

NEAT EVALUATION FOR SKAN:

Process Discovery & Mining

Market Segment: Desktop Process Discovery Focus

Introduction

This is a custom report for Skan presenting the findings of the NelsonHall NEAT vendor evaluation for *Process Discovery & Mining* in the *Desktop Process Discovery Focus* market segment. It contains the NEAT graph of vendor performance, a summary vendor analysis of Skan for process discovery & mining, and the latest market analysis summary.

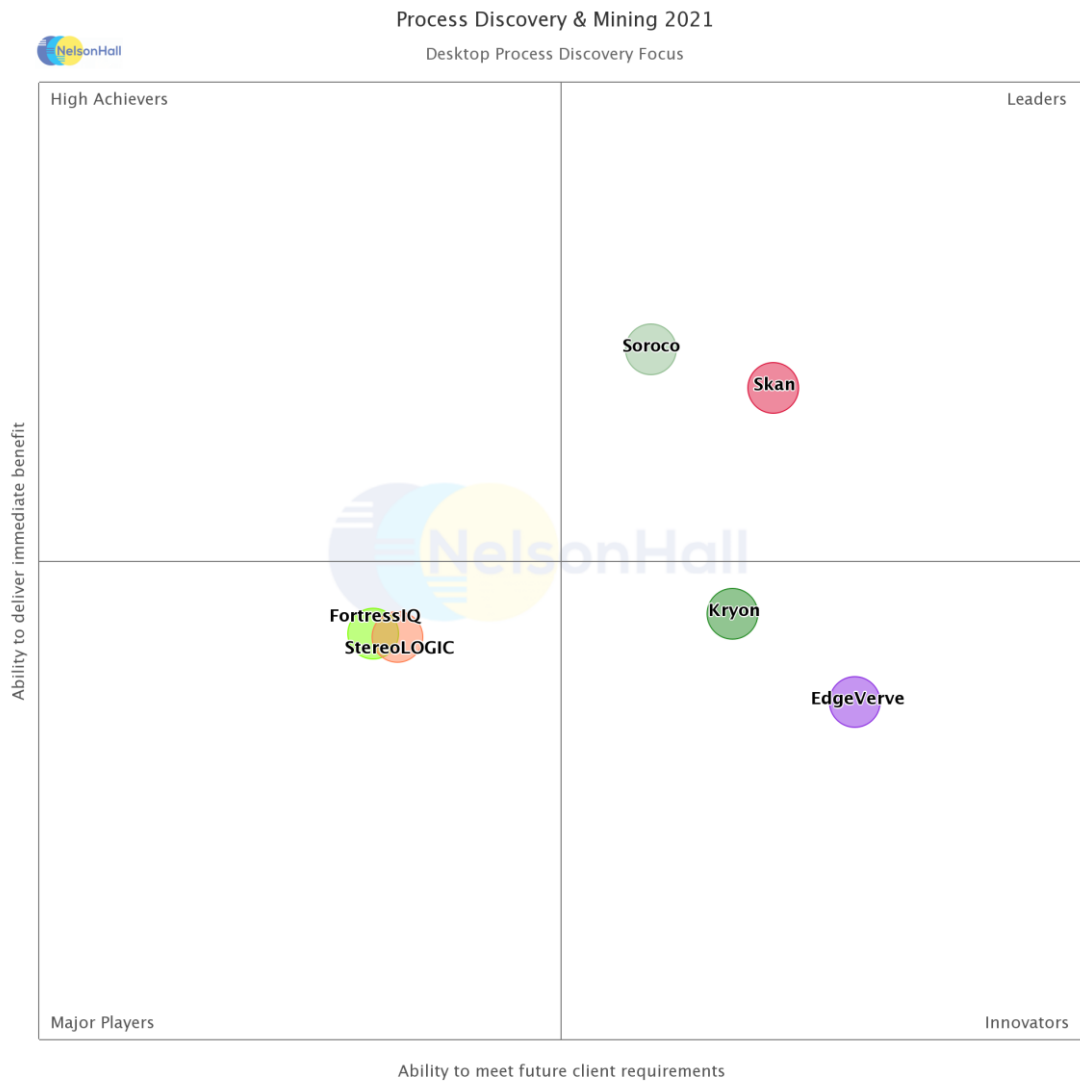
This NelsonHall Vendor Evaluation & Assessment Tool (NEAT) analyzes the performance of vendors offering process discovery & mining technology. The NEAT tool allows strategic sourcing managers to assess the capability of vendors across a range of criteria and business situations and identify the best performing vendors with dual focus on process discovery & mining, specific focus on process mining, focus on desktop process discovery, as well as the ability to plan and accelerate process change.

