

ABBYY Vantage

Smart Insurance Claim Processing

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Overview

By leveraging the power of automation, process intelligence, and targeted AI analysis, insurers can reimagine how medical claims are handled—from submission to settlement. This use case guide explores how ABBYY Vantage and Timeline help reduce manual work, accelerate claim resolution, and enable proactive fraud detection—leading to lower costs, improved efficiency, and better customer experiences.

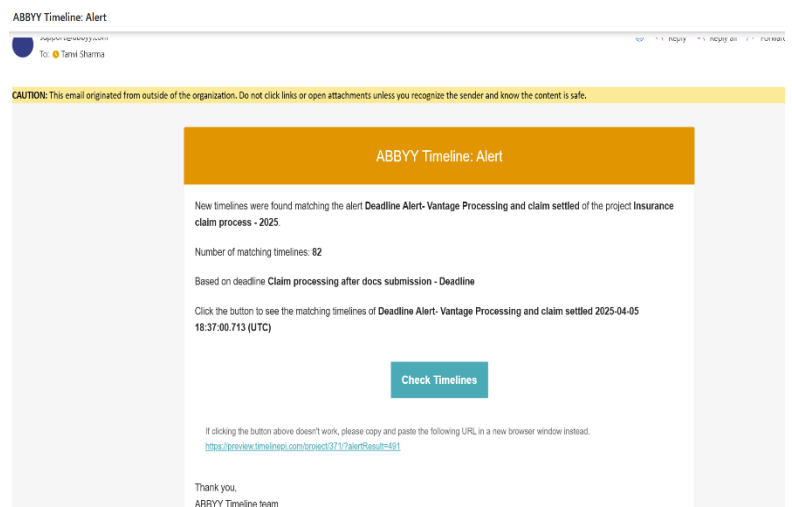
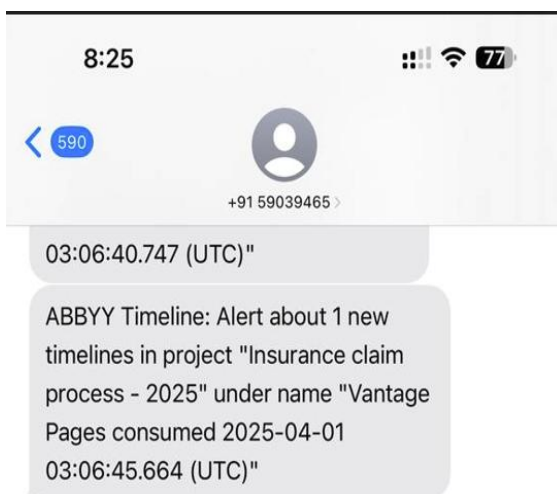
Timeline adds powerful process intelligence, offering real-time visibility into claims workflows, identifying bottlenecks, ensuring compliance, and highlighting opportunities for continuous optimization.

Additionally, large language models (LLMs) are used to analyse ECG reports, extracting meaningful insights that support more accurate claim assessments and medical validations. This targeted AI integration adds a deeper layer of understanding to clinical documentation within the claims process.

Together, these technologies empower a shift from reactive operations to intelligent, insight-driven claims management.

Key features

- **End-to-End Claims Automation:** Automate document intake, data extraction, validation, and export with ABBYY Vantage.
- **Process Intelligence with Timeline:** Monitor workflows in real time, identify bottlenecks, and ensure SLA compliance.
- **Targeted AI with LLM Integration:** Analyse ECG reports using LLMs to extract medical insights and detect anomalies for faster, more accurate decisions.
- **Proactive Fraud Detection:** Surface suspicious patterns early by combining automation with process and document intelligence.
- **Real-Time Notifications:** Automatically send **email and SMS alerts** in case of SLA breaches, delays, or data inconsistencies—keeping teams informed and responsive.



- **Improved Compliance and Customer Experience:** Reduce manual errors, shorten resolution times, and maintain full visibility with audit trails and real-time tracking.

