4

Steps of Robotic Process Automation Using Process Mining

QPR

QPR Software
Process Mining for RPA Guide

DARE TO
Improve

Robotic Process Automation (RPA) can bring substantial business benefits to a company. However, it can also be very costly if you implement it without having a sufficient understanding of your business processes. The reason for this is that software robotics are programmed to follow certain rules, while the processes and steps you wish to automate naturally have extensive variations.

This guide provides an introduction to successful RPA implementation. You'll notice why you cannot start automating successfully before you have understood and optimized your processes. From our experience, RPA has been implemented 54 % faster and its value has increased by 44 % when it has been combined with process mining.

Four key steps of RPA implementation using process mining are presented and you'll see how this works in QPR's process mining software, QPR ProcessAnalyzer. If any questions arise while reading this guide or you'd prefer seeing a demo of the Process Mining for RPA solution, don't hesitate to contact marketing@qpr.com!

THE 4 STEPS
of RPA using Process Mining

The purpose of a Robotic Process Automation initiative is to improve efficiency and reduce costs by automating manual process steps.

However, automating processes cannot be successful without these 4 steps:
1. Understanding the current state of your processes
2. Streamlining and optimizing processes
3. Identifying where RPA should be implemented
4. Monitoring automation rates, process compliance, and other KPIs

Process mining software brings you this insight by drawing data directly from your IT systems (such as ERP, CRM and BPM systems) with built-in connectors. QPR ProcessAnalyzer then visualizes and analyzes process flows that take place in your organization, providing a holistic view of processes and identifying bottlenecks, variations, and underlying root causes of inefficiencies, enabling you to easily improve your efficiency. Moreover, it helps you monitor automation rates, spot automation opportunities, and much more. QPR ProcessAnalyzer can be used together with any RPA software.

Understand your PROCESSES

Visualize and analyze your current processes, to know what's happening in your daily operations and easily spot process bottlenecks and variations.

Streamline and OPTIMIZE

Utilize process insight to streamline and optimize processes where needed before you implement your bots.

Identify where to IMPLEMENT

View the most suitable processes and process steps for RPA with the automation opportunity scout and cost savings by automation.

Follow up and IMPROVE

Monitor automation rates and other KPIs continuously: are there problems in some processes or process steps? Easily report what has been achieved.

UNDERSTAND YOUR

Processes

1

How could you improve process efficiency with robotics without any knowledge about the current state of your processes and day-to-day operations? In any form of process improvement initiatives, whether you use RPA or any other kind of method, you need to start by understanding the current state of your processes - not just how you think they are performed, but what the facts tell you:

"In business process reengineering, organizations are primarily interested in an improved 'to be' process, so often they have little interest in exploring 'as is', or how the process is currently performed. But understanding the current process is critical to knowing whether it is worth investing in improvements, where performance problems exist, and how much variation there is in the process across the organization. As a result, some companies tend to either skip current process analysis altogether, adopt shortcuts to it, or pay consultants a lot of money to analyze the "as is" process." -HBR

PROCESS MINING HELPS YOU UNDERSTAND PROCESSES...

USE RPA PROCESS DASHBOARDS

VISUALIZE PROCESS FLOWS AND ANALYZE THEM
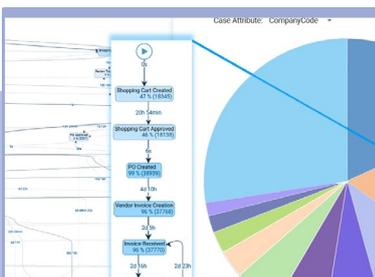
...by using the event data in your IT systems to bring insights into the business operations and show you what needs to be improved.
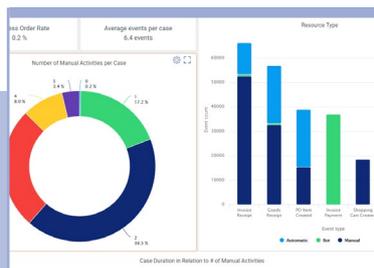
**With QPR's ready-made charts for use cases such as RPA, you instantly see which processes you should start by automating.**
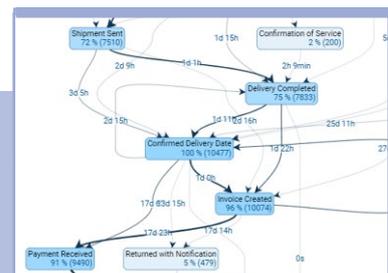
By seeing visualizations of process flows, you can understand unnecessary rework, bottlenecks, and root causes of these problems.

