

IBM Process Mining

Part 1

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Note: webinar will be recorded



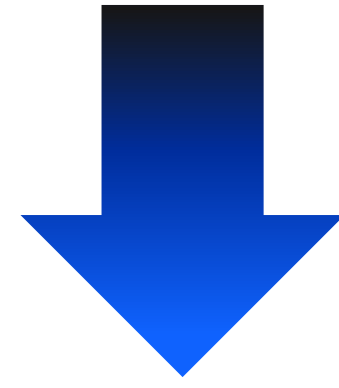
Agenda

Content:

- Overview
- Technical
- Usage

Audience:

- IBM Business Partners
- Everyone



Part 1

IBM Process Mining

Introduction

Feature highlights

Process mining journey

Part 2

Deployment models

Capacity planning

Architecture

REST API & Kafka

Demo: OpenShift Installation

Demo: UI

Part 3

A normal day – of a process analyst

Demo where assignment is to “find something” in Support Ticket process.

BPMN model and logs are given, and the rest is up to the process analyst.

Note: webinar will be recorded

You can't
improve what you
don't know

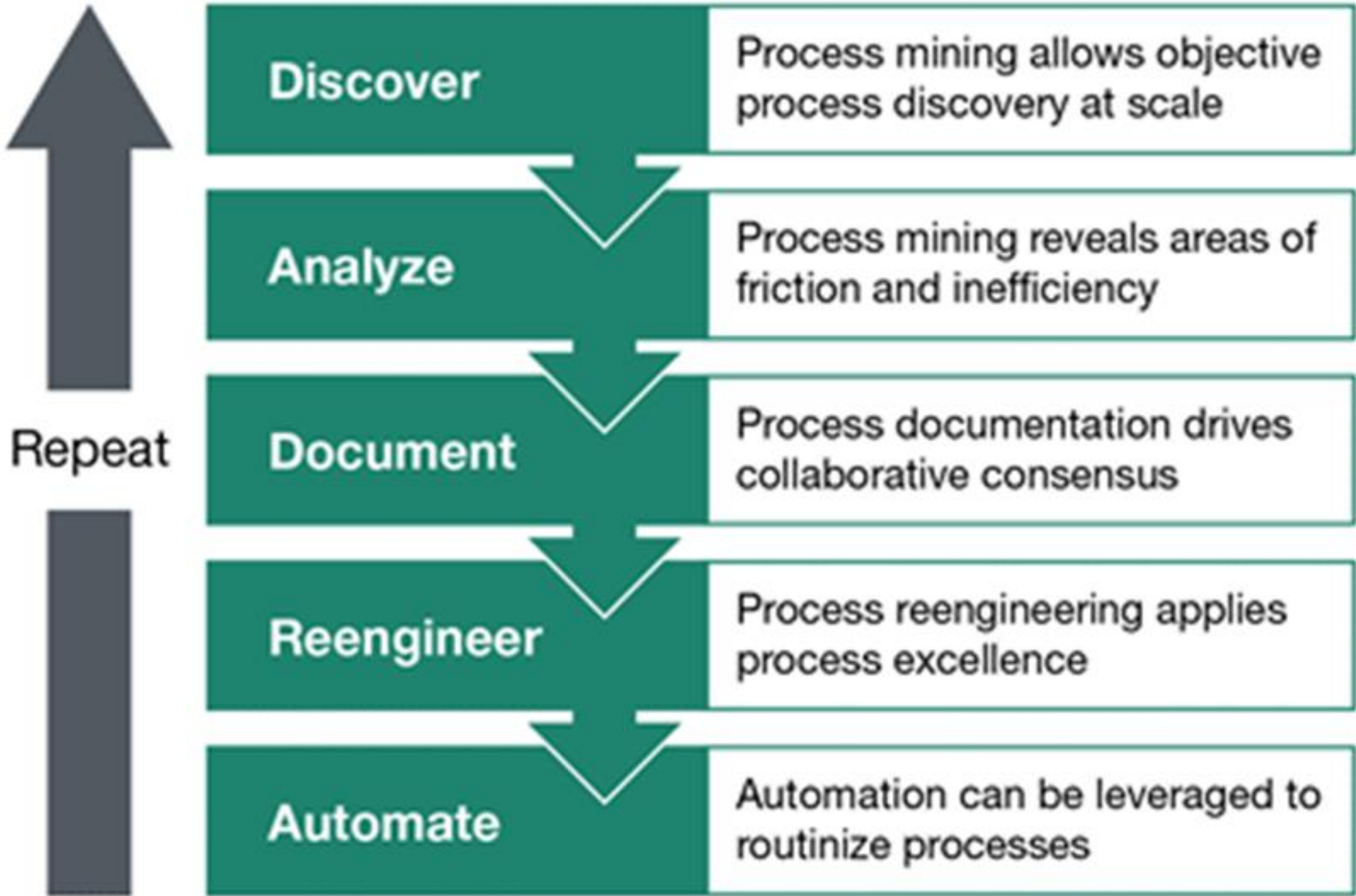


The intelligent automation journey

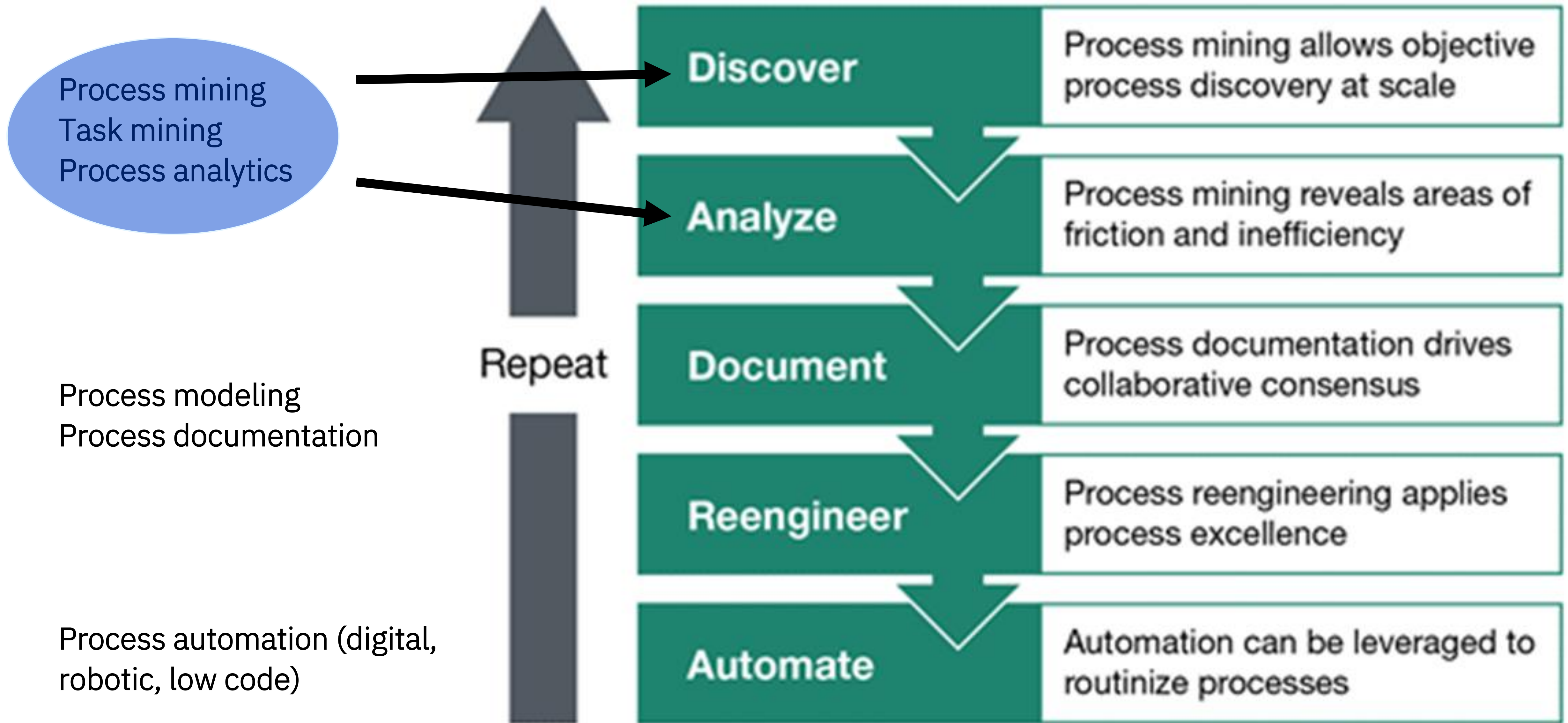
Process mining
Task mining
Process analytics

Process modeling
Process documentation

Process automation (digital, robotic, low code)

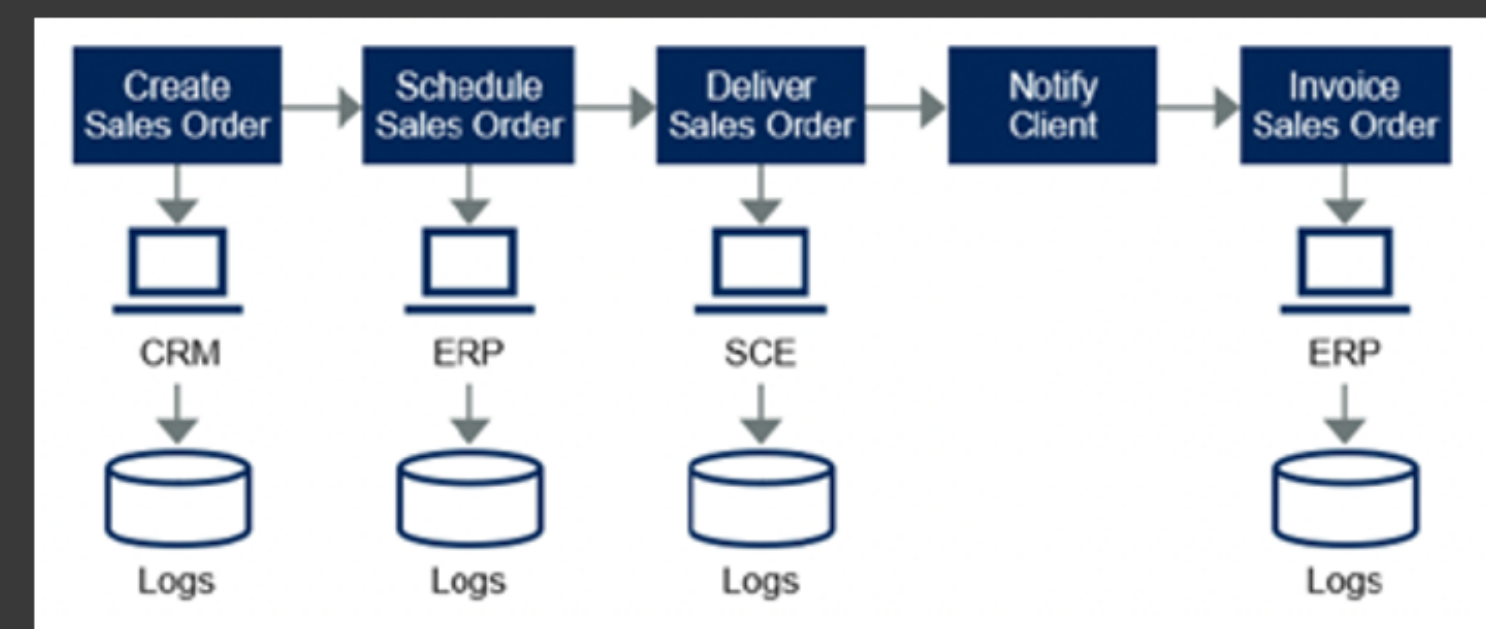


The intelligent automation journey



Improve business processes starting from the digital footprint

Data: Logs from information systems



Extract



Event logs (Data sources)

