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Robotics and intelligent automation (IA) offers multiple benefits for financial services companies — but success depends on understanding the strengths of different tools and automation approaches.

Financial services companies have been embracing automation for some time now. Robotic process automation (RPA) has already made its mark, but artificial intelligence (AI) is now attracting huge interest as businesses explore the potential to unlock value in the form of improved revenue, customer service, efficiency and risk management.

AI is widely seen as the next business disrupter and advancing quickly. Those working in the AI field believe it is the most disruptive technology we will see in the next three to five years. And there's more to AI than driverless cars. Financial services companies are already seeing how AI tools can improve revenue, efficiency and risk management.

However, AI is one part of the future: its real power comes in combination not only with RPA and digitization in general, but also with the input of people. Neither human nor machine alone can outperform human and machine working together.

We believe financial services companies can thrive through "intelligent automation" — the intelligent use of multiple tools and automation approaches. This latest paper in our series on robotics and intelligent automation looks beyond the hype to explain what AI means for financial services businesses and how RPA and AI complement each other. We also identify the types of activities and processes that are enabled by different forms of intelligent automation, from processing "margin call" emails to credit risk management, product pricing and fraud detection.

Intelligent automation can bring benefits for financial services businesses, but there are also challenges to address in order to unlock those benefits. We highlight the most important of these and suggest how management teams begin exploring the transformative potential of intelligent automation in their own operations.

RPA makes its mark

In the last few years we have seen an explosion in take-up of RPA. Once an obscure tool, every big financial services organization is now running an RPA program. This high interest is reflected in the rapid growth of EY's specialist RPA team – from a handful of people to over 2,000 delivering RPA projects across 40 countries.

Traditional RPA is transforming processes but has key limitations when used in isolation.

RPA creates numerous opportunities for automation and we are, so far, only scratching the surface of its potential. However, traditional RPA has its limits – it can only process information in digital form e.g., in systems, spreadsheets, web, and can only undertake simple defined decision making e.g., based on a "decision tree", or more complex when rules based. Combined, these limitations mean that, although extremely powerful, RPA can only be used on certain processes – and more often sub-processes, thereby limiting end-to-end process automation.

Traditional RPA is now being combined with AI and other digital automation tools e.g., optical character recognition (OCR), digital forms, workflow, chatbots, human-in-the-loop processing, to help overcome these limitations. This creates the potential for end-to-end process transformation across any process and irrespective of legacy system environments.

AI: transformational power but greater complexity

AI refers to the development of computer systems able to perform tasks normally requiring human intelligence where judgement is applied beyond simple decision trees, such as visual perception, chat and messaging dialog, reading emails, speech recognition, decision making and translation between languages.

AI is increasingly recognized by financial services organizations as a transformative force.

AI is real and has the potential to transform business operations today. In the last few years three key components have come together to enable this:

‣ new AI model algorithms
‣ move data available digitally
‣ new cloud computing capabilities and processing power

However, the world of AI can be confusing for businesses, even those experienced with RPA.

This is partly because AI encompasses many different types of technology with numerous vendors – far more than are evident in the RPA space.

As a result, the AI spectrum is huge, and describing all the flavors of AI is beyond the scope of this document. However, AI can often be categorized into distinct types or use cases and implemented using multiple techniques and tools – today, no one tool can deliver all AI-based use cases.

AI categories

| Natural Language Processing (NLP) and "Written Chatbots" | Speech Recognition and "Virtual Assistants" | Computer Vision and OCR | Supervised Learning for prediction and decisions | Deep Learning for simple questions with complex answers |

AI comes in many flavors and is implemented using multiple techniques and tools

Within just one vendor, there can be multiple different tools, demonstrating specifically:

- The breadth of use cases
- The number of tools
- The skills required, given the number of tools
- The training, testing and technical environments needed
- The delivery operating model

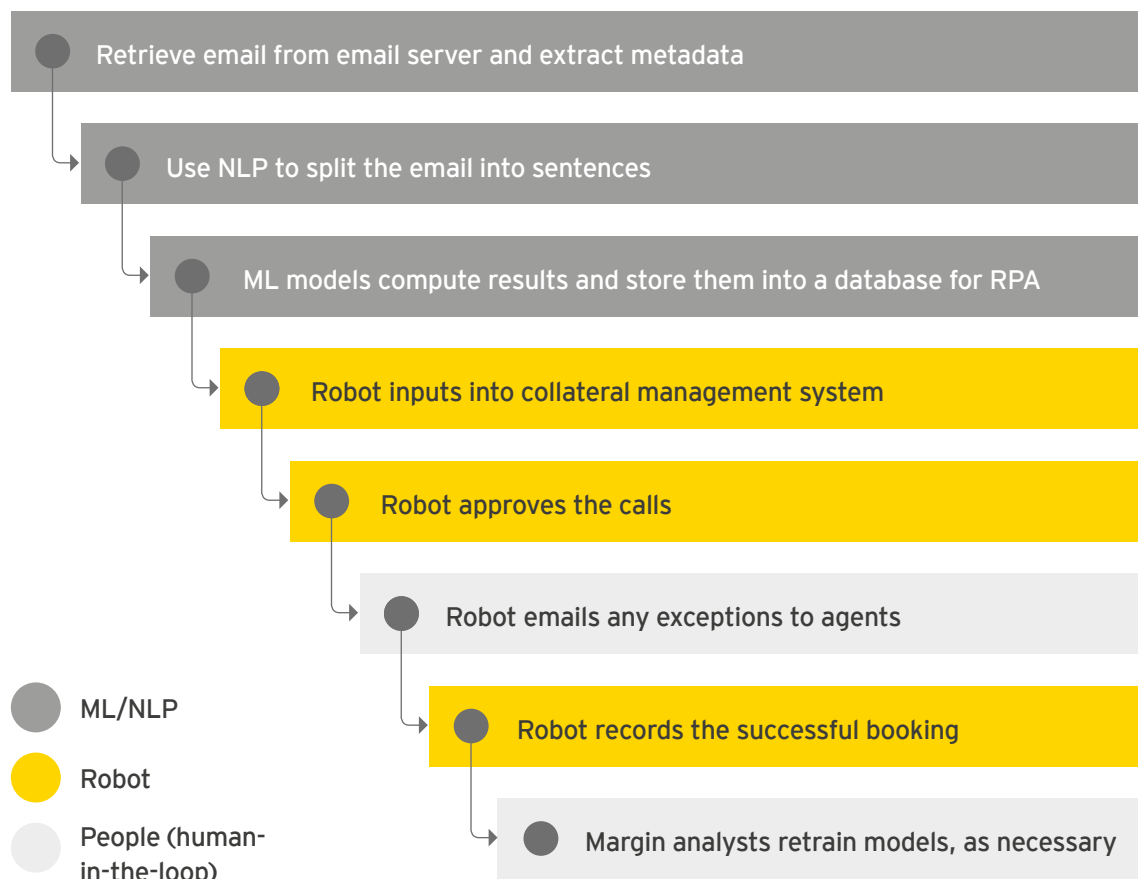This illustrates the complexity of the AI landscape.