System Requirements

To deploy and run the solution effectively, ensure the following system and infrastructure prerequisites are met:

ABBYY Vantage

- Active ABBYY Vantage account with access to Process and Document Skills.
- Skill Designer role enabled for creating or editing automation flows.
- API access if integrating with LLM or notification services.

LLM Integration (ECG Analysis)

- Accessible LLM endpoint (e.g., OpenAI/Grok AI or local model API).
- API credentials (e.g., API key or OAuth token).

ABBYY Timeline

To use the Timeline Connector, your Timeline account must have one of the following roles:

- Data Manager
- Administrator
- Project Owner

Additionally, the **Timeline API data source** must be enabled for the target project. Ensure you also have an **active ABBYY Vantage account** for integration.

Setting the solution

To set up the solution, perform the following steps:

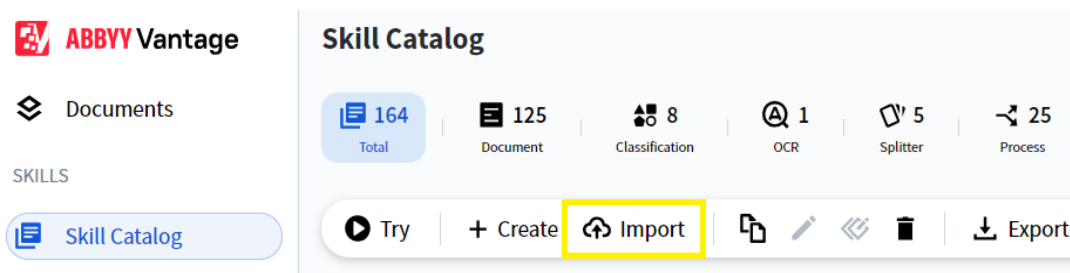
Importing the package

Import the Prebuilt Process Skill

Start with the **Insurance Claim Process.zip** – a preconfigured process skill designed to seamlessly integrate document intake, data extraction, validation, and routing. This accelerates deployment and ensures alignment with common insurance workflows.

To import the process skill, do the following:

1. Download the **Insurance Claim Process.zip** package.
2. Click Import, then Import Package.



3. Select the downloaded ZIP package.
4. Click **Open**.
5. Once the Skill is imported, the **Insurance Claim Process Skill** is available under the Process Skill tab.

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Documents

SKILLS

Skill Catalog

Skill Monitor

Skill Designer

Data Catalogs

Skill Catalog

439 Total | 287 Document | 26 Classification | 3 OCR | 7 Splitter | 116 Process

Try | + Create | Import | Export | Publish

Type	Skill name	Version	Description
	Insurance Claim Process Skill	29	

Configuring the solution

To use the solution, follow these steps:

1. **Document Ingestion:** Configure ABBYY Vantage to receive and classify claims documents, including attachments like ECG reports. You can set up ingestion via multiple channels:
 - Email integration: Automatically process documents sent to a designated email inbox.
 - Shared folder: Monitor and process files from a shared network location.
 - API: Push documents programmatically into Vantage through its REST API for more flexible integrations.

Insurance Claim Process Skill

Editor | Publish

Activities

CONNECTORS

- Input
- Output

SKILLS

- Extract
- Classify
- OCR

OTHER ACTIVITIES

- Assemble
- Manual Review
- Custom
- IF
- For each document

Actions

INPUT ACTIVITY NAME

Input

SOURCE

Use Vantage REST API documentation to import files or select an additional source
[View Documentation](#)

☒ Select additional source

☐ Shared folder
Use the link and credentials to upload files in the input folder
[Settings](#)

☒ E-mail
Vantage will import the e-mail attachments and optionally - the body of the e-mail.
tanvi.sharma@abbyy.com
[Settings](#)

2. Data Extraction & Validation

Use the imported skill or customize it to extract key data fields—such as patient details, diagnosis, and claim amounts—and validate them using predefined business rules. Alternatively, you can create a new skill from scratch to meet specific requirements or handle custom document formats.