7/14/2011 6:20	7/14/2011 6:20	Authorize Client's Invoice Payment	748	Tina Janssens	Financial Manager
7/14/2011 6:38	7/14/2011 6:52	Pay Invoice	748	Annemie Van Ginneken	Financial Manager
11/20/2017 0:20	11/20/2017 0:29	Create Inquiry Request	152	Karin Gielen	RES
11/20/2017 23:11	11/20/2017 23:18	Analyze Inquiry Request	152	Jef Konings	RES Manager
11/20/2017 23:20	11/20/2017 23:24	Create Inquiry Proposal RES Manager	152	Rudy Schrauwen	RES Manager
11/23/2017 6:28	11/23/2017 6:49	Analyze Inquiry Proposal	152	Kris Cassauwers	Purchasing Agent
11/23/2017 7:38	11/23/2017 7:45	Amend Inquiry Proposal	152	Rudy Schrauwen	RES Manager

Data:
User's desktop
recordings



Task mining



Process
mining



Digital twin



Analytics



Discovery



Automate



Scope:
Actual work done
by employees



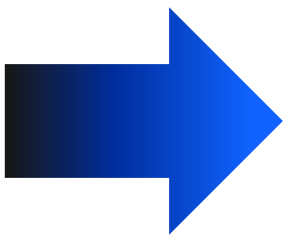
Continuous process improvement and automation

Process continuous monitoring

Starting from the different stakeholders of a business process



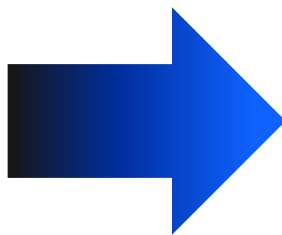
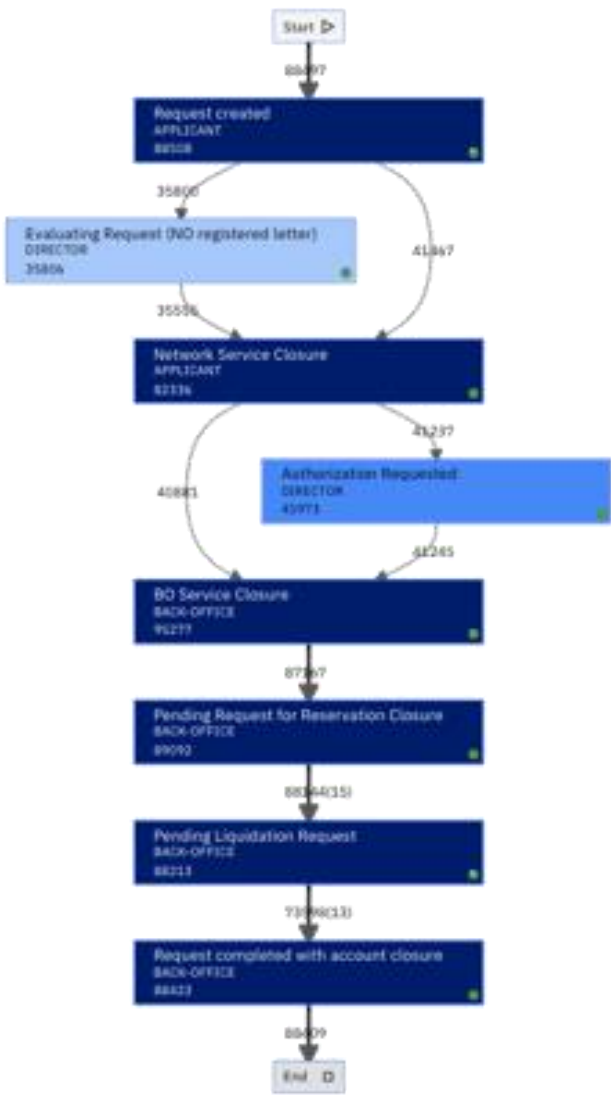
ERP, RPA, TECH, CRM, BPM, IOT, DB, FLAT



As-is

Process discovery and mining

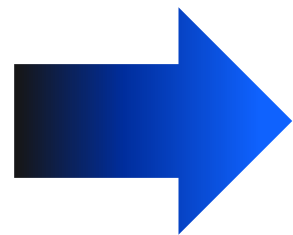
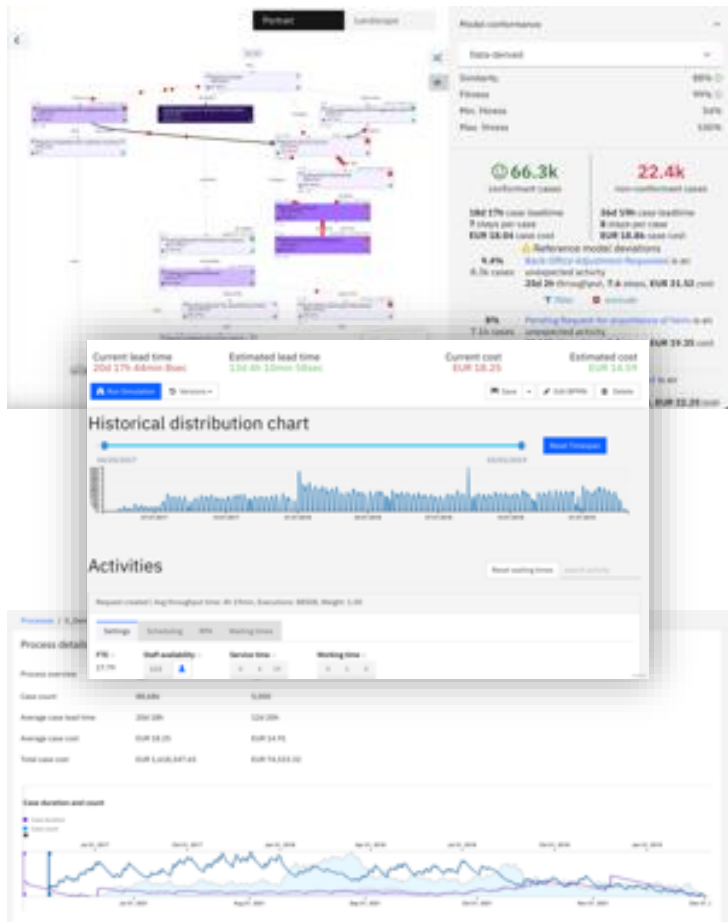
Automatically discover the as-is process thanks to task mining and process mining, and discover where automation can be implemented



To-be

Simulation and "What-if"

With simulation, create a to-be model of the discovered process and generate different "what-if" scenarios to test the expected ROI of the planned automation



What-if

AI-powered Automation

Thanks to the capabilities in the Cloud Paks for Business Automation, clients can take action on the process, implementing automation using solutions such as workflow, RPA, application integration, or the decision engine



What-next



Using the IBM Process Mining solution to streamline order-to-cash processes

*“As soon as we drilled into the simulation, we could see how well this model was built, based on the **real-world data from our ERP platform**. It was a real eye-opener.”*

VP of Logistics
Multinational Manufacturing Company

<https://www.ibm.com/case-studies/multinational-manufacturing-company>



How the IBM Process Mining solution complements a utility’s transformation

*“In using real data and AI to map out our procurement process flows, we’ve also acquired what amounts to a potential **roadmap for transforming them**. It gives us a rigorous framework for understanding where to focus on improving—and, where possible, automating—different elements of the process flow.”*

Manager of Procurement
Electric Power Provider

<https://www.ibm.com/case-studies/electric-power-provider>



Credem boosts speed and efficiency with IBM Process Mining and IBM Cloud Pak for Business Automation

*“Thanks to the use of IBM process mining and automation technologies, between 2019 and the first quarter of 2022 we **implemented 91 automations** resulting in savings of approximately EUR 1.4 million in operation and service costs.”*

Stefano Bevivino
Competence Leader of Automation Center, Credito Emiliano S.p.A.

<https://www.ibm.com/case-studies/credito-emiliano-credem>

<https://www.ibm.com/products/process-mining>

Pricing

<https://www.ibm.com/products/process-mining/pricing>

Product features	No-cost trial	Student and faculty version	Software as a Service (SaaS)	SaaS for IBM Cloud Pak® customers	On premises for IBM Cloud Pak® customers
Analyst users	1	50	1	1	1
Business users			3	3	3
Task mining users		50	2	2	2
Processes	1		3	3	3
Events (million)	1	50	20	20	20
Multi-tenancy			✓	✓	✓
Process modeling and analysis ⓘ	✓	✓	✓	✓	✓
Multi-object process mining	✓	✓	✓	✓	✓
Simulation and what-if analysis	✓	✓	✓	✓	✓
BPA ⓘ	✓	✓	✓	✓	✓
Segregation of duties analysis ⓘ	✓	✓	✓	✓	✓
Insight to action ⓘ			✓	✓	✓
Automated RPA bot generation			✓	✓	✓
Custom metrics	✓		✓	✓	✓
Data stream	✓		✓	✓	✓
Pricing	USD 0.0		Starting at USD 3,208* per month	Starting at 4* VPCs per year	Starting at 3* VPCs per year
	Try at no cost →	Learn more →	Contact sales →	Contact sales →	Contact sales →

