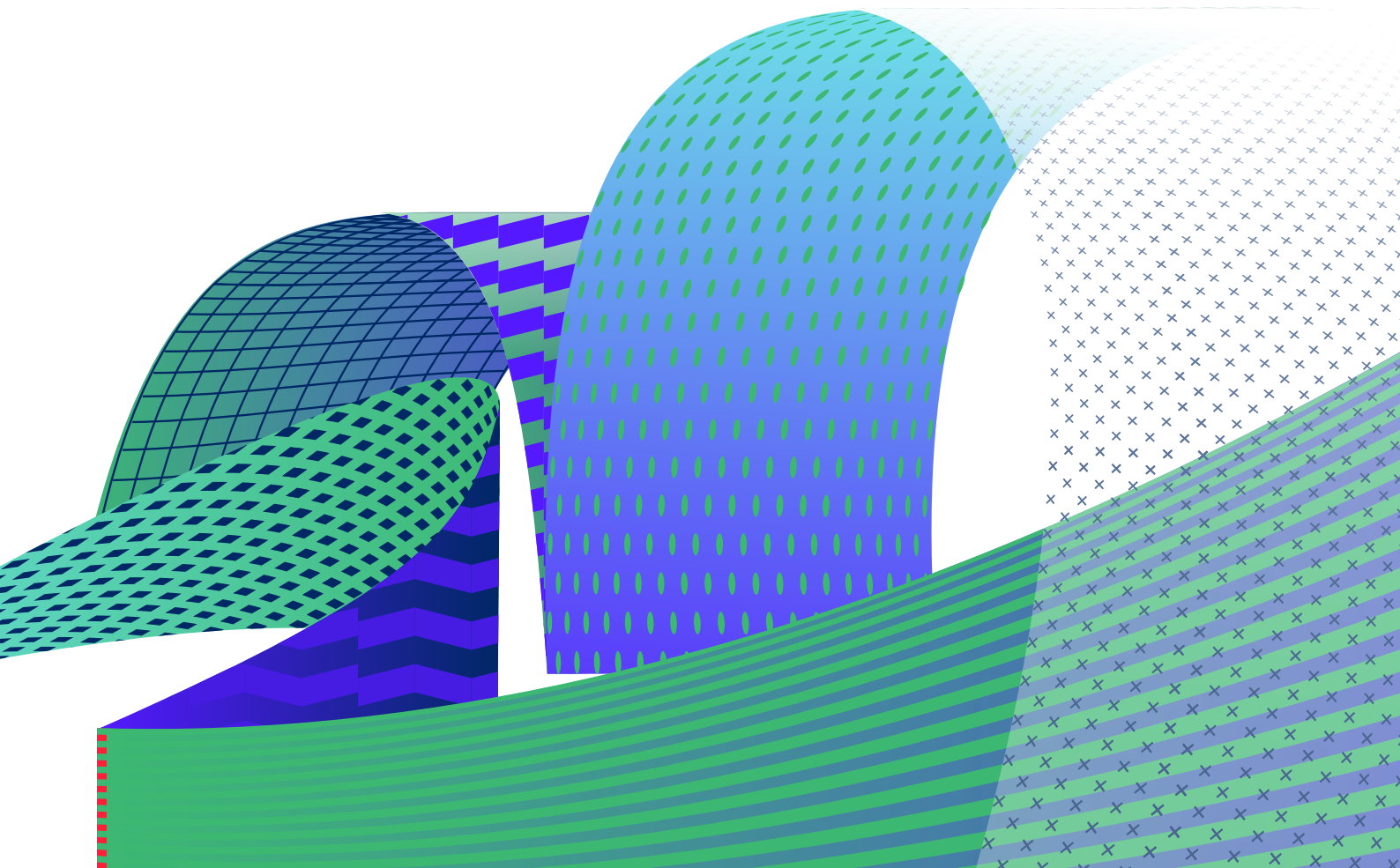


From “ETL” to “ELT” and Why It Matters for the Next Generation of Process Mining, Discovery, and Analysis



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The importance of data transformation in process mining and discovery

Process mining and discovery is a rapidly growing market segment that empowers organizations to gain visibility to how their processes work, identify root causes of process inefficiencies, and make informed business decisions to optimize process execution.