AI may need other tools and people to be effective

Not only is the complexity of potential use cases and corresponding skills an issue, the application of each use case can require significant investment.

Take the example of a recent EY project to automate the processing of "margin calls" — broker requests to investors to increase their cash deposits to meet prescribed minimum levels.

Today margin call responses come in through entirely unstructured emails, and in their tens of thousands — making this an area ripe for automation. The table on page 8 summarizes the pros and cons of using AI to automate this process, based on our experience.

This is a great example of the power of AI (95% processing of emails in an eight-week project is excellent), but also the cost and complexity, and uniqueness of each case.

Retrieve email from email server and extract metadata

Use NLP to split the email into sentences

ML models compute results and store them into a database for RPA

Robot inputs into collateral management system

Robot approves the calls

Robot emails any exceptions to agents

Robot records the successful booking

Margin analysts retrain models, as necessary

- ML/NLP
- Robot
- People (human-in-the-loop)

Pros and cons of using AI to automate margin call processing
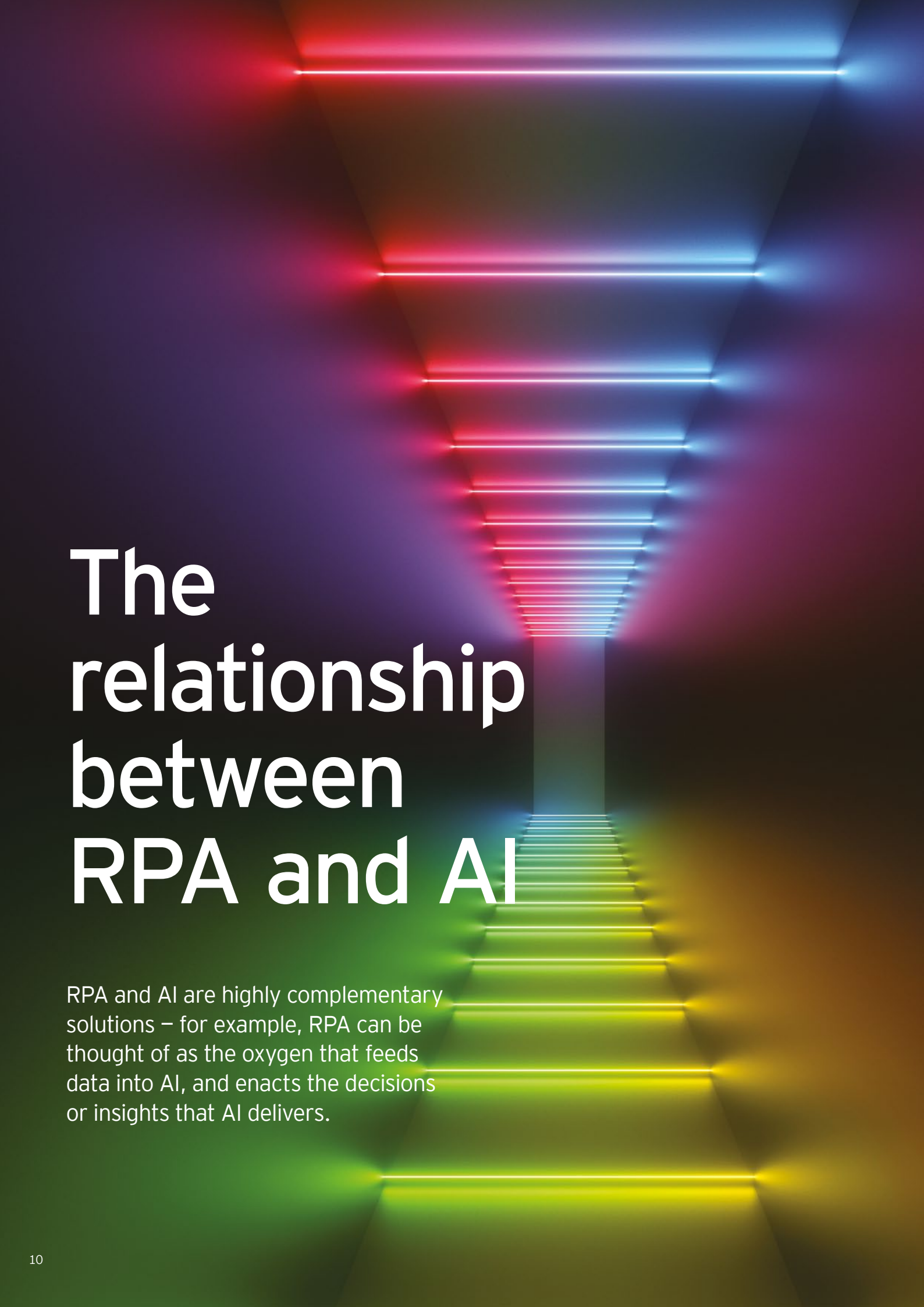
Pros	Cons
1. Delivered fully working email parsing and processing in eight weeks	1. Required 30,000 emails (six months' worth) in order to get to desired accuracy
2. Within four weeks had 60% accuracy – sufficient to pilot	2. Still required human intervention – both to process exceptions, and to continue to teach machine learning (ML) model
3. Within eight weeks had 95% accuracy – sufficient to go live at scale	
4. Had to be combined with RPA to enable actual booking of margin call responses in existing systems	3. Required natural language processing (NLP) and ML skills (in our case using Python) and programming skills
5. Significant return on investment (ROI) – payback started after three months and full return in less than 12 months	4. This only worked on a specific type of email, where we knew it related to margin calls. The ML would have to be trained again for any other type of email with similar data volumes e.g., complaints and chasing issues
	5. Where data volumes are small, accuracy of ML will be much lower, and hence ROI may be lower as more human intervention is needed
	6. By using open-source (free) tools we could achieve appropriate ROI – using commercial tools payback would have been two or more years