Evaluating vendors on both their 'ability to deliver immediate benefit' and their 'ability to meet client future requirements', vendors are identified in one of four categories: Leaders, High Achievers, Innovators, and Major Players.

Vendors evaluated for this NEAT are: ABBYY, Apromore, Celonis, EdgeVerve, FortressIQ, IBM Process Mining, Kryon, Logpickr, Mehrwerk, Mehrwerk+NICE, Minit, Minit+EdgeVerve, PAF, Process Diamond, QPR, Skan, Software AG, Software AG+Kryon, Soroco, StereoLOGIC, UiPath, and UpFlux. *N.B. where two vendors have a go-to-market technology partnership, this is indicated by '+' between the vendor names.*

Further explanation of the NEAT methodology is included at the end of the report.

NEAT Evaluation: Process Discovery & Mining (Desktop Process Discovery Focus)



NelsonHall has identified Skan as a Leader in the *Desktop Process Discovery Focus* market segment, as shown in the NEAT graph. This market segment reflects Skan's ability to meet future client requirements as well as delivering immediate benefits to its clients with specific focus on enabling clients to discover business processes from desktop work.

Leaders are vendors that exhibit both a high ability relative to their peers to deliver immediate benefit and a high capability relative to their peers to meet client future requirements.

Buy-side organizations can access the *Process Discovery & Mining* NEAT tool (*Desktop Process Discovery Focus*) [here](#).

Vendor Analysis Summary for Skan

Overview

Skan was founded in 2018 by Avinash Misra and Manish Garg, after having led large-scale digital transformation and automation efforts at Genpact, to focus on a better way to discover processes. The two currently serve in the same roles, CEO and COO respectively, as at Endeavour Software Technologies when Genpact acquired the company in 2015.

In early 2021, Skan brought onboard Christian Berg as VP Head of Product; he was formerly Directory of Product AI at UiPath. A year prior, their team was joined by Jagadeesh Chandra Bose, a former student of Prof. Wil van der Aalst, as the Head of Data Science. The company received \$14m in Series A funding, led by Cathay Innovation, in October 2020.

Key Offerings

The company offers Skan Process Intelligence Platform, its ‘telemetry of work’ platform that uses computer vision to observe how work and tasks are executed to deliver automated process discovery and insights for automation and workforce optimization. It is an open platform that enables organizations to consume their data and insights the way they want.

Skan has the goal of driving process optimization through not only automation, but precision training, process conformance, and operational metrics. The company updated the platform to be powered by its new Analytical Data Store (which powers 12 customizable analysis reports and enables clients to consume data and insights on other platforms). It offers ~20 process templates (consisting of reports, widgets, and KPIs) that help clients drive process excellence. These templates are primarily for finance and insurance, where most of its clients come from, including acquisition, claims, sales, policy administration and maintenance, billing and remittance, and risk review and assessment.

In the past year, the company also revamped its architecture to prioritize privacy and security of client data; the platform functionalities are now split across two networks: client network and Skan cloud.

To collect data, Skan’s solution includes Virtual Process Agent (VPA), a desktop observer tool that passively records user desktop interactions – meaning the desktop user does not manually start or stop recordings. VPA desktop streams are sent to a PRISM Gateway server within the same network.

Skan extended auto-discovery capability in H1 2021, with Hierarchical Activity Understanding, enabling Process Intelligence Platform to show variations of the same task (activity) as a hierarchical tree. It also added Process Attribute Extraction, which enables process experts to configure which fields should be extracted and which fields are considered case IDs – giving equivalent levels of detail as can be extracted from transaction logs in process mining.

In H1 2021, Skan also introduced Hierarchical Process Maps, letting process experts define a subset of tasks as a subprocess. The additional level of abstraction enables them to understand end-to-end processes in various ways, e.g., by departments/roles (similar to BPMN swimlanes) or other concepts. Once subprocesses are defined, the platform will discover variants for subprocesses as it does for processes.

Skan provides a standard report for Compliance and Conformance analysis against both process models and business rules. The company plans to release additional capabilities with a dedicated Compliance module in Q3 2021.



Process Intelligence Platform includes automated root cause analysis functionality to find the key influencers to clients' process questions, e.g., what influences actual vs. planned return to work times.

Process Intelligence Platform includes what-if simulation capability for understanding the impact of potential process changes. By default, it focuses on interpolating changes to the historical data to minimize the risk of drawing false conclusions.