Start from the facts

Although RPA has indeed been considered a silver lining for many organizations' digital transformation initiatives, reports from leading consulting firms state that half of the RPA projects still fail in getting the desired ROI. This is explained by the complexity of the actual processes. The fact is that RPA alone cannot be used to automate full, complex, end-to-end processes.

RPA works best on process steps with few variations and little complexity. You need to be aware of the state of your processes in order to begin an RPA project. Process Mining helps you check for instance where there are simple process steps, with few variations yet large business volumes, that you will gain a lot from by automating.

To ensure your processes are RPA-ready, you need other insights from process mining as well. Start by <u>discovering your current processes:</u> view the automatically generated, real-time process flowcharts and check for long durations, process bottlenecks, and complex processes with high amounts of variations.

Customer example: Don't automate blindly

A large multinational financial services company ran into problems when they tried to automate without having full insight into their processes. They thought things were going according to plan, but suddenly, they started getting complaints from both their customers and branches, and worst of all – they were not able to locate the issues in the automation project.

However, with QPR's process mining software, they could quickly identify key bottlenecks, inefficient process variations, and their sources. By fixing these, they were able to cut their loan application process **from 35 minutes to 5 minutes.**

"Right away, in 5 minutes, we saw the bottlenecks of the process."

2 | STREAMLINE AND
Optimize

From our experience of working with large organizations worldwide, most RPA failures stem from initially choosing the "wrong" process to automate. It is quite expensive to program software robots, and a misplaced investment may not pay itself back - ever.

Don't be surprised by RPA delays

Once you start implementing RPA, you're likely to meet some obstacles. As a recent study by PwC presents, conducting a RPA proof of concept or pilot project often takes 4-6 months instead of the expected 4-6 weeks. As mentioned earlier, this is often due to the fact that the process which enterprises wish to automate is too large and complex, and in no way in a suitable state for RPA implementation.

This is why we encourage you to do the necessary work before automating, and avoid the time-consuming and costly restructuring of RPA.

Optimize processes to avoid unwanted surprises

The most common reason for running into unforeseen problems in RPA is that your processes have too many exceptions. While these process variations are inevitable, it is neither practical nor profitable to use RPA on all process variations - but only on the most common ones. The more variations that robots need to cope with, the higher the costs of RPA as well as the risk of running into unforeseen issues.

Think of it in this way: If all processes behaved the way you think, you would not be running into unpredicted problems. However, it's the **20 %** of the processes that do not behave the way you think that are causing **80 %** of the costs and the effort for you. These processes are the one's that you need to improve before implementing your bots. If you put a robot into a process without knowing how many exceptions exist in this process, your RPA project is very likely to fail.

Check process variations

Consequently, creating high volumes per variation will ensure that the automation will be as beneficial as possible. Process Mining allows you to see how many cases of exceptions you have in your processes and the root causes for these exceptions. You can use Process Mining to decrease the number of exceptions, as well as to pinpoint the parts where you can automate easily.

	%	Count	Variation
▬▬▬	41%	4253	Sales Order Created → Delivery Planned → Shipment Sent → Invoice Created → Payment Received
▬	9%	970	Sales Order Created → Delivery Planned → Invoice Created → Payment Received
▬	8%	800	Sales Order Created → Delivery Planned → Customer Pick-up → Shipment Sent → Invoice Created → Payment Received
▬	8%	797	Sales Order Created → Purchase Order Created → Invoice Created → Payment Received
▬	5%	500	Sales Order Created → Delivery Planned → Delivery Planned → Shipment Sent → Invoice Created → Payment Received
▮	2%	200	Sales Order Created → Delivery Planned → Customer Pick-up → Invoice Created → Payment Received
▬▬	28%	2972	(others)

Aim for Touchless Cases

Do you know how many times you need to manually touch a case in order to reach a goal? Manual Activities per Case is an easy-to-use way of showing the amount of manual activities needed to complete a case. Touchless cases are cases that complete automatically, without any manual activities. Other cases may need one, two, three, or even more manual user activities in order to complete.

