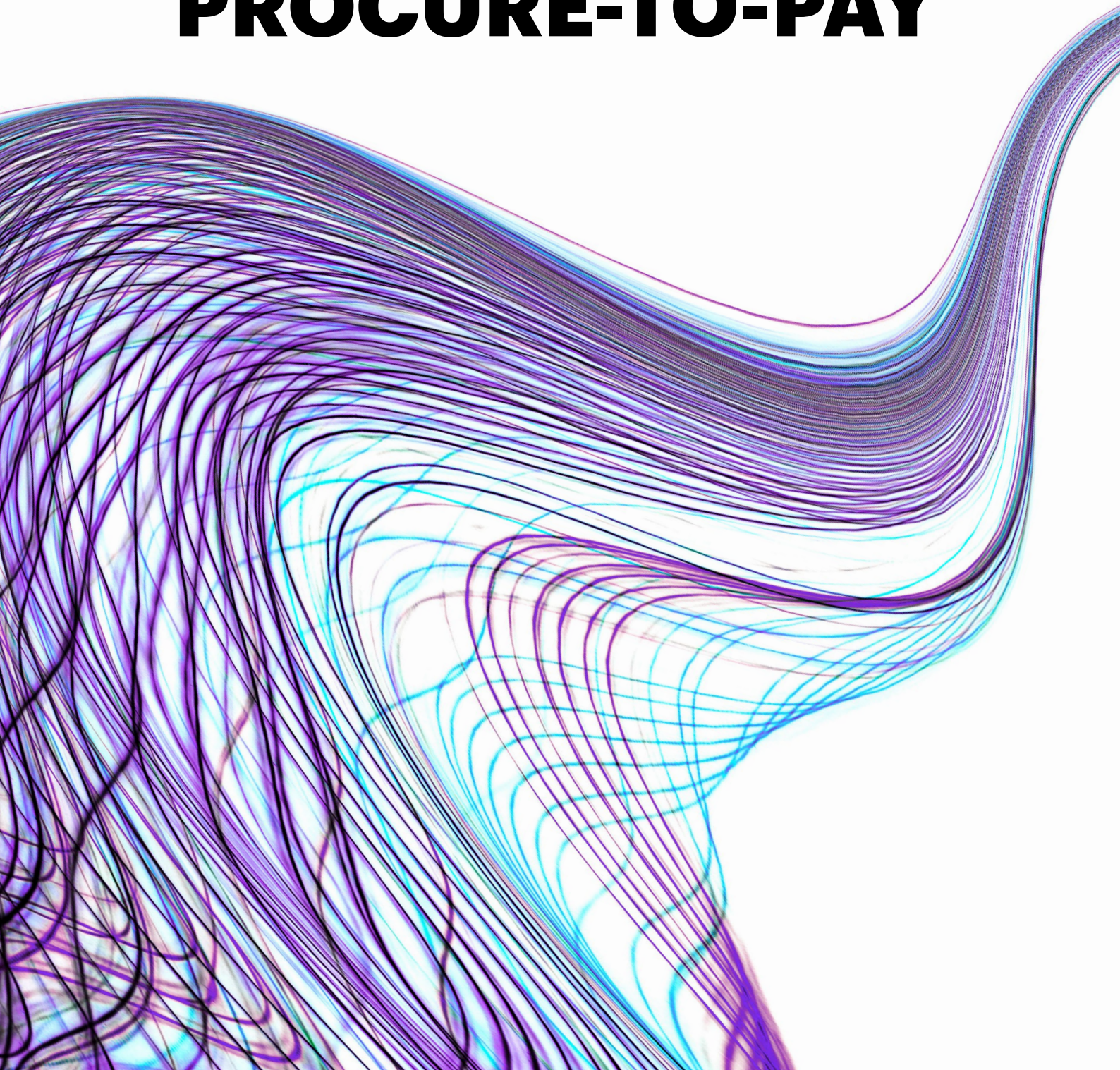