Skan's pricing model is based on per-user licenses; it charges a tiered annual subscription per virtual agent and analyst/process owner. The company primarily offers a fixed per-user license but also offers a floating license, at a premium, because it recognizes the digital transformation journey of its clients does not stay fixed.

Skan is targeting businesses with systems that cannot generate transaction logs necessary for traditional process mining tools. The company finds legacy systems and terminal-based (Citrix) systems a driving force for adoption within the banking and financial service industry.

The company directly engages with about 80% of its clients, while the remaining 20% come through its Global 2k partners.

Financials

Skan does not release revenue information, but NelsonHall estimates its 2020 annual revenues at \$10m. The company has netted 20 new logos to date in 2021.

Strengths

- Privacy and security-focused architecture: client data never leaves PRISM servers on the client network
- Ability to stitch discovered long-running processes across an organization for an end-to-end view
- Hierarchical Process Maps: ability to manually define subprocesses to embed operational information
- Efficient in processing desktop streams: 1k VPAs streams are 8 CPU and 32 GB memory without GPUs.

Challenges

- Capabilities to accelerate bot development stop at PDDs
- Few partners limits its ability to expand to new geographic and vertical markets

Strategic Direction

Skan's investments in the next 18 months will continue to support its vision to create the telemetry of work in four key areas:

Enabling custom analytics and data integrations for deep, unique insights

Skan has already rolled out its self-serve BI that leverages Microsoft Power BI and custom hierarchies with its Hierarchical Process Maps to enable clients to create additional levels of



abstractions that make sense to them. In the pipeline, the company is enhancing its what-if analysis/simulation functionality. It will create more transparency around how what-if metrics are calculated and to enable them to filter out counterfactuals for which they do not want to account.

Focus on taking action based on process insights

In H2 2021, Skan is looking to add Advanced RPA Export, which will enable the Process Intelligence Platform to go beyond PDDs and export bot skeletons to the major RPA vendors. It aims to go further than typical implementations of generating a skeleton based on a single recorded stream to generating a best practice skeleton.

The company is also adding Advanced Workforce Intelligence and Compliance functionality. It is looking to build a comprehensive support tool to help clients with resource planning by optimizing and balancing workloads and testing these plans to estimate the expected utilization. It is also enhancing its VPA with interactive capabilities to enable VPAs to support desktop users by notifying them of rules and policies and executing best practices.

Deeper understanding and insights with business rules inference

Skan is looking to leverage the rich data being ingested by the Process Intelligence Platform to develop business rule inference that will be rolled out in H1 2022. As the volume of data grows, the platform's understanding of the control flows of processes will pick up logic and policies that govern processes to begin making predictions. This will help drive additional functionality like follow-along modeling that will take interactive VPAs to the next step beyond just notifications to assisting desktop users with work.

While structured data is easier to work with, Skan understands that it requires technical knowledge that can cause friction. As such, the company is looking to integrate unstructured data to make the Process Intelligence Platform more self-served and minimize the technical knowledge and understanding required to use it.

Self-optimizing enterprise

In H2 2022 and beyond, Skan is looking at features that will enable clients to make innovative leaps in how work is executed. It has identified the following key features:

- *Experimentation Module*: aimed to help enterprises go beyond optimization based on current experiences into experimentation to generate new experiences. The company believes experimentation will be how enterprises make leaps forward
- *Intelligent Routing*: aimed at learning about workers and their strengths and weaknesses to route work to workers to maximize their skillsets intelligently
- *Benchmarking*: like-for-like process benchmarking across organizations within the same vertical to help them and the vertical improve.

Outlook

Skan continues to evolve its Process Intelligence Platform with capabilities that enable organizations to more easily understand how human desktop work is executed within their processes, including long-running ones. New features like process attribute extraction and hierarchical process understanding also grow its competitiveness against leaders in the more mature process mining space by bringing in more contextual data to enhance process understanding.



The company focuses solely on human touchpoint parts of processes and stops providing visibility to that part of a process once it has been automated. This strategic decision contrasts the mindset that process discovery and mining solutions should be the cornerstone of building the digital twin of an organization (DTO) by connecting disparate and siloed systems to be a single source of truth. That said, its new Analytical Data Store enables client organizations to pull data and insights from its platform to build a DTO model in another solution.

Skan has also addressed many challenges we identified in last year's project, while improving its attractiveness to enterprises. It has reengineered its infrastructure for privacy and security using a PRISM server, scaled the number of agents it can support concurrently per server and adopted Microsoft Power BI for dashboarding and analytic functionality. And it will deliver on many of the strategic items it outlined last year over the coming months, delivering on the four areas it has identified for ongoing investments.