Manual Activities per Case

- 0 events 0.2 %
- 1 events 10.2 %
- 2 events 27.0 %
- 3 events 22.9 %
- 4 events 14.8 %
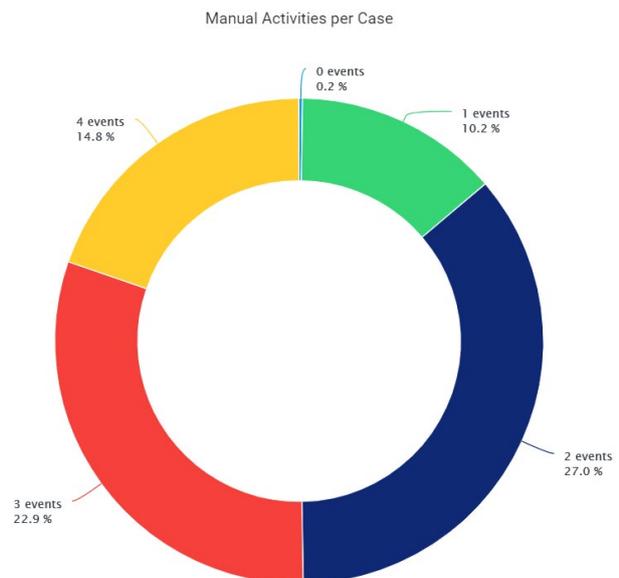
IDENTIFY THE BEST PROCESSES TO

3

Automate

Some processes simply are not worth automating, as they are too complex or will not increase business value or employee happiness although automated.

How do you know which processes to automate, then? You should automate processes with regular bottlenecks, process steps with human errors, and acitivities that staff hates doing (source: Gartner).

Automation opportunities:

- Your regular bottlenecks – those places that are jamming the whole process.
- Tasks in which your employees usually make mistakes – where manual work is much less efficient than automated. The Process Mining algorithms make it easy to find the root causes of these mistakes.
- Tasks that are disliked by employees because they are too dull, repetitive, or too demanding.

Using QPR ProcessAnalyzer's RPA Charts

You can use ready-made RPA charts to speed up any process improvement initiative. Easily customize these charts by adding your own dimensions, selections and what-if scenario capabilities.

For example, in the "Automation Opportunity Scout", you should look for:
- Big bubbles, which indicate a lot of manual events.
- Position in the vertical axis - event types in the 100% line are completely manual, event types in between are partially manual/automated
- Position in the horizontal axis - high volume event types are on the right
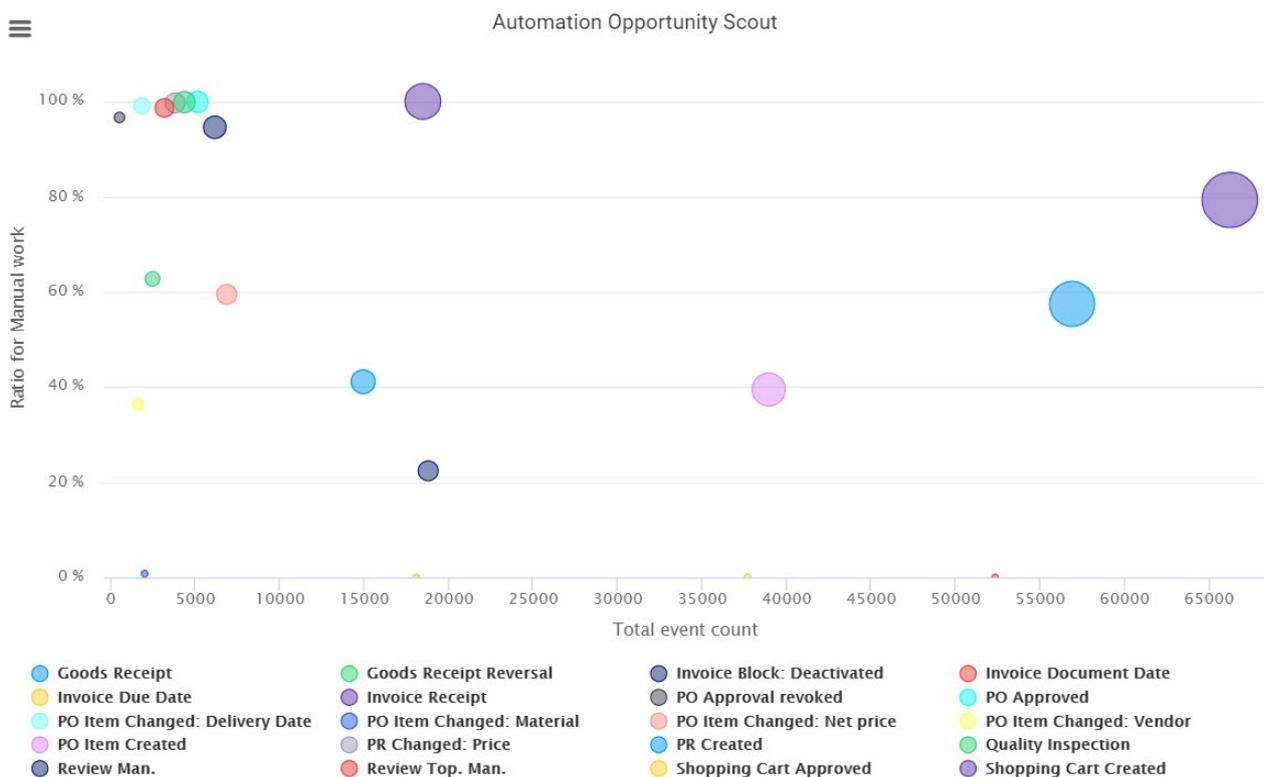
CHARTS TO CHECK AT THIS STAGE:

- **Automation per Event Types** - Who does the work - manual users, bots or system automation?

- **Manual Activities Details** - Which manual events cause the longest lead times?

- **Automation Opportunity Scout** - Which tasks should be automated next?

4 | FOLLOW UP &
Monitor

Ensure long lasting transformation

By continuously measuring and ensuring process compliance, you will be better equipped to establish long-term transformation and increase the use of RPA to span as many processes as possible.

With process mining, you can review that RPA achieved the desired outcome, and that processes are executed as designed. This kind of **process benchmarking** and **process compliance measuring** is an effective way to focus your investments more accurately and with a higher return on investment.

Tip: Use the **conformance analysis** to continuously monitor how your as-is processes are executed in reality, compared to your designed processes: easily spot process conformance violations, conformance trends, reasons for deviations, and top violating variations.

Moreover, in order to see how much time and money can be saved by your next automation project, you can check the "**Cost Savings by Automation**".

• This is a detailed report showing the estimated potential for cost savings. The report is generated for each individual flow in the discovered as-is process model. Each flow is then analyzed by comparing the lead time of automated cases against the manual cases. The difference is regarded as the potential savings for the lead time.
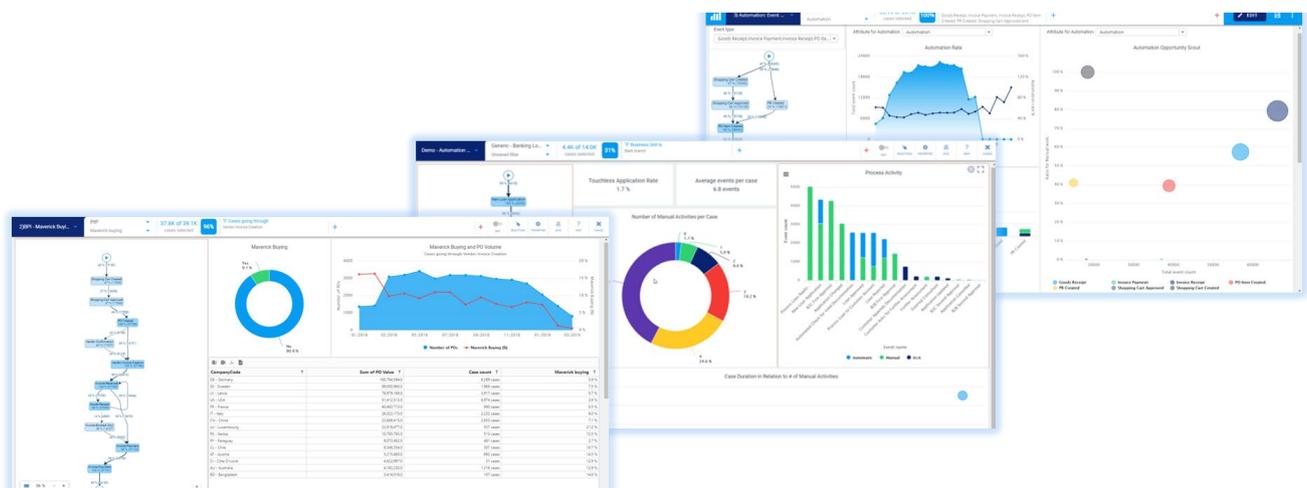
When automating, automation rates should go up - and stay there

It is important that you are aware of your daily operations and how your processes work in reality - when you automate more, your automation rates should go up.