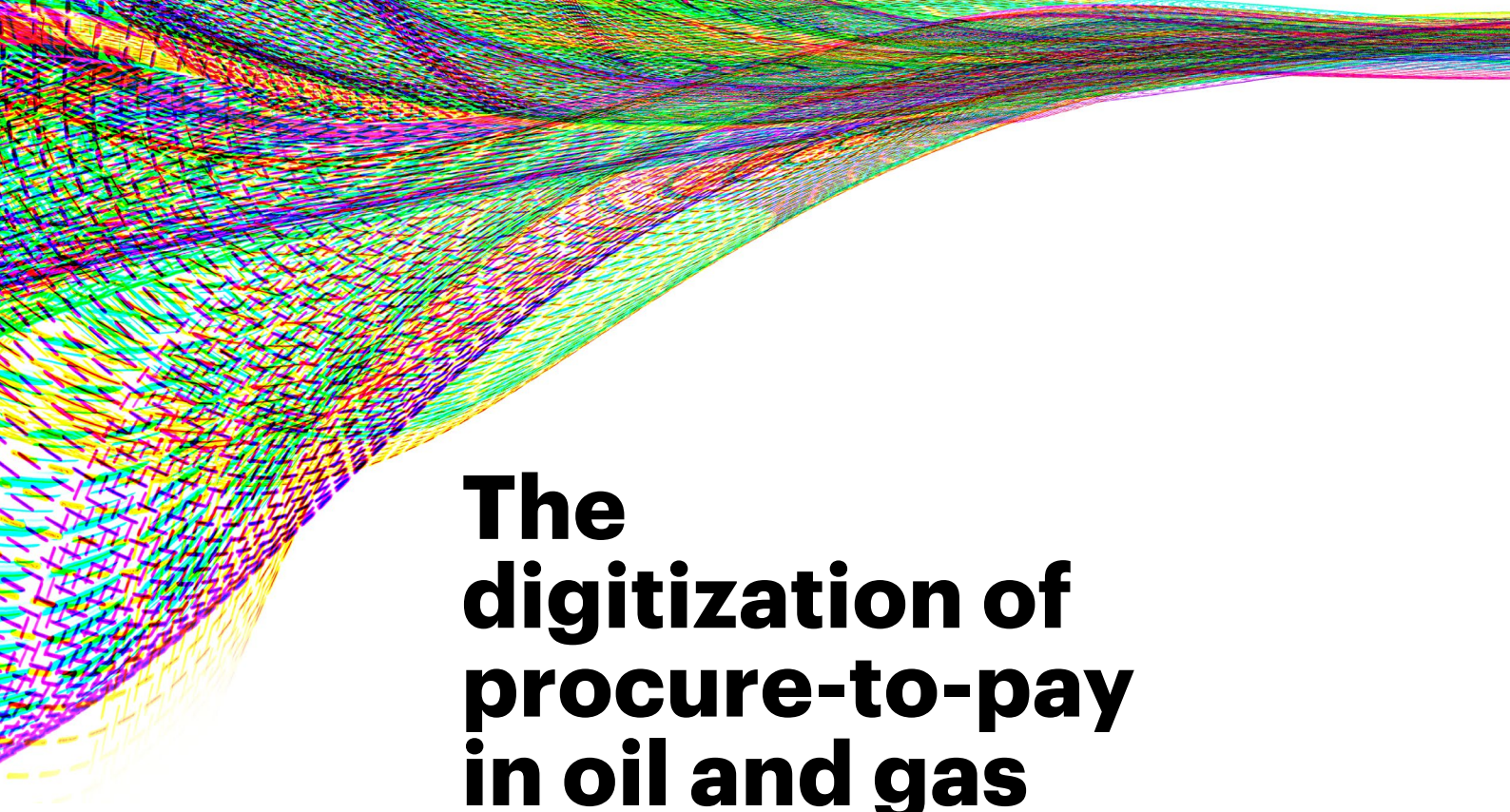