A key requirement for effective process mining is the ability to access event logs from various systems of record, as they actually occur. Such event log data “is often considered as the ‘new oil’ and data science aims to transform this into new forms of ‘energy’ as insights, diagnostics, predictions, and automated decisions.”¹

Data transformation is a necessary process to transform the raw data (the “new oil”) into meaningful insight (“energy”). Data transformation commonly referred to as Extract, Transform, and Load (ETL) is a process to transform data from multiple systems and applications for analysis purposes. This process includes normalization, cleansing, de-duplication, and formatting as a part of a multi-stage data transformation process, before moving the data into a data warehouse for further analysis.

The application of ETL is particularly useful to help businesses analyze structured data relating to business performance using online analytical processing (OLAP) tools. To ensure meaningful analysis, the transformation of source data is essential and traditionally requires IT skills with SQL/NoSQL, scripting, and data mapping expertise.

↳ ¹ https://www.researchgate.net/publication/318163712_Responsible_Data_Science_Using_Event_Data_in_a_People_Friendly_Manner Wil M.P. van der Aalst page 4



When it comes to common business users exploring new technologies like process mining or other, traditional ETL tools are not as useful. A variant approach is what is referred to as ELT—Extract, Load, and Transform, whereby the extracted data is immediately loaded into an analytical application such as a process mining platform where data transformation occurs, thereby delivering faster time to value without the need for time-consuming and expensive data transformations.

The value of ELT lies in its ability to support transforming very large volumes of event data, including real-time streaming, leveraging the power and scalability of the cloud infrastructure to be consumed by business users.



With ELT, businesses of any size can capitalize on the current technologies. By analyzing larger pools of data with more agility and less maintenance, businesses gain key insights to create a real competitive advantages and excel in their business.²

↳ ² <https://blog.panoply.io/etl-vs-elt-the-difference-is-in-the-how>

ELT is particularly useful to support process mining of event data logs associated with case-based processes with a high degree of variability, such as health care delivery, claims processing, and customer service. The value of process mining is discovery of processes as they actually occur without any transformation of the data. Specifically, process mining enables organizations to conduct an in-depth analysis of how current processes work, what should be automated, what can be automated, what benefits come from automation, and where process bottlenecks occur.

ABBYY Timeline builds a virtual model of event logs using ELT

Organizations generate an unprecedented amount of data that spans across disparate systems of record. They contain a treasure trove of information relating to how processes actually perform. When properly ingested, merged, and analyzed, this wealth of data can be used to discover patterns and insights to help organizations surface process inefficiencies, thereby reducing transaction costs, mitigating compliance risk, and improving customer service levels.

While process mining is a relatively early stage market category, it is gaining accelerated adoption as it is becoming an invaluable tool that helps organizations

- Visualize and understand end-to-end execution of operational processes, in all their variations and throughout disparate systems
- Identify areas of automation with highest ROI
- Monitor process performance to support enterprise scalability
- Use early-stage data to predict process outcomes and proactively plan or act



Process mining requires that you first build a virtual model of business processes—a “digital twin”—of business operations and processes as they actually occur:



The starting point for process mining is an event log. All process mining techniques assume that events can be sequentially recorded such that each event refers to an activity (that is, a well-defined step in the process) and is related to a particular case (a process instance). Event logs might store additional information such as the resource (person or device) executing or initiating an activity, an event’s time stamp, or data elements recorded with an event (such as the size of an order). Organizations can use event logs to discover, monitor, and improve processes based on facts rather than fiction.³



³ <https://ieeexplore.ieee.org/document/6123703>, Wil M.P. van der Aalst, Eindhoven University of Technology; Schahram Dustdar, Technical University of Vienna