The screenshot shows the ABBYY Vantage interface for a skill named 'Medical_Insurance_Claim_Form'. The main area displays a scanned document titled 'BUPA GLOBAL CLAIM FORM'. The form contains sections for 'PATIENT'S DETAILS' and 'CONTACT INFORMATION'. On the right, the 'Results' panel shows extracted data for various fields: Policy Number (BI987654321), Claim Number (BI987654321_060420251922), Timestamp (06-04-2025 07:22:26 PM), Activity (Vantage Processing), Title (Mr.), First Name (John), Last Name (Smith), Claimant Name (John Smith), DOB (01/01/1949), and Building (123). A sidebar on the right contains 'Actions' like 'Design Document Skill', 'Upload documents', 'Label fields and create business rules', and 'Start training'.

3. Sending Email Notification

Trigger an email notification at the initiation of claim processing to confirm receipt or notify relevant stakeholders. This is handled via scripting within the Process Skill in ABBYY Vantage, ensuring the email is sent at the right stage during the process.

To implement this, refer to the script provided in the Process Skill and obtain the following credentials from your Azure AD setup: Client ID, Client Secret and Refresh Token

Store these securely in Vantage Environment Variables to enable seamless and secure email integration.

The screenshot shows the ABBYY Vantage interface for a skill named 'Insurance Claim Process Skill'. A 'Custom Activity Settings' dialog box is open, showing a script for sending an email notification. The script uses JavaScript to loop through documents, check for a 'Form' result class, and extract an email address. The 'Actions' panel on the right shows the activity 'Sending Email' configured.

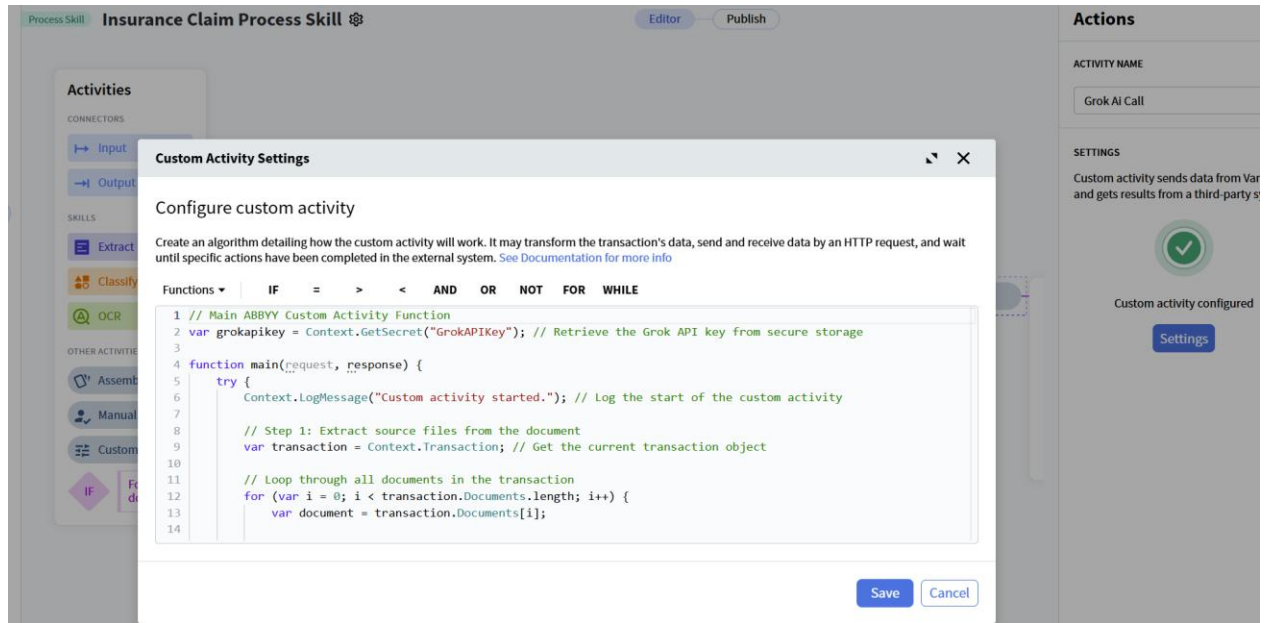
```

1 var transaction = Context.Transaction;
2
3 // Loop through all documents in the transaction
4 for (var i = 0; i < transaction.Documents.length; i++) {
5
6     // Check if the document's result class is "Form"
7     if (transaction.Documents[i].ResultClass == "Form") {
8
9         var document = transaction.Documents[i]; // Assign the matching document to a variable
10     }
11 }
12
13 const emailField = "Email"; // The name of the field containing the recipient's email address
14 var toEmail = document.GetField(emailField).Text; // Extract the email address from the document
  