Therefore, although AI has the potential to transform an organization's processes, it can be significantly more complex to implement than RPA.

So, realizing the promise of intelligent automation lies in finding the right balance of RPA, AI, digital tools and people to maximize return on investment (ROI), while minimizing complexity and risk.

The relationship between RPA and AI

RPA and AI are highly complementary solutions – for example, RPA can be thought of as the oxygen that feeds data into AI, and enacts the decisions or insights that AI delivers.

> # RPA and AI are complementary technologies that can be used in isolation or together, depending on specific circumstances.

Based on our experience, we believe there are a number of misconceptions about the relationship between RPA and AI. For example, AI isn't simply replacing RPA and RPA isn't just "old tech". In fact, one does not replace the other. They can be used in isolation or together. AI can significantly increase the value of RPA tools, and vice versa. For example, know your customer (KYC) and credit-risk modeling can be supported through AI without RPA – but with RPA, the insights from the modeling can be immediately actioned.

Identifying when and how to combine RPA and AI – and other tools – makes for intelligent automation.

Misconceptions about the relationship between RPA and AI

1   RPA is "old tech" and AI is replacing it   ▶   Today RPA and AI are primarily separate, but complementary, technologies

2   RPA and AI are similar technologies in terms of cost, complexity and skills   ▶   AI is very much an IT/Data Science-based *set* of technologies, with RPA an order of magnitude simpler and business-skills based

3   Everything can be automated by AI   ▶   While AI is transformational, allowing increased scale of automation, today the cost and risk would not stack up for all processes
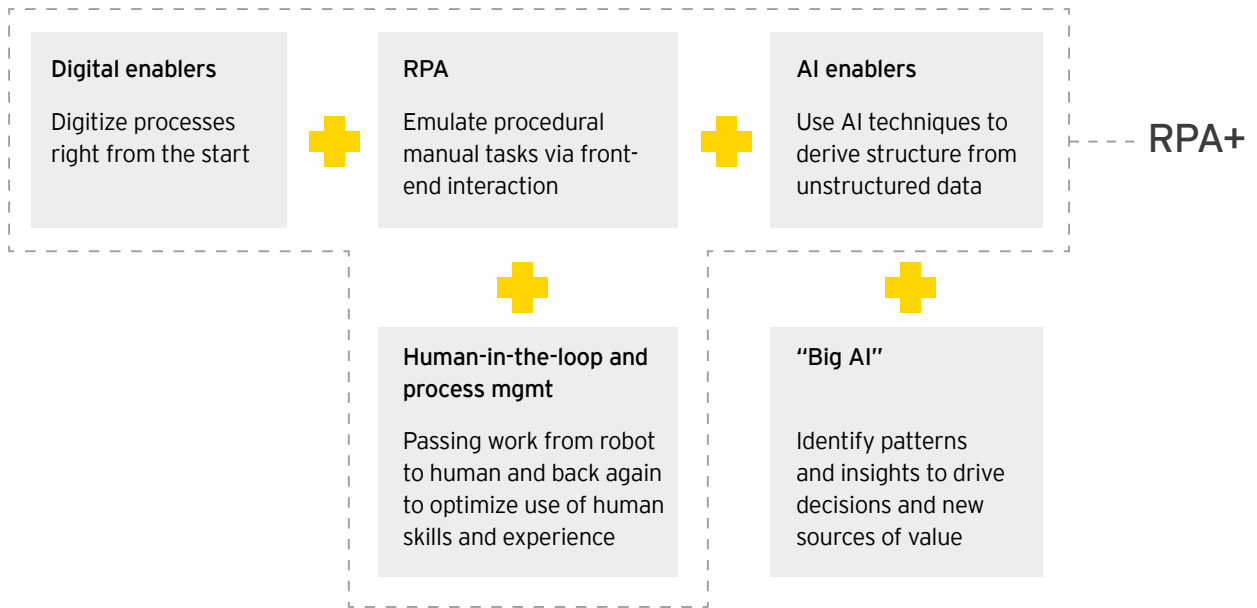
Moving to intelligent automation

Intelligent automation is the intelligent use of multiple tools. It can span not just RPA, but Digital and AI enablers, human-in-the-loop and "Big AI" concepts.