ABBYY Timeline — from process mining to Process Intelligence

ABBYY Timeline Process Intelligence is uniquely positioned to support the following key differentiated capabilities unmatched in the market:



Capable of handling any process type, particularly unstructured case management processes



Integrated ELT (Extract-Load-Transform) tool that allows users to manage their data 100 percent within ABBYY Timeline, eliminating the need to pre-process data using complex ETL and data blending tools that often require assistance from IT personnel



End-to-end visualization of the flow of work through the process stages to see the delays, bottlenecks, outliers, and even items moving backward

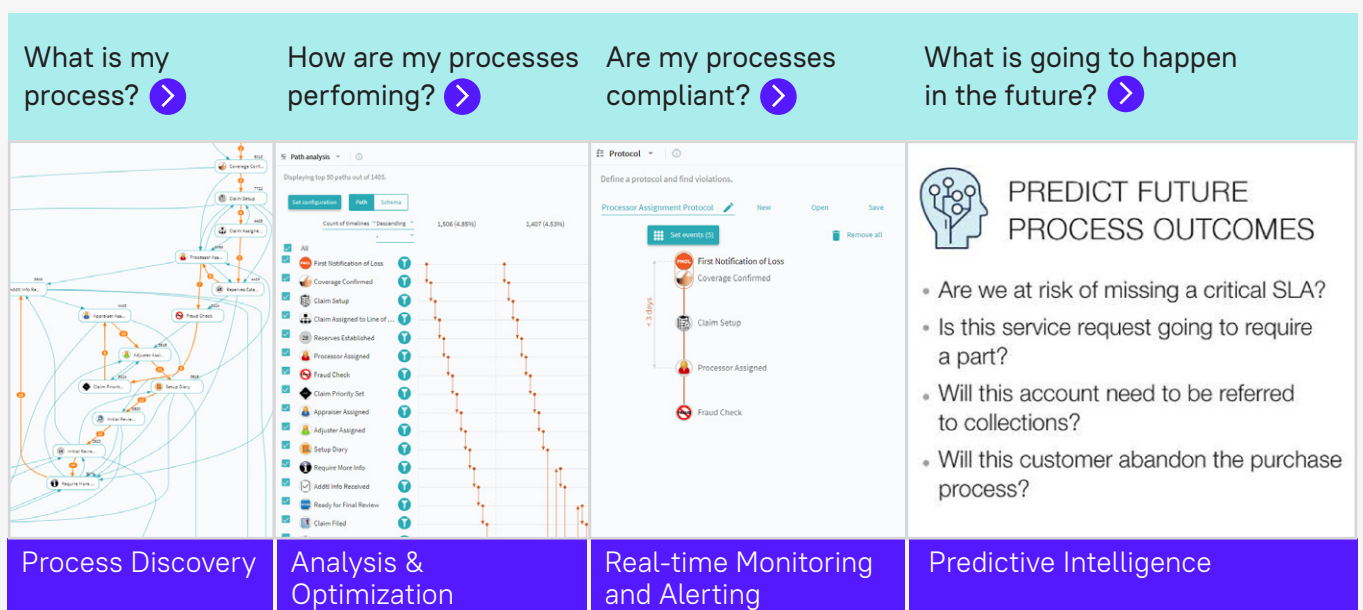


Real-time operational monitoring that can trigger alerts when rules set in place are broken or to trigger action in other systems to address the issue



AI/ML-based prediction based on a patent-pending neural network-based approach that allows users to predict the outcome or performance of any process instance in the early stages of the process execution

ABBYY Timeline is a Process Intelligence platform that allows businesses to use the information contained within their systems to create a visual model of their processes, analyze them in real time to identify bottlenecks, and predict future outcomes to facilitate decision-making of technology investments:



ABBYY Timeline’s capabilities deliver the following benefits:

- ✔ Gain insight into your “as-is” processes. Understand challenges and discover special cases.
- ✔ Visualize the flow of your work through the process stages and see the delays, bottlenecks, outliers, and even items moving backward.
- ✔ Drive down the cost of process evaluation and make it easy to identify high-value improvement opportunities.
- ✔ Process improvement never stops. Automatically monitors process performance in near real-time to assist in triggering remediation processes.