# THE DIGITIZATION OF PROCURE-TO-PAY







# The digitization of procure-to-pay in oil and gas

By accelerating tedious activities, 'bots' deliver labor and cost savings

Advances in automation are radically changing how work is performed—a trend not likely to be reversed. In addition to devices in the field that do what oil and gas workers used to do by hand, another contributor to the trend is robotic process automation (RPA). In RPA, largely unseen robots, or computer-coded “bots,” reside within front-and back-office systems, toggling among apps to do repetitive and high-volume tasks.

Given the large amounts of labor employed by the oil and gas industry to handle manual, repetitive activities across the value chain, it is clear the industry can benefit from automation. Procure-to-pay (PTP), for example, is highly manual and rules-based process: Think of how inbound documents are managed, mismatches identified, payments processed, taxes calculated, and vendor statements and bank balances are reconciled. RPA can reduce the risks, processing time and overall cost of all of these necessary yet tedious activities while freeing individuals to focus on more interesting and intellectually challenging work.

Oil and gas companies already have achieved gains by centralizing and streamlining tasks across departments in shared service centers. Let's look at three core processes—document processing, matching and payment processing—and explore the advantages of using bots in procure to pay.

## Document management and scanning

The receipt of bids and invoices kicks off costly manual routing processes, in which employees physically open mail (whether paper-based or digital), identify document types, route to appropriate departments and personnel, and key fields into systems. While digital invoicing has reduced the hours required for this process, it currently cannot cover all invoices received.

Combining familiar technologies—such as optical character recognition (OCR) and intelligent character recognition (ICR)—with RPA software can greatly boost the volume of invoices handled in less time. In converting paper files into digital data, such systems create electronic versions of handwritten, printed or typed text.

**OCR**, which is best used when documents take a standard format and data is in a consistent location, matches document images with a pre-defined library of data and classifies documents accordingly.

**ICR** is valuable for oil and gas companies that see large varieties of document structures. It encompasses intelligent technologies that can learn where to find data elements in varying document formats via machine-learning principles.

Intelligent automation enabled the company to achieve improvements in accuracy and efficiency for **more than 100 processes.**

Both OCR and ICR ease the process of looking for data on documents, reading text and categorizing files. In conjunction with RPA software, both can scan and direct documents to the appropriate department with low error margins. Bots also do not take lunch breaks, and can work non-stop virtually 24/7.

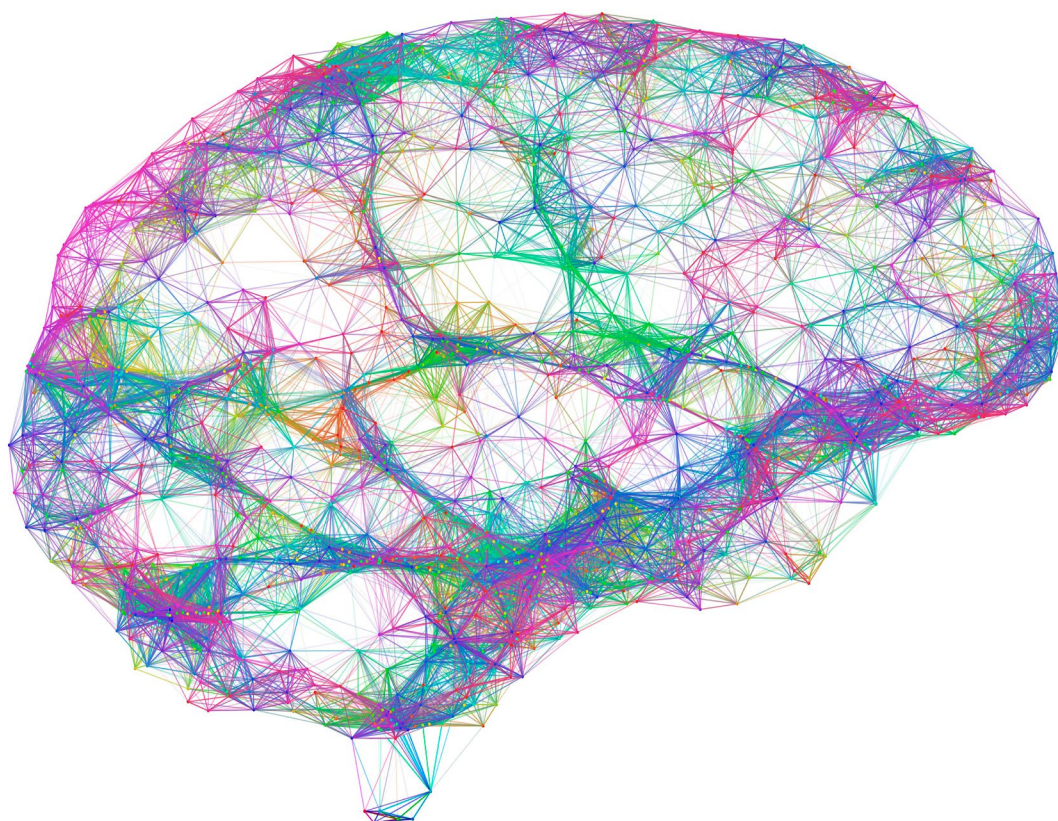
For example, we worked with a global oil and gas company to deploy Phantom optical character recognition and Fusion automation to make 100+ processes less time-consuming and costly with no disruption to the company's global process design. Intelligent automation enabled the company to achieve improvements in accuracy and efficiency for more than 100 processes. Additional benefits included a 67% reduction in manual average handling time and annual savings of \$2.5M.