However, in reality, your processes may not keep performing as planned. Think of it as starting a diet - the first day, you follow it strictly, but in a month or a year, you might find yourself slipping back to the old pattern. This is why daily monitoring is key, and from our experience, getting notified when things aren't going the way they should is extremely helpful when you implement your software robotics.

With automation dashboards and daily or weekly monitoring, you can see how your automation currently works and calculate automation rates to identify the best candidates for RPA.

Monitoring with QPR ProcessAnalyzer's RPA Charts

With the RPA charts, you also get a quick overview of your automation progress within the end-to-end processes: monitor e.g. overall automation rates and automated activities per case.

For example, the **Automation Rate Trend** shows the progress and results of your RPA and automation efforts as a monthly trend. It is easy to see how the automation rate is increasing as a result of RPA activities. However, if the automation is not working fine, then the amount of other manual tasks within the process starts to increase. This is often caused by rework, manual work for fixing events performed by bots and manual work based on customer complaints.
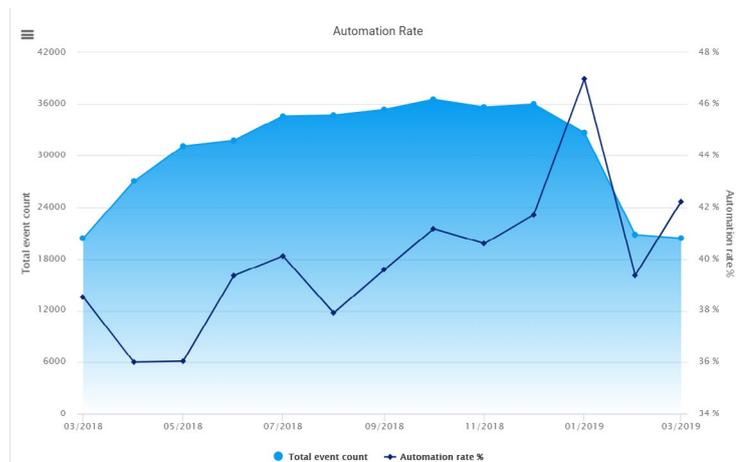
MONITOR, INVESTIGATE, PREDICT
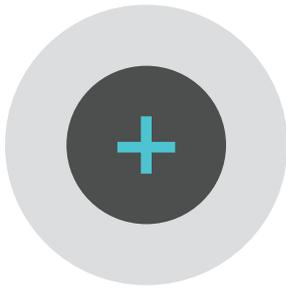
MONITOR END-TO-END PROCESSES CONTINUOUSLY

With the KPIs "Happy Customer" (keeping your customer satisfied) and "Happy Flow" (following agreed processes) and "Happy Automation", you can monitor conitnuously.
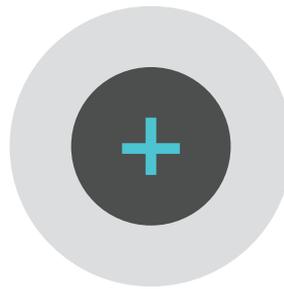
INVESTIGATE PROBLEMS AND IDENTIFY SOLUTIONS

Use Process Mining for process improvement (e.g. Lean / Six Sigma) to spot root causes, bottlenecks and unnecessary rework, benchmark and check for violations.
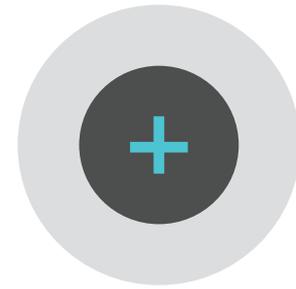
PREDICT PROBLEMS WITH MACHINE LEARNING

QPR ProcessAnalyzer's machine learning capabilities predict cases that are going to take too long and send you alerts when that is about to happen.

More about QPR ProcessAnalyzer

FORRESTER NOWTECH FOR PROCESS MINING 2020

Representative Vendor

GARTNER PROCESS MINING GUIDE 2019

Representative Vendor

EVEREST GROUP PEAK MATRIX ASSESSMENT 2020

Major Contender

Our experience: 400+ process mining projects

2000+ customers, 1,000,000+ licences sold

365 Customer support in 50+ countries

Book a demo with us to see for yourself!

QPR Software Plc (Nasdaq Helsinki) provides process mining, performance management and enterprise architecture solutions for digital transformation, strategy execution and business process improvement in over 50 countries. QPR software allows customers to gain valuable insights for informed decisions that make a difference. Dare to improve.