In a recently released [NelsonHall report](#), ABBYY was recognized as a Leader in its NEAT vendor evaluation for Process Discovery and Mining.

ABBYY’s positioning as a Leader was attained based on, among other factors, the maturity of its offerings, delivery capability, benefits achieved for clients, level of partnership with clients, mechanism to drive innovation, and the extent to which the company is positioned to support the customer journey throughout the life of the contract.

The overarching value that the [NelsonHall report](#) identified:



ABBYY Timeline offers a platform that is clearly designed with the business user in mind... ETL with no-code data transformations designed for business users, its enablement of business users to perform frictionless analyses, combined with ABBYY’s investments to integrate content and desktop technologies, positions it at the forefront of the emerging wave of process discovery and mining solutions.

ABBYY Timeline enables data-driven process optimization

We are currently witnessing unprecedented change in the way companies do business. Innovative companies are finding new and imaginative ways to improve their business and customer interactions by employing transformative digital technologies.

Today’s information systems generate an unprecedented amount of data from both digital and physical sources. When properly ingested, merged, and analyzed, this wealth of data can be used to discover patterns and insights that illuminate paths to better customer experiences and new operational efficiencies that engender sustainable competitive advantages.

ABBYY Timeline empowers your

- Digital Strategists who transform an organization’s overall strategy into customer experience improvements and tactics
- Customer Service organizations that optimize customer-service interactions across the customer experience journey
- Compliance functions responsible for mitigating regulatory and technological threats to an enterprise’s brand reputation and earnings
- Digital Transformation Teams with responsibility for the delivery of multiple technology solutions across a number of transformational programs and Center of Excellence initiatives
- Business Process Managers and Consultants (business modeling, analysis, Six Sigma)

As process mining works with large volumes of event logs that encompass not only structured but highly variable case-based processes such as claims and customer service, business users often find themselves waiting on developers or IT to prepare data for analysis. Moreover, the inherent value of process mining is to discover the behavior of “as is” business processes without any intermediate transformation of the data.

ABBYY Timeline is based on a comprehensive ELT framework that

- ✓ **Extracts event log data from multiple systems of record.** Event data is extracted—without integration—from any combination of enterprise or departmental software systems and uploaded into ABBYY Timeline.
- ✓ **Processes and maps events.** Loads the data and visualizes your process; it’s that easy. Only three fields are needed to get started (adding more creates richer content): a unique identifier, timestamp, and an event name.
- ✓ **Creates “as-is” visualization.** The data is converted into timelines where you can observe the “who, what, when, and where” of process execution, including relevant subprocesses.