Feature highlights

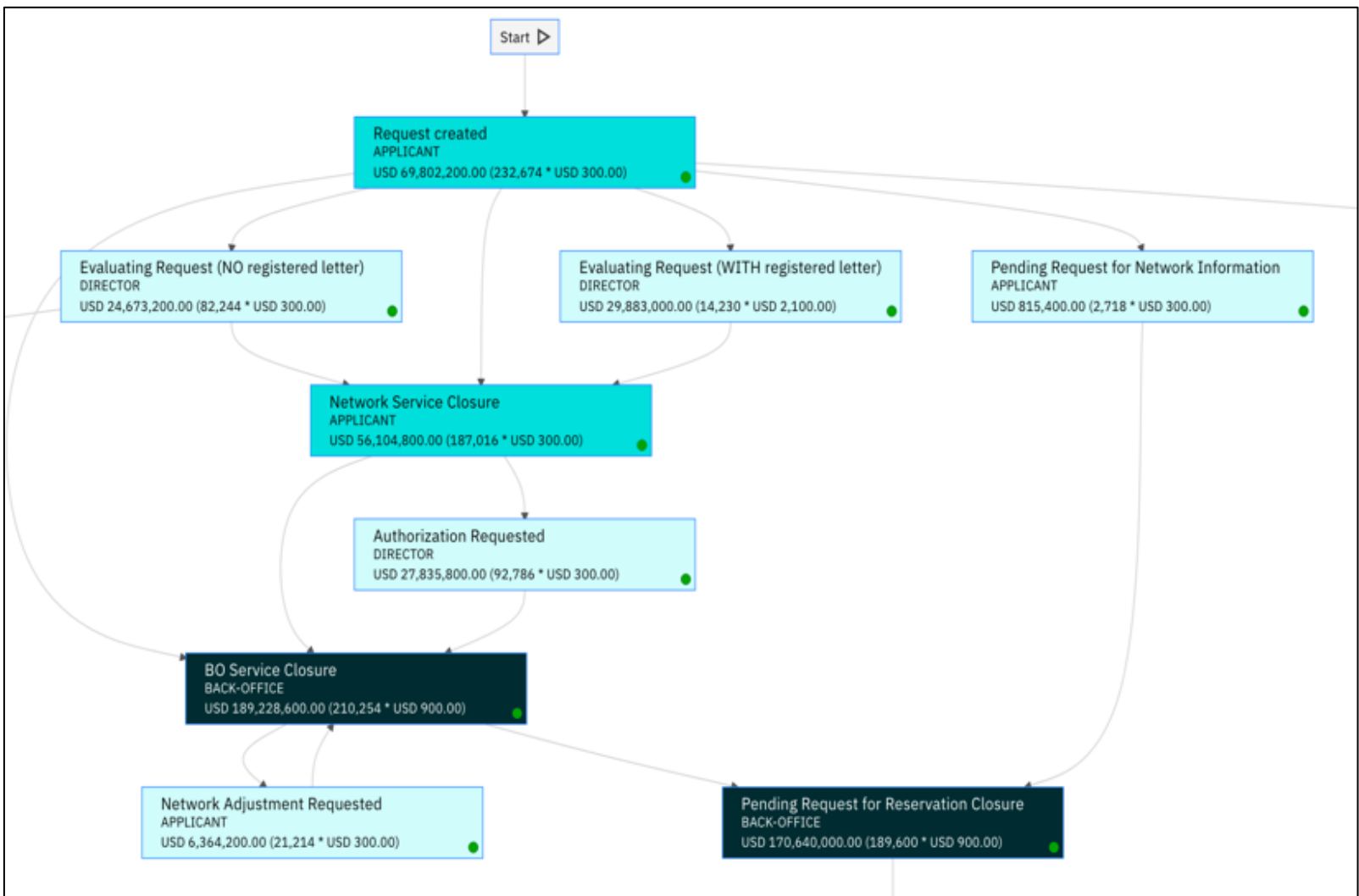
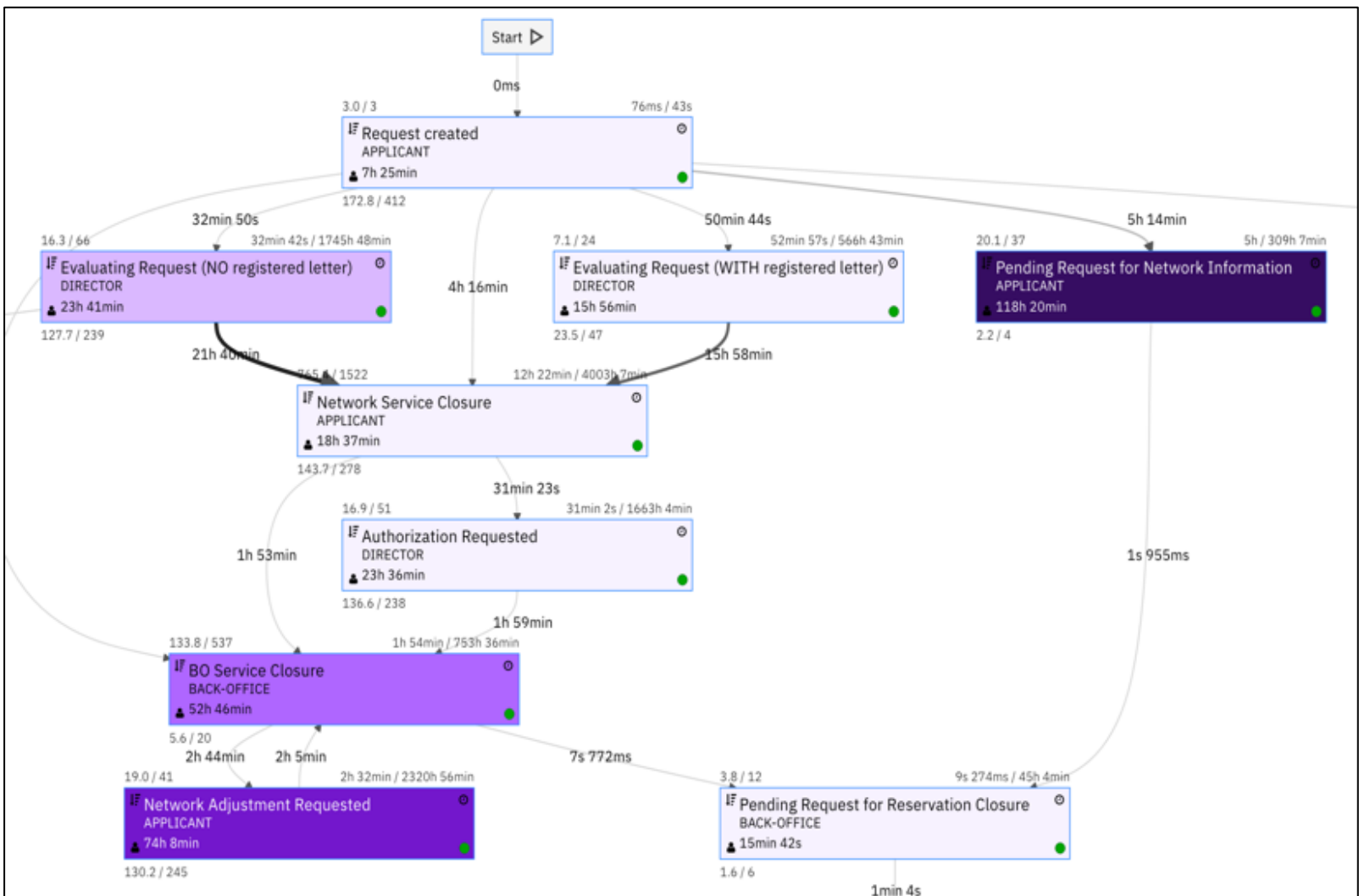
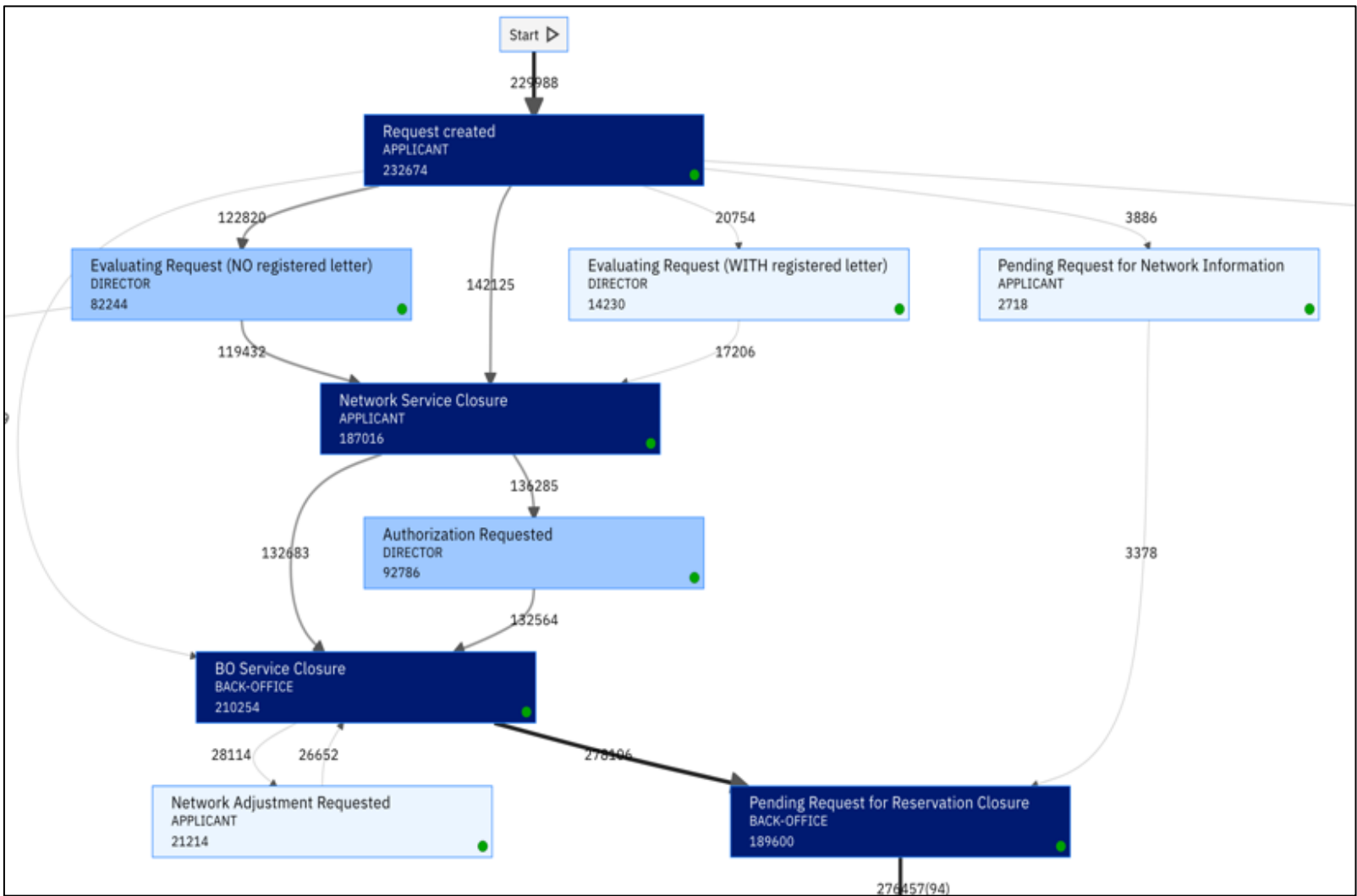
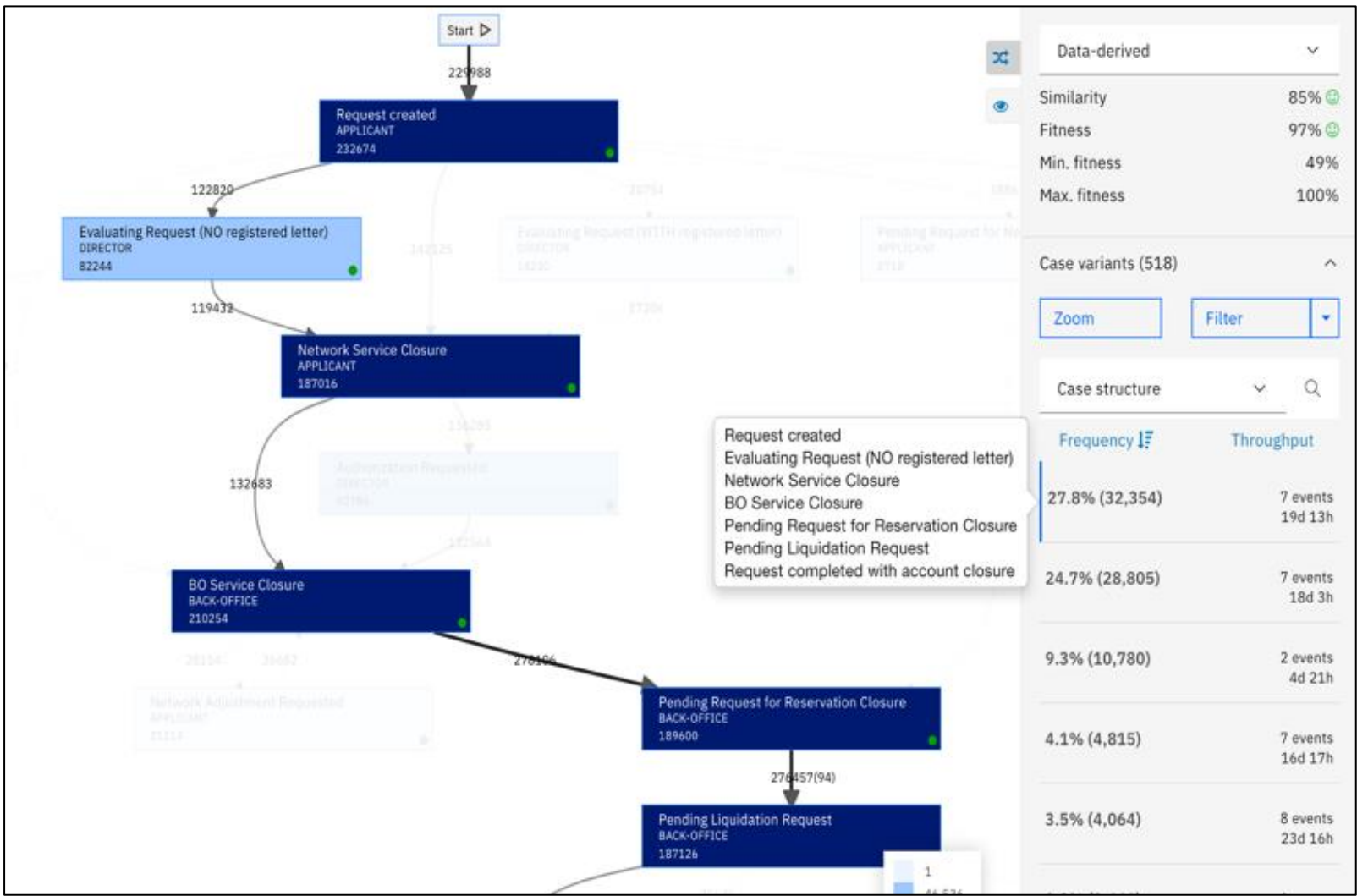
Discover frequencies, variants, rework, durations, costs from real data

