customers to build packaged execution applications called “Accelerators,” which include system connectors, analysis templates, and ML algorithms, to improve speed of implementation. It offers a free community edition of its platform, Celonis Snap, to boost familiarity and accessibility in the market
 - Clients have indicated mature product capabilities, ease of use, speed of process discovery, customization flexibility, integration with RPA, and availability of pre-configured content and best practices as the key strength areas for Celonis

Celonis | process mining products profile (page 7 of 7)

Everest Group assessment – Leader

Measure of capability:  High  Low

Market impact				Vision & capability					
Market Adoption	Portfolio mix	Value delivered	Overall	Vision and strategy	Process setup and integration	Process intelligence	Implementation and support	Commercial and sales model	Overall
									

Limitations

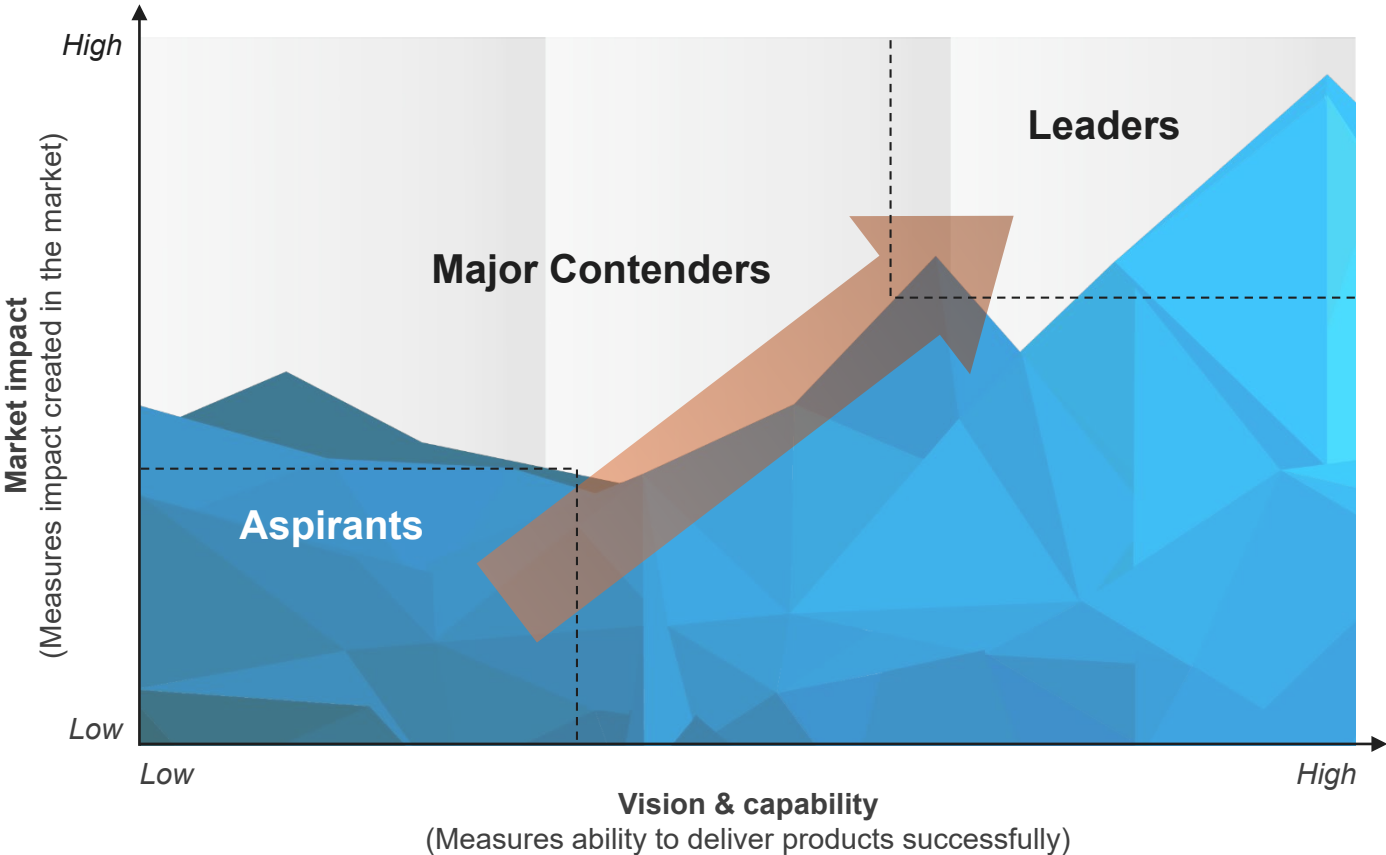
- While Celonis' client base is spread across small, mid-size, and large enterprise segments, its experience of serving the SMB segment (with revenue less than US\$50 million) is relatively limited
 - While clients recognize strong integration of its platform with SAP for enhanced ease of data ingestion, they have indicated scope to further strengthen its integration with other enterprise applications. They have also indicated scope to improve the platform's ability and robustness to handle larger data loads in near real-time
 - Clients have indicated the need to make the UI more no-/low-code and enhance the ease of discovering processes that involve custom on-premise applications. They also expect improved ability to connect with third-party BI and reporting tools such as Tableau, Qlik, and Microsoft Power BI
 - While Celonis has developed its own desktop process mining / task mining capability, it could also consider partnerships with providers of such technologies to increase its value proposition for enterprises looking to integrate best-of-breed technologies
 - It has recently launched its train-the-trainer program to educate and certify partners; however, it currently has a very few certified partners, limiting the flexibility and accessibility of its product training for global enterprises
- Celonis currently offers classroom training only in English and German, and does not support local languages such as Spanish, French, and Japanese
 - Its 24X7 customer support is only available to a select group of clients and not for all. Reference clients have also experienced challenges in raising tickets and seeking helpdesk support in non-business hours. They have also indicated the need to improve co-ordination between its product and support teams
 - Clients expect Celonis to enhance its process monitoring capability and offer features such as value realization dashboard to provide insights into ROI achieved from process transformation initiatives at an overall level and for specific business units / functions
 - While Celonis has a strong vision for its EMS offering, clients have highlighted that there is need to ensure that it does not lose focus on enhancing its core process mining offering and continues to support its customers without pushing them too much to adopt EMS
 - Clients expect Celonis to ensure proactive communication regarding product upgrades and smoother version upgrade. Greater readiness to provide concessions/flexibility in terms of pricing and contract terms would be appreciated by its clients