At EY we distinguish between three types of automation:

Type of automation	Description	Examples
RPA	A virtual workforce automating highly repetitive tasks, based on defined processes and decision making	▸ Data entry across multiple systems ▸ Checking multiple data sources for KYC ▸ Running reports for multiple countries and collating into a single summary
RPA+	RPA combined with add-on capability e.g., RPA combined with adaptors to improve the productivity of RPA	Digital adaptors significantly increase the scope of automation when combined with RPA: ▸ Web or mobile self-service dynamic digital forms e.g., removing need for paper or telephone applications ▸ Chatbots or voice recognition integrated with RPA to provide real-time self-service e.g., "how much is in my account" against legacy systems ▸ Employee digital portals for human-in-the-loop work hand-off from RPA to agents e.g., for approvals or highlighting exceptions Where we cannot use digital adaptors, we could look to use AI adaptors for RPA including: ▸ Next generation optical character recognition (OCR) that incorporates machine learning to read scanned images e.g., application forms ▸ NLP and machine learning to read emails e.g., margin call processing
"Big AI"	Gives computers the ability to learn and predict, to make decisions, as well as the ability to mimic human interactions e.g., predict or recommend, virtual assistants. May use advanced analytics and big data, decision engines, machine learning or deep learning algorithms for certain processes	Examples include: ▸ Machine learning to predict churn ▸ Expert systems to assist with product recommendations e.g., robo advice ▸ Advanced analytics combined with ML to look for patterns of fraud ▸ ML for making decisions on loan applications ▸ Expert systems or ML for making decisions on medical issues for critical illness insurance claims

Digital enablers	RPA	AI enablers
Digitize processes right from the start	Emulate procedural manual tasks via front-end interaction	Use AI techniques to derive structure from unstructured data

RPA+

Human-in-the-loop and process mgmt	"Big AI"
Passing work from robot to human and back again to optimize use of human skills and experience	Identify patterns and insights to drive decisions and new sources of value

Intelligent automation also means looking for alternatives to automation and deciding what's right based on a wide range of potential benefits – not just cost.

But, as importantly, intelligent automation is:

- ‣ Understanding if there are better delivery options e.g., LEAN, Six Sigma or system changes.
- ‣ Understanding the full range of benefits e.g., new revenue, better compliance, reduced fraud.

- ‣ Understanding the options for use of RPA, digital and AI in terms of cost, risk and ROI – i.e., should we use AI to read emails, or have simple digital forms?

Tools in the intelligent automation toolbox

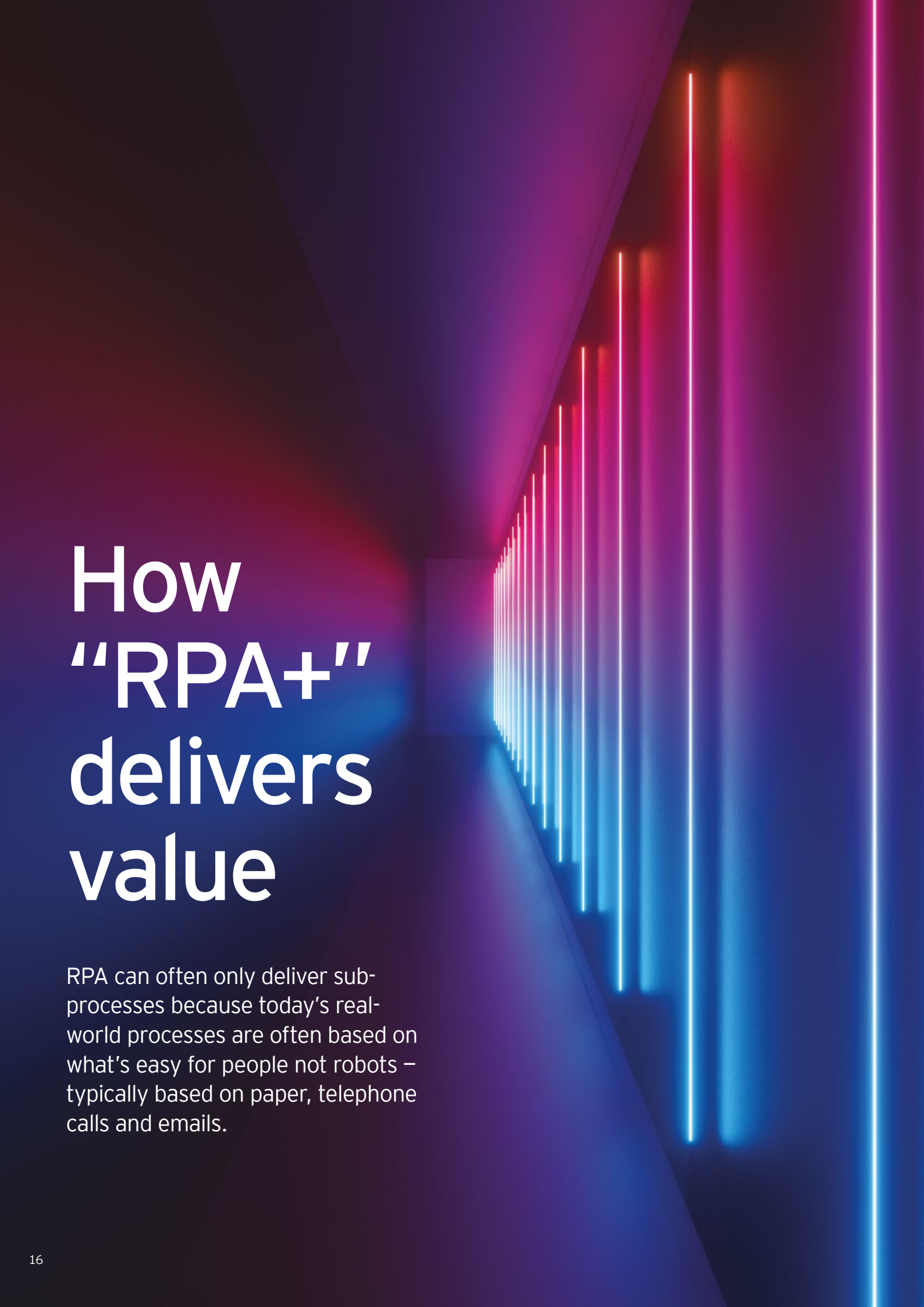| Digital enablers "go digital-first"	RPA "automate legacy"	"Human-in-the-loop" and process mgmt.	AI enablers "digitize paper/email"	"Big AI"
‣ Customer self-service ‣ Agent productivity ‣ Chatbots ‣ Voice recognition ‣ EY Digital Passport	‣ Robots accessing multiple systems	‣ Dynamic digital forms for humans to review or action via Business Process Management (BPM) or digital agent portals	‣ ML & NLP for OCR and email	‣ AI or advanced analytics (for decisions, recommendations, next-best action, cross-sell, churn)