Instantly visualize the real processes

Most frequent activities, reworks, and variants can be good automation candidates for RPA or Workflow

Highest wait-time and durations show potential bottlenecks

Identify costly activities based on resource cost



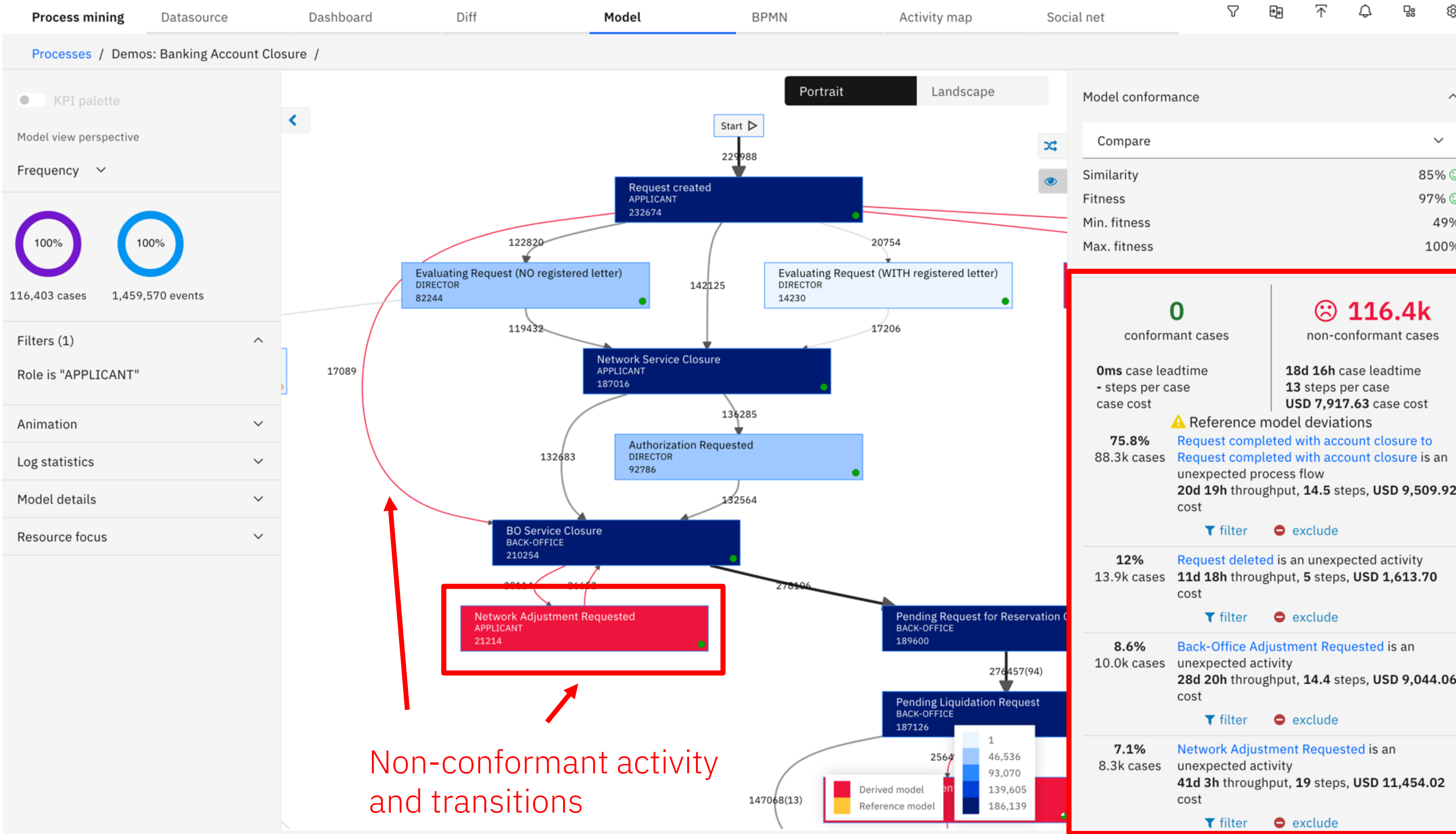
Check conformance with reference models

Quickly identify non-conformant cases

Import as-designed BPMN reference models from any Business Process Automation Tool that supports BPMN