Appendix

Everest Group PEAK Matrix® is a proprietary framework for assessment of market impact and vision & capability



Everest Group PEAK Matrix

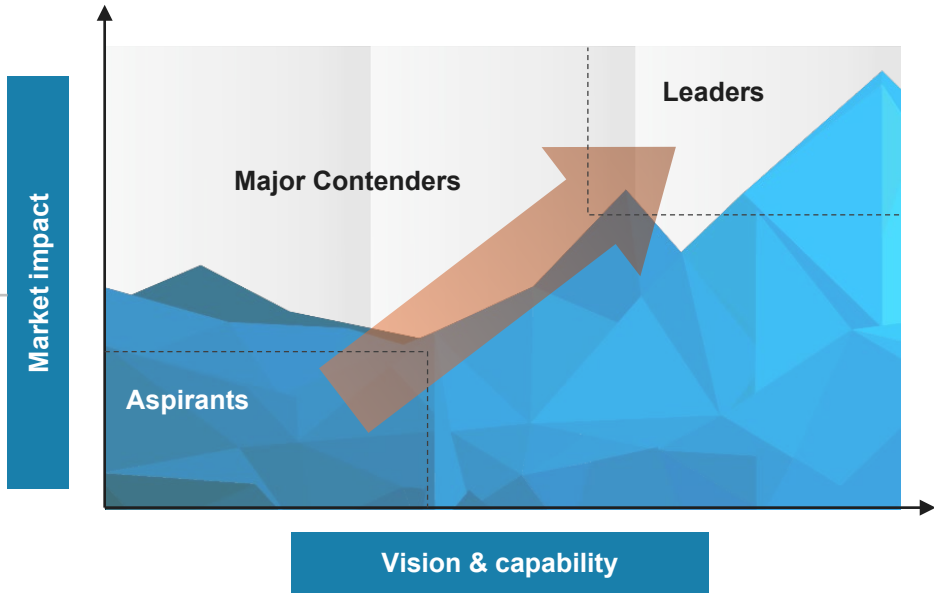




Process Mining Products PEAK Matrix® evaluation dimensions

Measures impact created in the market – captured through three subdimensions

Market adoption
Number of clients, revenue base, and YOY growth
Portfolio mix
Breadth of coverage of industries, geographies, processes / use cases, and enterprise size class
Value delivered
Value delivered to the client and their satisfaction with the product as well as the support, based on client feedback



Measures ability to deliver products successfully. This is captured through five subdimensions