```

4. ECG Report Analysis with LLM

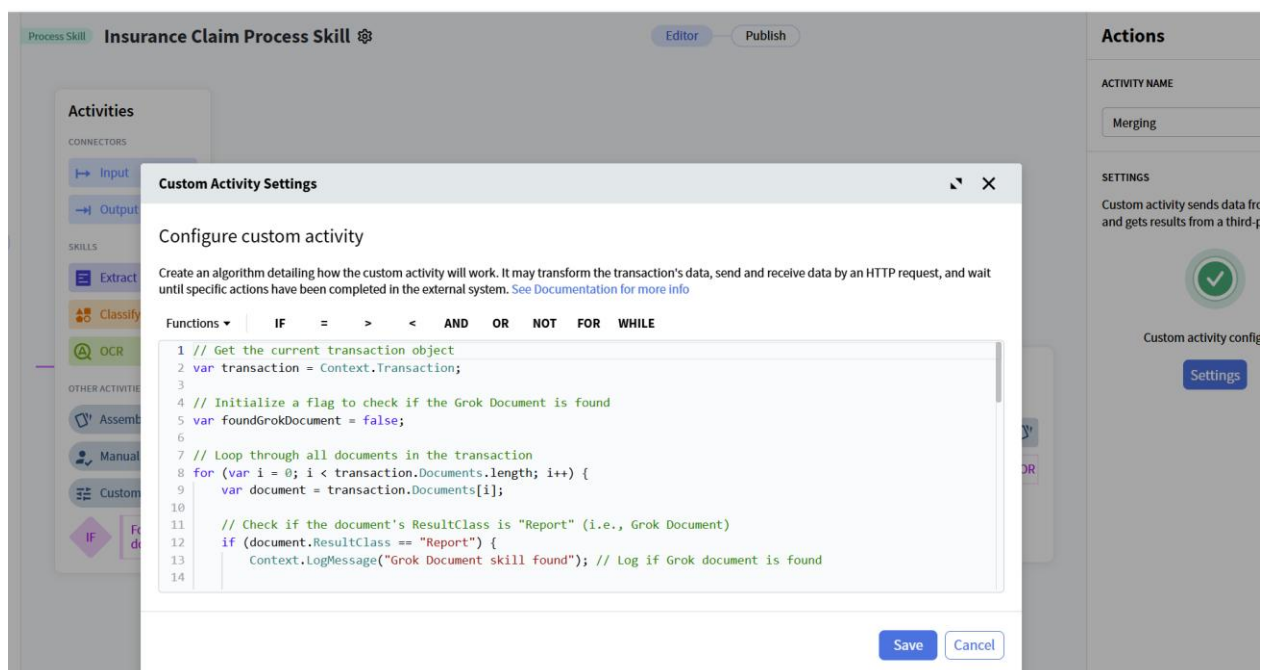
Automatically detect and route ECG reports to a secure LLM (e.g., Grok AI) for medical insight extraction and anomaly detection. To integrate with Grok AI, register for API access and obtain the required API key and authentication tokens. Once the API key is obtained, store it in ABBYY Vantage environment variables and follow the custom script included in the process skill to enable seamless LLM communication and response handling.

