Whitepaper

When Accounts Payable Automation and Artificial Intelligence Meet:
How to create world-class AP Automation processes with AI

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Introduction

There is no doubt that Artificial Intelligence (AI) is changing not only our personal lives but the way we do business.

For finance professionals in particular, the opportunities already presented by AI are exciting, and development in the field is moving at an incredibly fast pace, so the future certainly looks interesting.

In this whitepaper, we explore the ways in which AI is specifically impacting the Accounts Payable (AP) process. In this crucial area, AI is enabling finance teams to step away from repetitive, error prone tasks and towards value-add, more efficient ways of working, and we discuss what the triggers should be for building it into your function.

We advise on how to deal with the anxiety that AI can evoke within finance teams from a human perspective, and we examine the common misconception that AI in this context is restricted to OCR at the capture stage and explain how more comprehensive end-to-end AP automation is not only available, but in many cases is more appropriate, for scaling businesses.

Definition of AI
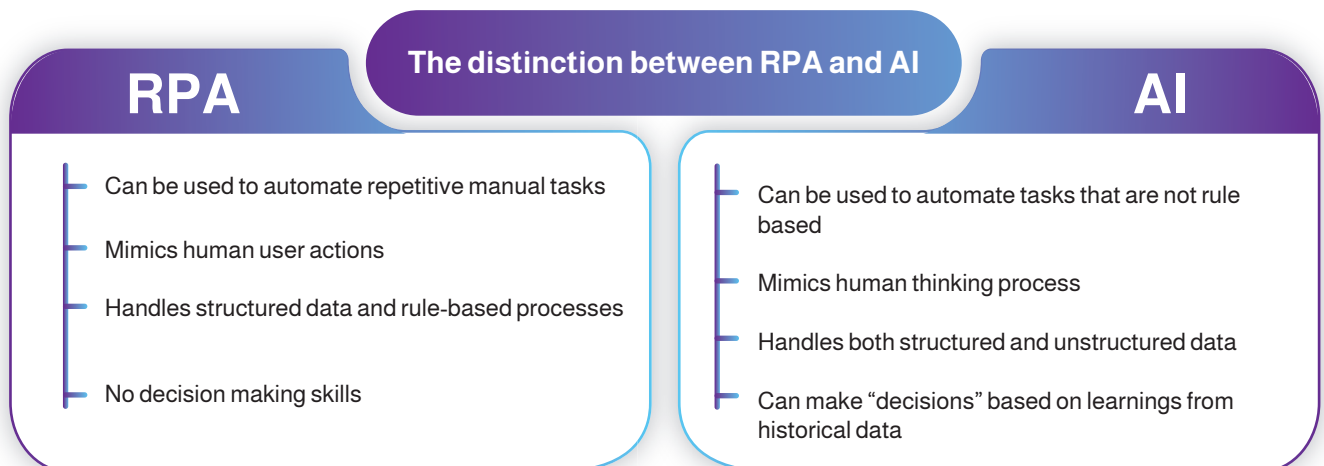
Gartner defines artificial intelligence (AI) as:

> **Applying advanced analysis and logic-based techniques, including machine learning (ML), to interpret events, support and automate decisions, and take actions.** [1]

Robotic Process Automation (RPA) and AI complement each other and are often used together. As disciplines, however, they are quite distinct:

RPA automates easier tasks, and AI is added to support more complex use cases.

The European Commission's definition of AI expands on this further:

As a scientific discipline, AI includes several approaches and techniques, such as machine learning (of which deep learning and reinforcement learning are specific examples), machine reasoning (which includes planning, scheduling, knowledge representation and reasoning, search, and optimization), and robotics (which includes control, perception, sensors and actuators, as well as the integration of all other techniques into cyber-physical systems). [2]

The distinction between RPA and AI

RPA

- Can be used to automate repetitive manual tasks
- Mimics human user actions
- Handles structured data and rule-based processes
- No decision making skills

AI

- Can be used to automate tasks that are not rule based
- Mimics human thinking process
- Handles both structured and unstructured data
- Can make "decisions" based on learnings from historical data

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1   https://www.gartner.com/en/topics/artificial-intelligence

2   Extract from definition of AI, 2019, page 8, https://digital-strategy.ec.europa.eu/en/library/definition-artificial-intelligence-main-capabilities-and-scientific-disciplines

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Process
Process comes first – don't jump into AI!