Around

5%

of companies consider
themselves to be
mature in their use of AI

So, we can see that RPA forms a solid, enterprise-scale foundation on which AI can build.

If RPA was the first wave of robotics to transform business, digital enablers, AI and human-in-the-loop processing will be the next. Used in combination, RPA, digital enablers and AI tools will be able to turn the mass of data into actionable insights with truly transformative and disruptive results – allowing businesses to automate, streamline and transform entire end-to-end processes.

However, AI is still early in its adoption. From commissioned research we know that only around 5% of companies consider themselves to be mature in their

use of AI, compared with the 15% who see themselves as mature in RPA. The earlier stages of technology adoption can be associated with increased risk, cost and scarcity of skills – but the potential rewards remain compelling. AI can make a significant contribution to delivering intelligent automation and the promise of end-to-end process transformation. The key to optimal success lies in determining the right combination and options of RPA, digital and AI enablers, and Big AI to balance cost, risk and return.

How "RPA+" delivers value

RPA can often only deliver sub-processes because today's real-world processes are often based on what's easy for people not robots – typically based on paper, telephone calls and emails.
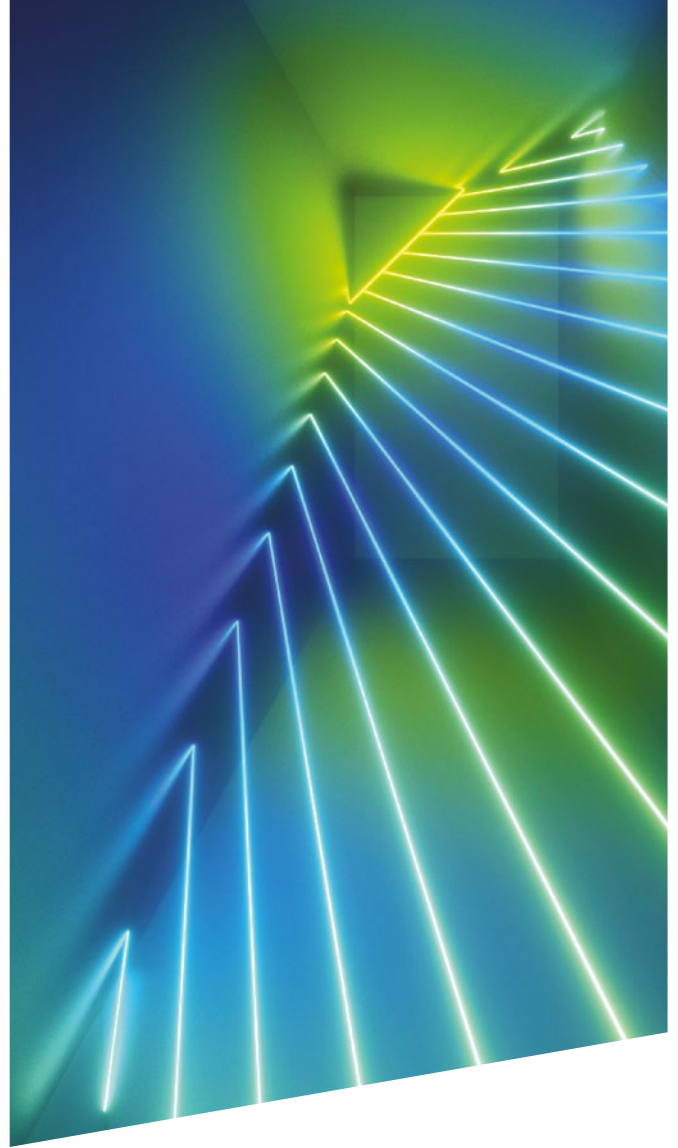
Although easy for people to understand, traditional paper, emails and phone calls require additional adaptors for RPA to be able to perform work – and without them the business case for RPA may sometimes be poor, as it is limited to sub-processes.