Discover cost of non-conformance, fitness level

Run a root-cause analysis

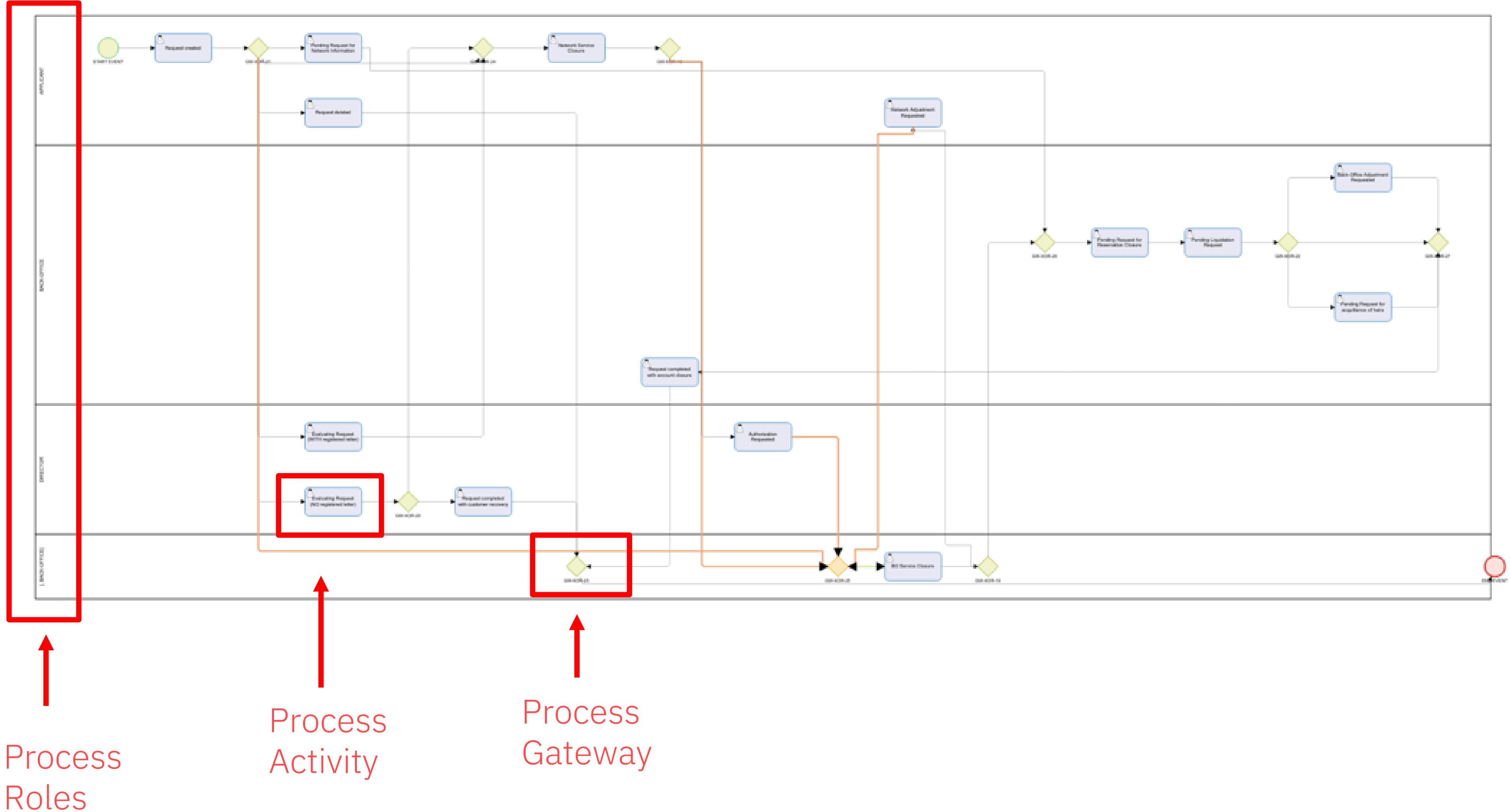


Generate BPMN from real processes

BPMN model generated from events, filters can be applied (exclude running cases, exclude non-conformant cases, keep most frequent variant, etc.)

Export BPMN to any Business Process Automation tool that supports BPMN for finer modelling

Export BPMN to Business Process Management tool that supports BPMN for implementing workflows



Generate DMN decision tables from real processes with rules mining

Rules mining discovers the business logic behind the gateways

Set the business data to consider the details level

Implement the business logic in any Decision Management software

Rules overview

Activity	Next Activities	Matching	Immigrants	Coverage	Emigrants	Precision
A_APPROVED Exclusive Gateway	A_REGISTERED	901	12	98.69%	527	63.10%
	O_ACCEPTED	17	527	3.13%	12	58.62%
A_DECLINED Exclusive Gateway	O_DECLINED	544	0	100.00%	1	99.82%
	W_Beoordelen fraude	56	1	98.25%	0	100.00%
A_PARTLYSUBMITTED Exclusive Gateway	A_DECLINED	1754	2591	40.37%	1091	61.65%
	A_PREACCEPTED	4557	1091	80.68%	2591	63.75%
A_PREACCEPTED Exclusive Gateway	A_ACCEPTED	3671	36	99.03%	516	87.68%
	A_CANCELLED	36	516	6.52%	28	56.25%
	W_Afhandelen leads	2505	0	100.00%	8	99.68%
O_ACCEPTED Exclusive Gateway	A_ACTIVATED	1210	5	99.59%	677	64.12%
	W_Valideren aanvraag	11	677	1.60%	5	68.75%
START_EVENT Exclusive Gateway	A_PARTLYSUBMITTED	0	3066	0.00%	0	N/A
	A_SUBMITTED	10001	0	100.00%	3066	74.59%

Close

Transition info

A_APPROVED → A_REGISTERED

attr-resource not in ["10629", "11339"]
OR
attr-resource in ["10629", "11339"] AND TRACE:AMOUNT_REQ > 6500.0

Go to gateway

Rules overview

Migrants

Close

Statistics of coverage and precision of each business rule discovered

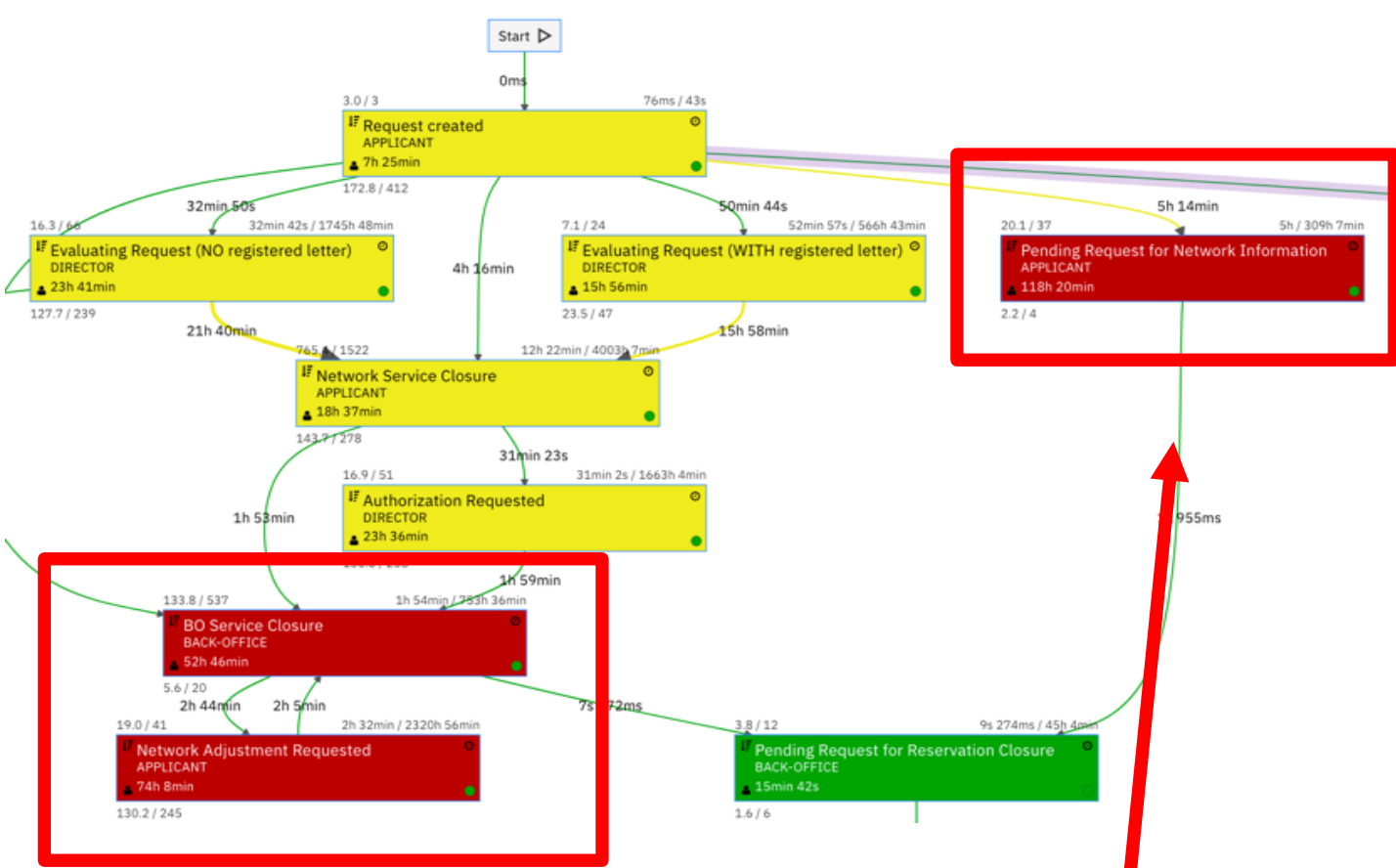
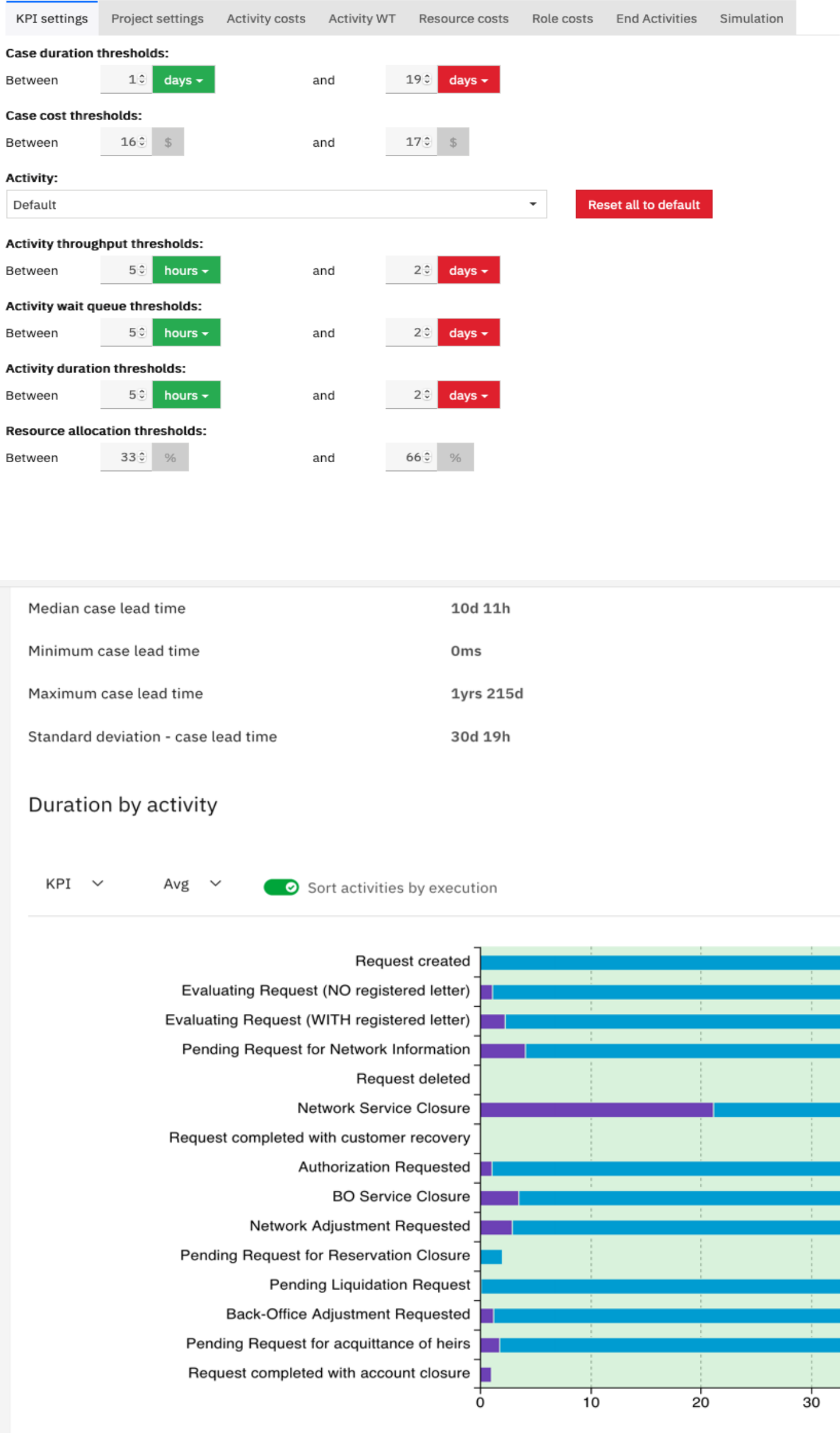