With AI now a constant 'headline' topic, the fear of missing out on the benefits of AI and being left behind by competitors can often lead to organizations jumping into AI developments too hastily, without first establishing whether AI is actually the correct approach.

> " First, make sure your process is optimized. It is only after you have reached that point that you should seek to fill the automation gaps. "

This mirrors the situation five to eight years ago, when RPA was a hot topic. Every company wanted to have RPA solutions and many projects started without first establishing that the foundation was solid to build upon.

Some automation is a must for any efficient business. However, if your process is faulty to begin with, automating it doesn't make any sense.

Our advice would always be to start with the automation capabilities built into your software and see how far those will get you. When you have utilized all appropriate native automations in the system you use, but still have manual steps in the process, it's time to play the RPA and AI card.

AI in AP processes

Many OCR solutions utilize AI to enhance data capture, for example, to better recognize keywords or data positions on bill images and "learn" from manual corrections to increase recognition accuracy. However, even with AI in use, with more basic solutions you will still need to do a lot of manual work to validate OCR results and correct the data, especially when dealing with line-level capture.

To ensure your team is not spending unnecessary time on manual tasks, you should consider selecting a provider that offers capture as a service, including both OCR technology and manual validation.

In a scaling business, the need for high quality data grows alongside your transaction volumes, and for everyone serious about optimizing the quality of their incoming data, e-invoices are by far the best option. Structured frameworks ensure you always have accurate data flowing into your AP system with no delays.

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To learn more about e-invoices, check out our whitepaper: eInvoicing - The future of AP Automation for NetSuite.

Whitepaper

eInvoicing - The future of AP Automation for NetSuite

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Data capture and vendor bill creation are just the starting points of your AP process, but accuracy is essential. Poor-quality results such as missing or incorrect information at this early stage mean increased manual intervention in later stages. If there is wrong or missing information at the early stage, automation at the later stages will not make life easier.

As one of the most time-consuming, and often repetitive, parts of the AP process is vendor bill posting, streamlining it is a priority. You should first utilize all the automation, such as vendor specific default postings, you have natively in your AP system. But if there's more complexity, and not all postings can be defaulted, for example on vendor level, AI might be just the right tool for you.

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How does AI work?

Taking the example of posting, AI uses vendor bill line-level data and compares it to vendor bill history. Based on found similarities or exact matches, AI enhances the lines with posting predictions. AI also provides confidence levels of predicted values on each bill line, to show human users how likely the value is to be correct. The product of segment and line-level confidences is the total confidence of the bill.

For example:

Confidence

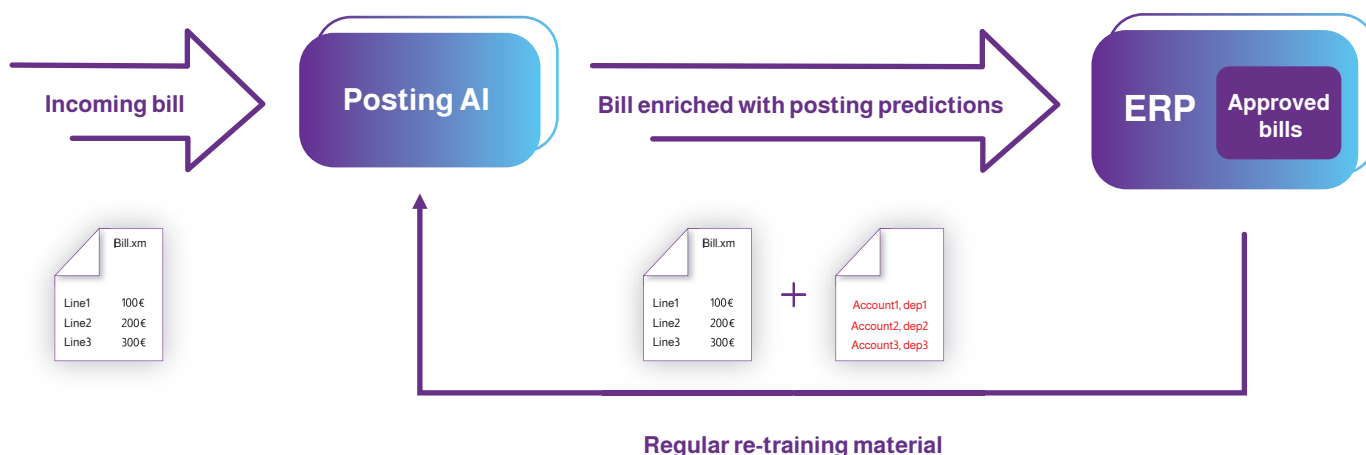|	GL account	Department	Project	
Line 1	98%	90%	73%	Total Confidence
Line 2	100%	99%	88%	56.1%