Let's make this real by looking at a typical process – expenses processing for a large global organization. (But the same approach would easily apply to other tasks such as processing loan applications, insurance claims or invoices.)

In this expenses process, staff have to:

1. Enter details of their expenses for a trip into a company expenses system, while connected to the company network
2. Photocopy their receipts, and send to a shared service with reference to the trip
3. The shared service center then opens mail and scans the photocopies into digital images
4. The shared services staff then check what was entered into the expenses system against digital images, check for off-policy violations and either approve or reject expenses

The following table describes how RPA could assist in this process in comparison with RPA+, indicating approximate time to deliver (based on a real company).

RPA+ can reduce a member of staff's time by

50%

Stage	RPA Value	RPA+ Value
Enter details into expenses system	None	‣ Creation of mobile app to take pictures of receipts and code appropriately on the go e.g., in restaurant, without needing to be on company network (Time to build: two to four weeks) ‣ RPA can now enter information in expenses system and format images for review (Time to build: four to eight weeks) ‣ Net outcome: 50% less time for each member of staff
Photocopy receipts and send off	None	‣ No photocopying or postage needed ‣ Net outcome: significant reduction in postage costs
Open mail and scan	None	‣ No OCR or scanning needed, with digital images stored for audit purposes ‣ Net outcome: huge reduction in paper handling, scanning, OCR and archiving costs
Check expenses	Some checking of expenses against policy but only from expenses system not images (Time taken: four to eight weeks)	‣ Addition of ML OCR allows checking of scanned images against expenses in expenses system (Time to build: three to six months presented through human-in-the-loop digital front end to agents) ‣ Significant reduction in manual effort (estimated at 50%+)

In this example the combination of digital and AI adaptors has found significant value, where previously there was very little value from RPA.

Note also that, in looking at "the intelligent use of automation" there are two options for delivering this process, with differing savings:

▸ RPA + Digital (Mobile) Adaptor
  – total time six to 12 weeks, low risk

▸ RPA + Digital + ML OCR
  – six to nine months, medium risk

In general we see that:

▸ Simple digitization of a process e.g., web/mobile self-service or human-in-the-loop work hand off, takes much less time and cost than AI and today can be preintegrated with RPA to deliver in weeks

▸ More complex digitization e.g., chatbot, voice recognition, will take more time, but still have high ROI for volume processes e.g., "what's happening with my case/claim/application" calls

▸ Where we cannot digitize the process "up-front", and still have to support traditional channels e.g., paper, email, then AI adaptors, although taking longer, may also release significant additional benefits

▸ Where both are possible we would approach in phases: digitize first, then do AI – this maximizes ROI while minimizing the cost and complexity of using AI

As is becoming clear, finding the optimum combination of RPA, digital enablers and AI is key to unlocking the best ROI and balancing cost, complexity and risk. We believe the three steps to maximize ROI when deploying intelligent automation tools are:

1 Put in an enterprise-scale RPA "backbone"
– and look end to end (E2E) for opportunities

2 Digitize as much as possible
▸ Digital forms
▸ Chatbots
▸ Voice recognition
▸ Human-in-the-loop

3 Add AI once RPA **and** digital done, and where ROI is high!

How "Big AI" delivers value

Having said that AI is an order of magnitude more complex to introduce than RPA, the returns from adopting "Big AI" in the right circumstances can be enormous.

Financial services organizations have been focused on not just reducing cost, but also driving revenue, improving efficiency and reducing risk.

The ultimate goal of intelligent automation is not just creating the potential for a "straight through process" but also creating the platform for "Big AI" to add exception insights and interventions to drive significant incremental value.

Accuracy rate is as high as
90%
through automation

Here are some examples of recent AI-based EY projects we've delivered for our clients:

Revenue

Predicting advanced dormancy:

A leading bank was concerned about customers becoming disengaged from, and leaving, its internet bank. How could it predict which customers were likely to become dormant in the next six months? The solution lay with ML.

Outcome:

- Accurate identification of 67% of dormant customers
- Dormancy was predicted 30 days in advance
- Better ability to perform proactive intervention

Improving customer churn predictions:

A leading UK bank wanted to identify the causes of customer churn, identify "at risk" customers, provide tailored products for them and improve the customer experience. The solution lay in using ML (through social network analytics) to understand the existing customer base, uncover indicating signals and provide real-time insight.

Outcome:

- 16% improvement in customer churn estimation
- Churn prediction model up to four times more accurate than original system

- Churn prediction model worked in real time
- Automated dashboard to visualize churn drivers and trigger events
- Successfully identified all "at risk" customers to enable effective interventions

Better next-best-action engine:

A global bank wanted to increase its customer engagement by creating a personalized and contextual omni-channel banking experience. It decided to create an end-to-end AI/ML platform (using a next-best-action engine) to process real-time and batch data to generate personalized actions and content.

Outcome:

- 45% increase in accurate prediction of customer purchase patterns
- Increased product targeting by recommending cards based on customer spend patterns
- Ability to detect travel patterns and preemptively alert customers about exchange rates and ATM information
- Alerting customers about offers based on geographic location

45%

increase in accurate
prediction of customer
purchase patterns

Efficiency

Saving full-time-equivalent (FTE) headcount with text analytics:

A leading UK bank identified inefficiencies in the way that several departments needed to visually analyze text data from different sources e.g., surveys, online surveys, questionnaires, webchat, internal IT chat. This manual process was time consuming. The solution lay with an automated text analytics tool to analyze text data in the various disparate sources.