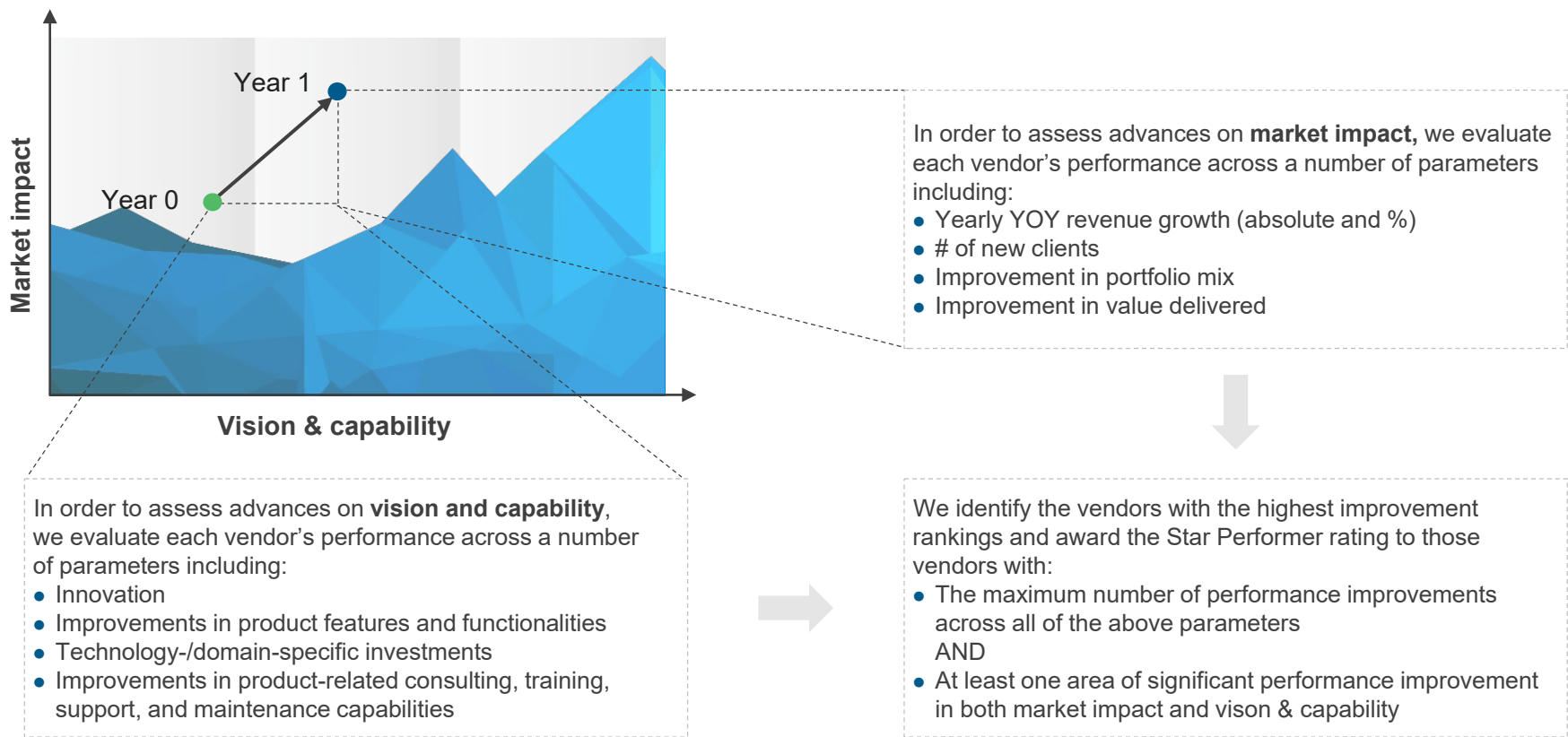
Vision and strategy	Process setup and integration	Process intelligence	Implementation and support	Commercial and sales model
Vision for the client and itself; key investments, future roadmap, and strategy	Data preparation and import; integration with enterprise applications & complementary capabilities	Process discovery, conformance checking, process monitoring & reporting, process enhancement, and desktop process mining	Product training & support, partnerships with service providers, ease of use, product architecture, hosting options, and data security	Flexibility, progressiveness, and client adoption of available commercial models; sales channel effectiveness