Confidence level does not confirm whether the prediction is correct or not, it's AI's estimate of how probable it is that the prediction is correct. This estimation is based on historical data, and the amount of "guessing" AI had to do due to, for example, variance in the vendor's previously posted bills.

This total confidence can be used to automate the process, and if the confidence level exceeds a predefined threshold, bills would be sent for approvals automatically.

Confidence levels, along with the actual prediction accuracy, increase over time when AI learns from human corrections. Every posting corrected by your AP professionals will be used in continuous re-training to enhance posting accuracy with every iteration. And it's not just corrections that help to improve accuracy – every correctly predicted value is also used in re-training the process, and repetition shows AI that its predictions are more likely to be correct, which then in turn increases the confidence level.

High-level process

Regular re-training material

AI can predict values on multiple dimensions: Account, VAT code, Department, Location, Project – you name it. It can also support custom segments. In most real-life scenarios, you don't need to have AI in use on all of these dimensions, your set-up should be a combination of default posting rules and AI that suits your specific needs.

Who should use AI in the AP process?

Let's face it, AI is not required in every scenario.

If, for example, your vendor bill volumes are low, you can streamline your AP process simply by using a good bill capture and e-invoice service, and an approval system that also provides you with a sufficient amount of posting rules.

The higher your volumes and the more complex your bills are, however, the more benefits you'll get from AI.

There is no 'universal truth' about the minimum number of bills you should have before implementing AI, but the number we advise to give at least some indication that AI is appropriate is 500 bills per month.

Be aware that volume alone should not be the deciding factor – it's more about the time spent on processing the bills.

However, **be aware that volume alone should not be the deciding factor – it's more about the time spent on processing the bills**. You can have 1000 bills a month going through your system, from which 950 are posted with default values, meaning your AP is quite well optimized already. Adding AI for the remaining 50 bills would not have significant impact on the overall process.

On the other hand, you can have 300 complex bills that can't be handled with any posting rules, and it can take a lot of time for your AP team to process those – here, AI could be a game-changer.

The human perspective

If you tell your team that half of their daily routines will be handled by machines moving forward, it's only natural they will feel unsettled. When you start any automation project, including AI, it's important to involve, motivate and encourage your team. Focus on the ways it will enhance their work, rather of over-emphasizing the saving on FTEs.

Technology has already significantly altered the role of the accountant in recent years, and this will inevitably continue. Fewer tasks will be manual, and the job will become more about adding value than just "playing with numbers", and this can be highlighted as an exciting, positive opportunity for your team.

A great example of AI in the context of AP is that it should result in your team doing fewer repetitive manual postings, enabling them to focus on more complex cases. On top of that, your team will have a direct impact on the AI's posting accuracy, when all their manual changes inform the AI training data and, as a result, how well the AI functions.