Outcome:

‣ 300 FTE saved
‣ Enhanced decision-making capabilities
‣ Time saved across departments

Improving call center analytics:

A Tier 1 bank deployed improved call center analytics by using ML and cognitive analytics. This improved the bank's ability to identify the reason for calls through automation and reduced average handle time.

Outcome:

‣ $50m-$100m reduction in running cost
‣ 70% improvement in accuracy and consistency of trigger
‣ For certain sub-reasons, the accuracy rate is as high as 90%

Optimizing customer searches:

A large banking group wanted to provide better answers to its customer search queries (over 200,000 every month). It created an unsupervised clustering model to categorize search items for efficient handling.

Outcome:

‣ 70% of search terms were classified correctly
‣ Three days of work was reduced to a couple of hours

160%
increase
in detection

Risk

Detecting CNP fraud:

The financial services business wanted to address the problem of customers' credit card data being copied and used for fraudulent online transactions – "card not present" (CNP) fraud. It used an ML solution involving predictive analytics to determine which credit cards were more likely to be defrauded in the following months.

Outcome:

‣ Around 40% of total CNP fraud for the following three months was captured in the top 1% of the population

More efficient US Dept Of Labor compliance review:

A large insurer needed to review large numbers of documents to determine if language that was used for customers was in breach of the fiduciary limitations set by the recent Department of Labor (DOL) ruling. This was challenging because there was too much text for manual review and documents were in different formats with different file types. In addition, a broad range of terms could constitute an issue. The solution involved an NLP analytics model to identify fiduciary concerns.

Outcome:

‣ 20x reduction in review time and subsequent resource requirement minimization
‣ Improved accuracy and consistency of triggers

Unfair, Deceptive or Abusive Acts or Practices (UDAAP) compliance:

A global Tier 1 bank wanted to enhance its compliance with UDAAP regulatory requirements by improving identification capability and operational efficiency, and reducing unnecessary review and investigation time on false positives.

Outcome:

‣ 160% increase in detection
‣ Accuracy increased by over 5x
‣ 7x reduction in false positives
‣ 3x reduction in the population needing review
‣ Enabled identification of key trends to support effective remediation efforts

Top tips

for successful intelligent automation projects

Introducing digital and AI enablers, human-in-the loop processing and Big AI can transform most legacy processes, and deliver huge ROI. Here are our top tips for achieving the best results.

Undertake a joined-up opportunity assessment

There is a significant body of evidence to show that automation techniques can deliver tangible business benefits across all types of companies, even those with the most archaic IT systems. However, it is important to perform a proper opportunity assessment to find the optimum portfolio of processes with an opportunity assessment. Targeting RPA at a highly complex process is a common mistake, resulting in significant automation costs and low ROI. The effort could have been better spent automating multiple other simpler processes.

We typically advise companies to carry out a rapid company-wide or unit-wide opportunity assessment looking at not only RPA but **also using digital and AI**.

We would also recommend looking for non-financial services benefits e.g., customer service or compliance improvement but also the role of BPR, LEAN, Six Sigma and system advancements.

Use cloud technology to support AI tool selection

The number of tools available in the automation space is now so great that it can be difficult for organizations to identify which best suit their needs. Using cloud-based services such as RPA, digital, AI as a service can help with selection, enabling organizations rapidly to work out whether a particular tool is fit for purpose without significant upfront costs. Tapping into the power of the cloud can have a big impact on the deployability of AI.

Plan your automation pathway from lab to live carefully

Progressing ML from the developmental stage through testing into live operations requires careful planning. The process will vary for every different tool and use case. Lessons can be learnt from experience with RPA projects, where key elements involve creating infrastructure, establishing governance and controls, and developing necessary skills.

The particular challenge with AI projects is that each one can involve multiple tools. New approaches to the "lab to live" challenge are being developed, however. For example, distributed algorithms can be run and tested on any device (including mobile).

Consider your preferred operating model

Like RPA, AI implementations can benefit from establishing an operating model that includes a center of excellence (CoE). We believe a business-led CoE is the best way to manage and enhance a virtual workforce supplemented by read key skills including IT, risk and compliance – we suggest migrating towards an integrated automation CoE, rather than creating CoEs for each automation technique or technology. We also see benefits from conducting an integrated opportunity assessment and solution design across all automation technologies.

Prepare a talent plan

With so much interest in automation – and particularly RPA and AI, the demand for skilled talent is high and demand is outstripping supply. There is, therefore, a huge shortage of skilled talent in the space. Hiring your way out of the problem is unlikely, instead a combination of strategic hires, external assistance and organic growth will be necessary.

Note that one of the common traps of RPA is that with just a day or two of training, most business users can automate simple processes. But the skills needed to create scalable, resilient processes are significantly greater than those needed to create a proof of concept (PoC). Companies should work on the basis of needing at least two weeks of classroom training, then two to three months of hands-on project delivery with supervision and coaching, before an analyst can deliver production-quality automations well. It's essential not to be economical on teams' training or skills transfer and support.

Because of the transformational nature of IA there could be a significant impact to roles as well as automation anxiety, hence an integrated change plan needs to be initiated as early as possible.

Set up an operations control room

As RPA technology has matured, organizations have realized the importance of establishing a control room to monitor performance. Whenever adaptors e.g., OCR, NLP adaptors, are core to processes, they need to be managed and monitored. Excessive errors or hand-backs to humans would indicate potential issues that need to be addressed. The same need for a control room arises with AI implementations in order to make sure there are high quality outputs. Additional monitoring will be required – for example, to address the risk of bias in algorithms which can skew results. Like the CoE, a unified approach to the control room is recommended.