Process Discovery & Mining Market Summary

Overview

The convergence of process discovery and process mining accelerated in 2020/21 as the market recognized the need to combine their strengths to overcome their challenges – not all work is done within IT systems and not all work is done on desktops.

Both segments aim to help organizations to gain process understanding but from different perspectives:

- *Process discovery* (end-to-end task mining) provides an understanding of work execution through the lens of workers on desktops. It captures all work performed on desktops, including that done outside of IT systems, e.g., Excel, Outlook, Notepad, etc. The segment is traditionally driven by desktop automation and workforce optimization
- *Process mining* provides an understanding of work from an end-to-end perspective through to the final business outcome. Process mining started from a narrow definition of visualization and analysis of event logs from IT systems using algorithms and mathematical procedures. The sole reliance on IT system logs means work performed outside of them is not captured.

Process discovery vendors are integrating process mining technologies to help clients quantify the impact on work to give recommendations that will lead to more significant overall business impact. Similarly, process mining vendors are integrating process discovery technologies to fill in the gaps in IT system logs to provide more reliable and actionable insights with quantification of the potential business impact.

Process discovery & mining solutions typically feature:

- *Connector capabilities* – to extract, transform, and load transactional data from IT systems for analysis and integration to third-party platforms for enabling automation and proactive interventions
- *Desktop capabilities* – to collect streams of desktop work that includes application data, environmental variables, and user interactions, and uses AI/ML to parse work from streams of recordings
- *Conformance checking* – to understand how work is performed against organizational policies and best practices
- *Root cause analysis* – to find factors that are contributing to certain process behaviors and outcomes
- *Data simulation* – to simulate scenarios of process transformation and to understand potential impacts before making changes
- *Proactive intervention* – leveraging ML and heuristics to trigger automations (workflows and RPA bots) and real-time process guidance on desktops.

Buy-Side Dynamics

Benefits sought (ordered by importance) by buyers for engaging a vendor for process discovery & mining are:

- Improve overall visibility and transparency of process flows
- Reduce average process cycle times
- Reduce effort to identify process steps and variations
- Improve identification of root causes in process variations, outcomes, non-compliance
- Improve identification of KPI impact in process variations, outcomes, non-compliance
- Improve identification of processes to be automated
- Improve upskilling or retraining efforts with precision training for individuals or teams
- Improve business agility.

Key inhibitors for buyers looking to adopt process discovery & mining solutions relate to stakeholder buy-in, data, and privacy.

Market Size & Growth

The current global PDM market size is estimated by NelsonHall at ~\$670m and will grow to ~\$4.3bn by 2025, a growth of 45% CAAGR.

Europe accounts for 43.3% of the PDM market, followed by North America at 42.5% and APAC at 9.7%. Strong growth in North America will cause it to overtake Europe by 2025.

BFSI is the largest sector, accounting for 28.7% of the market. The ongoing impact of the pandemic on global supply chains has boosted adoption in transport/logistics and manufacturing that will continue through 2025. Similarly, healthcare (having been a top growing sector in 2020) will continue to grow due to continued rising costs and deficiencies exacerbated by the pandemic.

Success Factors

The key success factors for process discovery & mining vendors include:

- *Actionable insights*: providing insights that drive impactful changes with just enough information without overwhelming users. This is also not limited to historical data but ongoing data using predictive analytics to intervene in open cases
- *Adaptive and transparent pricing*: offering flexible pricing for organizations to adjust to current and changing needs. At the same time, pricing is transparent so clients can predict how costs will change to budget accordingly
- *Balancing flexibility and ease of use*: some vendors have designed UI/UX with customizability and flexibility in mind. However, during that process, it has become overwhelming and less intuitive to use. Successful vendors are using design thinking to build their platform with the right balance to improve user-friendliness
- *Data governance at scale*: architecting their platforms with organization and process data governance in mind. When scaling adoption from a single business unit to multiple ones

in the same company, platforms need to be designed to handle the increased complexities of data and process ownership

- *Empowering partners:* recognizing they are first and foremost software companies rather than domain experts, these vendors are frequently going hand-in-hand with partners into client engagements so they can speak the same language. They also develop programs to work with partners across geographies and industry verticals
- *Enabling transformations:* going beyond the immediate mapping and assessment needs of clients and enabling them to plan, execute, and monitor process transformations. Provide capabilities to support building business cases with insights on the impact of process changes, standardizing work by templating best practices, generating bots to accelerate their rollout, and knowledge sharing for cooperation and collaboration.