Our advice is to be there for your team, listen to their concerns and coach them to develop the skills and knowledge required to excel as a modern-day accounting professional.
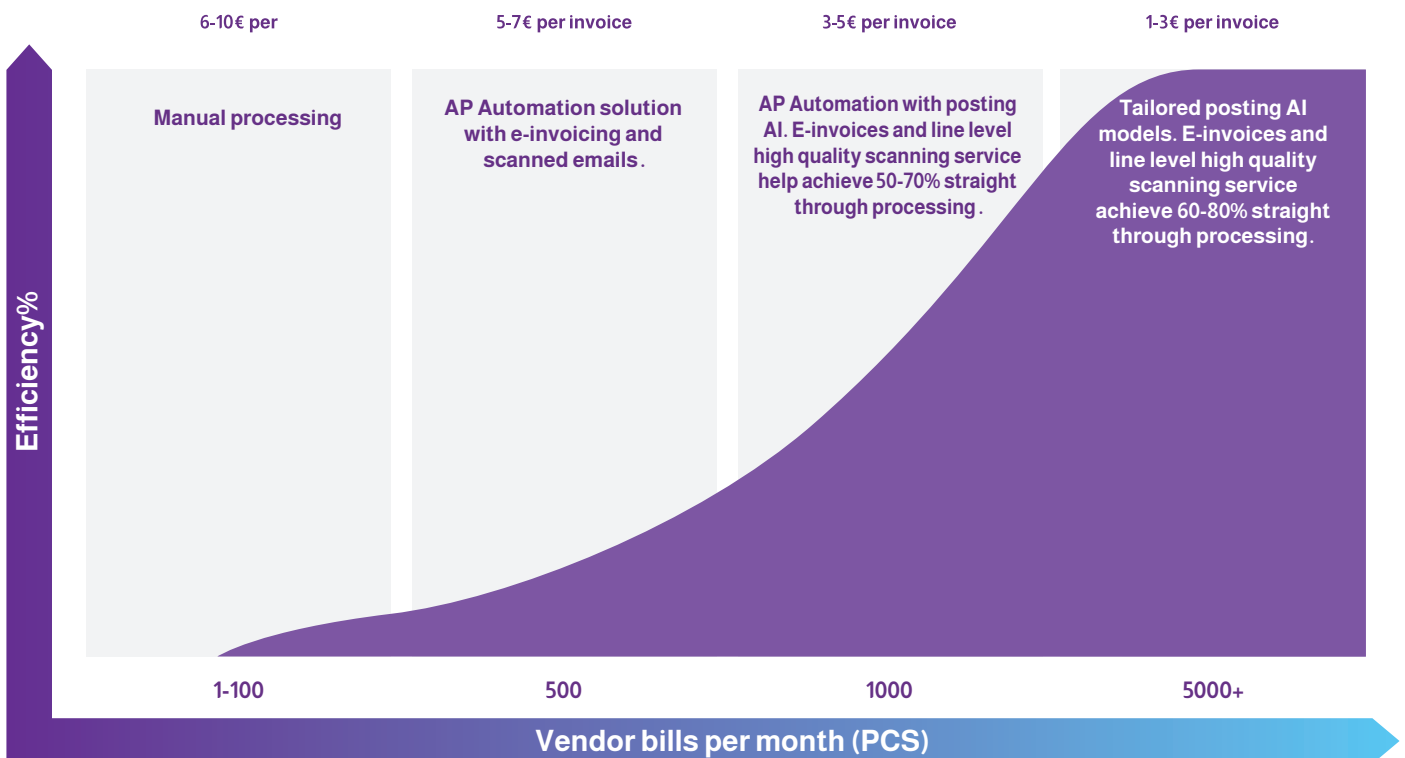
What can be achieved by using posting AI?

In many ways, an AI deployment should be treated like any other business project, in that it should have clarity of the starting position, clear objectives and KPIs. An obvious consideration will be return on investment which, if the correct metrics are monitored, should be straightforward to demonstrate.

As an objective, the concept known as Straight Through Processing (STP) is appealing. The goal of STP is to achieve a fully 'hands-off' approach to document processing. While it is something to work towards, in reality there will always be exceptions that require human intervention, and more realistic objectives should include reduction in processing times, reduction in errors and savings in time and money. The graph belows illustrates the savings that can be realised by achieving up to 80% STP.

Automation can slash 80% of your AP costs

6-10€ per	5-7€ per invoice	3-5€ per invoice	1-3€ per invoice
Manual processing	**AP Automation solution with e-invoicing and scanned emails** .	**AP Automation with posting AI**. E-invoices and line level high quality scanning service help achieve 50-70% straight through processing .	**Tailored posting AI models. E-invoices and line level high quality scanning service achieve 60-80% straight through processing.**

Efficiency%

Vendor bills per month (PCS)

1-100   500   1000   5000+

When it comes to AI for the AP process, a look at the results achieved by Staria customers that have implemented AI for bill posting makes inspiring reading!

Staria's Posting AI customers have achieved:

40% Saving on 2500 monthly vendor bill volume by deploying Flow with AI.