In addition to scanning and routing documents, bots can use enhanced ICR features to extract appropriate data from documents to execute required procurement and payment functions. A component of enhanced ICR includes confidence intervals, predefined by personnel, that measure the probability the bot has properly scanned and analyzed an item. For example, bots can be 85 percent sure the data pulled is accurate (e.g. invoice/purchase order number, contact names).

Accounts payable can program bots to extract data only if the scan remains within specific confidence intervals. For example, a bot can be programmed to direct an invoice to a department if it has 95 percent confidence. If below that level, it would notify human personnel. The worker then would want to review findings, confirm or deny the result, and manually send the document to the appropriate department. If the bot exceeded the 95 percent threshold, the data extraction would be assumed to have been performed accurately and human intervention would not be required.

Bots can “learn” from experience and improve performance, leading to a decreased reliance on human review.

As bots learn from past mistakes to execute future tasks, they can be assigned to handle more advanced processes, such as matching and payments.



## Matching

For most companies, the three-way match is performed manually, with personnel matching invoice to purchase order and again to goods receipt. Substantial time is spent not only performing the match but also investigating exceptions when, for example, price and quantity of purchase order and invoice are not in agreement.

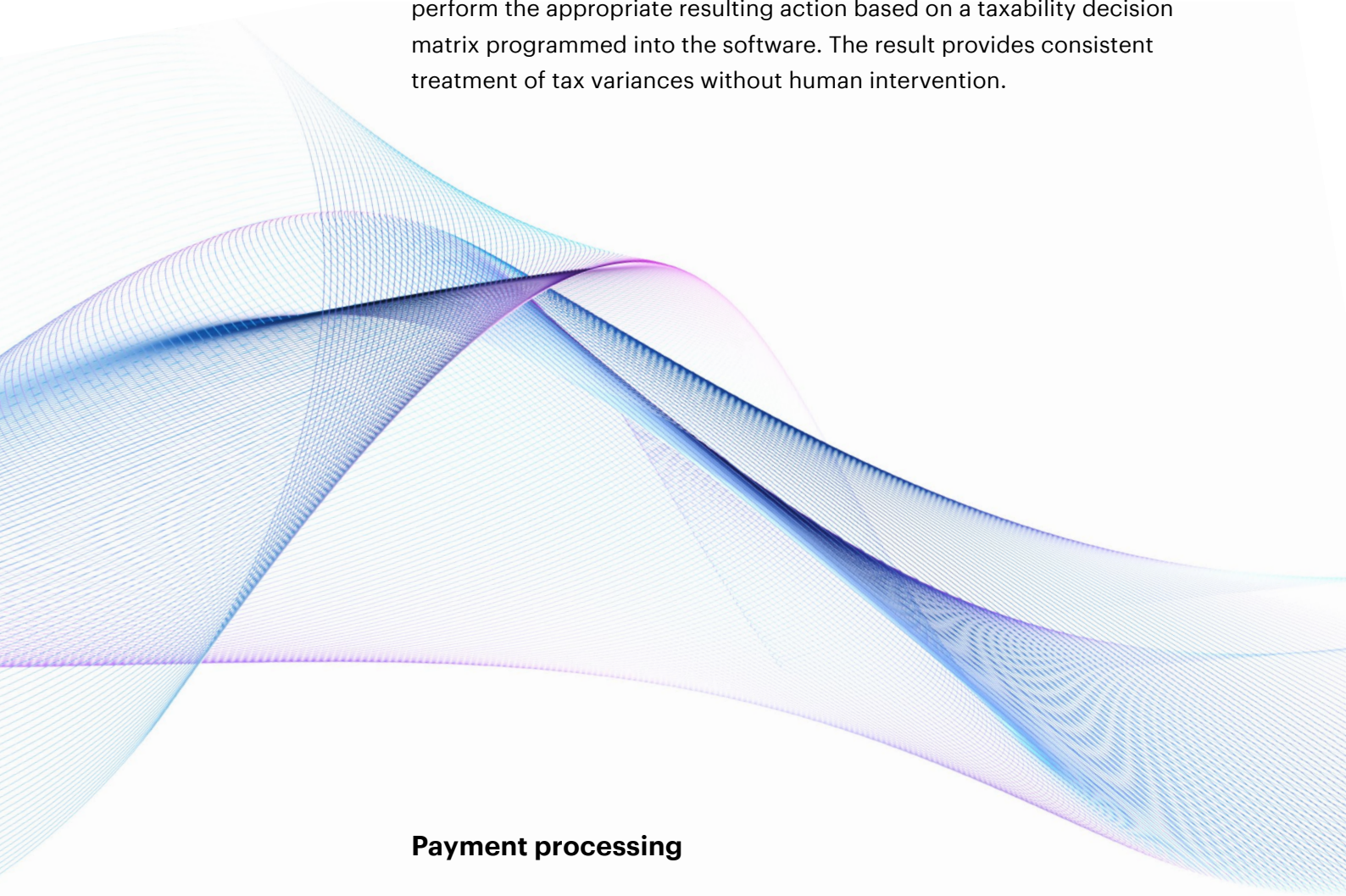
Bots can begin to perform matching procedures early in the end-to-end process to shift issue resolution from back-end to front-end. For example, bots can match acknowledgements received from vendors with purchase orders to detect differences between purchase orders, goods, receipt and invoices. When a department receives an acknowledgement from a vendor at the entry point, it can use ICR and confidence intervals to identify discrepancies automatically in the ordering process, such as a mismatch between quantity and price. Human intervention is required only after discrepancies are found during the comparison.