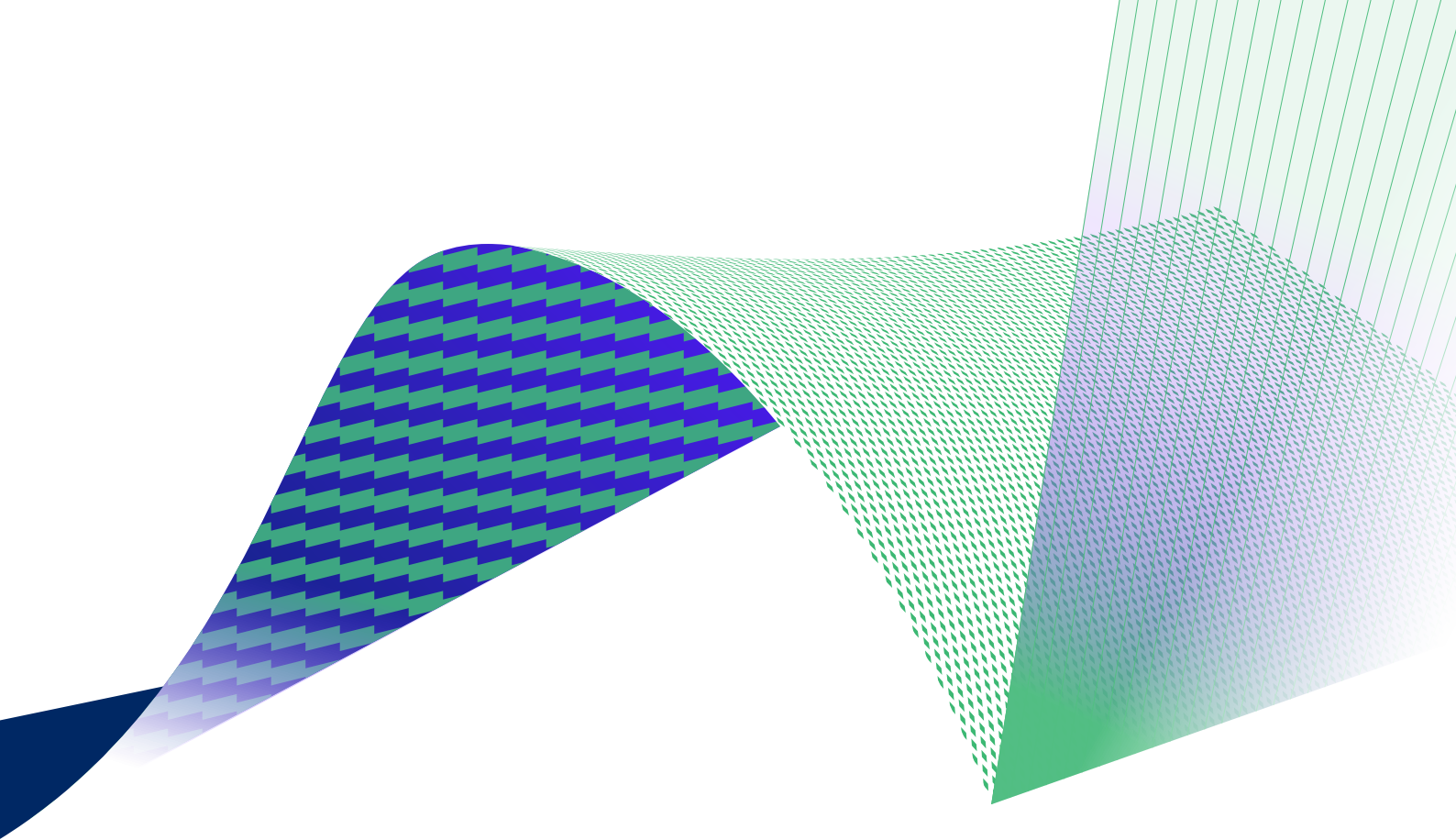
From a time to value perspective, ELT does not require IT skills. ELT does not require organizations to invest in expensive IT resources to implement data transformation associated with ETL-based processes. Moreover, ELT supports the ability to load event data in real-time without any coding, enabling business users to support continuous process monitoring and optimization.

ABBYY Timeline

Discover the truth about your process flow and performance

Knowing how processes work and where they can be automated effectively with smarter technologies is what we call Process Intelligence. Unlike traditional business intelligence and process mining approaches, Process Intelligence offers an extremely effective way for an organization to locate inefficiencies, wasted time, bottlenecks, and any other issues that are plaguing the process, so automation can then be applied where it will have the greatest impact.





About ABBYY

ABBYY is a Digital Intelligence company. We provide a Digital Intelligence platform that enables organizations to gain a complete understanding of their business. ABBYY technologies are used by more than 5,000 companies, including many of the Fortune 500 in finance, insurance, transportation and logistics, healthcare, and other industries. ABBYY has a worldwide presence with headquarters in the United States and offices in 13 countries.

For more information, visit www.abbyy.com/company

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