Automation level, contributing to time saving. **50%**

70% Vendor bill pre-population rate freeing resources for more value-adding tasks.
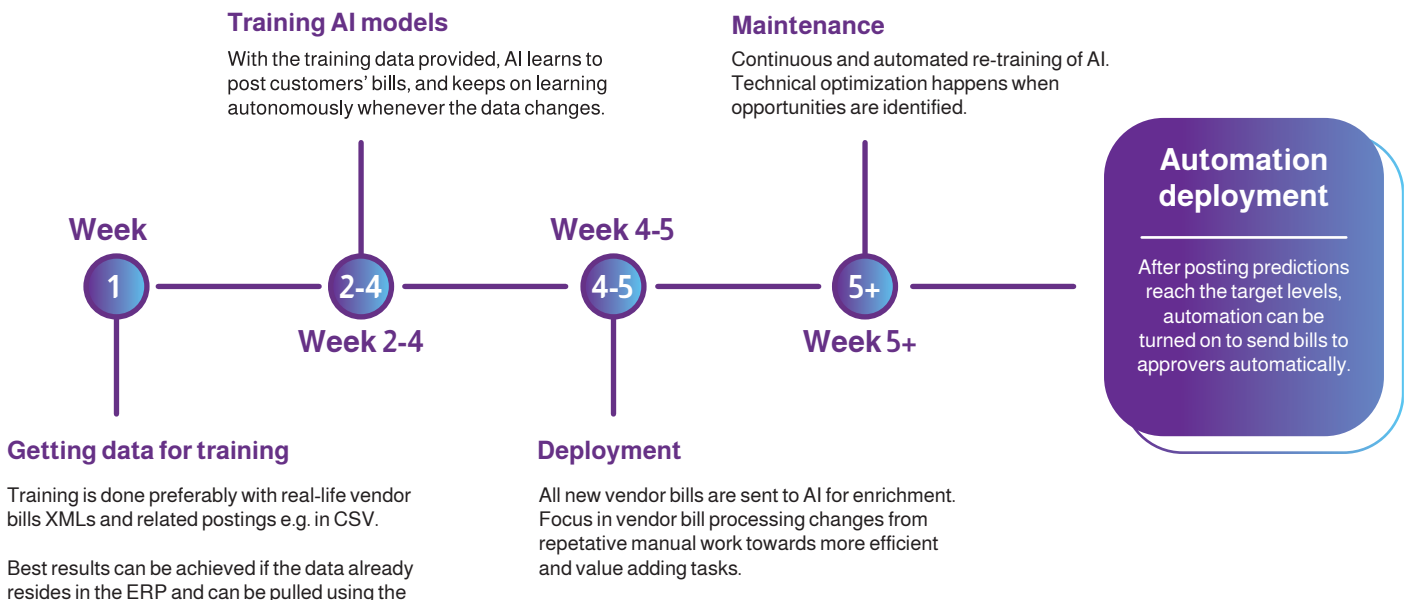
Implementing posting AI

As previously mentioned, at Staria we strongly recommend working to ensure you are utilizing the native automation capabilities within your AP software to their full potential and then, when their limits are reached, investigating where and how AI can be introduced to complement them.

Once it has been established that AI is the appropriate route, implementation can actually be fairly straightforward. Using NetSuite as an example, it is possible to install posting AI into your NetSuite environment within a couple of hours. However, it's essential to understand that to achieve high accuracy predictions, the training phase is essential – it shouldn't be viewed as a 'plug and play' solution.
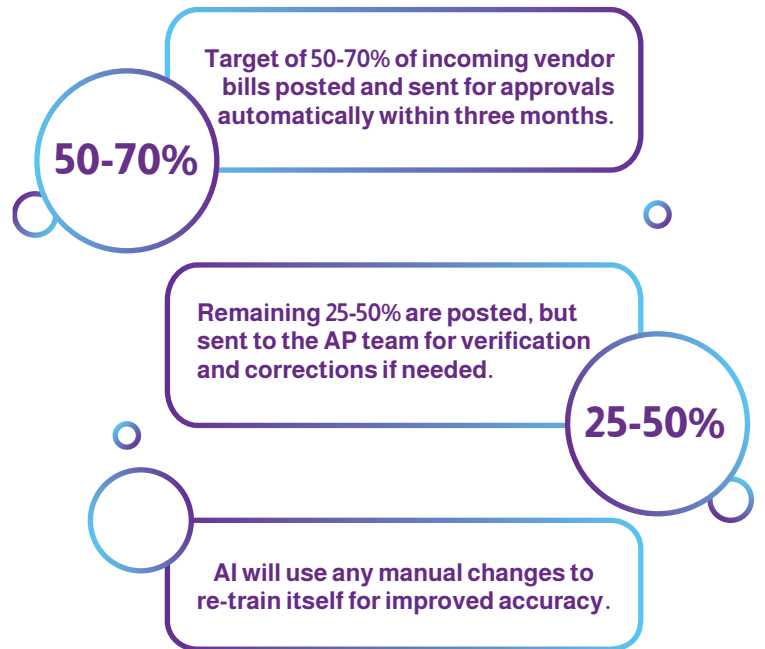
Below is a typical implementation process, designed for success.