Everest Group confers the Star Performers title on providers that demonstrate the most improvement over time on the PEAK Matrix®

Methodology

Everest Group selects Star Performers based on the relative YOY improvement on the PEAK Matrix



The Star Performers title relates to YOY performance for a given vendor and does not reflect the overall market leadership position, which is identified as Leader, Major Contender, or Aspirant.

FAQs

Does the PEAK Matrix® assessment incorporate any subjective criteria?

Everest Group's PEAK Matrix assessment adopts an unbiased and fact-based approach (leveraging service provider / technology vendor RFIs and Everest Group's proprietary databases containing providers' deals and operational capability information). In addition, these results are validated / fine-tuned based on our market experience, buyer interaction, and provider/vendor briefings

Is being a “Major Contender” or “Aspirant” on the PEAK Matrix, an unfavorable outcome?

No. The PEAK Matrix highlights and positions only the best-in-class service providers / technology vendors in a particular space. There are a number of providers from the broader universe that are assessed and do not make it to the PEAK Matrix at all. Therefore, being represented on the PEAK Matrix is itself a favorable recognition

What other aspects of PEAK Matrix assessment are relevant to buyers and providers besides the “PEAK Matrix position”?

A PEAK Matrix position is only one aspect of Everest Group's overall assessment. In addition to assigning a “Leader”, “Major Contender,” or “Aspirant” title, Everest Group highlights the distinctive capabilities and unique attributes of all the PEAK Matrix providers assessed in its report. The detailed metric-level assessment and associated commentary is helpful for buyers in selecting particular providers/vendors for their specific requirements. It also helps providers/vendors showcase their strengths in specific areas

What are the incentives for buyers and providers to participate/provide input to PEAK Matrix research?

- Participation incentives for buyers include a summary of key findings from the PEAK Matrix assessment
- Participation incentives for providers/vendors include adequate representation and recognition of their capabilities/success in the market place, and a copy of their own “profile” that is published by Everest Group as part of the “compendium of PEAK Matrix providers” profiles

What is the process for a service provider / technology vendor to leverage their PEAK Matrix positioning and/or “Star Performer” status ?

- Providers/vendors can use their PEAK Matrix positioning or “Star Performer” rating in multiple ways including:
 - Issue a press release declaring their positioning. See [citation policies](#)
 - Customized PEAK Matrix profile for circulation (with clients, prospects, etc.)
 - Quotes from Everest Group analysts could be disseminated to the media
 - Leverage PEAK Matrix branding across communications (e-mail signatures, marketing brochures, credential packs, client presentations, etc.)
- The provider must obtain the requisite licensing and distribution rights for the above activities through an agreement with the designated POC at Everest Group.

Does the PEAK Matrix evaluation criteria change over a period of time?

PEAK Matrix assessments are designed to serve present and future needs of the enterprises. Given the dynamic nature of the global services market and rampant disruption, the assessment criteria are realigned as and when needed to reflect the current market reality as well as serve the future expectations of enterprises



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