You can also integrate with any other LLM provider that supports REST APIs, such as OpenAI, Azure OpenAI, or custom-hosted models.



5. Merging Extracted Data

All extracted data—from Vantage skills, LLM insights, and custom fields—is merged into a single structured file for easy export or integration with other systems. This is done using the custom script in the Process Skill's custom activity.



6. Process Intelligence & Integration

In the output activity, data is sent from Vantage to ABBYY Timeline to visualize the full claims journey, detect bottlenecks, monitor SLAs, and track performance. At the same time, the final merged file can also be forwarded to external systems as per requirement (e.g., claims platforms, ERPs, or archiving solutions).

Use the provided script to map field names exactly as defined in your Document Skill, ensuring consistency between Vantage and Timeline.

Output Settings: External System

Configure Export to external system

Determine an algorithm to export transaction data to an external system. This may transform the transaction data and send it using an HTTP request. See the documentation for more info. [View Documentation](#)

Functions ▾ IF = > < AND OR NOT FOR WHILE

```

1 // Get Timeline Base URL from secret and append the base API path
2 const timeline_base_url = Context.GetSecret("Timeline_Base_URL")+"/api/ext/1.0/project/";
3
4 // Get Timeline Personal Access Token from secret
5 const timeline_access_token = Context.GetSecret("Timeline_Personal_Access_Token");
6
7 // Get Timeline Project ID from secret
8 const timeline_project_id = Context.GetSecret("Insurance_Claim_Timeline_ID");
9
10 // Get current transaction ID from the context
11 const transaction_id = Context.Transaction.Id;
12
13 // Log basic setup values for debugging
14 Context.LogMessage("Timeline_Base_URL:- "+timeline_base_url);

```

Save Cancel

Actions

OUTPUT ACTIVITY NAME

Output

DESTINATION

Use Vantage REST API documentation to export files or select an additional destination

[View Documentation](#)

☒ Select additional destination

☐ Shared folder

Use the link and credentials to collect exported files

Settings

☒ External system

Export transaction data to the external system by REST API

Settings

EXPORTED DATA

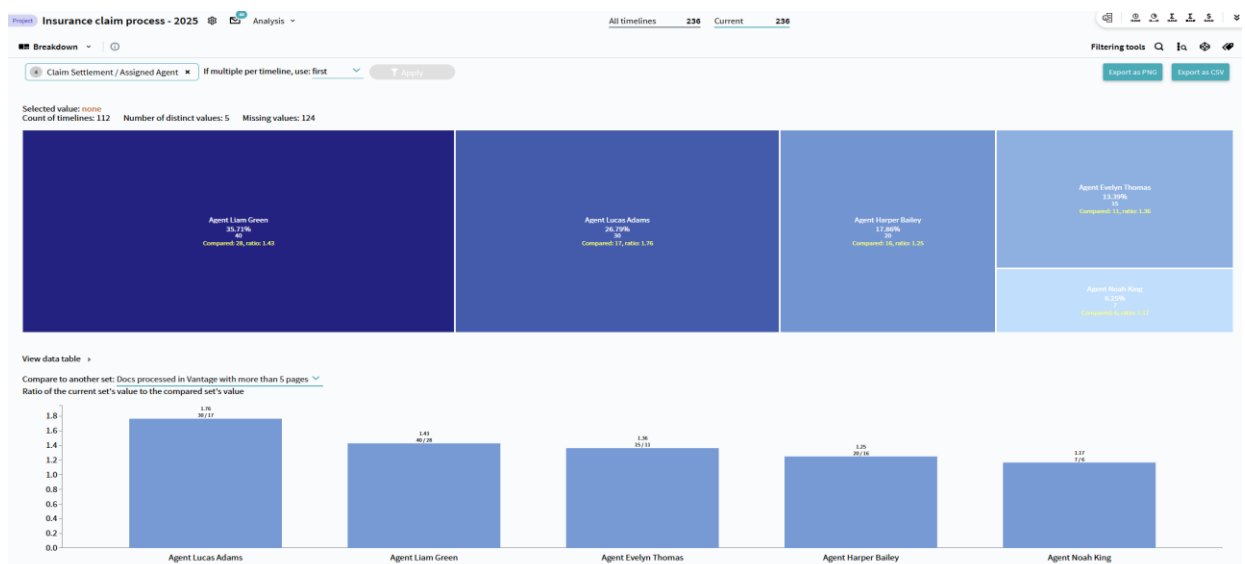
Fields (CSV, JSON)