Monitor impact

Automation projects can have multiple benefits on an organization. These could include reduced risks, the delivery of more predictable services, higher data quality, increased capacity and throughput, and reduced cost and headcount.

The opportunity assessment performed at the start of the project can be used to identify desired benefits and impacts. Performance in delivering these benefits must then be monitored. This is vital for ensuring that investment in the automation program will continue. Ultimately an automation program must deliver its planned benefits in order to continue to rollout. Focusing on measuring and realizing benefits and providing transparency to executive business leadership is therefore key.

Engage risk and build controls earlier

Risk and controls must not be treated as an afterthought, but considered early in the automation process. First, second and third lines need to be actively involved from the time that opportunities are being identified and business cases developed. A range of issues need to be considered, including the potential concentration of automation risks.

A strong focus on risk and controls is also vital because, globally, much attention is now being focused on the ethical and regulatory issues raised by robotics and AI.

How can regulators and auditors see into the AI "black box" and understand what's happening there? If ML tools are being used to provide services such as approving loans, how can organizations "wind back the clock" to check retrospectively what may have gone wrong at a date in the past if, for example, clients were mis-sold products? Does this depend on adequate and appropriate human oversight being maintained? Such considerations need to be incorporated in the design of control frameworks.

Conclusion

In this paper we've described how the combination of RPA with AI and digital enablers to create intelligent automation has the potential to transform existing operations and finally deliver end-to-end process transformation even across a legacy estate.

Our predictions

| RPA, Digital and AI will continue to converge. | Tools vendors will enhance their offers and incorporate features across all automation techniques. | The supply of key skills will lag behind demand, increasing the challenge of delivering high quality solutions. | The importance of governance, risk and controls will increasingly be appreciated, attracting the attention of boards, regulators and auditors. | Automation anxiety will increase. |

Next steps

To discuss how EY can help accelerate the benefits of intelligent automation in financial services, please get in touch.

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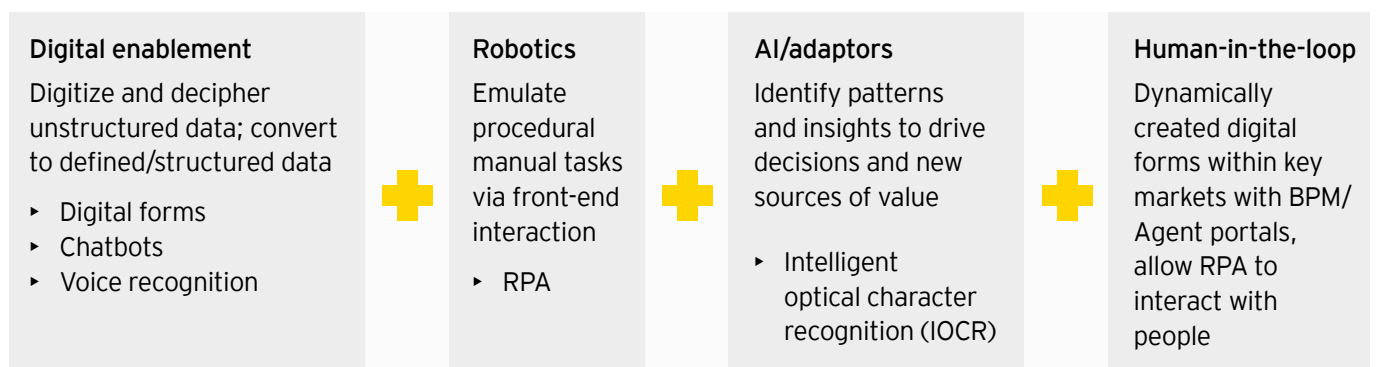+ 61 3 8650 7770
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However, while the potential of AI is enormous, the practical implications for its delivery today mean that it needs to be well targeted and prioritized. To achieve a rapid and significant ROI from intelligent automation, you need a full understanding both of business processes and how they could be transformed, and of the associated benefits for RPA, digital enablers and AI.

As one of the world's premier financial services consultancies, one of the world's biggest users of RPA, and having invested significantly in combining RPA with digital enablers and AI, we believe EY has unparalleled intelligent automation delivery experience.

We hope this paper has given you useful insights into the practical implications of intelligent automation: how you could transform your own organization's operations while also optimizing the performance and potential of your people.

The conversation is intelligent automation, not just robotics: the suite of capabilities to help our clients change the way they work.

Digital enablement	Robotics	AI/adaptors	Human-in-the-loop
Digitize and decipher unstructured data; convert to defined/structured data	Emulate procedural manual tasks via front-end interaction	Identify patterns and insights to drive decisions and new sources of value	Dynamically created digital forms within key markets with BPM/ Agent portals, allow RPA to interact with people
‣ Digital forms ‣ Chatbots ‣ Voice recognition	‣ RPA	‣ Intelligent optical character recognition (IOCR)	

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About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

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EY is a leader in serving the financial services industry

We understand the importance of asking great questions. It's how you innovate, transform and achieve a better working world. One that benefits our clients, our people and our communities. Finance fuels our lives. No other sector can touch so many people or shape so many futures. That's why globally we employ 26,000 people who focus on financial services and nothing else. Our connected financial services teams are dedicated to providing assurance, tax, transaction and advisory services to the banking and capital markets, insurance, and wealth and asset management sectors. It's our global connectivity and local knowledge that ensures we deliver the insights and quality services to help build trust and confidence in the capital markets and in economies the world over. By connecting people with the right mix of knowledge and insight, we are able to ask great questions. The better the question. The better the answer. The better the world works.

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