Business rule discovered

Set and monitor KPIs

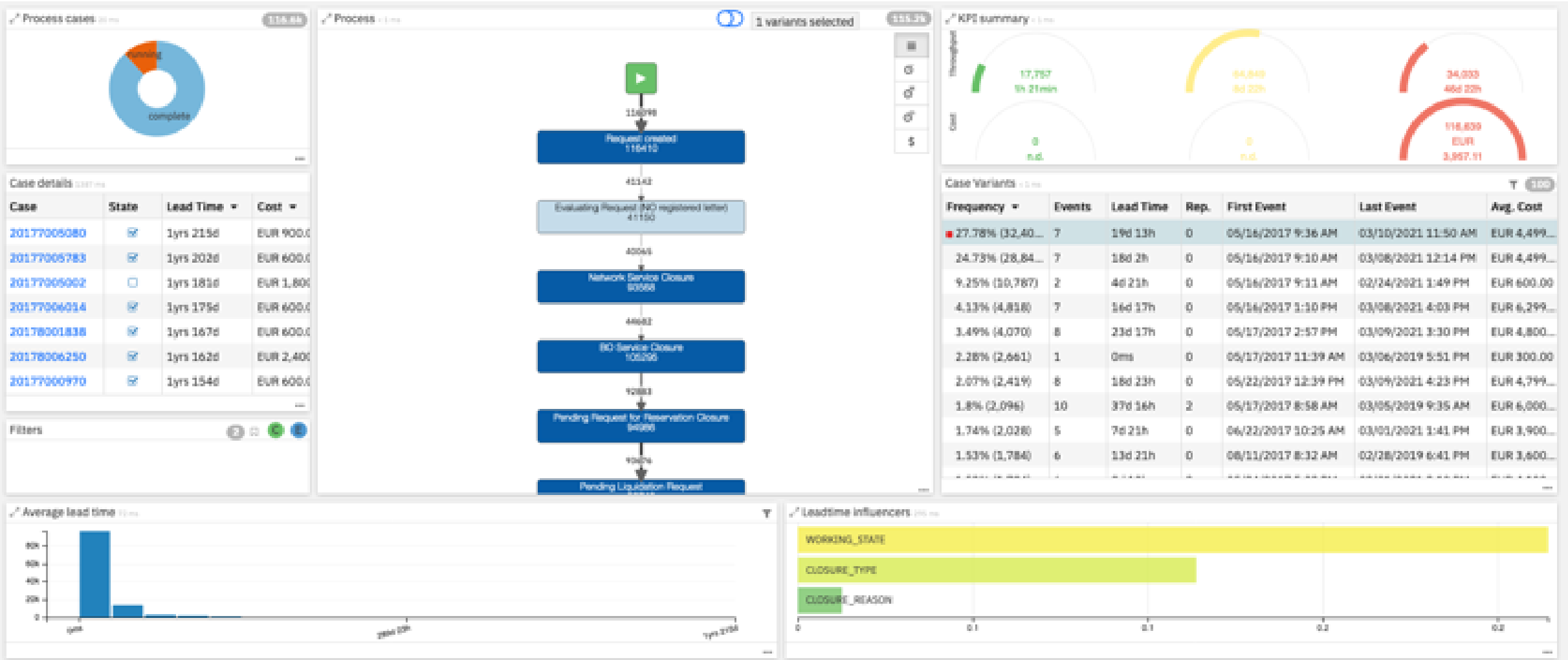
Set KPIs based on case lead-time and cost, activity throughput, activity wait-time, resource allocation and cost

Monitor in process views and dashboards



Critical activities

Monitor processes with dashboards



Generic overview dashboards

Customizable business dashboards built from widgets with low-code user interface

Out-of-the box Procure to Pay and Order to Cash dashboards such as deviations, maverick purchases, cash discount losses and cash flow losses



30+ widgets like bar chart, bubble chart, line chart to be customized

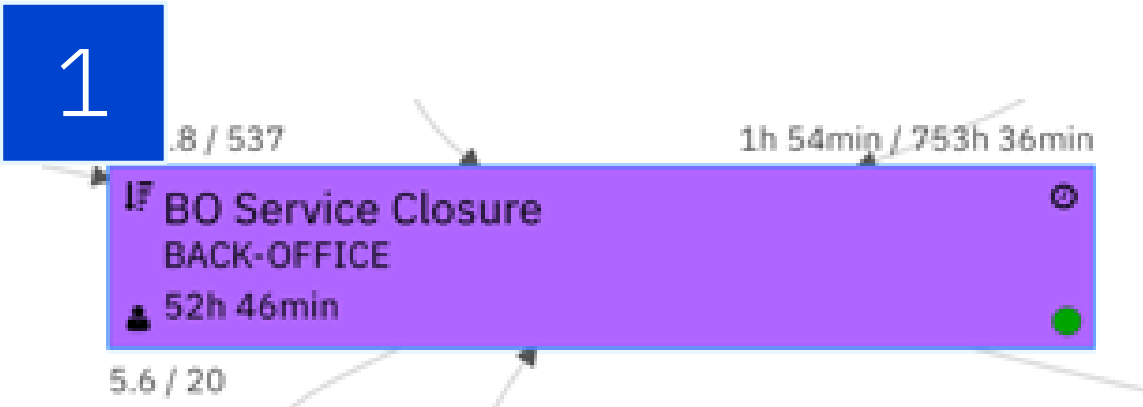
Task mining: a use case

1. Process mining tells us the service time on the “BO Service Closure” activity. How can we discover the tasks that the users usually execute to complete this activity?

2. Task Mining records the user interaction and displays the tasks as a sub-process of the BO Service Closure activity.

3. For each task, we know exactly the productive time, idle time, and time spent on other tasks.

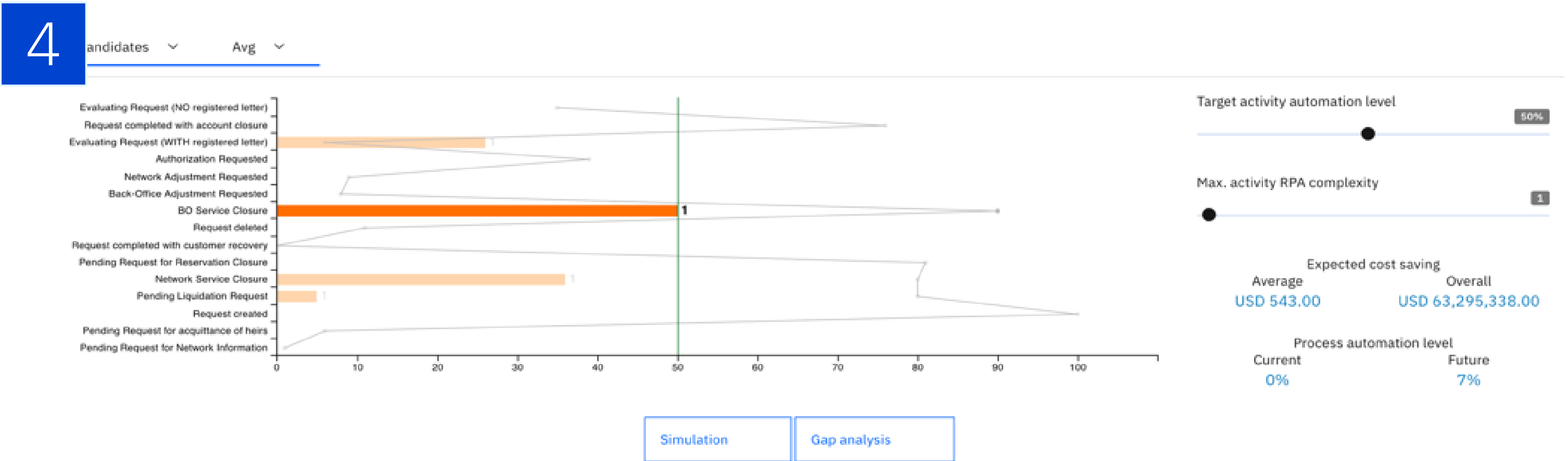
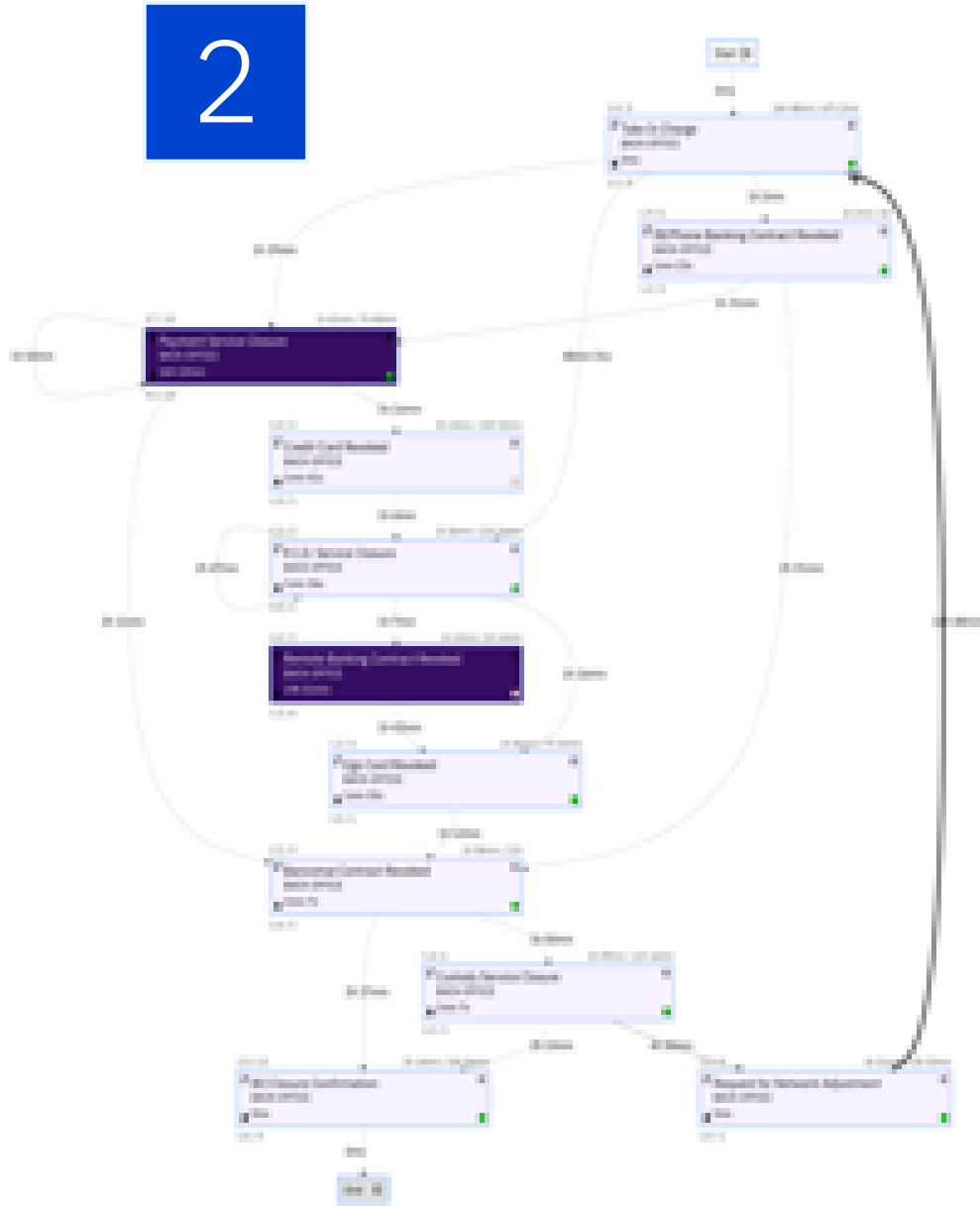
4. By combining Process Mining and Task Mining data we can get automation recommendations.