Settings

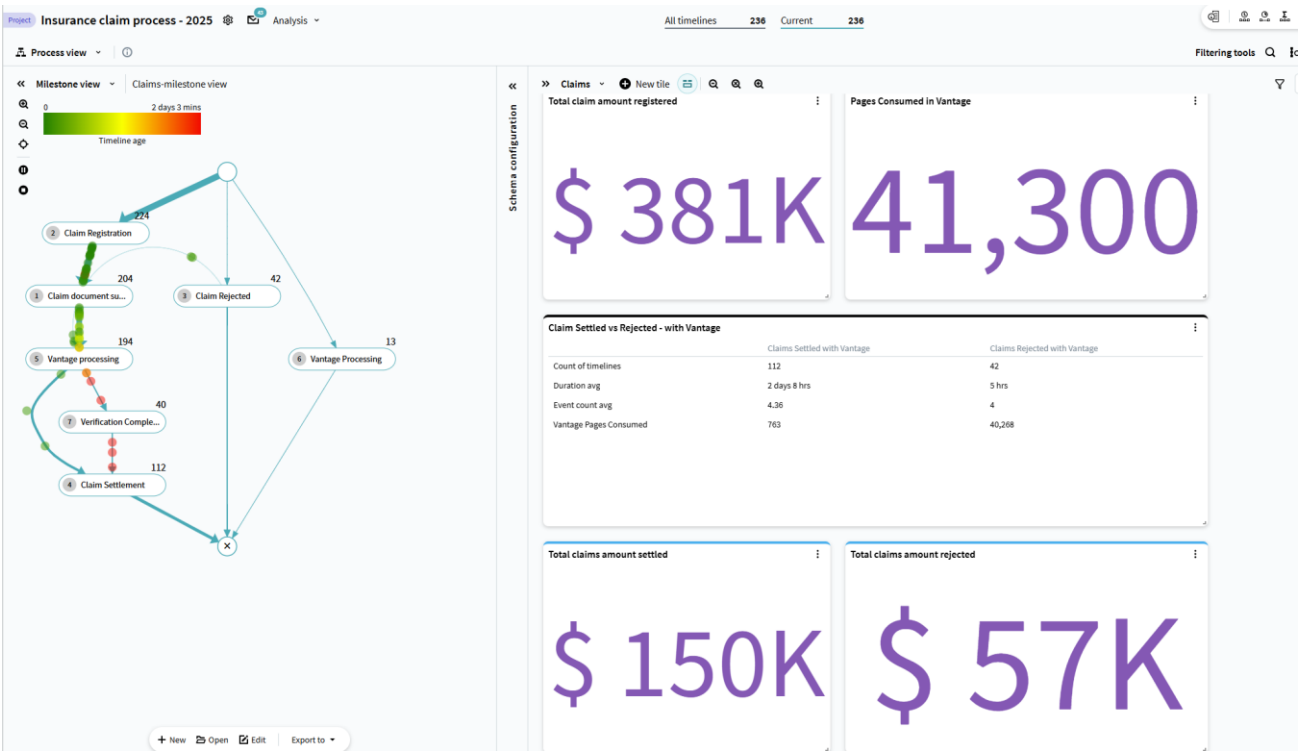