Outlook

Over the next few years:

- Drivers for continued deployment will include continuous or iterative improvement efforts and to improve outcomes of connected processes that support the initial key processes
- Solutions will fully integrate not only business and desktop data but increasingly include additional data modalities like IoT to enable planning process changes with more actionable and impactful insights and to accelerate implementations of process changes
- Machine learning will play a more significant role in enabling the planning of process changes in addition to the current trend of enabling implementation efforts with predictive and prescriptive analytics
- Healthcare will continue being one of the strongest growing sectors, outpaced only by the adoption rate of the transportation and logistics sector
- Process discovery & mining deployments will become 80% cloud-based, with an increasing number of vendors offering PDM-as-a-Service and freemium options to build their client base as part of a land-and-expand strategy.



NEAT Methodology for Process Discovery & Mining

NelsonHall's (vendor) Evaluation & Assessment Tool (NEAT) is a method by which strategic sourcing managers can evaluate outsourcing vendors and is part of NelsonHall's *Speed-to-Source* initiative. The NEAT tool sits at the front-end of the vendor screening process and consists of a two-axis model: assessing vendors against their 'ability to deliver immediate benefit' to buy-side organizations and their 'ability to meet client future requirements'. The latter axis is a pragmatic assessment of the vendor's ability to take clients on an innovation journey over the lifetime of their next contract.

The 'ability to deliver immediate benefit' assessment is based on the criteria shown in Exhibit 1, typically reflecting the current maturity of the vendor's offerings, delivery capability, benefits achievement on behalf of clients, and customer presence.

The 'ability to meet client future requirements' assessment is based on the criteria shown in Exhibit 2, and provides a measure of the extent to which the supplier is well-positioned to support the customer journey over the life of a contract. This includes criteria such as the level of partnership established with clients, the mechanisms in place to drive innovation, the level of investment in the service, and the financial stability of the vendor.

The vendors covered in NelsonHall NEAT projects are typically the leaders in their fields. However, within this context, the categorization of vendors within NelsonHall NEAT projects is as follows:

- **Leaders:** vendors that exhibit both a high ability relative to their peers to deliver immediate benefit and a high capability relative to their peers to meet client future requirements
- **High Achievers:** vendors that exhibit a high ability relative to their peers to deliver immediate benefit but have scope to enhance their ability to meet client future requirements
- **Innovators:** vendors that exhibit a high capability relative to their peers to meet client future requirements but have scope to enhance their ability to deliver immediate benefit
- **Major Players:** other significant vendors for this service type.

The scoring of the vendors is based on a combination of analyst assessment, principally around measurements of the ability to deliver immediate benefit; and feedback from interviewing of vendor clients, principally in support of measurements of levels of partnership and ability to meet future client requirements.

Note that, to ensure maximum value to buy-side users (typically strategic sourcing managers), vendor participation in NelsonHall NEAT evaluations is free of charge and all key vendors are invited to participate at the outset of the project.

*Exhibit 1***‘Ability to deliver immediate benefit’: Assessment criteria**

Assessment Category	Assessment Criteria
Offerings	<ul style="list-style-type: none"> Ease to aggregate logs into processes Desktop process discovery capability Integration between business and desktop data Process visualization Range of prebuilt/templated process analyses Ease (UI-based) of conformance/compliance checking ML-based root cause analysis Recommendations for process improvement and re-engineering Proactive process intervention Integrated automation capabilities Analytics reporting and insights No/low-code development
Delivery Capability	<ul style="list-style-type: none"> Maturity of partner base Desktop process discovery pricing model available Process mining pricing model available Training
Client Presence	<ul style="list-style-type: none"> Overall PDM presence North American presence LATAM presence Europe presence MEA presence APAC presence
Benefits Achieved	<ul style="list-style-type: none"> Visibility and transparency of process flows Reduced effort to identify process steps and variations Identify root causes of process variations and outcomes Identify KPI impact of process variations and outcomes Reduced average process cycle times Identify process activities to be automated Upskilling or retraining efforts Business agility Overall business impact

*Exhibit 2***‘Ability to meet client future requirements’: Assessment criteria**

Assessment Category	Assessment Criteria
Level of Investments	Level of investment in PDM Level of investment in core desktop process discovery Level of investment in data connectors, integration, and models Level of investment in prebuilt (templated) process analyses Level of investment in analytics, insights, and simulations Level of investment in accelerating automation development Level of investment in proactive process intervention

For more information on other NelsonHall NEAT evaluations, please contact the NelsonHall relationship manager listed below.


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NelsonHall will be pleased to discuss how we can bring benefit to your organization. You can contact us via the following relationship manager:

Guy Saunders at guy.saunders@nelson-hall.com

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