**Using RPA  
for matching**  
saves time for  
procurement and  
accounts payable  
teams, boosting  
productivity and  
offering labor  
savings.

When discrepancies are discovered early, the three-way match resolution can be expedited, rather than waiting until after goods are received or invoices prepared. Many companies do not perform this match early in the process, which results in additional time for issue resolution at the back end. Using RPA for matching saves time for procurement and accounts payable teams, boosting productivity and offering labor savings.

Verifying that tax amounts match with expected values—a laborious and time-consuming activity—offers another use of RPA. Many companies use a tax engine for determination of sales and use taxes. In cases in which the purchaser knows the transaction is taxable, during invoice verification an information message may indicate the vendor's tax amount differs from the tax-engine calculation. When such differences exist, human intervention is needed to review variances outside predetermined tolerance limits.





Due to sales- and use-tax impositions being rules-based, bots can be programmed with OCR and ICR functionality to review transactional information a tax analyst otherwise would review manually. The bot could perform the appropriate resulting action based on a taxability decision matrix programmed into the software. The result provides consistent treatment of tax variances without human intervention.

## **Payment processing**

Pay cycles, remittances and reconciliations all hold the potential for automation, and thus additional cost and labor savings.

Despite batch processing, companies continue to run pay cycles manually. Personnel are engaged in the repetitive tasks of setting up pay cycles, waiting for payments to load and producing output files. As an alternative, bots can be configured to perform these tasks at the frequency clients are required to run their pay cycles, while considering the dates of the previous cycles and the types of payment runs.

Bots can further be configured to send payment-remittance details to vendors when payment files are sent to banks. While the former use of RPA benefits workers by freeing them from mundane tasks to complete value-added work, the latter RPA example benefits vendors by improving visibility into payment details. This advance in turn increases the likelihood of payments being properly applied and reduces the need for costly manual rework by both parties.

Outside of the regular payment cycle, RPA also can be used to automate the simple parts of reconciling vendor statements. Bots can request vendor statement balances, track submissions and send follow-up emails to vendors who have not submitted statements. OCR or ICR can then be used to extract data from files so vendor-statement totals can be compared to net balances on a company's books. As with the three-way match, bots can be configured to identify variances so mismatches above a threshold are escalated for human review.

RPA can further streamline payment processing through automated reconciliation of bank balances. In the absence of an interface with a bank, companies can use RPA to download check files, statement balances, transaction history and more from a file-transfer-protocol site. RPA configured with OCR and ICR capabilities can extract the fields needed from the downloaded files and update company balances using extracted fields. The low frequency of change within bank file formats and layouts makes this technically feasible.

Investing in RPA for payment processing can create significant benefits. For instance, we have recently worked with an oil and gas super major and have

seen the company realize up to **\$23 million** in reductions in preventing duplicate payments via the use of RPA.

On top of cost savings, RPA can free up labor for value-added work, and create a more reliable and accurate data system.