3

Productivity by Subtask 12 ms

	Productive Time	Idle Time	Time on Other Tasks
Payment Service Closure	1h 4min	4h 32min	8h 5min
Remote Banking Contract Revoked	45min 36s	6h 9min	9h 5min
IB/Phone Banking Contract Revoked	4min 5s	0ms	0ms
Bancomat Contract Revoked	54s 48ms	0ms	0ms

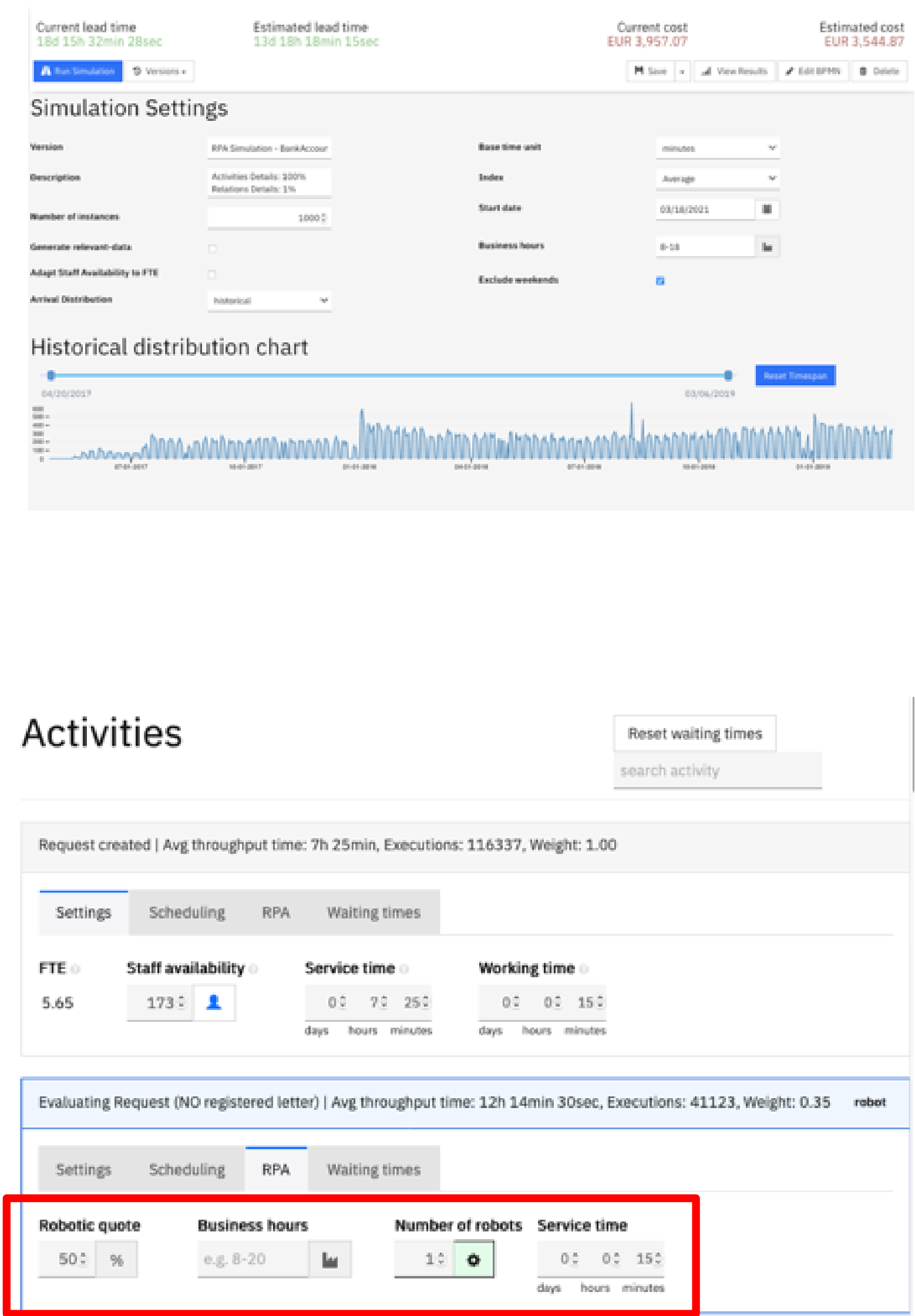


Simulate your business with digital twin before engaging development costs

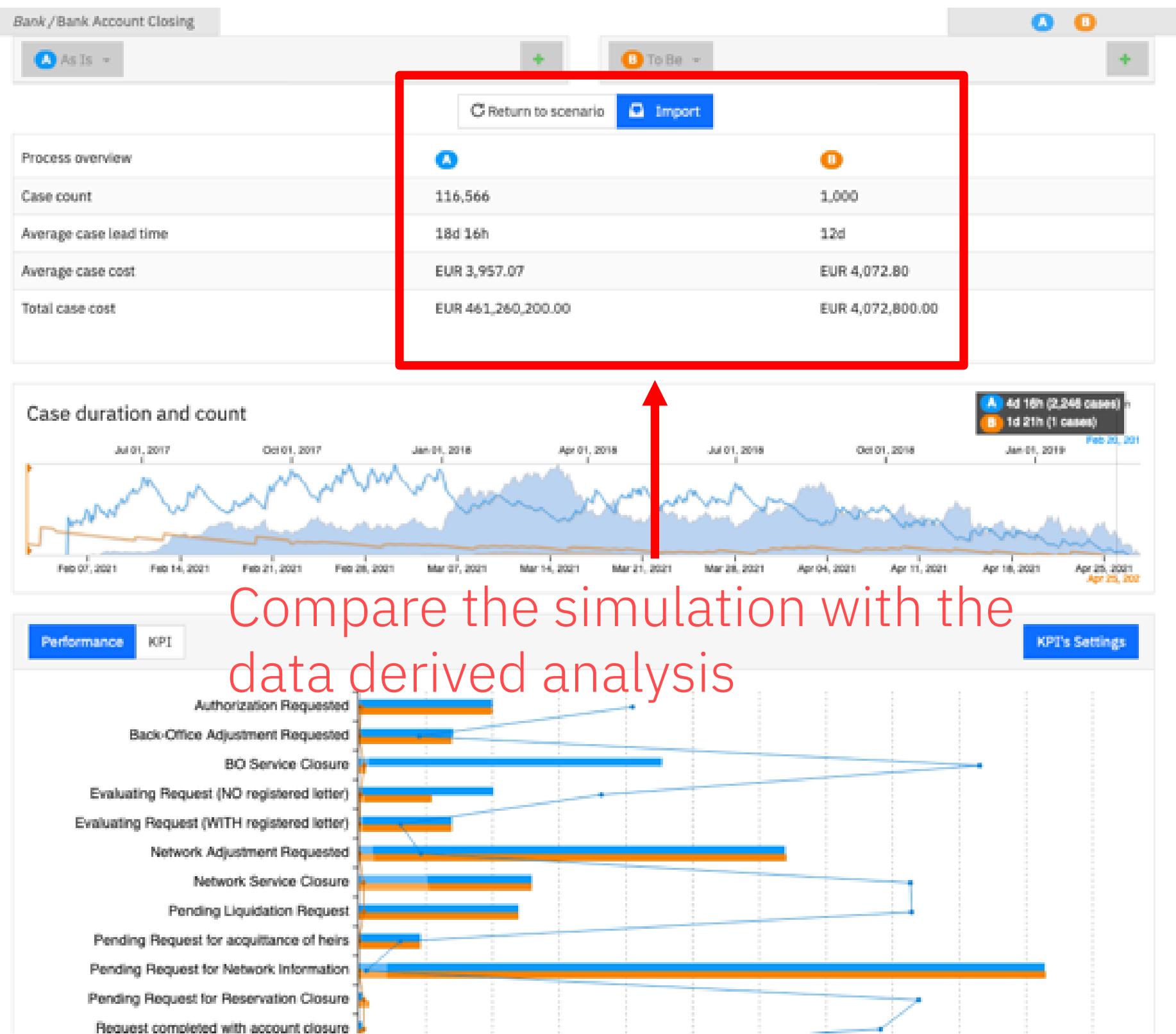
Create scenarios from as-is process: allocating resources, adding RPA bots, changing processes, and rules

Run simulations and compare as-is and to-be side-by-side: processes, KPIs, costs

Load BPMN models from from any tool that supports BPMN and run simulations to verify achievement of business goals