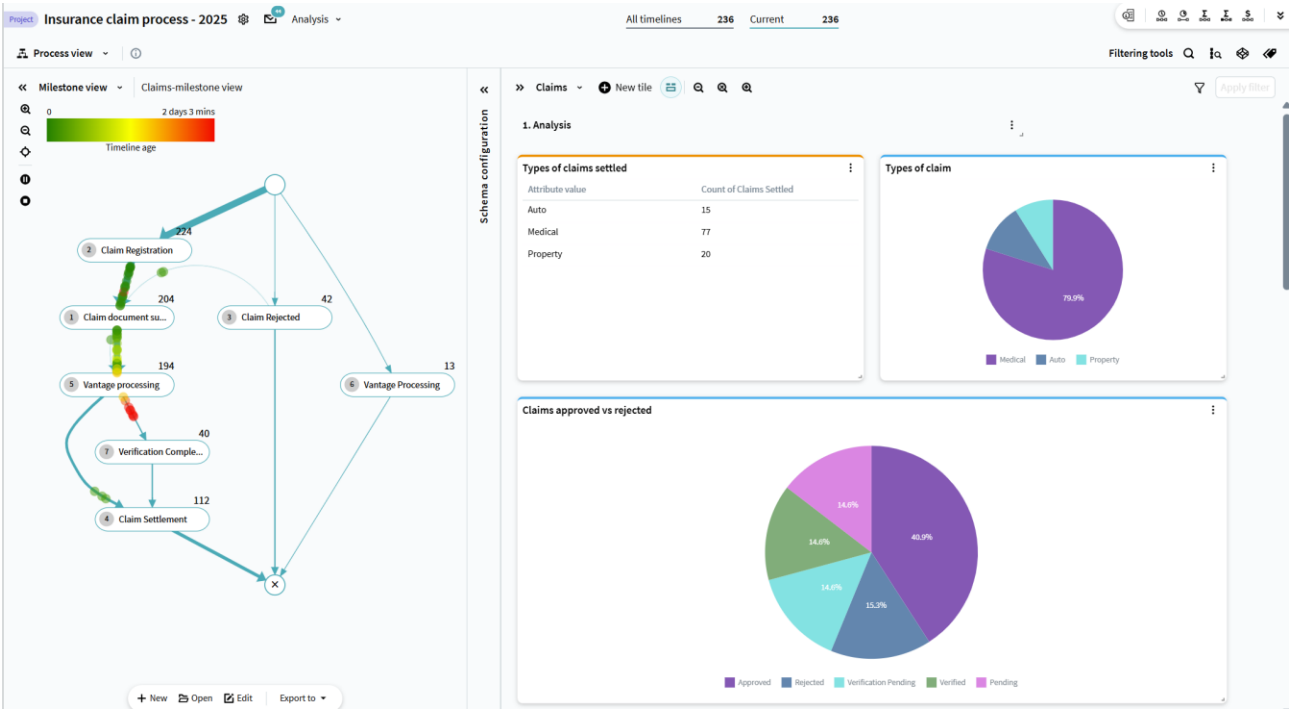
Timeline Project