Implementation process

Training AI models
With the training data provided, AI learns to post customers' bills, and keeps on learning autonomously whenever the data changes.

Maintenance
Continuous and automated re-training of AI. Technical optimization happens when opportunities are identified.

Week 1

Week 2-4

Week 4-5

Week 4-5

Week 5+

Week 5+

Automation deployment
After posting predictions reach the target levels, automation can be turned on to send bills to approvers automatically.

Getting data for training

Training is done preferably with real-life vendor bills XMLs and related postings e.g. in CSV.

Best results can be achieved if the data already resides in the ERP and can be pulled using the

Deployment

All new vendor bills are sent to AI for enrichment. Focus in vendor bill processing changes from repetitive manual work towards more efficient and value adding tasks.

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While AI will learn over time to predict the values based on the ever-increasing number of bills in your approval history, to maximize benefits as fast as possible, we recommend that you have a large amount of training data available. Depending on the actual amount, AI can be trained to work efficiently in four to six weeks.

Target accuracy levels should be achievable within two-three months, and further technical optimization is possible post-deployment.

50-70%

Target of 50-70% of incoming vendor bills posted and sent for approvals automatically within three months.

25-50%

Remaining 25-50% are posted, but sent to the AP team for verification and corrections if needed.

AI will use any manual changes to re-train itself for improved accuracy.

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Other use cases for AI in AP

While we've focused on posting AI in this whitepaper, AI use is not restricted to posting within the AP process. How else could AI be used in AP?

Technology is evolving with such speed that there aren't many uses cases that AI couldn't be applied either already or in the future. Where technical restrictions still apply, it's likely that they will be overcome very soon.

- **Could it be part of your cash flow optimization and planning?**

- **Could it be providing insight on bill circulation time and analysing who is approving bills slowly and why?**

- **Could it be combining information from different sources, and providing analysis on how to streamline your whole P2P process, all the way from purchase or even sales orders?**

Conclusion

In conclusion, don't rush into AI in your AP process before in-depth consideration of not only your existing processes, but where your business is on its growth journey.

Ensuring your process is optimized and then exploring the functionality built-in to your current software – such as NetSuite – should always be your first steps.

While transaction volume is an important consideration when assessing whether the time is right for AI, processing time per transaction is the real trigger.

Don't limit your AI research to the initial capture stage of your AP process. If efficiency gains are your prime objective and your business is scaling, the aim should be to maximise (over time) levels of 'Straight Through Processing', and implementing a best-in-class, end-to-end AI automation solution from the outset, such as Flow could be the best option.

Training data, and allowing two-three months to achieve target accuracy levels are crucial factors for success.

About Staria

With 20+ years' experience in delivering growth-focused financial strategy and technology solutions for some of the world's most rapidly scaling businesses, Staria has always prided itself on being a pioneer and champion of the latest platforms and initiatives to improve how businesses manage their processes, cash, and most importantly, their people.

We offer a broad and comprehensive portfolio of services and solutions to help businesses improve their financial strategy, operations, reporting or technology. A part of this offering is Flow - our end-to-end AP Automation solution developed specifically for NetSuite.

An End-to-End AP Automation solution for NetSuite

Flow goes beyond invoice scanning, making it a complete end-to-end solution for NetSuite that incorporates invoice scanning, vendor bill automation, invoice approvals and payment processing in a single solution. Go seamlessly from capture to posting, posting to approval, to secure submission of payments files to your bank, all from NetSuite.

By removing the need for manual processing and risk of error at every stage of your AP process, Flow ensures a quicker and better process for your team, improved cashflow management, and enhanced vendor relations.

Looking for help on your AI for AP Automation journey? Contact us!

www.staria.com

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