Select the expected level of automation of a specific activity



Compare the simulation with the data derived analysis

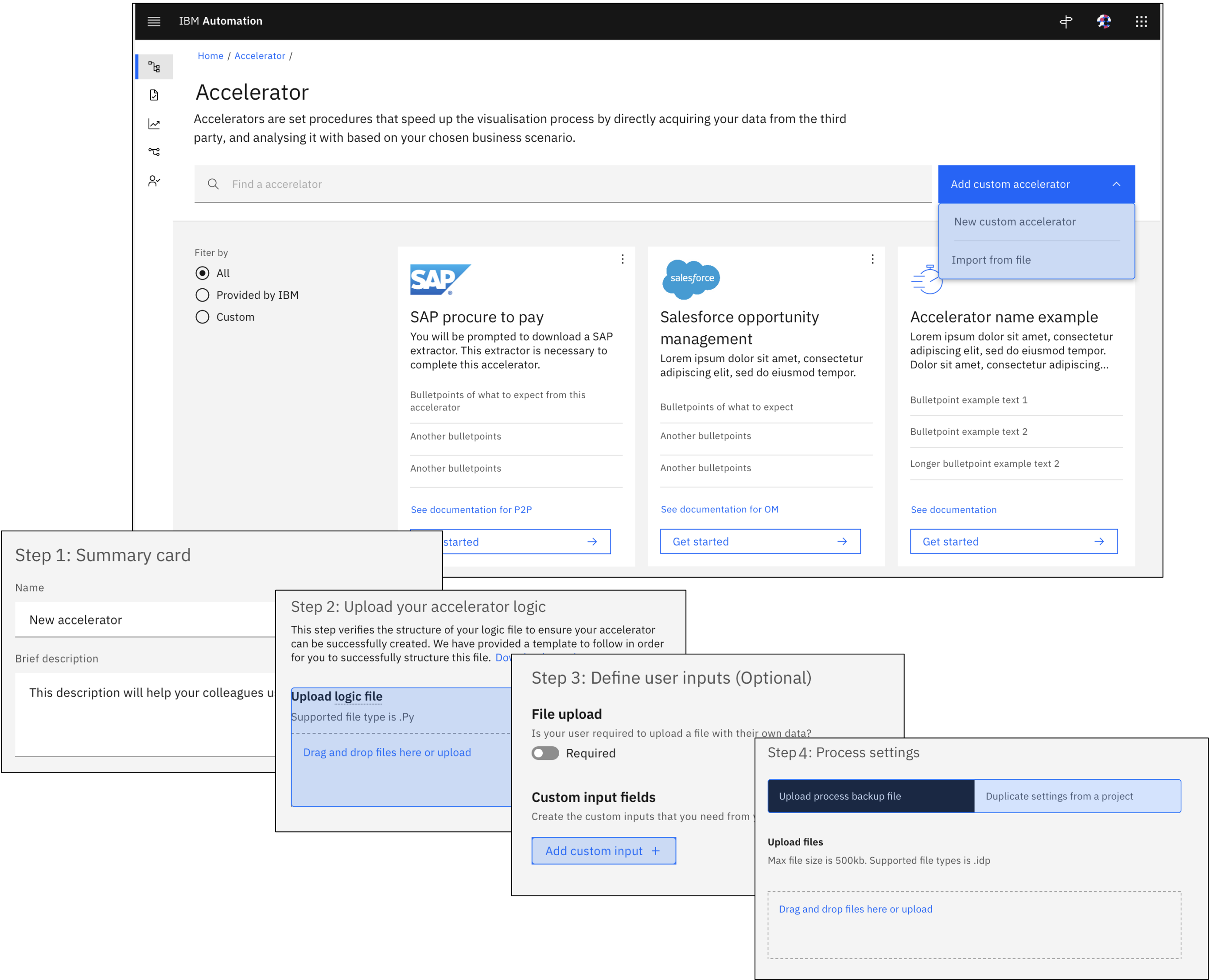
Process Apps

What is a Process App?

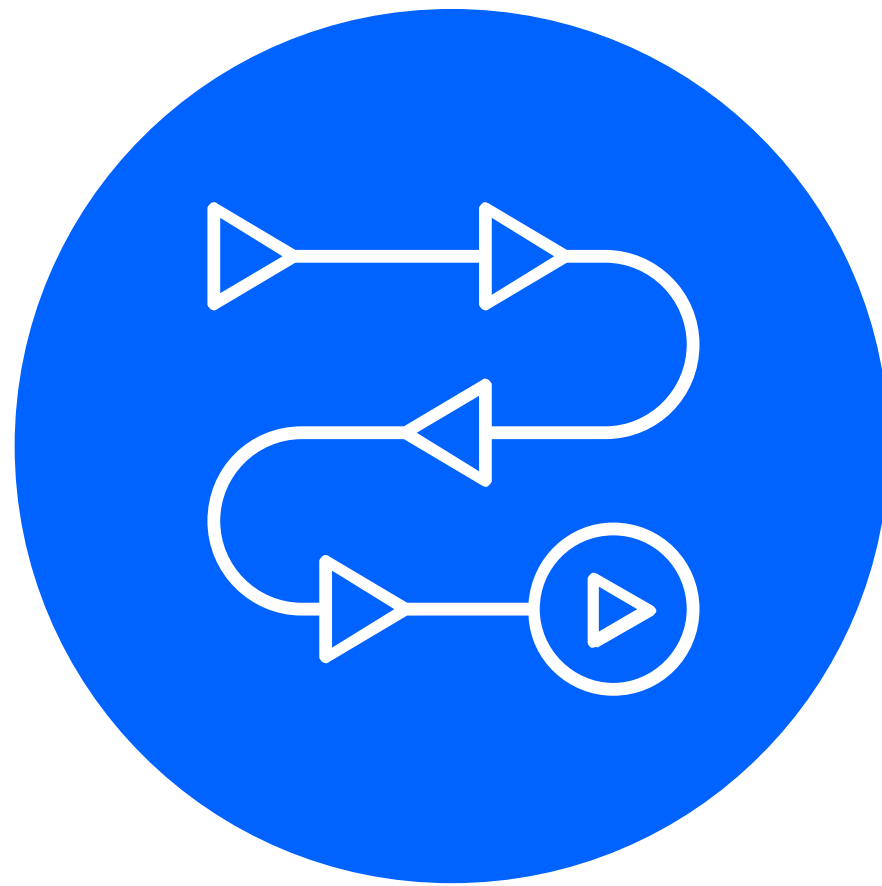
- Use case specific accelerator that includes data extractor, pre-built dashboards (with relevant business KPI) and pre-built actions
- Partners and clients can use to quickly prove value and as starting point for process mining project

Process App Builder:

- In-app experience to enable partners and clients to build their own process apps
- Execute custom (Python) code to Extract and Transform the data
- Apply a pre-defined business context to speed-up the process analysis



Process mining journey



1. Process setup

- Scope of the analysis
- Data extraction

2. Process mining

- Events log
 - Frequency view
 - Performance view
 - Path analysis
 - Deviations
 - Etc.

3. Task mining

- User actions recording
- RPA candidates

4. Compliance

- Define reference model (BPMN)

5. Automation analysis

- Define standard costs
- As-is automation
- Candidates for automation

6. KPI and performance

- Define KPIs
- Process compare and best practices

7. Simulation

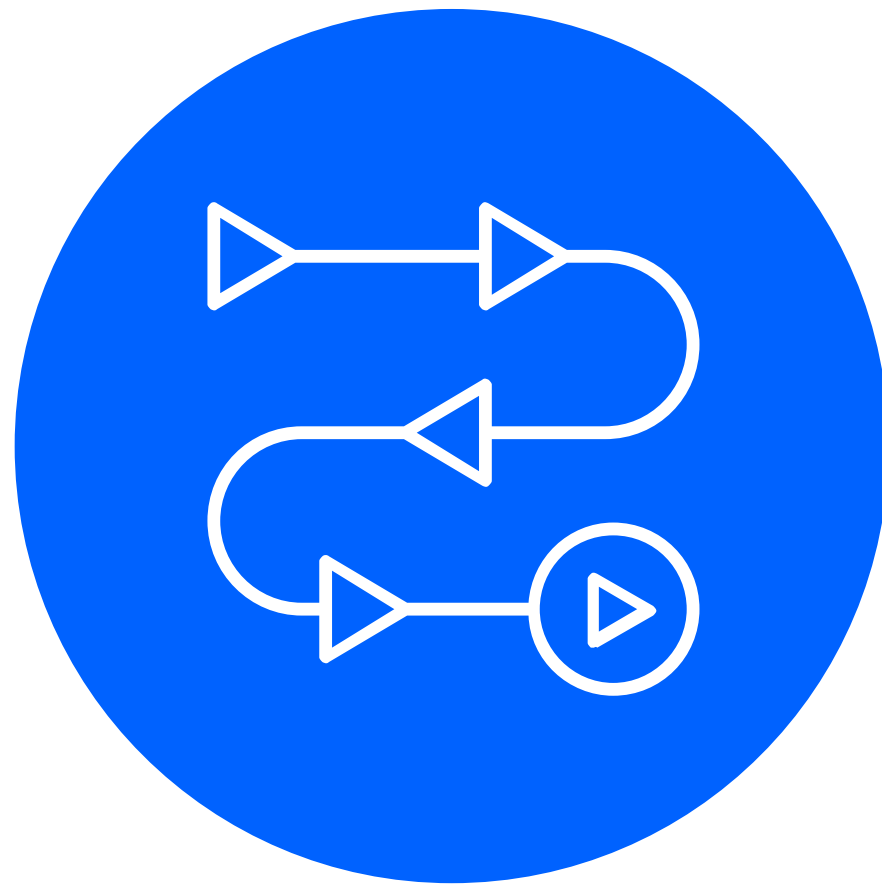
- Scenarios and goals definition
- Simulate what-if, compare as-is and to-be, compute automation ROI

8. Real-time and predictive analytics

- Real time monitoring of running cases

9. Automation plan

- Act on insights
- Allocate RPA bots
- Achieve end-to-end process automation
- Measure automation performance against business goals



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From problem finder to a self-driving organization

Insight

Process intelligence

- Automated process discovery and mining
- Process performances, automation, and costs
- Compliance/conformance
- Root/cause analysis
- Simulation, what-if and ROI forecast



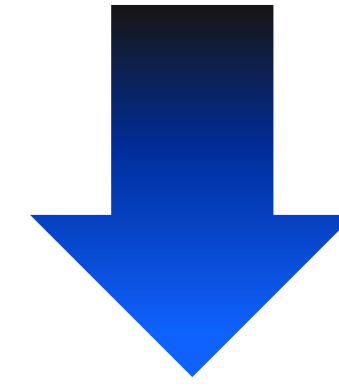
Process Mining eliminates risks to **Digital Transformation Journeys** by providing visibility

- **Discover** end-to-end processes
- **Identify** improvement opportunities
- **Design** the Automation Journey
- **Simulate** process enhancements and estimate ROI benefits
- **Measure** post-implementation performance

Process Mining enables **Excellence** in daily **Operations**

- **Constant observability** of processes and business KPIs
- **Detect** frictions and bottlenecks affecting ongoing business operations
- Proactive alerting and reporting of issues impacting the business
- **Automatic actions** to accelerate resolution

Next



Part 2

Deployment models

Capacity planning

Architecture

REST API & Kafka

Demo: OpenShift Installation

Demo: UI