Set up a dedicated **Timeline project** to capture and analyse key events across the entire claims process. In this project, you can:

- **Leverage the Breakdown feature** to analyse performance by insurance agents, teams, or claim types.

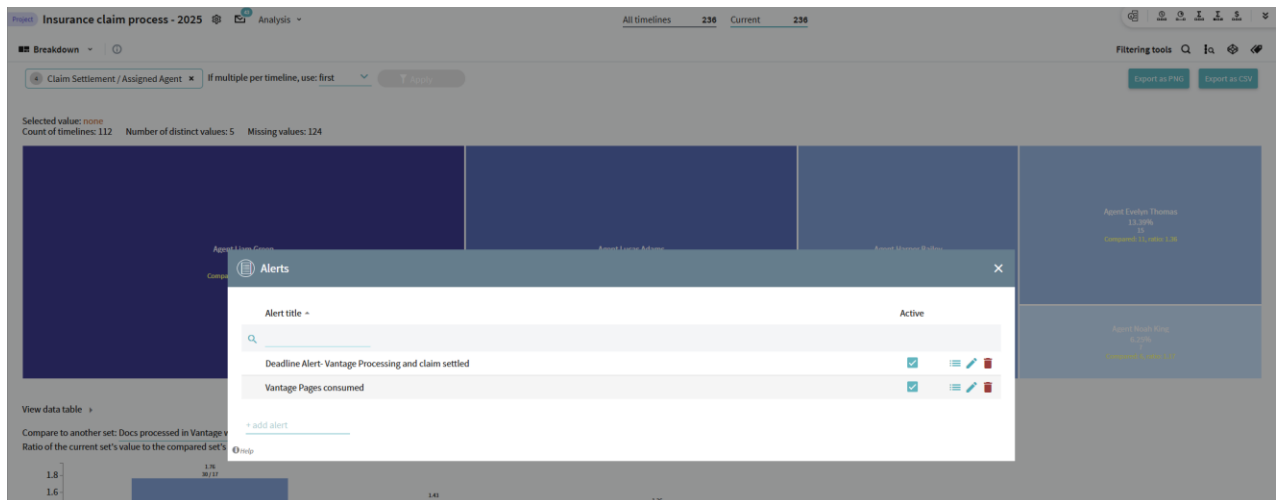


- **Create custom dashboards** to monitor key metrics, SLA adherence, and process efficiency in real time.

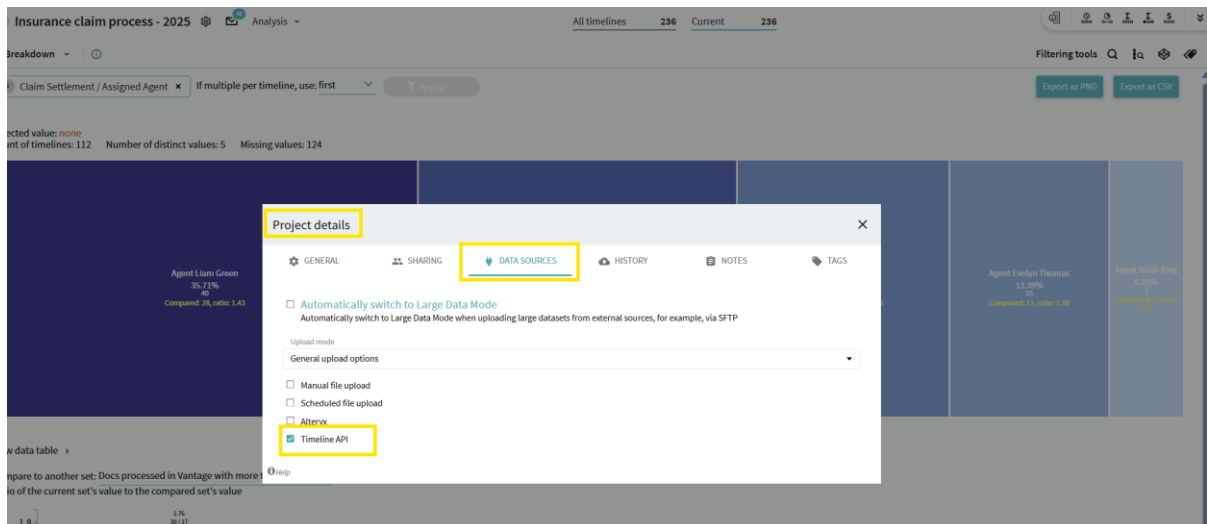


Smart Insurance Claim Processing

- **Use Alerts** to automatically send notifications via **email or SMS** in case of SLA breaches or other process violations.



- Ensure the **Timeline API data source** is enabled, and field names match those from Vantage for accurate mapping.



This setup empowers both business and technical teams with real-time insights and proactive monitoring.

For more details on how to create Timeline projects, refer to the **trainings on ABBYY University**([ABBYY University](#)). You can also explore the **official documentation** linked below for step-by-step guidance.

Timeline Documentation: [ABBYY Timeline - 6](#)