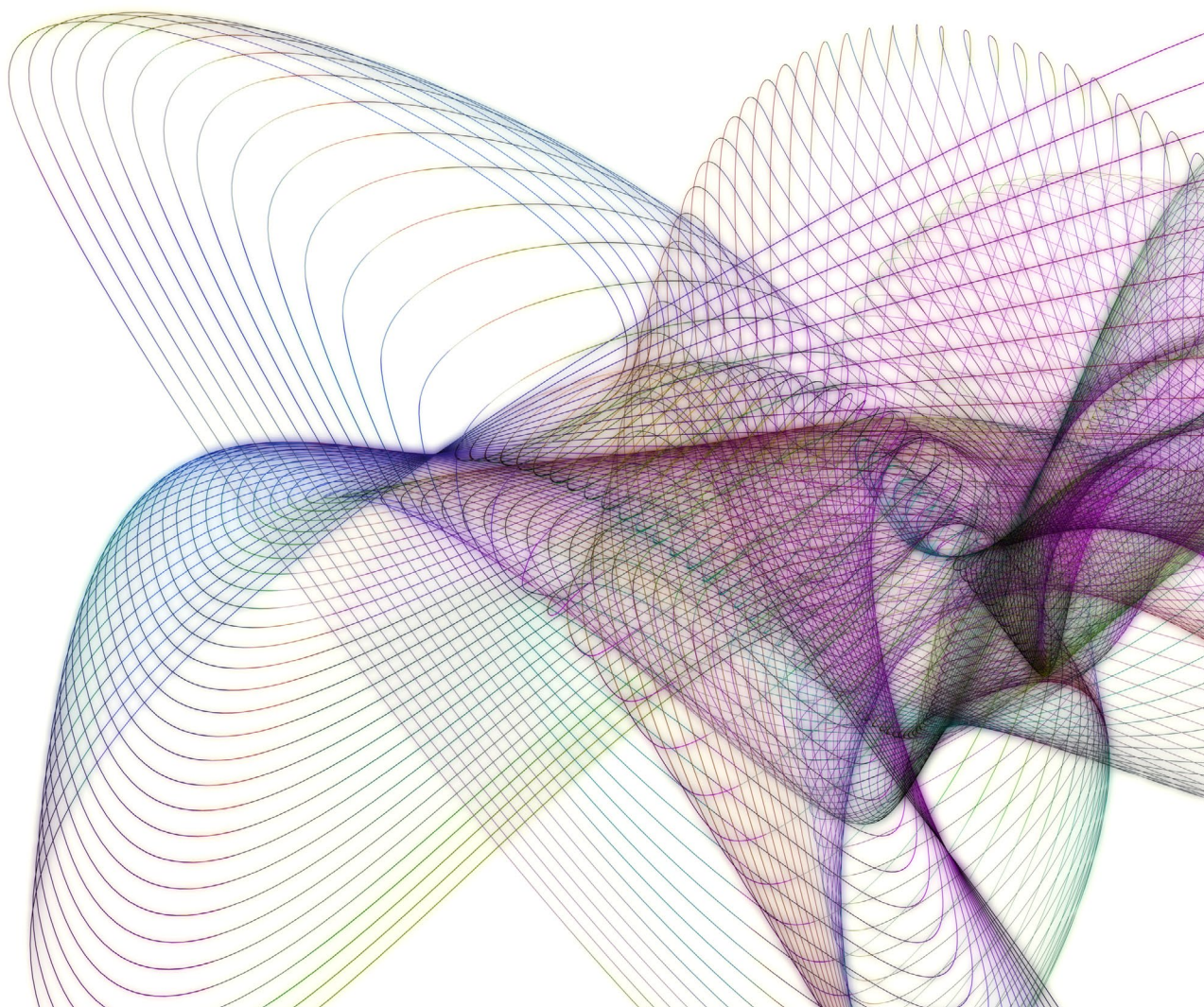


## Quick wins ... and further advances on the horizon

Oil and gas companies stand to gain by automating core PTP processes. Three activities—document processing, matching, and payment processing—offer quick wins. Automating repetitive processes can help organizations realize the rewards of higher workforce productivity, greater process efficiency and reduced costs to scale.

Knowing that routine tasks are being handled by bots gives procure-to-pay professionals more time to spend on cost optimization, supplier relationship management and innovation creation activities such as tasks that were originally not thought of as bot eligible. Furthermore, because of the increased speed and accuracy of OCR and ICR, oil and gas managers and business leaders are in position to make timely, fact-based business decisions.

RPA can be thought of as an accelerator of an automation journey that can overhaul the shared service environment. After investing in RPA, companies will be equipped to implement increasingly advanced technologies, such as artificial intelligence and virtual assistants, that are likely to further improve a company's business and financial performance.





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